PUBLICATIONS OF THE UNIVERSITY OF BRITISH COLUMBIA

The University of British Columbia

ANNOUNCEMENT
OF
THE SUMMER SESSION

SUPPLEMENT
TO
CALENDAR 1945-46

TWENTY-SEVENTH SESSION

JULY 2ND TO AUGUST 16TH, 1946

VANCOUVER, BRITISH COLUMBIA

VOL. 32 GENERAL SERIES NO. 3

WORKSHOP IN INTERNATIONAL RELATIONS

A survey of major current developments in the field of international relations, with emphasis on Canadian-United States relations within the larger framework of world organization. The following subject matter will be included:— Political, economic and financial aspects of world organization. Specific areas and their relation to world organization: Canada and the Commonwealth; Canada and the United States; the United States and Latin America; Europe; Russia; Asia. Special attention will be given to Far Eastern and Pacific problems.

The Workshop has been established on the suggestion of the Canada-United States Committee on Education and is intended to bring together in study, discussion and social activities teachers and students from the western Canadian provinces and the western United States, with a view to strengthening understanding between the two countries.

The Workshop carries credit in the Department of History in Third or Fourth Year.

Fifteen hours a week for five weeks (July 2nd to August 2nd). 3 units.

Mr. Tomlinson, Director, with special lecturers.

THE UNIVERSITY BOOK STORE

The book store was established for the convenience of the students, and has effected a considerable saving to the students in time and money. It is prepared to supply all the text-books required for the various courses offered in the University, also such articles as note books, loose-leaf books, fountain pens, drawing paper and instruments.

During the Summer Session the book store is open Monday to Friday, from nine to four o'clock, and Saturday, from nine to twelve.

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SUMMER SESSION, 1946

DATES

JULY

2nd	Tuesday - - -	*Last day for registration of all students. Lectures begin at 8.00 a.m.
3rd	Wednesday - - -	Supplemental and Directed Reading Course Examinations.
4th	Thursday - - -	General meeting of students.
8th	Monday - - -	Last day for changes in students' courses. Last day for payment of fees.

AUGUST

1st	Thursday - - -	General meeting of students.
14th	Wednesday - - -	Last day of lectures.
15th 16th	Thursday - - - - Friday - - - -	Final Examinations.

*The last day for registration is July 2nd—the first day of lectures.

A fee of $2.00 will be charged all students registering after this date.

TIME TABLE OF LECTURES

MONDAY TO FRIDAY INCLUSIVE

Subject	*Room*	*Subject*	*Room*
8-10 a.m.		8-10 a.m.	
Animal Husbandry 15	Ag. 101	Mathematics 13	A. 104
Biology 1	Ap. 101	Psychology 1	A. 204
Commerce 4	A. 207	Psychology 3	A. 206
Economics 12 (Sec. a)	Hut 42	Philosophy 8	A. 102
Education 30 (8 a.m.)	A. 106	Physics 1	Sc. 200
Education 27 (9 a.m.)	A. 106	Physics 5	Sc. 210
English 1 (Sec. a)	A. 105	Spanish, Beg.	A. 203
English 2	A. 103		
English 8	A. 101		
Geography 1	Hut 37		

Examinations—Thursday, August 15, 9-11 a.m.

10-12 noon		10-12 noon	
Bacteriology 1	Sc. 413	English 13	A. 108
Chemistry 1	Sc. 200	French 1	A. 203
Chemistry 2	Sc. 300	French 2	A. 201
Chemistry C	Hut 12	French 3c	A. 102
Chemistry 3	Sc. 210	History 24	A. 207
Chemistry 4	Sc. 400	Mathematics 3	A. 105
Economics 1	A. 204	Philosophy 1	A. 103
Economics 5	A. 104	Philosophy 9	A. 206
Economics 12 (Sec. b)	Hut 42	Physics 4	Hut 21
Education 32 (10 a.m.)	A. 106	Sociology 1	A. 101
Education 39 (11 a.m.)	A. 106	Zoology 2	Ap. 101

Examinations—Thursday, August 15, 1-3 p.m.

1.15-3.15 p.m.		1.15-3.15 p.m.	
Biology 3	Ap. 101	German, Beg.	A. 201
Commerce 1	Ap. 208	German 1(a)	A. 102
Commerce 6	A. 207	History 1	A. 101
Dairying 1/2 or 3	Ag. 101	History 27	A. 203
English 1 (Sec. b)	A. 106	Mathematics 1	A. 103
Education 22	A. 104	Mathematics 2	A. 206
Forestry 2b/c	Ap. 235	Mathematics 10	A. 108
Geography 2	Hut 37	Mathematics 14	A. 208
		Psychology 7	A. 105

Examinations—Friday, August 16, 9-11 a.m.

NOTE.—The laboratory hours for science courses will be arranged.

The University of British Columbia

SUMMER SESSION, 1946

OFFICERS AND STAFF

NORMAN A. M. MACKENZIE, M.M. and Bar, B.A., LL.B., LL.M., LL.D., K.C., F.R.S.C., President.

DANIEL BUCHANAN, M.A., Ph.D., LL.D., F.R.S.C., Dean of the Faculty of Arts and Science.

JOHN NORISON FINLAYSON, M.Sc., LL.D., M.E.I.C., M.Am.Soc.C.E., Dean of the Faculty of Applied Science.

F. M. CLEMENT, B.S.A., M.A., Dean of the Faculty of Agriculture.

MAXWELL A. CAMERON, M.A., Ph.D., Director.

CHARLES B. WOOD, B.A., A.M., Registrar.

A. MACLUCAS, Bursar.

WILLIAM KAYE LAMB, M.A., Ph.D., Librarian.

Department of Animal Husbandry

J. C. BERRY, M.S.A., Ph.D., Assistant Professor.

Department of Bacteriology and Preventive Medicine

D. C. B. DUFF, M.A., Ph.D., Associate Professor.

Department of Biology and Botany

A. H. HUTCHINSON, M.A., Ph.D., Professor and Head of the Department.
F. DICKSON, B.A., Ph.D., Professor.
J. ALLARDYCE, M.A., Ph.D., Professor.

Department of Chemistry

R. H. CLARK, M.A., Ph.D., F.R.S.C., Professor and Head of the Department.
M. J. MARSHALL, M.Sc., Ph.D., F.R.S.C., Professor.
J. A. HARRIS, M.A.,Ph.D., Associate Professor.
M. STUSIAK, M.A.Sc., Instructor.
Lecturer to be appointed.

Department of Civil Engineering

A. H. FINLAY, M.C., B.A.Sc., M.S. in C.E., Assoc.M.Am.Soc.C.E., Professor.
E. S. PRETIOUS, B.A.Sc., M.Sc., M.Am.Soc.C.E., Assistant Professor.
A. PEEBLES, B.A.Sc., B.A., M.Sc., M.E.I.C., Assoc.M.Am.Soc.C.E., Assistant Professor.

Department of Commerce

G. F. CURTIS, LL.B., B.A., B.C.L., Professor of Law and Dean of the Faculty of Law.
J. E. STARK, B.Comm., M.B.A., Lecturer.
Lecturer to be appointed.

Department of Dairying

B. EAGLES, B.A., Ph.D., Professor and Head of the Department.

Department of Economics, Political Science and Sociology

C. W. TOPPING, S.T.D., A.M., Ph.D., Professor.
J. A. CRUMB, B.A., M.S., Ph.D., Professor.
L. F. DETWILLER, M.A., Lecturer.
D. A. HARPER, B.Com., Lecturer.
Lecturer to be appointed.

Department of Education

F. T. TYLER, B.Sc., M.A., M.Ed., Ph.D., Assistant Professor of Education and Psychology.
R. O. BILLETT, B.S., A.M., Ph.D., Professor of Education, Boston University.
M. M. THOMPSON, M.A., Ph.D., Professor of Education, University of Southern California.

Department of English

F. G. C. WOOD, B.A., A.M., Professor.
MISS M. D. MAWDSLEY, M.A., Ph.D., Professor.
Lecturers to be appointed.

Department of Forestry

G. S. ALLEN, M.A.Sc., Ph.D., Associate Professor.

Department of Geology and Geography

V. J. OKULITCH, M.A.Sc., Ph.D., F.G.S.A., F.R.S.C., Assistant Professor.
T. R. WEIR, M.A., Lecturer.

Department of History

MISS M. A. ORMSBY, M.A., Ph.D., Lecturer.
J. B. BREBNER, M.A., B.Litt., Ph.D., Professor of History, Columbia University.
E. C. LEFORT, M.S., M.A., Ph.D., Associate Professor of Spanish, University of Minnesota.

Department of Mathematics

R. D. JAMES, M.A., Ph.D., F.R.S.C., Professor.
S. A. JENNINGS, M.A., Ph.D., Associate Professor.
D. C. MURDOCH, M.A., Ph.D., Associate Professor.
MISS M. L. BARCLAY, M.A., Instructor.
H. H. FERNS, M.A., Ph.D., Professor of Mathematics, University of Saskatchewan.
R. T. D. WALLACE, B.A., Assistant Professor of Mathematics, Victoria College.

Department of Mechanical and Electrical Engineering

H. M. MCILROY, M.Sc., Associate Professor of Mechanical Engineering.
L. R. KERSEY, B.A.Sc., Assistant Professor of Electrical Engineering.

Department of Modern Languages

MISS DOROTHY DALLAS, M.A., D.Lett., Assistant Professor of French.
MISS J. HALLAMORE, M.A., Ph.D., Assistant Professor of German.
J. H. PARKER, M.A., Ph.D., Assistant Professor of Spanish.
L. J. PRONGER, B.A., Lecturer.
A. F. WALSH, B.A., Lecturer.
Lecturer to be appointed.

Department of Philosophy and Psychology

S. N. F. CHANT, O.B.E., M.A., Professor and Head of the Department.
A. P. MASLOW, A.M., Ph.D., Associate Professor.
J. W. A. FLEURY, M.A., Lecturer.
R. B. LIDDY, M.A., B.D., Ph.D., LL.D., Professor and Head of the Department of Philosophy and Psychology, University of Western Ontario.
J. B. KETCHUM, M.A., Professor of Psychology, University of Toronto.
E. W. STRONG, A.M., Ph.D., Associate Professor of Philosophy, University of California.

Department of Physics

Lecturers to be appointed.

Department of University Extension

W. E. TOMLINSON, M.A., Ph.D., Professor and Head of the Department of History and Political Science, College of Puget Sound.
T. VIEHMAN, Little Theatre Association, Tulsa, Oklahoma.
MISS DOROTHY SOMERSET, A.B., Assistant in Dramatics.
Lecturer to be appointed.

Admission, Registration and Attendance

For requirements for admission to the University, information in regard to registration and attendance and regulations governing courses, see University calendar.

All candidates registering for the first time are required to present their certificates.

Registration must be completed in person at the Registrar's Office. However, those living at a distance from the University are advised to make application for registration by mail in advance.

The maximum credit for Summer Session work in any one calendar year is 6 units.

FEES

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

Registration fees are due and payable on or before July 2nd.

Fee for "Late Registration" $2.00.

Class fees are due and payable on or before July 8th.

Fee for "Late Payment of Class Fees" $2.00.

For Undergraduates

Registration—Payable before registration	$ 3.00
Minimum Class Fee	15.00
Per "Unit"	10.00
Summer Session Association Fee	2.00

For Graduates

Registration—Payable before registration	
For 6 units or less	$ 2.00
For over 6 units	5.00
Class Fees (payable at $10.00 per unit for courses taken)	125.00
Summer Session Association Fee	2.00

For Bachelor of Education

Registration—Payable before registration	
For 6 units or less	$ 2.00
For over 6 units	5.00
Class Fees (payable at $10.00 per unit for courses taken)	150.00
Summer Session Association Fee	2.00

For Auditors

Registration—Payable before registration	$ 2.00
For each 3-unit course	15.00
Summer Session Association Fee	2.00

Special Fees

Supplemental Examination, per paper	$ 5.00

Applications for supplemental examinations, accompanied by the necessary fees, must be in the hands of the Registrar at least two weeks before the date set for the examinations.

Scholarships

The Summer Session Students' Association Scholarship

A scholarship of $40, given by the Summer Session Students' Association, will be awarded at the close of the Summer Session to the Summer Session student who in that session completes the second year with the highest standing. To be eligible a student must have taken his entire second year in The University of British Columbia Summer Session, Extra-sessional classes or Reading courses, and must be proceeding to a higher year in the University of British Columbia.

The British Columbia Teachers' Federation Scholarship

A scholarship of $50 given by the British Columbia Teachers' Federation will be awarded at the close of the Summer Session to the Summer Session student who, having been an active member of the British Columbia Teachers' Federation for three years previous to the granting of the scholarship, completes, in that session, the third year of his University work with the highest standing in that year. To be eligible a student must have taken his entire third year in the University of British Columbia Summer Session, Extra-sessional classes or Reading courses, and must continue in his fourth year at the University of British Columbia.

Courses of Study

Animal Husbandry

15. *Fundamentals of Animal Husbandry.*—An introductory course. The judging of livestock and a study of the origin, development, characteristics, and adaptations of the various breeds of cattle, horses, sheep, swine, and goats; principles of breeding, selection, feeding, management, and marketing; disease problems. Students may be required to visit conveniently located farms.

Eight hours a week and laboratory hours to be arranged. 3 units.

Mr. Berry.

Bacteriology

1. *Introductory Bacteriology.*—A course consisting of lectures, demonstrations, and laboratory work.

The history of bacteriology, the place of bacteria in nature, the classification of bacterial forms, methods of culture and isolation, the relation of bacteria to agriculture, to industrial processes, to household and veterinary science, and to public health and sanitation.

References: Henrici, *Biology of Bacteria,* latest edition, Heath; Salle, *Fundamental Principles of Bacteriology,* latest edition, McGraw-Hill.

Prerequisites: Chemistry 1 and Biology 1, the latter of which may be taken concurrently.

Five hours a week and laboratory hours to be arranged. 3 units.

Mr. Duff.

Biology

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

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

The course is prerequisite to all courses in General Biology, Botany, and Zoology.

Text-book: MacDougall and Hegner, *The Science of Life,* McGraw-Hill, 1943.

Five hours a week and laboratory hours to be arranged. 3 units.

Mr. Hutchinson, Mr. Dickson.

3. *General Physiology.*—A study of animal and plant life processes. Open to students of Third and Fourth Years having prerequisite Biology, Chemistry, and Physics; the Department should be consulted.

Text-book: Mitchell, *General Physiology,* McGraw-Hill; or Bayliss, *Principles of General Physiology,* Longmans.

Eight hours a week and laboratory hours to be arranged. 3 units.
Mr. Allardyce.

Chemistry

1. *General Chemistry.*—The course comprises a general survey of the whole field of chemistry and is designed on the one hand to provide a thorough groundwork for further study in the sciences and on the other to give an insight into the methods of chemical investigation, the fundamental theories, and some important applications such as are suitable to the needs of a cultural education. Students must reach the required standard in both lecture and laboratory work.

Text-book: Foster and Alyea, *An Introduction to General Chemistry,* Van Nostrand. For the laboratory: Harris and Ure, *Experimental Chemistry for Colleges,* McGraw-Hill.

Eight hours a week and laboratory hours to be arranged. 3 units.

Mr. Stusiak.

2. *Qualitative and Quantitative Analysis.*

(a) Qualitative Analysis.—A study of the chemical reactions of the common metallic and acid radicals, together with the theoretical considerations involved in these reactions.

Text-book: Ready, *Elementary Qualitative Analysis,* McGraw-Hill.

References: Hammett, *Solutions of Electrolytes,* McGraw-Hill; Engelder, *Calculations of Qualitative Analysis,* Wiley.

(b) Quantitative Analysis.—This course embraces the more important methods of gravimetric and volumetric analysis.

Text-book: Pierce and Haenisch, *Quantitative Analysis,* Wiley.

Prerequisite: Chemistry 1.

Five lectures a week and laboratory to be arranged. 3 units.

Mr. Harris.

C. *Organic Chemistry.*—A study of the more important aliphatic and aromatic compounds.

Text-book: Lowy-Harrow, *An Introduction to Organic Chemistry,* Wiley.

Eight hours a week and laboratory to be arranged. 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 aliphatic and the aromatic series.

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

References: Conant, *The Chemistry of Organic Compounds,* Macmillan; Desha, *Organic Chemistry,* McGraw-Hill; Lucas, *Organic Chemistry,* American Book Co.; Richter, *Organic Chemistry,* Wiley; Gatterman-Wielands, *Laboratory Methods of Organic Chemistry,* Macmillan.

Eight lectures and three laboratory periods a week. 3 units.

Mr. Clark.

4. *(a) Theoretical Chemistry.*—An introductory course in the development of modern theoretical chemistry, including a study of gases, liquids, and solids, solutions, ionization and electrical conductivity, chemical equilibrium, kinetics of reactions, thermochemistry and thermodynamics, colloids.

Text-book: Gucker and Meldrum, *Physical Chemistry,* American Book Company.

References: Millard, *Physical Chemistry for Colleges,* McGraw-Hill; Noyes and Sherrill, *Chemical Principles,* Macmillan.

Laboratory text-books: Sherrill, *Laboratory Experiments on Physico-Chemical Principles,* Macmillan; *Handbook of Chemistry and Physics,* Chemical Rubber Company, Cleveland.

Prerequisites: Chemistry 2 (except for students taking Honours in Physics) and Mathematics 2. Honours students majoring in Chemistry should take Mathematics 10 concurrently.

Eight lectures and three laboratory periods a week. 3 units.

Mr. Marshall.

NOTE. This course may be offered if a sufficient number register for it by the final day of registration.

Commerce

1. *Fundamentals of Accounting.*—This course may be taken only by students who have taken Commerce 1 in the Spring Session.

Ten hours a week. 3 units.

4. *Commercial Law.*—Principles of company law and of the law of contract, agency, bills and notes, sale of goods, etc. The primary purpose of this course is to familiarize the student with the various legal situations that arise in the day to day conduct of a business and with their implications.

Ten hours a week. 3 units.
Mr. Curtis.

6. *Marketing.*—A consideration of methods and channels used for the distribution of consumer and industrial goods, and the merchandising problems of manufacturers and distributors. The course is handled by a discussion of cases taken from actual business. A series of written reports on assigned cases is required as part of the course.

Text-book: Learned, *Problems in Marketing,* McGraw-Hill.
Assigned readings.
Ten hours a week. 3 units.
Mr. Stark.

Dairying

1. *Butter-Making.*—An elementary course.

1½ units.

2. *Cheese-Making.*—An elementary course.

1½ units.

3. *Fundamentals of Dairying.*—An introductory course. Principles underlying the hygienic aspect of milk production, the manufacture, handling, testing, and grading of dairy products.

Reference: Eckles, Combs, and Macy, *Milk and Milk Products,* latest edition, McGraw-Hill.

3 units.

Either 1 and 2 *or* 3 will be given.

Eight hours a week and laboratory hours to be arranged.
Mr. Eagles.

Economics

1. *Principles of Economics.*—An introductory study of the principles of production, value, distribution, money and banking, international exchange, and government finance, and an analysis of the problems of labour and social reform.

Text-book: Logan and Inman, *A Social Approach to Economics.* 1939, University of Toronto.

References: Fairchild, Furniss, and Buck, *Outlines of Economics* (2 vols.), 3rd edition, Macmillan; Garver and Hansen, *Principles of Economics,* 1937, Ginn; *Canada Year Books,* Dominion Bureau of Statistics.

If this course is taken for credit in the Third or the Fourth Year, additional readings will be assigned.

Ten hours a week. 3 units.

5. *Government Finance.*—The development of the science of government finance; the growth of the sphere of government and increase in the tax burden; the Canadian and Empire tax systems; personal, property, and business taxes; income and inheritance taxes; financing relief and other public undertakings; public borrowing and deficit financing.

Text-book: Fagan and Macy, *Public Finance,* Longmans.

Readings: Lutz, *Public Finance,* Appleton-Century; Seligman, *Studies in Public Finance,* 1925, Macmillan; Dalton, *Principles of Public Finance,* 1929, Routledge; Comstock, *Taxation in the Modern State,* 1931, Longmans; Shirras, *Science of Public Finance,* 1936, Macmillan.

Ten hours a week. 3 units.

Mr. Crumb.

12. *Statistics 1.*—Statistical methods in relation to economic and social investigations; statistical groups; types of average; statistical series in time; trend and fluctuation; index numbers; methods of measuring correlation; elementary probabilities and the normal curve of error; problem of sampling.

Text-book: Croxton and Cowden, *Applied General Statistics,* Prentice-Hall.

Lectures and laboratory hours to be arranged. 3 units.

Mr. Detwiller, Mr. Harper.

Education

22. *Philosophy of Education.*—A study of current trends in educational philosophy; the social implications of contemporary educational theories.

Ten hours a week. 3 units.

Mr. Thompson.

27. *Administration of the Secondary School.*—The programme of studies; administrative problems in providing for individual differences; extra-curricular activities; the guidance programme; the time table; library; staff relationships; other problems.

Text-book: Koos and others, *Administering the Secondary School,* American Book Co.

Five hours a week. 1½ units.

Mr. Billett.

30. *Psychology of Adolescence.*—The junior and senior high school pupil as an individual and as a member of social groups; the physical, mental, social, emotional, and religious development typical of adolescence; the interests of teen-age boys and girls and their problems in personal relations, in the home, in the school, and in the community.

Text-book: To be announced.

Five hours a week. 1½ units.

Mr. Tyler.

32. *Psychology of the School Subjects.*—This course aims to cover that part of educational psychology which is directly concerned with classroom subject-matter activities. It considers the research findings in the various elementary and secondary school fields and applies them to teaching and learning procedures.

Text-book: To be announced.

Five hours a week. 1½ units.

Mr. Tyler.

39. *Teaching in the Secondary School.*—This course on modern methods of secondary school teaching will give primary but not exclusive emphasis to unit procedures, including problem solving and the provision for individual differences.

Text-book: Billett, *Fundamentals of Secondary School Teaching,* Houghton-Mifflin.

Five hours a week. 1½ units.

Mr. Billett.

English

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.

Text-books: Larsen and MacDonald (eds.), *A Century of Short Stories, 1824-1927,* Macmillan; Euripides, *Bacchae,* in Gilbert Murray's paraphrase, Allen and Unwin; Shakspere, *Julius Caesar;* Sheridan, *The School for Scandal,* Everyman; Ibsen, *A Doll's House,* Everyman; Dilworth (ed.), *Twentieth Century Verse,* Clarke, Irwin.

(b) *Composition.*—Elementary forms and principles of composition.

Text-book: Foerster and Steadman, *Writing and Thinking,* new edition, Houghton Mifflin.

The work in composition consists (i) of themes and class exer-

cises, and (ii) of written examinations. Students will be required to make a passing mark in each of these two parts of the work.

Ten hours a week. 3 units.

2. *Literature.*—Studies in the history of English literature.

Lectures and texts illustrative of the chief authors and movements from Tottel's *Miscellany* to Shelley.

Text-book: *College Survey of English Literature,* Harcourt, Brace.

Ten hours a week. 3 units.

8. *Studies in Elizabethan Literature.*—Various literary types will be examined: the lyric, the sonnet, the pastoral, the prose romance, realistic prose and verse, literary criticism, the essay. The work of Spenser, Jonson and Donne will receive special attention.

Text: Hebel and Hudson, *Poetry of the English Renaissance,* Dodd Mead.

Ten hours a week. 3 units.

Miss Mawdsley.

13. *The English Novel from Richardson to the Present Time.*—The development of English fiction will be traced from Richardson, Fielding, Smollet, and Sterne through Goldsmith, Mrs. Radcliffe, Jane Austen, Scott, C. Brontë, Dickens, Thackeray, and George Eliot to Trollope, Meredith, Stevenson, Hardy, 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.

Ten hours a week. 3 units.

Mr. Wood.

Dramatics 1.—In the Summer Session this course is offered in conjunction with the Summer School of the Theatre. It deals with both the theory and the practice of the modern theatre: (1) historical backgrounds; (2) acting—analysis of plays, fundamentals of acting, participation in a play; (3) Speech A—fundamentals of voice production; (4) Speech B—interpretation; (5) directing; (6) stagecrafts.

Historical backgrounds, acting, and speech A are compulsory unless students have had a recognized equivalent, in which case they may substitute as follows: for historical backgrounds—stagecrafts; for acting—directing or stagecrafts; for Speech A—Speech B. Participation in the production of a play is required.

Five weeks' course (examination in sixth week). Fifteen lectures and fifteen hours rehearsal and laboratory a week. Extra rehearsals as arranged.

3 units.

Mr. Viehman, Miss Somerset and staff.

Lectures: See Summer School of the Theatre schedule.

Forestry

2. *(b)* Timber cruising and stumpage appraisal.

Reference books: *Instructions for Forest Surveys,* King's Printer, Victoria, B. C.; *Instructions for Appraising Stumpage in National Forests,* Superintendent of Documents, Washington, D. C.

(c) Preparation of volume and yield tables; measurement of growth of trees and forests; statistical analysis.

Text-book: Bruce and Schumacher, *Forest Mensuration,* McGraw-Hill.

Lectures, laboratory and field work to be arranged. 3 units.

Mr. Allen.

French

1. Texts: *Modern French Short Stories,* edited by Fannière, Oxford; Beaumarchais, *Le Barbier de Séville,* Larousse; Dent, *Les Cent meilleurs poèmes lyriques,* Gowans & Gray; Barton and Sirich, *New French Review Grammar and Composition,* Crofts.

Prerequisite: University Entrance French or its equivalent.

Ten hours a week. 3 units.

Mr. Walsh.

2. Texts: Balzac, *Eugénie Grandet,* Larousse; *Anatole France,* Nelson. Independent reading to include Balzac, *Le Père Goriot;* Anatole France, *Le Crime de Sylvestre Bonnard,* Holt.

Composition in French based on the above readings, and from Ratner and Sorkin, *French Review Grammar,* Gage.

Prerequisite: French 1 or its equivalent.

Ten hours a week. 3 units.

Mr. Pronger.

3. *(c) French Practice.*—Phonetics; training in speaking and essay writing. This course should be taken by all who elect French as a Third Year subject. It may not be substituted for French 3 *(a).*

Text-books: Klinghardt and Fourmestraux, *French Intonation Exercises;* Bascan, *Manuel pratique de prononciation et de lecture,* Dent.

Ten hours a week. 3 units.

Miss Aish.

Geography

1. *Elementary Physical Geography.*—This introductory course aims to furnish a foundation for the study of geography. It will be useful not only to those who may intend to continue a study of geography or to teach it in schools, but to all those who are interested in man's physical environment and its effects on his principal occupations. This course covers the study of land forms, processes of weathering, erosion, diastrophism, materials of the earth's crust, climate, and history of the earth. The laboratory part of the course includes elementary surveying and map making, interpretation of topographic maps, making of relief models, the study of common minerals, rocks, and fossils.

References: Wilmore, *Groundwork of Modern Geography,* Bell; Finch and Trewartha, *Elements of Geography,* McGraw-Hill; Moore, *Elementary Geology for Canada,* Dent.

Six hours a week and laboratory hours to be arranged. 3 units.
Mr. Okulitch.

2. *Weather and Climate.*—A study of weather phenomena, climatic classification and description, and distribution of climatic types.

Text-book: Trewartha, *An Introduction to Weather and Climate,* 2nd edition, 1943, McGraw-Hill.

References: Blair, *Weather Elements,* Prentice-Hall; Kendrew, *Climate of the Continents,* Oxford.

Six hours a week and laboratory hours to be arranged. 3 units.
Mr. Weir.

German

Beginners' Course.—Greenfield, *An Outline of German Grammar,* Barnes & Noble; Hagboldt, *Elementary Alternate Series,* Heath-Chicago.

Ten hours a week. 3 units.

1. *(a)* Texts: Chiles, *German Composition and Conversation,* Part I, Ginn; Müller-Partenkirchen, *Kaum genügend,* Holt; Kästner, *Drei Männer im Schnee,* Crofts; Bruns, *Book of German Lyrics,* Heath.

Prerequisite: University Entrance or Beginners' German.

Ten hours a week. 3 units.
Miss Hallamore.

History

1. *Main Currents in Twentieth-Century History.*—This course completes the study of world history in the high schools and offers

a background for contemporary world problems. The following topics are discussed: The Great Powers at the Opening of the Century, Alliance and Entente, The Coming of the First World War, The First World War, The Peace Treaties, The New Map of Europe, Reparations and War Debts, Security and Disarmament, The League of Nations, The Russian Revolution and the U.S.S.R., Italy and Fascism, Germany from Empire to Third Reich, Britain and France between the Wars, The New Balkans, The Little Entente and Poland, Nationalism and Imperialism in the Far East, The United States and World Peace, The Road to the Second World War.

Text-books: Benns, *Europe Since 1914*, Crofts, or Chambers, Grant, and Bayley, *The Age of Conflict*, Harcourt, Brace; Schmitt, *Triple Alliance and Triple Entente*, Oxford; Carr, *Conditions of Peace*, Macmillan (for upper year credit).

Essays will be assigned throughout the session. (Extra work will be required from Third and Fourth Year students taking this course.)

Ten hours a week. 3 units.

Miss Ormsby.

24. *History of Latin America.*—A discussion of the political, cultural, social and economic development of the Latin American Republics.

Text-book: To be announced.

Ten hours a week. 3 units.

Mr. LeFort.

27. *Canadian-American Relations.*—This course deals with "the interplay between the United States and Canada—the Siamese Twins of North America who cannot separate and live." Attention will be given chiefly to the kinds of things which the two peoples did in common, or in complementary fashion, or in competition, with due reference to diplomatic adjustments. The constant and contrasted interaction of both with Great Britain will also be considered.

Text-book: Brebner, *North Atlantic Triangle*, Ryerson.

Ten hours a week. 3 units.

Mr. Brebner.

Mathematics

1. *Introductory Mathematics.*—An elementary course in algebra, including proportion, variation, logarithms, progressions, theory of quadratic equations, permutations, combinations, annuities, bino-

mial theorem; analytical geometry, including the study of the straight line and the circle, with an introductory study of the parabola, ellipse, and hyperbola; elementary trigonometry.

Text-books: Currier, Watson, Frame, *General Mathematics,* Macmillan; Hedrick, *Logarithmic and Trigonometric Tables,* revised edition, Macmillan.

Ten hours a week. 3 units

Miss Barclay.

2. *Algebra, Calculus, and Geometry.*—Induction, complex numbers, Horner's method, series, undetermined coefficients, determinants; introduction to differential and integral calculus, with various applications; review of conics, introduction to solid analytic geometry.

Text-books: Nowlan, *College Algebra;* Nowlan, *Analytic Geometry,* 3rd edition, McGraw-Hill; Miller, *Calculus,* Wiley.

Ten hours a week. 3 units.

Mr. Wallace.

3. *The Mathematical Theory of Investments.*—This course deals with the exponential law, the power law, curve-fitting, the theory of interest, annuities, debentures, valuation of bonds, sinking funds, depreciation, probability and its application to life insurance.

Text-book: Hart, *Mathematics of Investment,* revised, Heath.

Reference: Bauer, *Mathematics Preparatory to Statistics and Finance,* Macmillan.

Prerequisite: Mathematics 1.

Ten hours a week. 3 units.

Mr. Ferns.

10. *Calculus.*—The elementary theory and applications of the subject.

Text-book: Miller, *Calculus,* Wiley.

Prerequisite: Mathematics 2.

Ten hours a week. 3 units.

Mr. Murdoch.

13. *Plane and Solid Analytical Geometry.*—A general study of the conics and systems of conics, and elementary work in three dimensions.

Text-book: Nowlan, *Analytic Geometry,* 3rd edition, McGraw-Hill.

Ten hours a week.

Mr. James. 3 units.

14. *Theory of Equations, Determinants, and Matrices.*—A course covering the main theory and use of these subjects.

Text-book: Dickson, *Elementary Theory of Equations,* Wiley.

Ten hours a week. 3 units.

Mr. Jennings.

Philosophy

1. *Introduction to Philosophy.*—A general study of the philosophic background of present scientific, literary, social and religious issues. Emphasis will be placed on the sense in which philosophic theory is consciously or unconsciously presupposed in the various forms of human activity.

Text-book: Drake, *Invitation to Philosophy,* Houghton Mifflin.

Ten hours a week. 3 units.

Mr. Liddy.

8. *Logic and Scientific Method.*—A general course in the fundamental problems of logic and scientific method, for students of the natural and social sciences as well as philosophy.

Text-books: Cohen and Nagel, *An Introduction to Logic and Scientific Method,* Harcourt, Brace; Lenzen, *Procedures of Empirical Science,* University of Chicago.

Ten hours a week. 3 units.

Mr. Maslow.

9. *Social and Political Philosophy.*—A study of modern political theory, with emphasis upon the relation between changes in the general current of political ideas and beliefs and changes in the social and political structure. The leading political ideas today: democracy and aristocracy; collectivism and individualism; socialism; communism; fascism; nationalism and pluralism.

Ten hours a week. 3 units.

Mr. Strong.

Physics

1. *Elementary Physics.*—A study of general college physics suitable for those students who have obtained credit for University Entrance (Junior Matriculation) Physics or its equivalent. The course covers the fundamental principles of mechanics, properties of matter, heat, light, sound, electricity, and some of the more recent developments in physics in a more quantitative way than Physics A.

Text-book: Stewart, *Physics, A Text-book for Colleges,* Ginn.

References: Watson, *A Text-book of Physics,* Longmans; Kaye and Laby, *Physical and Chemical Constants,* Longmans.

Prerequisite: University Entrance Physical Sciences or Physics A.

Ten lectures and four two-hour laboratory periods a week.

3 units.

4. *Mechanics, Molecular Physics, and Heat.*—A study of statics and dynamics of both a particle and a rigid body, the laws of gases, molecular theory, temperature, calorimetry, radiation laws, and elementary thermodynamics.

Text-books: Reynolds, *Elementary Mechanics,* Prentice-Hall; Allen and Maxwell, *Text-book of Heat,* Macmillan.

Prerequisite: Physics 1.

Ten lectures and ten hours laboratory a week. 3 units.

5. *Electricity and Magnetism.*—A study of the fundamentals of magnetism and electricity, including alternating currents and electron physics.

Text-book: Loeb, *Fundamentals of Electricity and Magnetism,* 2nd ed., Wiley.

Prerequisite: Physics 1.

Ten lectures and twelve hours laboratory a week.

3 units.

NOTE.—This course may be offered if a sufficient number register for it by the final day of registration.

Psychology

1. *Elementary Psychology.*—Psychology as a science; the nervous system; sensation; perception; emotion; motivation; attention; learning; thinking; intelligence; personality. This course is introductory to courses in advanced psychology.

Text-book: Dashiell, *Fundamentals of General Psychology,* Houghton Mifflin.

Ten hours a week. 3 units.

Mr. Chant.

3. *Social Psychology.*—The psychological analysis of social life from the point of view of the individual. Topics included are the social setting of human behaviour, personality and group participation, language, suggestion, imitation, attitudes, stereotypes, propaganda, rumors in wartime, crowd behaviour, social movements, leadership, the psychological effects of air-raids, and civilian morale in wartime.

Text-books: Katz and Schanck, *Social Psychology,* Wiley; Young, *Social Psychology,* 2nd edition, Crofts.

Prerequisite: Psychology 1.

Ten hours a week. 3 units.

Mr. Ketchum.

7. *Applied Psychology.*—The applications of psychology in the professions, in business, and in industry; advertising; salesmanship; personnel management; human efficiency; human motivation.

Text-book: To be announced.

Prerequisite: Psychology 1.

Mr. Fleury. 3 units.

Sociology

1. *Introduction to Sociology.*—The approach to the study of society is by way of the local community and its institutions. An evaluation of the importance of the geographic, the biological, the psychological, and the cultural factors in the determination of the rise, growth, and functioning of groups will be undertaken. There will be an attempt to discover fundamental principles and to trace these principles in their interrelations. Several of the problems resulting from group contacts will be studied.

Text-book: Pendell, *Society Under Analysis,* Cattell.

Ten hours a week. 3 units.

Mr. Topping.

Spanish

Beginners' Course.—Grammar, composition, translation, conversation.

Texts: House and Mapes, *The Essentials of Spanish Grammar,* Ginn; Eoff and King, *Spanish American Short Stories,* Macmillan; Espinosa, *Cuentos Castellanos,* Oxford.

Ten hours a week. 3 units.

Mr. Parker.

Zoology

2. *Comparative Anatomy of Vertebrates.*—The phylogeny and comparative anatomy of the vertebrates and protochordates. The dissection of representative forms.

Text-book: Neal and Rand, *Chordate Anatomy,* Blakiston.

Laboratory manual: Little and Kempton, *A Laboratory Manual for Comparative Anatomy,* 1940, Macmillan.

References: Parker and Haswell, *A Text-book of Zoology,* Vol. 2, Macmillan; Goodrich, *Studies on the Structure and Development of Vertebrates,* Macmillan.

Four hours lectures and sixteen hours laboratory a week. 3 units.

Civil Engineering

4. *Graphical Statics.*
Mr. Peebles.

30. *Engineering Problems 1.*
Mr. Finlay, Mr. Pretious.

Mechanical Engineering

1. *Mechanical Drawing.*
Mr. McIlroy, Mr. Kersey.

These courses in Civil and Mechanical Engineering are open only to ex-service students who began the Second Year of Applied Science on January 7th, 1946.

SUMMER SESSION, 1945

Registration

First Year	260
Second Year	278
Third Year	132
Fourth Year	81
Graduates	110
Total	861
Auditors	17
Social Work	20

UNIVERSITY HEALTH SERVICE

The University Health Service provides a Health Service for students attending the Summer Session.

All students should report to the Health Office within a reasonable time after the Session commences.

Students must report any disabilities or illnesses, including those of a communicable nature, which may occur during the Session.

Students exposed to any communicable disease are to report immediately to the Health Service. Such persons may be permitted, by special order of the Medical Health Officer, to attend the University for a prescribed period, despite the exposure. Such students shall report daily (or oftener at the discretion of the M. H. O.) to the University Health Service for such prescribed period.

Preventive vaccinations and inoculations are given by the Health Service. The Medical Officer will be available by appointment for consultations with students on health problems.

During the Summer Session the Office is open during the mornings only.

Reduced Fare for Students Attending Summer Session

Railway companies offer a reduction in fare from stations in Canada for Summer Session students. Students should purchase a regular one-way first-class ticket and *secure at that time* a Standard Convention Certificate. This ticket will be good for travel between June 28th and July 4th, inclusive. If presented to the Ticket Agent not later than August 20th, the certificate, when signed by the Registrar, entitles the holder to purchase a return ticket at one-third of the one-way first-class fare. Tickets permit stop-overs and are limited to thirty days from official closing date.