The University
OF
British Columbia

CALENDAR

ELEVENTH SESSION

1925 - 1926

VANCOUVER, BRITISH COLUMBIA
1925

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CONTENTS

FACULTY OF AGRICULTURE

ACADEMIC YEAR 1925-1926

1925 Monday, August 30th.	Matriculation Supplemental Examinations begin.
Wednesday, September 9th.	Supplemental Examinations in Arts begin.
Friday, September 18th.	Supplemental Examinations in Applied Science begin.
Friday, September 18th.	Last day for Registration.
Tuesday, September 22nd.	Lectures begin.
Monday, October 5th.	Last day for payment of First Term fees.
Saturday, October 10th.	Last day for Change in Students' Courses.
Wednesday, October 21st.	Meeting of the Senate.
Friday, December 4th.	Last day of Lectures for Term.
Tuesday, December 8th.	Examinations begin.
Wednesday, December 16th.	Meeting of the Senate.
Thursday, December 17th.	Examinations end.

1926 Monday, January 4th.	Second Term begins.
Monday, January 18th.	Last day for payment of Second Term fees.
Wednesday, February 17th.	Meeting of the Senate.
Thursday, April 8th.	Last day of Lectures.
Tuesday, April 13th.	Sessional Examinations begin.
	Field Work in Applied Science begins immediately at the close of the Examinations
Thursday, April 22nd.	Last day for payment of Graduation fees.
Wednesday, May 5th.	Meeting of the Senate.
Thursday, May 6th.	Congregation.
Thursday, May 6th.	Meeting of Convocation.
Monday, June 21st.	Junior and Senior Matriculation Examinations begin.

THE UNIVERSITY OF BRITISH COLUMBIA

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The Anglican Theological College of British Columbia, Vancouver, REV. W. H. VANCE, M.A.
Ryerson College, Vancouver (Theological), REV. J. G. BROWN, M.A.

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....., Assistant.

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

THE UNIVERSITY OF BRITISH COLUMBIA

HISTORICAL SKETCH

The creation of a University in British Columbia was first advocated by Superintendent Jessop in 1877, but it was not until 1890 that the Provincial Legislature passed an Act establishing a body politic and corporate named "The University of British Columbia." In 1891 this Act was amended to require that a meeting of the Senate be held within one month after the election of the Senators by Convocation. The Senators were elected, but a quorum did not assemble on the date fixed by the Chancellor, Dr. I. W. Powell, of Victoria. Thus the first attempt to establish a University in British Columbia failed.

However, some of the work normally done in a University was begun in 1894, when an Act was passed which permitted the affiliation of high schools in the Province with recognized Canadian Universities. In 1899 Vancouver High School was affiliated with McGill University in order to provide First Year work in Arts, and took the name of Vancouver College. First Year work in Arts was offered by Victoria High School when it became Victoria College by affiliation with McGill University in 1902. In the same year Vancouver College undertook the Second Year in Arts.

In 1906 an Act was passed incorporating the Royal Institution for the Advancement of Learning of British Columbia, which, in the same year, established at Vancouver the McGill University College of British Columbia. The scope of the work undertaken by this college was gradually increased until at the time it was taken over by the University of British Columbia it was giving three years in Arts and Science, and two years in Applied Science. When the University of British Columbia opened in the autumn of 1915, both the McGill University College of Vancouver and Victoria College, which since 1907 had been a part of it, ceased to exist.

Definite steps to establish the University were taken by Dr. H. E. Young, Minister of Education, in 1907, when he introduced a "University Endowment Act." This Act was followed in 1908 by an Act establishing and incorporating the University of British Columbia and repealing the old Act of 1890-1. This Act, with its subsequent amendments, determines the present constitution of the University.

As authorized by an Act passed by the Provincial Legislature in 1910, the Lieutenant-Governor in Council appointed a Site Commission to decide upon a site for the proposed University. The Commission held its first meeting on May 25th, 1910, in Victoria, and after a thorough examination of the Province recommended the vicinity of Vancouver. In the autumn the Executive Council decided to place the University at Point Grey—the site which the Commission had 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. The grant was increased in 1915, so that it now consists of 540 acres at the extremity of Point Grey. The waters of the Gulf of Georgia form more than half the boundary of the University Campus. A tract of some 3,000 acres of Government land immediately adjoining the site, and lying between it and the City of Vancouver, has been set aside by the Government in order that University revenue may be provided by its sale or lease.

In February, 1912, the Hon. H. E. Young, Minister of Education, called for competitive plans which should include plans in detail for four buildings to be erected immediately, and a block plan showing all the proposed buildings on the Campus. Messrs. Sharp and Thompson, of Vancouver, B. C., were the successful competitors, and were appointed University architects.

The first Convocation, held on August 1st, 1912, chose Mr. F. L. Carter-Cotton as first chancellor of the University. In March, 1913, the Lieutenant-Governor in Council appointed as President of the University F. F. Wesbrook, M.A., M.D., C.M., LL.D. On April 4th, 1918, Dr. R. E. McKechnie was elected

Chancellor; on April 12th, 1921, he was re-elected for a second term, and on April 3rd, 1924, for a third term. On the death of President Wesbrook, October 20th, 1918, L. S. Klinck, M.S.A., D.Sc., was appointed acting President, and on June 1st, 1919, President.

In the spring of 1923 construction work on the Science Building, which had been begun in 1914, but interrupted because of war conditions, was resumed, and in the autumn of the same year the contract was let for the Library. .These buildings, which are of stone and are fire-proof, conform closely to the original plans as prepared by the architects in 1914. The initial units of these two structures have been completed and they, with the semi-permanent buildings now almost ready, will be occupied for the first time at the opening of the present session.

THE CONSTITUTION OF THE UNIVERSITY

The Constitution of the University is governed by the British Columbia University Act B.C.R.S. 1924 c. 265, which 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 gradutes 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;

It is further provided that the University shall be non-sectarian.

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. It reserves for the University the sole right in this Province to confer degrees, except in Theology, and it expressly enacts that "No other university having corporate powers capable of being exercised within the Province shall be known by the same name, nor shall any such university have power to grant degrees."

THE WORK OF THE UNIVERSITY

The University of British Columbia is an integral part of the public educational system of the Province, and its function is to complete the work begun in the public and high schools. It is the policy of the University to promote education in general, and in particular to serve its constituency through three channels—teaching, research, and extension work.

As regards teaching, the University furnishes 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. The scope of the teaching activity of the University is fully described in Sec. 9 of the Act.

In order to make the teaching of the University more vital

and for the advancement of knowledge, research is encouraged in every department.

The people of the Province are informed of the results of special work by the staff of the University through a system of extension lectures. The University sends lecturers to various parts of the Province during the examination weeks in December and April. In the case of places which can be visited without prejudice to the duties of the lecturer at the University, lectures are arranged to take place during the University term. A list of subjects and lecturers can be obtained on application to the Secretary of the Extension Lecture Committee, through who all arrangements are made.

ENDOWMENTS AND DONATIONS

However well supported by public funds, a University must depend to a great extent upon private benefactors. In anticipation of endowments the Act 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."

Only a limited number are in a position to make endowments, but many—including alumni and friends of higher education—may add greatly to the usefulness of the University by making contributions that lie within their power. It is gratifying to note that the number of those who assist the University in this way is constantly increasing.

Among the most notable gifts received during the past year are the following:

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

Granite Island Quarrie Ltd.—A polished and engraved slab of granite.
Crawford Logan—Chalcocite specimen, Arizona.
Robt. Connell—Fossils, Sooke.
Dr. W. F. Ferrier—Ferrierite specimen.
Dr. W. Workman—Mineral specimen.
G. C. A. Jackson—Ore specimen.
H. C. Gunning—Suite of rocks, Hazelton Series.
W. D. Brunton—Suite of Epidote crystals.
John Hopp—Suite of Premier ore specimens. Suite of gold crystals, Barkerville.

DEPARTMENT OF BOTANY

Mrs. J. P. MacFadden, New Denver, B. C.—Collection of pressed specimens of mosses from Kootenay district.
Rev. R. Connell, Victoria, B. C.—Herbarium specimens of flora of Nebraska.
R. W. Pilsbury, Prince Rupert—Roots and seeds of Calla for Botanical Garden.
Geo. Sudworth, Dendrologist, Washington, D. C.—Herbarium specimens and cones of U. S. trees.
Dr. C. McLean Fraser, Vancouver, B. C.—Herbarium specimens of flora of Eastern Canada.

DEPARTMENT OF FORESTRY

Dominion Forestry Branch—Samples of tree seed; also various publications.
United States Forest Service—Forestry publications.
Asa S. Williams, Vancouver, B. C.—Forestry publications.
B. C. Forest Branch—Forestry publications.
Natural Resources Intelligence Branch, Ottawa—Forestry publication.
Henry Disston & Sons.—Forestry publications.
Matthew Sutton, Vancouver, B. C.—Section of spruce log for exhibit at University site, Point Grey.

Suggested Local Scholarships

As the number of Matriculation Scholarships offered at present is quite inadequate to the needs of the Province, a scheme which has great possibilities both for the growth of the University and the prosperity of the Province is earnestly recommended to consideration.

In the large universities, both of Great Britain and the United States, local or 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.

Such local or district scholarships might be established as Matriculation Scholarships, by City or Municipal Councils or other public bodies, or by private benefactors. They would be awarded by a local authority, but the University would reserve the right of confirmation.

In awarding such scholarships, standing in the Matriculation Examination need not be the only consideration. It is desirable that regard should be had also to financial circumstances, character, and intellectual promise. Scholarships may be offered for students taking a particular course, and in this way the study of such sciences and technical branches of knowledge as have special importance for the industries of the district may be encouraged. In short, local scholarships may be arranged to meet local needs and to prepare the native sons

of the Province to play their part in the development of its resources.

THE LIBRARY

The University Library consists of 53,000 volumes and about 10,000 pamphlets. It includes representative works in all the courses offered by the University, and a growing collection of works on other subjects. It also receives regularly 450 magazines and periodical publications devoted to literature and history, the sciences, and the transactions of learned societies. The Library is classified throughout on the Congressional system.

In general one or two books may be borrowed by students for a period of seven days, or for a shorter time should the books be in general demand. Books to which the teaching staff have specially referred their students are placed in a "Reserve" class. Reserved books are lent only for periods during which the Library is closed. Unbound periodicals are not issued on loan. Books that are costly, rare, or unsuitable for general circulation, are lent only under special conditions.

While the Library is primarily for the use of the staff and students of the University, its resources are available to those of the general public who are engaged in research or special study, and who make personal application to the Librarian for such privileges.

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

The University is deeply indebted to all who have made gifts to the Library in the past year. These have been both valuable and numerous. Their very number prevents detailed acknowledgement, but recognition should be made of the Nora E. Coy Memorial Canadian History Collection, still in process of gift by the Alumni Association, of the gifts of representative works in modern fiction by the Classes of Arts '26 and '27, and of a number of sets of Transactions, and complete or partial sets of scientific periodicals, by societies and friends of the University.

NEW BUILDINGS

LOCATION

The new home of the University is situated on the promontory which forms the western extremity of the Point Grey Peninsula. On three sides it is bounded by the Gulf of Georgia. The site comprises an area of 548 acres, of which approximatley one-half is campus. In all directions appear snow-capped mountains, strikingly rugged and impressive.

BUILDINGS

The buildings, planned to meet the requirements of fifteen hundred students, are of two classes, permanent and semi-permanent. The former were designed by the University architects, Messrs. Sharp and Thompson, the latter by architects of the Department of Public Works of the Provincial Government. The permanent buildings have been erected in the location originally assigned for them; the others in the quadrangle designated as "unassigned" in the original plan. By utilizing the "unassigned" area for the semi-permanent buildings, all the locations intended for future expansion have been left available.

The entire mechanical equipment of these buildings was designed after a close study had been made not only of present requirements, but of the ultimate development of the institution. This consideration accounts for the fact that only a part of the present equipment is permanent. After a careful survey of the whole system, a forced hot water system was found to present advantages that made its adoption advisable. Direct radiation with a system of warmed air supply and extraction for ventilation is used to take care of the heat losses in the buildings. A separate system of ventilation is installed for all sanitary conveniences, and a specially constructed system for fume closets. The various services throughout these buildings, such as hot and cold water, distilled water, gas and steam for laboratory purposes, compressed air, etc., with the necessary apparatus, are all of a modern type. An attempt has been made to reduce

vibration and noise to a minimum by installing all moving apparatus on floating slabs, with a further insulation of cork.

The plan at the back of the calendar shows the units previously erected and those nearing completion. It also indicates the nature of their construction and their relation to the other groups of buildings which are to be erected in the future.

PERMANENT BUILDINGS

Of the twelve buildings now in the course of erection, three are of fire-proof construction, the Science Building, the Library, and the Power House.

Science Building

The Science Building has been designed in the Tudor style, this being a phase of English Gothic which lends itself fairly readily to those adaptations which are necessary in order to meet modern collegiate requirements. Externally, British Columbia granite has been used throughout. Wherever possible plain wall surfaces, consisting of the split faces of granite arranged in random sizes with white joints, have been used. The general grey tone is relieved by the use of a small quantity of field stone of darker shades. All window openings are filled with leaded glass in steel sashes. Internally, the building is finished in brick work and tiles in pleasing tones of brown which harmonize with the oak panelled doors, the total effect in keeping with that of the period it is designed to represent.

This building, which was designed for the sole use of Chemistry ultimately, now accommodates the Departments of Chemistry, Physics, Bacteriology and Nursing and Health. One and one-half floors will be devoted to Chemistry; an equivalent assignment of space has been alloted to Physics, and half of one floor has been set aside for Bacteriology, and Nursing and Health. All lecture rooms and laboratories are well lighted, and a system of forced ventilation has been installed throughout the entire building. Distilled water, gas, steam, compressed air, and electrical supply circuits have been provided wherever re-

quired. These services are carried in trenches in the floor, an arrangement which facilitates any necessary repairs.

Ample provision has also been made for offices, balance rooms, preparation rooms, apparatus rooms, supply rooms, photographic rooms, technicians' rooms, and reading-room for students. Locker and lavatory accommodation has also been provided.

Chemistry.—In this Department there are two lecture rooms, two elementary laboratories for quantitative and qualitative analysis, an advanced qualitative laboratory, an elementary organic laboratory, an advanced organic laboratory, an agricultural laboratory, a physical labortory, an industrial laboratory and an organic combustion laboratory. There are also several laboratories well equipped for private research.

Physics.—The Department of Physics has two large lecture rooms, four large and several smaller laboratories, a constant temperature room and a battery room. Three of the large laboratories are equipped for the study of Elementary Physics, Mechanics, and Heat and Electricity. The fourth is specially designed for the conducting of experiments requiring the use of highly sensitive apparatus. Smaller laboratories are designed for light and X-ray experiments.

Bacteriology.—Provision has been made in this Department for four laboratories. Two of these are for general student use, one is for serological work and one is for advanced research. In addition to laboratory and lecture room accommodation, an office, a preparation room and a sterilization room have been provided.

Nursing and Health.—The three rooms assigned to this Department constitute a teaching unit such as is provided in modern training schools for the instruction of nurses. All the equipment necessary for the demonstration of elementary nursing procedure is available, and can be used for practice teaching purposes.

Library Building

The central unit of the Library Building is a massive structure of British Columbia granite which harmonizes with the Science Building in its Gothic architectural lines. Owing to the exigencies of the plan, however, the massing is more broken, and thus better effects of light and shade are obtained. Some tracery and stained glass in the upper portion of the building is employed to obtain in a restricted manner the richness of detail characteristic of this style of architecture.

Internally, the same effect has been striven for, wherever such an end was possible with due regard to economy. The Main Entrance Hall has a groined ceiling with arches and wall surface finished in Caen Stone plaster. This treatment is carried up to the Main Concourse floor through the staircase Hall; the lower portion of the Concourse walls is plastered with Caen Stone, the quoins to windows and doors, and corbels to roof trusses being finished in the same material. The roofs of the Concourse and of the two reading rooms adjacent are finished in native woods stained a dark brown, with patterae and shields picked out in bright heraldic colours. Windows throughout the building are of leaded glass. In the Concourse and the inner hall this is of a pale amber shade, with the coats of arms of the Canadian Universities worked into the centre light. On the window above the Loan Desk on the East Side of the Concourse the armorial bearings of Oxford and Cambridge, as the oldest universities of the Empire, are used as flanking emblems to that of the University of British Columbia. The floors of the Main Entrance Hall staircases and of the Concourse are finished with large marbled rubber tiles which harmonize with the general colour scheme, and ensure quietness in the principal parts of the building. Plain oak of simple detail, stained to represent old fumed oak, is used throughout for doors and other wood finish.

The principal reading room has a floor space of 100 ft. by 50 ft. and is 60 ft. in height. Two other reading rooms, each 60 ft. by 30 feet, open off the main reading room. These rooms provide accommodation for 250 students. The sixth and seventh tiers

of the stack, not being required at present to house the University book collection, are used as a periodical room and will accommodate about seventy readers. The Stack, which occupies the entire rear of the building, consists of seven tiers, four of which are fully equipped with steel stacks of the latest design. Here fifty-two semi-private study "carrels" facilitate research for advanced students. The offices of the Librarian and the Library Staff provide ample accommodation for receiving, cataloguing and accessioning. The Faculty common room, the "Browsing" room, and the Frank Burnett museum are also located in this building. The Burnett collection represents the arts, handicraft and weapons of Polynesia. This collection, which has been presented by Mr. Burnett to the University, is the result of numerous voyages made by him to the Central and South Pacific Islands. It constitutes one of the finest collections of this class of material yet accumulated by any private collector.

Power House

The Power House has been placed in the centre of the space which will ultimately be the Engineering Quadrangle, and will therefore eventually be masked by the future permanent buildings towards the Mall. For this reason it does not pretend to follow very closely the style of the other permanent buildings except in mass, being finished in rough case of broken texture, relieved with red quarry tiles as diapers, copings and offsets, with windows grouped as far as possible to give pleasing proportions of voids and solids.

The ultimate development of this plant will be 2500 horse power at normal rating. The present installation consists of three units, each of 250 horse power normal rating, capable of developing 100 per cent. in excess of this. Each unit, so equipped as to operate independently of the others, may act as a service as well as an experimental station. In other words, on any one boiler an experimental test may be conducted while the rest of the plant is cut in on the service lines. Instruments are provided to record every operation so that close checking and

comparisons of the performance of the different types of boilers may be made to a degree.

The B. & W. Unit is equipped with B. & W. Natural Draft Stoker, the Sterling Boiler with forced draft Coxe Travelling Grate. The Kidwell with forced draft Coxe Travelling Grate is also equipped with air pre-heater, by-passed, so that tests may be conducted with or without pre-heated air. Induced draft is used with individual forced draft fans; separate boiler feed lines and pump with Linehart Scale provide boiler feed for tests. A travelling weigh scale records the amount of coal used, while a steam jet ash conveyor elevates the ashes to an overhead bunker.

The efficiency and flexibility of the plant lends itself to economical operation, while the knowledge gained in the use of different appliances will be of interest and value to power plant users.

SEMI-PERMANENT BUILDINGS

In this group their are nine buildings in all,—Administration, Auditorium and Cafeteria, Arts, Applied Science, Agriculture; three Engineering Buildings—Mechanical, Electrical; Mining, Metallurgy and Hydraulics; and the Forest Products Building. These buildings, which are set on concrete foundations, are of frame construction with stucco finish, and are designed for a life of forty years. Their exterior design harmonizes with the permanent buildings so far as materials of construction will permit. With the exception of a part of the Engineering Laboratories, these buildings have been finished internally with plaster and fir trim.

The Administration Building

On the ground floor of this building are situated the offices of the President, the Dean of the Faculty of Arts and Science, the Registrar, and the Bursar. On the second floor are two large rooms, one for meetings of the Board of Governors and the Senate, and the other for meetings of Faculties and Committees.

Auditorium Building

The Auditorium Building is designed in a pleasing treatment of Renaissance architecture and is furnished with the most modern equipment. It has a seating capacity of 1100, a large and admirably equipped stage for the encouragement of dramatic presentations, an orchestra pit and adequate off-stage dressing rooms. Provision has been made for the operating of moving pictures and the stage is equipped with a cyclorama and all necessary electrical illumination devices.

The Cafeteria is situated in the basement and is designed to accommodate 400 students at one time. There is also a small dining room for the Faculty. The kitchen is furnished with the latest cooking and baking equipment.

The bookstore, post office, medical offices, women's rest room, students' council offices, and numerous committee rooms for subsidiary organizations are also located in this building.

Arts Building

In the Arts Building, which forms the centre of the semi-permanent group, are located the lecture rooms and offices for the following Departments in the Faculty of Arts and Science: Classics, Economics, Sociology and Political Science, English, History, Mathematics, Modern Languages and Philosophy.

The lecture rooms, 16 in number, are well designed and exceptionally well lighted. The largest room accommodates 250 students; the seating capacity of the others ranges from 32 to 64. Four common rooms for the undergraduates in Arts and Science are located in this building, as is also the office of the Dean of Women.

Applied Science Building

This building houses the Departments of Geology, Botany, Zoology, Forestry and the drafting rooms and offices for Civil Engineering. All the laboratories have been equipped with the essential services. One large lecture room, providing accommodations for 250 students, and 11 smaller lecture rooms with a seating capacity ranging from 25 to 112, are located in this

building. These will be used by the different Departments jointly as class requirements may determine. Extensive provision has been made for drafting rooms and for the necessary offices, preparation rooms, storage rooms, and photographic rooms. A geological museum, a reading room and a common room for students have also been provided.

Geology.—In addition to the necessary lecture rooms, the Department of Geology has three large and well equipped laboratories, the Mineralogical, the Petrological and the Geological. There are also two small research laboratories, one for graduate students and one for the staff.

The Department workroom is well equipped for the preparation of specimens. The museum contains valuable collections of illustrative material which supplements the extensive working collections in the laboratories. The reading room is equipped with books, separates, maps, photographs and slides for reference.

Botany.—The Botanical laboratories include a large junior laboratory, a senior laboratory, two student research laboratories and three private research rooms. These laboratories are used for practical work in Botany and General Biology. A Herbarium of over 15,000 sheets and a botanical garden containing over 1000 specimens of native plants furnish an abundance of material for class room and laboratory purposes.

Zoology.—This Department, which includes courses in Entomology, has two large laboratories, a small research laboratory and two private laboratories, all well equipped. There is also a room for class material, which will serve for a time as a repository for museum collections and for specimens to be used for illustration.

Forestry.—While the Department of Forestry has its own laboratory for work in wood technology, its own class room and offices, it uses the laboratories of other Departments quite extensive, notably those in Biology, Civil Engineering and Forest Products. The Department possesses, in the forest belt

which has been preserved on the campus as a natural park, a very valuable outdoor laboratory for forestry students.

Civil Engineering.—Well equipped and well lighted draughting and designing rooms are available for all classes in drawing, mapping, machine design and computation work. The equipment necessary for all types of Civil Engineering work is available. The hydraulic laboratory, which is situated in the Mining, Metallurgy and Hydraulics Building, is well equipped for demonstrations and tests covering the main field of hydraulic principles and machinery; while in the Forest Products Laboratory, which is at the disposal of students in Civil Engineering, excellent facilities are available for extensive tests of timber, cement and steel.

Agriculture Building

This building accommodates the Departments of Agronomy, Animal Husbandry, Dairying, Horticulture and Poultry. The office and record rooms for the Farm Survey studies are also located in this building.

The lecture rooms, of which there are four, are exceptionally well lighted. The largest accommodates 112 students, while the seating capacity of the others ranges from 36 to 54.

In addition to lecture and laboratory accommodation, provision has been made for the necessary offices, preparation rooms, storage rooms and also for a photographic dark room, a herd book room, and a students' common room.

Agronomy.—This Department is provided with a combined laboratory and lecture room which is equipped with water, gas and electricity. While this room will be used for studies in crop production, for the judging of specimens of plants and for the determination of soil samples, the main emphasis will be laid on the work conducted in the Department's outdoor laboratory—the Agronomy fields.

Animal Husbandry.—The different classes and types of livestock constitute the main laboratory material of this depart-

ment. In this material and in the farm survey records, the Department possesses a wealth of data for teaching and illustration in farm management, livestock management, feed and nutrition, and studies in pedigree and breeding.

Dairying.—The new laboratories of the Department of Dairying provide facilities for conducting researches on the bacterial flora of milk, butter and cheese, and the relation of the flora to the production and sale of high quality products. Excellent provision is made for the instruction of students in the work indicated. Cheese-making and butter-making will be conducted in the temporary dairy building; but the new laboratories permit of closer contact of the various activities of the Department.

Horticulture.—In the laboratory provided for this Department, comprehensive studies supplement the practical experience of the students in the propagation, planting, pruning and care of horticultural crops. Materials for these purposes are provided from the orchard, the ornamental trees, shrubs and flowers, and from plants grown in the glass propagating house.

Poultry Husbandry.—In the poultry laboratory in the Agriculture Building, facilities and equipment are provided to assist in the study of poultry nutrition, disease, and other problems related to the industry. On the poultry plant, which is the main laboratory of the Poultry Department, ten pure breeds of commercial importance are tested and bred for egg and meat production. Experiments in management and marketing are conducted with these birds and their products.

Mechanical and Electrical Buildings

The Department of Mechanical and Electrical Engineering is housed in two buildings, the larger one for Mechanical Engineering, the smaller for Electrical Engineering. The Mechanical Building comprises a large laboratory, three lecture rooms, a draughting room, a calorimeter room, a storage room, and a machine shop. In the Electrical Building, there are two electrical laboratories, a junior and a senior, a battery rooms, a

photometer room and a meter standardizing room, together with the necessary office accommodation.

Mining and Metallurgy Building

The Ore Dressing laboratory, which includes a workshop, storage room, and flotation room, contains modern equipment in small sizes. The laboratory is fully wired for power and light and has large water mains and drains.

The Metallurgical laboratory includes a fire assay room, with oil, gasolene, and gas furnaces; a wet assay room, with large fan draught fume closet and work benches wired for electric and gas heating; a fine balance room with vibrationless table; a pulp and rough balance room, a photographic dark room, and ample storage facilities.

Forest Products Building

The Forest Products Building is being erected, equipped and maintained under a joint agreement between the Department of the Interior and the University. The University is erecting the building and has agreed to furnish the heat, light and power without cost to the Dominion Government. The Department of the Interior has undertaken to provide the personnel and to furnish the equipment.

In this building there are a large timber testing laboratory, an experimental kiln-drying laboratory, a pathological laboratory, an exhibit room, a carpenter shop and a special building for air seasoning studies of lumber. Provision has also been made for the necessary offices and for a reference library. All laboratories are well equipped. Testing machines range from a 200,000-pound Olsen Universal compression and tension machine, to the most delicate balances.

GENERAL INFORMATION

The Session

The University Year or Session is divided into two terms. The first begins on Tuesday, September 22nd, 1925, and the second on Monday, January 4th, 1926. Registration and enrolment must be complete by Friday, September 18th, 1925.

Courses of Study

For the Session of 1925-26 the University offers instruction in the four years of each of the three Faculties, Arts and Science, Applied Science (including Nursing), and Agriculture, leading to the degrees of Bachelor of Arts, Bachelor of Applied Science and Bachelor of Science in Agriculture. It is also possible to proceed to a Master's degree in each Faculty (*see "Regulations as to the Master's Degree"*). Advanced courses of instruction and facilities for research are offered to students who are graduates of any University or College of recognized standing. Admission to these advanced courses, or to the privileges of research, does not in itself imply admission to candidacy for a higher degree.

Academic Dress

The undergraduate's gown is black in colour and of the ordinary stuff material, of ankle length, and with long sleeves and the yoke edged with khaki cord. The graduate's gown is the same, without cord. The Bachelor's hood is of the Cambridge pattern, black bordered with the distinctive colour of the particular Faculty; the Master's hood is the same, lined with the distinctive colour. The colours are, for Arts and Science, the University blue; for Applied Science, red; for Agriculture, maize.

Physical Examination

In order to promote the physical welfare of the student body, every student, on entering the University, will be required to undergo a physical examination, to be conducted

by, or under the direction of, the University Medical Examiner. Physical defects and weaknesses, amenable to treatment, may thus be discovered, and the student is advised to apply to his physician for such remedial measures as his case may require. About 10 to 15 per cent. of the students are re-examined in their second year.

Dean of Women

During the session the Dean of Women may be consulted by parents and students on matters pertaining to living conditions, vocational guidance, and other questions that directly affect the social and intellectual life of the women students.

Board and Residence

A list of approved boarding-houses which receive men or women students, but not both, may be obtained from the Registrar. 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. The cost of good board and lodging is from $35 per month upwards; of a room alone, $8 to $12 per month. A cafeteria is operated under the supervision of the Students' Council, and lunch and afternoon tea may be obtained there at very reasonable prices. Refreshments at social functions are also supplied.

ADMISSION TO THE UNIVERSITY

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

1. Except under special circumstances no student under the age of sixteen is admitted to the First Year Courses in the Faculty of Arts and Science, and no student under the age of seventeen to the Second Year Courses in the Faculty of Arts and Science nor to the First Year Courses in the Faculties of Agriculture and Applied Science.

2. Candidates for admission to the courses in the First Year of the Faculty of Arts and Science or the Faculty of Agriculture and to the course in Nursing in Applied Science are required to pass the Junior Matriculation Examination of the Province of British Columbia or to submit certificates showing that they have passed an equivalent examination elsewhere.

3. Candidates for admission to the work of the First Year in the Faculty of Applied Science (except Nursing) are required to have completed the First Year in the Faculty of Arts and Science or to have passed the Senior Matriculation Examination of the Province of British Columbia, or to submit certificates showing that they have passed an equivalent examination elsewhere.

4. Students who have passed the Senior Matriculation Examination are admitted to the courses of the Second Year in the Faculty of Arts and Science.

5. Certificates or diplomas showing that a candidate has passed the Matriculation Examination of another University will be accepted in lieu of the Junior or Senior Matriculation Examinations if the Faculty concerned considers that the examination has covered the same subjects and required the same standard. If, however, the examination covers some but not all of the necessary subjects the candidate will be required to pass the Matriculation Examination in the subjects not covered.

6. *Prospective candidates 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. 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.

7. 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 in the several subjects. The Faculty concerned will determine the standing of such a student in this University. The fee for the examination of certificates is $2.00.

8. No candidate under 18 years of age will be admitted to the University without complete Junior Matriculation; and no candidate over 18 years of age who has deficient Matriculation standing will be admitted without the special permission of the Faculty concerned.

9. The Junior and Senior Matriculation Examinations of the Province of British Columbia are arranged by the High School and University Matriculation Board of the Province. This Board consists of members appointed by the Department of Education and by the University. The requirements for Matriculation may be obtained in the publication, "Requirements for Matriculation," issued by the University, or in the "Courses of Study," issued by the Department of Education.

REGISTRATION AND ATTENDANCE

Those who intend to register as students of the University for the session 1925-26 are required to make application to the Registrar before Friday, September 19th, on forms to be obtained at the Registrar's office.

1. There are four classes of students:—

(a) Graduate students—Students who are pursuing courses of study in a Faculty in which they hold a degree, whether they are proceeding to a Master's degree or not. (*See "Regulations as to Master's Degree."*)

(b) Full undergraduates—Students proceeding to a degree in any Faculty who have passed all the examinations precedent to the year in which they are registered.

(c) Conditioned undergraduates—Students proceeding to a degree but who have incomplete entrance qualifications or who are required to pass supplemental examinations in a year previous to that in which they are registered.

(d) Partial students—Students not belonging to one of the three preceding classes. (*See 7, below.*)

2. All students other than graduate students are required to attend *in person* at the office of the Registrar on or before Friday, September 18th, 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."

In the information furnished for the University records, students are requested to state what churches they propose to make their place of worship. This information is available for any of the city churches desiring it.

3. After the above date a fee of $2.00 will be charged for late registration.

4. Students registering for the first time must present the certificates which constitute their qualification for admission to the course of study for which they wish to register. The Registrar is empowered to register all duly qualified students. Doubtful cases will be dealt with by the Faculty concerned.

5. Each student on registering will receive a class card for each class for which he has registered. Only students provided with such cards will be admitted to a class. Provisional cards will be given to any students whose status is subject to consideration.

6. Students desiring to make a change in the course for which they have registered must apply to the Registrar on the proper form for a "change of course." Except in special circumstance, no change will be allowed after the fifteenth day of the session. If the application is approved by the Faculty concerned, the Registrar will give the necessary notifications.

7. Partial students are not normally required to pass an examination for admission, but before registering they must produce a certificate showing that they have satisfied the Dean and the Heads of the Departments concerned that they are qualified to pursue with advantage the course of study which they propose to undertake.

8. Students are required to attend at least seven-eighths of the lectures in each course that they take. Lectures will commence on the hour, and admission to a lecture or laboratory and credit for attendance may be refused by the Instructor for lateness, misconduct, inattention or neglect of duty. Absence consequent on illness or domestic affliction may be excused only by the Dean of the Faculty concerned, and medical certificates or other evidence must be presented immediately on return to University work. In cases of deficient attendance students may (with the sanction of the Dean and the Head of the Department concerned) be excluded from the final examination in a course; but unless the unexcused absences exceed one-fourth of the total number of lectures in a course, such students may sit for supplemental examination.

FEES

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

1. The sessional fees are as follows:

FOR FULL AND CONDITIONED UNDERGRADUATES

In Arts and Science—

First Term, payable on or before Oct. 5th.....$50.00
Second Term, payable on or before Jan 18th.. 50.00
———$100.00

In Applied Science—

First Term, payable on or before Oct. 5th.....$75.00
Second Term, payable on or before Jan. 18th.. 75.00
———$150.00

In Agriculture—

First Term, payable on or before Oct. 5th.....$50.00
Second Term, payable on or before Jan. 18th.. 50.00
———$100.00

In Nursing—

First Term, payable on or before Oct. 5th.....$50.00
Second Term, payable on or before Jan. 18th.. 50.00
———$100.00

Alma Mater Fee—Payable on or before Oct. 5th.....$ 7.00
Caution Money—Payable on or before Oct. 5th..... 5.00

FOR PARTIAL STUDENTS

Fees per "Unit"—Payable on or before Oct. 5th..... 10.00
Alma Mater Fee—Payable on or before Oct. 5th..... 7.00
Caution Money—Payable on or before Oct. 5th..... 5.00

In Teacher Training Course—

First Term, payable on or before Oct. 5th.....$30.00
Second Term, payable on or before Jan. 18th.. 30.00
———$ 60.00

FOR GRADUATES

Registration and Class Fees — Payable on or before Oct. 15th .....$ 25.00

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

The Alma Mater Fee is a fee exacted from all students for the support of the Alma Mater Society. It was authorized by the Board of Governors at the request of the students themselves.

The Caution Money is a deposit from which deductions will be made to cover breakages, wastage, and use of special materials in laboratories, etc. If the balance to the credit of a student falls below $1.50, a further deposit of $5.00 may be required.

2. Immediately after October 5th and January 18th, the Bursar will notify students who have not paid their fees that steps will be taken to ensure their exclusion from classes while the fees remain unpaid.

3. Students registering after October 5th 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.

MEDALS, SCHOLARSHIPS AND PRIZES

Medals for 1925-26

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.

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.

Scholarships for 1925-26

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 1926 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, 1925. 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 following have been awarded the Rhodes scholarships from the Province:

A. W. Donaldson	1904	E. V. Gordon	1915
I. I. Rubinowitz	1905	E. W. Berry	1916
H. R. Bray	1906	S. Lett	1919
T. Larsen	1907	J. H. Mennie	1919
H. T. Logan	1908	L. A. Mills	1920
A. Yates	1909	W. H. Coates	1920
S. C. Dyke	1910	R. L. Vollum	1921
J. B. Clearihue	1911	L. W. McLennan	1922
A. N. King	1912	N. A. Robertson	1923
G. L. Haggen	1913	G. S. Livingston	1924
B. E. Atkins	1914	E. J. Knapton	1925

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 Canadian Federation of University Women Scholarship

The scholarship of the Canadian Federation of University Women, 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 W. C. Macdonald Scholarship

A scholarship in Agriculture, of the value of $500, for one year's post-graduate study at Macdonald College, P.Q., has been put at the disposal of the University by W. C. Macdonald (Registered). 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 Anne Wesbrook Scholarship

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

Application for this scholarship should be made to the Registrar not later than the last day of the final examinations.

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 Captain LeRoy Memorial Scholarship

This scholarship, of the value of $250, donated by the Universities Service Club, will be awarded for the academic year 1925-26 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.

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

The Nichol Scholarship

By the generosity of the Hon. Walter Nichol, Lieutenant-Governor of the Province, five three-year scholarships, each of the annual value of $1,200, will be available for study in the University of France, or at one of the other institutions of higher education in France. These scholarships will be open to graduates of the University of British Columbia who intend to take up teaching as a profession. One scholarship will be available in 1925.

The intention of the donor being the development in Canada, and particularly in this Province, of a wider knowledge of the people of France, their ideals, literature, art and science, and the promotion thereby of a better mutual understanding between French and British in this country, each successful candidate must undertake to return to British Columbia to practise his profession for such time as seems reasonable in the opinion of the Senate of the University.

Each scholarship may be held for three years, provided the holder can show from year to year satisfactory progress in the course of study undertaken. Application for the scholarships must be made to the Registrar before May 1st.

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 candidate who obtains the highest standing in the Province.

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 may be used in the form of bursaries or loans.

(b) First Year Scholarships

Four scholarships of $75 each (three in Arts and Science 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

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

2. Two scholarships in Arts and Science 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 Science 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.

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 and Science 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 and Science to the undergraduate student standing highest in English and French, and proceeding to the work of the Third Year.

The Vancouver Women's Canadian Club Scholarship

This scholarship, of the value of $110, given by the Women's Canadian Club, will be awarded to the student obtaining first place in Canadian History.

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 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 and Science to the undergraduate student standing highest in English and Economics, and proceeding to the work of the Third Year.

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 and Science 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 Kerr Scholarship

This scholarship, of the value of $200, given through the Economic and Historical Society by the generosity of Mr. George Kerr, will be awarded to the student standing highest in History in the Third Year who will take at least two courses in History in the Fourth Year.

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 Science, and who is proceeding in the Third Year to Honour work either in Biology or in a course including Biology.

The P. E. O. Sisterhood Scholarship

A scholarship of the annual value of $75, given by Chapters A, C, and D, of the P. E. O. Sisterhood, will be awarded to the woman student standing highest in English in the First Year of the Faculty of Arts and Science.

The Native Sons of Canada Scholarship

This scholarship, of the annual value of $500, given by the Native Sons of Canada, Assembly No. 2, through the generosity of one of its members, and intended to encourage knowledge of Canada and devotion to her interests, will be awarded wholly or in part to the undergraduate student of the Second, Third, or Fourth Year in the Faculty of Arts and Science who submits the best thesis on an assigned subject of Canadian History. Unless the leading thesis is of exceptional merit, the scholarship will be awarded in amounts of $350 and $150 to the first and second competitors respectively. Subjects for the competition have been selected as follows:—

1925-26: Geographical Factors in Canadian History; *or* The United States and Canada, 1815-1925.

1926-27: Economic Factors in Canadian History; *or* Does Canada Need a New National Policy?

1927-28: The Present Status of Canada; *or* The Growth of Canadian National Feeling; *or* Canada and the Imperial Conferences.

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 Club of Vancouver Bursary

Through the generosity of the Canadian Club of Vancouver, a sum of $300 will be available in 1925-26 to assist worthy male matriculants who would not otherwise be able to enter upon the University course. Candidates must be British subjects. They should make application for the award as soon as possible after the announcement of matriculation results.

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.

Prizes for 1925-26

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 Convocation Prize

This prize, 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 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 in Arts and Science who submits the best essay on a specified subject in Economics or Political Science. The subjects for the Session 1925-26 are as follows:

1. Is it Economically or Socially Advantageous to Restrict the Export of Raw Materials from Canada?
2. How far is Canada Losing by Emigration? Is this Loss Avoidable, and if so, by What Means?

3. Canada's Political Future:
   (a) Independence within the British Commonwealth of Nations.
   (b) Sovereign Independence.
   (c) Union with the United States.

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 and Science, for the best essay on an assigned subject.

The University Prize

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.

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 Walter Morberly Memorial Prize

A book prize of the annual value of $25, donated by the Vancouver Branch of the Engineering Institute of Canada in memory of the late Walter Moberly, will be awarded for the best engineering thesis submitted by any Fourth Year student in the Faculty of Applied Science.

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 Provincial Board of Health Prizes

The Provincial Board of Health of the Province of British Columbia offers the sum of $100 in prizes for competition in the Course in Public Health Nursing.

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 Canadian Institute of Mining and Metallurgy Bursary

The British Columbia Division of the Canadian Institute of Mining and Metallurgy offers a bursary of $50 to be awarded on the recommendation of the Faculty of Applied Science to the student taking the courses in Mining, Metallurgy, or Geological Engineering, who, in the judgment of the Faculty, will be most benefited thereby.

The Professional Engineers' Prizes

Five book prizes, each of the value of $25, have been offered by the Association of Professional Engineers of British Columbia and may be competed for by those students in the Third Year of the Faculty of Applied Science who are registered as pupils with the Association, a prize to be awarded for a thesis in each of five branches of engineering, and the regular summer theses to be offered in competition.

GENERAL REGULATIONS

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

2. If the award of a medal, scholarship, or prize is based on an examination, no award will be made to a candidate who obtains less than 75 per cent. of the possible marks.

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. A scholarship which cannot be awarded because of Rule 3 will be granted to the candidate next in order of merit, provided that he has obtained the marks required by Rule 2.

5. In the case of scholarships awarded to undergraduates, the 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 without forfeiting the scholarship, the payment of the scholarship being also postponed.

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.

THE
FACULTY
OF
ARTS AND SCIENCE

TIME TABLE

FACULTY OF ARTS

KEY TO BUILDINGS: A, Arts; Ag, Agriculture;

MORNINGS

	MONDAY	ROOM	TUESDAY	ROOM	WEDNESDAY	ROOM
	Biology 2	A 204	Botany 2	.....	Biology 2	A 204
	Biology 3	Ap 101	Botany 4	Ap 101	Biology 3	Ap 101
	Botany 6 e	Ap 101	Economics 2	A 108	Botany 6 e	Ap 101
	Economics 3	A 108	English 1 b	A 100,	Economics 3	A 108
	English 1 a	A 103,	Secs. 6, 7, 8, 9,	106, 205,	English 1 a	A 103,
	Secs. 1, 2, 3, 4, 5	106, 205, 206, 207	10, 11	206, 207, 208	Secs. 1, 2, 3, 4, 5	106, 205, 206, 207
9	English 13	A 100	French 2	A 101,	English 13	A 100
	French 2		Secs. d, e, f	104, 105	French 2	A 101,
	Secs. a, b, c	A 101, 104, 105	Geology 5 and 12	Ap 102	Secs. a, b, c	104, 105
	Geology 3 and 4	Ap 102	Latin 2	A 103	Geology 3 and 4	Ap 102
	Greek 1	A 102	Latin 6	A 102	Greek 1	A 102
	Mathematics 10	A 201	Physics 2 a	S 200	Mathematics 10	A 201
	Philosophy 1 a	Ap 100	Zoology 2	Ap 101	Philosophy 1 a	Ap 100
	Physics 1 a	S 200	Zoology 3	Ap 101	Physics 1 a	S 200
	Botany 5 a	Ap 101	Botany 3	Ap 101	Botany 5 b	.....
	Botany 6 d	Ap 101	Botany 6 c	Ap 101	Botany 6 d	Ap 101
	Chemistry 3	S 300	Chemistry 9	S 417	Chemistry 3	S 300
	Economics 1 a	A 103	Economics 1 c	A 103	Economics 1 a	A 103
	English 9	Ap 202	English 17	A 203	English 9	Ap 202
	French 3 b	A 104	French 4 a	A 104	French 3 b	A 104
	French 4 b	A 105	Geology 2	Ap 102	French 4 b	A 105
10	Geology 1	Ap 100	Government 1	A 108	Geology 1	Ap 100
	History 8	A 101	Greek 2	A 102	Geology 7	Ap 102
	Mathematics 1 a	A 100,	History 6	A 101	History 8	A 101
	Secs. 1, 2, 3, 4, 5	106, 205, 206, 207	Mathematics 1 b	A 105, 106, 205, 206, 207 208	Mathematics 1 a	A 100, 106, 205, 206, 207
	Philosophy 5	A 102			Philosophy 5	A 102
	Physics 1 b	S 200			Physics 1 b	S 200
	Physics 3	S 210	Philosophy 2	A 204	Physics 3	S 210
			Physics 2 b	S 200		
	Agricultural Economics	Ag 102	Botany 1	A 204	Agricultural Economics	Ag 102
	Biology 1	Ap 100	Botany 6 b	A 201	Biology 1	Ap 100
	Chemistry 7	S 417	Chemistry 1 c	S 300	Chemistry 7	S 417
	Economics 1 b	S 400	Chemistry 4	S 417	Economics 1 b	S 400
	Economics 7	A 102	Economics 1 d	Ap 100	Economics 7	A 102
	English 14	A 203	French 1	A 104,	English 14	A 203
	French 1	A 105,	Secs. e, f, g, h	105, 108, 203	French 1	A 105,
	Secs. a, b, c, d	108, 204 207	French 3 a	A 100	Secs. a, b, c, d	108, 204, 207
11	French 4 d	A 104	Geology 6	Ap 102	French 4 d	A 104
	Geology 8	Ap 102	Government 2	A 102	Geology 8	Ap 102
	Government 3 (not given 1925-26)	.....	History 3	A 106	Government 3 (not given 1925-26)	.....
	History 2	A 100	History 9	A 101	History 2	A 100
	History 7	A 101	Latin 1 b	A 103	History 7	A 101
	Latin 1 a	A 103	Philosophy 8	A 205	Latin 1 a	A 103
	Mathematics 2	A 106	Zoology 4	Ap 101	Mathematics 2	A 106
	Physics 4	S 210	Zoology 7	Ap 101	Physics 4	S 210
	Zoology 1	Ap 101			Zoology 1	Ap 101

— 1925-26
AND SCIENCE

Ap, Applied Science; S, Science.

MORNINGS

THURSDAY	ROOM	FRIDAY	ROOM	SATURDAY	ROOM	
Botany 2	.....	Botany 6 f	Ap 101	Botany 5 b Lab.	.....	
Economics 2	A 108	Botany 7 a	.....	Chemistry 9 Lab.	.....	
English 1 b	A 100,	Economics 3	A 108	Economics 2	A 108	
Secs. 6, 7, 8, 9,	106, 205,	English 1 b	A 103,	English 1 a	A 100,	
10, 11	206, 207, 208	Secs. 1, 2, 3, 4, 5	106, 205, 206, 207	Secs. 6, 7, 8, 9, 10, 11	106, 205, 206, 207, 208	
French 2	A 101,	English 13	A 100			
Secs. d, e, f	104, 105	French 2	A 101,	French 2	A 101,	9
Geology 5 and 12	Ap 102	Secs. a, b, c	104, 105	Secs. d, e, f	104, 105	
Latin 2	A 103	Geology 3 and 4	Ap 102	Geology 10	.....	
Latin 6	A 102	Greek 1	A 102	Latin 2	A 103	
Physics 2 a	S 200	Mathematics 10	A 201	Latin 6	A 102	
Zoology 2	Ap 101	Philosophy 1 a	Ap 100	Physics 2 a	S 200	
Zoology 3	Ap 101	Physics 1 a	S 200			
Botany 3	Ap 101	Botany 5 a	Ap 101	Botany 5 b Lab.	.....	
Botany 6 c	Ap 101	Chemistry 2	S 300	Chemistry 9 Lab.	.....	
Chemistry 9	S 417	Economics 1 a	A 103	Economics 1 c	A 103	
Economics 1 c	A 103	English 9	Ap 202	English 17	A 203	
English 17	A 203	French 3 b	A 104	French 4 a	A 104	
French 4 a	A 104	French 4 b	A 105	Geology 10	.....	
Geology 2	Ap 102	Geology 7	Ap 100	Government 1	A 108	
Government 1	A 108	History 8	A 101	Greek 2	A 102	
Greek 2	A 102	Mathematics 1 a	A 100, 106, 205, 206, 207	History 6	A 101	10
History 6	A 101			Mathematics 1 b	A 105, 106, 205, 206, 207, 208	
Mathematics 1 b	A 105, 106, 205, 206, 207, 208	Philosophy 5	A 102			
		Physics 1 b	S 200	Philosophy 2	A 204	
Philosophy 2	A 204			Physics 2 b	S 200	
Physics 2 b	S 200					
Botany 1	A 204	Agricultural Economics	Ag 102	Botany 5 b Lab.	.....	
Chemistry 1 c	S 300	Economics 1 b	S 400	Chemistry 1 c	S 300	
Chemistry 4	S 417	Economics 7	A 102	Chemistry 9 Lab.	.....	
Economics 1 d	Ap 100	English 14	A 203	Economics 1 d	Ap 100	
French 1	A 104,	French 1	A 105,	French 1	A 104,	
Secs. e, f, g, h	105, 108, 203	Secs. a, b, c, d	108, 204, 207	Secs. e, f, g, h	105, 108, 203	
French 3 a	A 100	French 4 d	A 104	French 3 a	A 100	
Geology 6	Ap 102	Geology 8	Ap 102	Geology 10	.....	
Government 2	A 102	Government 3 (not given 1925-26)	.....	Government 2	A 102	11
History 3	A 106	History 2	A 100	History 3	A 106	
History 9	A 101	History 7	A 101	History 9	A 101	
Latin 1 b	A 103	Latin 1 a	A 103	Latin 1 b	A 103	
Philosophy 8	A 205	Mathematics 2	A 106	Philosophy 8	A 205	
Zoology 4	Ap 101	Zoology 6	Ap 101			
Zoology 7	Ap 101	Zoology 7	Ap 101			

TIME TABLE

AFTERNOONS

	MONDAY	ROOM	TUESDAY	ROOM	WEDNESDAY	ROOM
1	Botany 3 Lab.	.....	Bacteriology 1	.....	Biology 3 Lab.	.....
	Botany 5 a Lab.	.....	Biology 1 Lab. a	.....	Botany 3 Lab.	.....
	Botany 6 c Lab.	.....	Botany 6 e Lab.	.....	Chemistry 1 a	S 300
	Chemistry 1 a	S 300	English 7	A 101	Economics 5 (not given 1925-26)	.....
	Economics 5 (not given 1925-26)	.....	Mathematics 1 b	A 105, 106, 205, 206, 207, 208	English 2 a	A 100
	English 2 b	A 100, Ap 100, 202	Zoology 2 Lab.	.....	French 1	A 104,
	French 1	A 104,	Zoology 3 Lab.	.....	Secs. i, j, k, l	105, 108, 203
	Secs. i, j, k, l	105, 108, 203			French 4 c	A 204
	French 4 c	A 204			Geology 7 Lab.	.....
	Greek, Bgeinners	A 201			Greek, Beginners	A 201
	History 4	A 101			History 4	A 101
	Latin 4	A 102			Latin 4	A 102
	Mathematics 3	A 202			Mathematics 3	A 202
	Philosophy 4	A 207			Philosophy 4	A 207
	Sociology	S 200			Sociology	S 200
	Zoology 5 Lab.	.....			Zoology 5 Lab.	.....
	Zoology 6 Lab.	.....			Zoology 6 Lab.	.....
2	Botany 3 Lab.	.....	Bacteriology 1	.....	Biology 3 Lab.	.....
	Botany 5 a Lab.	.....	Biology 1 Lab. a	.....	Botany 3 Lab.	.....
	Botany 6 c Lab.	.....	Botany 6 e Lab.	.....	Chemistry 1 b	S 300
	Chemistry 1 b	S 300	Chemistry 1 Lab. 2	.....	Economics 4	A 108
	Chemistry 7 Lab.	.....	English 1 b	A 103,	English 10	A 102
	Economics 4	A 108	Secs. 1, 2, 3, 4, 5	106, 205, 206, 207	English 16	A 104
	English 10	A 102	English 2 c	A 100	French 1	A 105,
	English 16	A 104	Geology 1 Lab.	.....	Secs. m, n, o	203, 204
	French 1	A 105,	Greek, Beginners	A 201	Geology 7 Lab.	.....
	Secs. m, n, o	203, 204	Physics 3 Lab.	.....	Geography 1	Ap 100
	Geography 1	Ap 100	Zoology 2 Lab.	.....	History 1	A 100
	History 1	A 100	Zoology 3 Lab.	.....	History 5	A 101
	History 5	A 101			Philosophy 1 b	S 200
	Philosophy 1 b	S 200			Zoology 5 Lab.	.....
	Zoology 5 Lab.	.....			Zoology 6 Lab.	.....
	Zoology 6 Lab.	.....				
3	Bacteriology 1	.....	Biology 1 Lab. b	.....		
	Botany 2 Lab.	.....	Botany 2 Lab.	.....		
	Botany 4 Lab.	.....	Botany 4 Lab.	.....		
	Botany 5 a Lab.	.....	Chemistry 1 Lab. 2	.....		
	Chemistry 1 Lab. 1	.....	Chemistry 2 Lab. b	.....		
	Chemistry 2 Lab. a	.....	English 8	A 201		
	Chemistry 7 Lab.	.....	English 15	A 101		
	English 12	A 201	Latin 7	A 102		
	Geology 5	Ap 102	Physics 3 Lab.	.....		
	Latin 7	A 102	Zoology 2 Lab.	.....		
	Physics 4 Lab.	.....	Zoology 3 Lab.	.....		
	Zoology 5 Lab.	.....				
	Zoology 6 Lab.	.....				
4	Bacteriology	.....	Biology 1 Lab. b	.....		
	Botany 2 Lab.	.....	Botany 2 Lab.	.....		
	Botany 4 Lab.	.....	Botany 4 Lab.	.....		
	Botany 5 a Lab.	.....	Chemistry 1 Lab. 2	.....		
	Chemistry 1 Lab. 1	.....	Chemistry 2 Lab. b	.....		
	Chemistry 2 Lab. a	.....	Physics 3 Lab.	.....		
	Chemistry 7 Lab.	.....	Zoology 2 Lab.	.....		
	Physics 4 Lab.	.....	Zoology 3 Lab.	.....		
	Zoology 5 Lab.	.....				
	Zoology 6 Lab.	.....				
5	Bacteriology	.....	Chemistry 2 Lab. b	.....		
	Chemistry 1 Lab. 1	.....				
	Chemistry 2 Lab. a	.....				

—Continued AFTERNOONS

THURSDAY	ROOM	FRIDAY	ROOM			
Bacteriology 1	.....	Biology 1 Lab. c	.....			
Botany 1 Lab.	.....	Botany 6 d Lab.	.....			
English 7	A 101	Chemistry 1 a	S 300			
Geology 1 Lab.	.....	Economics 5 (not given 1925-26)	.....			
Mathematics 1 a	A 100, 106, 205, 206, 207	English 2 a	A 100			
		French 1	A 104,			
Zoology 1 Lab.	.....	Secs. i, j, k, l	105, 108, 203			
		French 4 c	A 204			
		Geology 2 Lab.	.....			1
		Greek, Beginners	A 201			
		History 4	A 101			
		Latin 4	A 102			
		Mathematics 3	A 202			
		Philosophy 4	A 207			
		Sociology	S 200			
		Zoology 4 Lab.	.....			
		Zoology 7 Lab.	.....			
Bacteriology 1	.....	Biology 1 Lab. c	.....			
Botany 1 Lab.	.....	Botany 6 d Lab.	.....			
Chemistry 3 Lab. b	.....	Chemistry 1 b	S 300			
English 1 a	.....	Chemistry 3 Lab. a	.....			
Secs. 6, 7, 8, 9, 10, 11	A 100, 106, 205, 206, 207, 208	Economics 4	A 108			
		English 10	A 102			
		English 16	A 104			
		French 1	A 105,			
Geology 1 Lab.	.....	Secs. m, n, o	203, 204			
Greek 1	A 102	Geography 1	Ap 100			2
Zoology 1 Lab.	.....	Geology 2 Lab.	.....			
		History 1	A 100			
		History 5	A 101			
		Philosophy	S 200			
		Zoology 4 Lab.	.....			
		Zoology 7 Lab.	.....			
Botany 6 b Lab.	.....	Biology 1 Lab. d	.....			
Botany 6 e Lab.	.....	Botany 6 d Lab.	.....			
Botany 7 a Lab.	.....	Chemistry 1 Lab. 4	.....			
Chemistry 1 Lab. 3	.....	Chemistry 2 Lab. a	.....			
Chemistry 2 Lab. b	.....	Chemistry 3 Lab. a	.....			
Chemistry 3 Lab. b	.....	English 12	A 201			
English 8	A 201	Zoology 4 Lab.	.....			3
English 15	A 101	Zoology 7 Lab.	.....			
Latin 7	A 102					
Geology 1 Lab.	.....					
Botany 6 b Lab.	.....	Biology 1 Lab. d	.....			
Botany 6 e Lab.	.....	Botany 6 d Lab.	.....			
Botany 7 a Lab.	.....	Chemistry 1 Lab. 4	.....			
Chemistry 1 Lab. 3	.....	Chemistry 2 Lab. a	.....			
Chemistry 2 Lab. b	.....	Chemistry 3 Lab. a	.....			4
Chemistry 3 Lab. b	.....	Zoology 4 Lab.	.....			
Zoology 1 Lab.	.....	Zoology 7 Lab.	.....			
Chemistry 1 Lab. 3	.....	Chemistry 1 Lab. 4	.....			
Chemistry 2 Lab. b	.....	Chemistry 2 Lab. a	.....			5

Faculty of Arts and Science Supplemental Examinations

SEPTEMBER, 1925

Date	Hour	First Year	Second Year	Third Year
Wednesday, September 9th	9 A.M.	History, 1, 2, 3	History, 1, 2, 3	To be arranged
	1 P.M.	English Literature	English Literature	
Thursday, September 10th	9 A.M.	Latin Authors	Latin Authors	
	1 P.M.	Latin Composition, Sight, and History	Latin Composition, Sight, and History	
			Calculus	
Friday, September 11th	9 A.M.	French Authors	French Authors	
	1 P.M.	French Grammar	French Grammar	
Saturday, September 12th	9 A.M.	Physics 1	Physics 1, 2, 3	
			Philosophy 1	
Monday, September 14th	9 A.M.	Geometry	Geometry	
		Greek	Greek	
		Trigonometry	Botany 1	
			Zoology 1	
	1 P.M.	Chemistry 1	Chemistry 1, 2	
		German	German	
Tuesday, September 15th	9 A.M.	Algebra	Algebra	
	1 P.M.	English Composition	English Composition	
			Geology 1, 2	
Wednesday, September 16th	9 A.M.	Economics 1	Economics 1, 2	
	1 P.M.	Biology 1	Biology 1	
		Geography	Geography	

FACULTY OF ARTS AND SCIENCE

COURSES LEADING TO THE DEGREE OF B.A.

The degree of B.A. is granted with Honours or as a Pass degree. Four regular sessions of class-room work from Junior Matriculation or three from Senior Matriculation are required.

A double course in Arts and Science and Applied Science is offered, leading to the degrees of B.A. and B.A.Sc. (*See "Double Course."*)

No distinction is made between Pass and Honour students in the First and Second Years, except as regards prerequisites for later work, but in the Third and Fourth Years there are special requirements for Honour students.

Courses are described in terms of units. A unit normally consists of one lecture hour (or one continuous laboratory period of not less than two or more than three hours) per week throughout the session, or two lecture hours (or equivalent laboratory periods) throughout a single term.

NOTE.—Students in any of the affiliated Theological Colleges 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 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 consists of 30 units, 15 of which must be taken in each year; but there are certain courses not open to First Year students. Details of the courses are given by the various departments and appear at pages 64 to 116.

Each student must take: Units

(*a*) English 1 in the First Year and English 2 in the Second Year..... 6

(*b*) The first two courses in a language offered for Matriculation, one course in each year..... 6

(*c*) Mathematics 1, in the First Year..... 3

(*d*) Economics 1, or History 1 or 2 or 3, or Philosophy 1 3

(*e*) Biology 1, or Chemistry 1, or Geology 1, or Physics 1..... 3

(*f*) 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.—Botany 1, Zoology 1, Geology 1 and 2 and History 3 are not open to First Year students. Economics 1, and Philosophy 1 are open to First Year students only if the permission of the Heads of these departments is obtained. History 2 is open to First Year students only if they are preparing for entrance to the Normal School.

2. 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.

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

NOTE (for students intending to enter the Faculty of Applied Science:

(a) Physics 1 and Chemistry 1 are compulsory.

(b) A grade of 50 per cent. is required in Physics 1, Chemistry 1 and Mathematics 1 (a), (b), and (c).

(c) Biology 1 or Economics 1, if completed in First Year Arts, need not be taken in Applied Science.

(d) French is advisable for students expecting to enter Geological Engineering.

To ensure the conformity of their courses to Calendar regulations, all students in their Second Year are advised to submit to the Dean of the Faculty, on or before March 31st of each year, a scheme of the courses they propose to take during their last two years.

THIRD AND FOURTH YEARS: PASS CURRICULUM

1. The work of the Third and Fourth Years consists of 30 units, of which students must take, in their Third Year, not less than 15 units or more than 18.

2. A minimum of 15 units must be taken in two Major subjects, at least 6 units in each, and a minimum of 6 units in some other subject or subjects. Work in the First or Second Year is required in each of the Major subjects, except in the case of Bacteriology. Both Major subjects must be chosen from one of the following groups:

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

(*b*) Chemistry, Physics, Mathematics.

(*c*) Economics, Philosophy, Mathematics.

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

3. Details of courses available in the Third and Fourth Years are furnished by the various departments, and appear at Pages 64 to 116.

Any course not taken in the First and Second Years may be taken in the Third or Fourth Years, except History 1, 2, 3, but no credit will be given for a language course normally taken in the First Year unless it is taken in the Third Year and continued in the Fourth Year. Some courses, however, are intended for Honour students only.

4. During the Fourth Year one course of private reading, to count not more than 3 units, may be taken with the consent of the department concerned.

HONOURS

1. Students whose proposed scheme of work involves Honour courses must obtain the consent of the departments concerned and of the Dean before entering on these courses; and this consent will normally be granted only to those students who have a clear academic record at the end of their Second Year with 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.)

2. Certain departments offer Honour courses either alone or in combination with other departments. For Honours in a single department, at least 18 of the requisite 30 units must be taken in the department concerned, and at least 6 outside it. For Honours in combined courses, at least 12 units are required in each of two subjects. Particulars of these courses are given below.

3. 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. Credit for the graduating essay will be not less than 3 or more than 6 units.

4. 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.

5. 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. If a combined Honour course is taken, First Class Honours will be given only if both the departments concerned agree; and an Honour degree will be withheld if either department refuses a sufficiently high ranking.

6. The following Honour courses are regularly offered, and other Honour courses may be arranged with the department or departments concerned.

HONOUR COURSES IN SINGLE DEPARTMENTS

Biology (Botany Option)

Prerequisites:—Biology 1, Chemistry 1, and Botany 1. Physics 1 and Zoology 1 are required before completion of the course and should be taken as early as possible.

Required Courses:—Botany 3, 4, 5 (*a*), and 6 (*c*).

Optional Courses:—Biology 2 and 3; courses in Botany not specifically required; and courses in Zoology. Optional courses should be selected in consultation with the department.

Biology (Zoology Option)

Prerequisites:—Biology 1, Zoology 1, Chemistry 1.

Physics 1 and Botany 1 are required before completion of the course and should be taken as early as possible. Students are also advised to take Chemistry 2 and 3.

Required Courses:—Zoology 2, 3, 5, 6.

Optional Courses:—Zoology 4, 7, 8; courses in Botany; Geology 6. These optional courses should be selected in consultation with the Head of the department.

Chemistry

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

Course:—Candidates are required to complete the following courses: Chemistry 2, 3, 4, 5, 7 and 9.

Classics

Course:—Any three of Greek 3, 5, 6, 7, and any three of Latin 3, 4, 5, 6.

As proof of ability to write Greek and Latin prose, candidates must attain not less than Second Class standing in Greek 8 and Latin 8. During the candidate's Fourth Year, papers will be set on sight translation; and the candidate is advised to pursue a course of private reading under the supervision of the department.

There will also be a general paper on Antiquities, Literature and History.

Economics

Prerequisites:—A reading knowledge of French or German.

Course:—Economics 2 if not already taken, any 15 further units in the department, and a graduating essay which will count 3 units. (Tutorial instruction will be arranged in connection with the essay.)

Students must pass an oral examination and, if required, address a general audience on a designated subject.

Work in this department should be supplemented by a course in Ethics and by the foundational courses in History.

English Language and Literature

Prerequisites:—A reading knowledge of French or German.

Course:—English 19 (involving an examination on the life, times, and complete works of some major English author), 20, 21 (*a*), 21 (*b*), 22, 24 (the seminar, which must be attended in

both years, though credit will be given only for the work of the final year), and a graduating essay which will count 3 units.

Candidates will be required to take 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.

If the candidate's work outside the department does not include a course in English History, he must take an examination in that subject.

Geology

Prerequisites:—Geology 1. If possible Geology 2 should be taken. Chemistry 1 and Physics 1 should be taken in the First Year. Zoology 1, to which Biology 1 is prerequisite, should be taken in the Third Year in preparation for Geology 6.

Course:—18 units to be chosen from Geology 3, 4, 5, 6, 7, 8, 10, 12.

History

Course:—Any 18 units, of which the graduating essay will count 3 units. The seminar (which carries no credit) must be attended in either the Third or the Fourth Year. A reading knowledge of French is required.

French

Course:—French 3 (*a*), 3 (*b*), 3 (*c*) in the Third Year.
French 4 (*a*), 4 (*b*), 4 (*c*) in the Fourth Year.
A graduating essay (in French) which will count 3 units.

Mathematics

Prerequisites:—Mathematics 2, Physics 1 or 2.

Course:—Any 18 units in Mathematics, and Physics 3 and 4. Mathematics 3 or 4, but not both, may be taken among the requisite 18 units. A final Honours Examination is required.

Physics

Prerequisites:—Mathematics 2, Physics 1 or 2.

Course:—Mathematics 10, 16, 17. Physics 3 and 4, and 12 additional units.

COMBINED HONOUR COURSES

(a) Biology (Botany and Zoology) and Bacteriology

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

Course:—Bacteriology 1, 2 and 5; the required courses for either the Botany option or the Zoology option of the Honour course in Biology.

(b) Biology (Botany and Zoology) and Geology

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

Course:—Geology 2, 3 and 6; the required courses for either the Botany option or the Zoology option of the Honour course in Biology.

(c) Chemistry and Biology (Botany and Zoology)

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

Course:—Chemistry 3, 4, 5, 7 and 9; the required courses for either the Botany option or the Zoology option of the Honour course in Biology.

(d) Chemistry and Physics

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

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

(e) Chemistry and Geology

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

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

(f) Mathematics and Physics

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

Course:—Mathematics, at least 12 units, including Mathematics 10, 16 and 17.

Physics, at least 12 units, including Physics 3 if not already taken, and Physics 4.

(g) Any two of:
Economics, English, French, History, Latin, Philosophy.

Economics

Prerequisite:—A reading knowledge of French or German.

Course:—Any 12 units, including Economics 2, if not already taken.

English

Prerequisite:—A reading knowledge of French or German.

Course:—English 20 and 24, and any three of the English courses of the first division. The seminar must be attended 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. A final Honours Examination, written or oral, or both, is required on the History of English Literature since 1500.

French

Course:—If the graduating essay is written on a French subject, 3 (*a*) and 3 (*c*), 4 (*a*) and 4 (*c*); otherwise either these courses or 3 (*a*) and 3 (*b*), 4 (*a*) and 4 (*b*).

Courses 3 (*b*) and 4 (*b*) are intended primarily for Honour students and should be taken whenever possible, even if they are not required to make up the minimum number of units.

History

Prerequisites:—A reading knowledge of French.

Course:—History 4 or 5 and any 9 additional units, of which the graduating essay, if written in History, will count 3 units.

The seminar (which carries no credits) must be attended in either the Third or Fourth Year.

Latin

Course:—Latin 8 and any four of 3, 4, 5, 6, 7. In the final year candidates must pass an examination (*a*) in sight

translation, and (*b*) in Latin Literature, History and Antiquities. Private reading under the direction of the department is recommended.

Philosophy

Course:—Any 12 units besides Philosophy 1, six units in each year.

EXAMINATIONS AND ADVANCEMENT

1. Examinations in all subjects and obligatory for all students are held in December and in April. Applications for special consideration on account of illness or domestic affliction must be submitted to the Dean not later than two days after the close of the examination period.

2. In the First and Second Years, candidates will not be considered as having passed unless they obtain at least 40 per cent. on each subject and 50 per cent. on the aggregate. In the case of Beginners' Greek and German, however, the passing mark is 50 per cent. In the Third and Fourth Years, candidates must obtain at least 50 per cent. on each subject.

3. Successful candidates will be graded as follows: First Class, an average of 80 per cent. or over; Second Class, 65 to 80 per cent.; Passed, 50 to 65 per cent.

4. If a student's general standing in the final examinations of any year is sufficiently high, the Faculty may grant him supplemental examinations in the subject or subjects in which he has failed. Notice will be sent to all students to whom such examinations have been granted.

5. Supplemental examinations will be held in September and will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $7.50 per paper.

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.

7. No student may enter a higher year with supplemental examinations still outstanding in respect of more than 3 units of the preceding year, nor with any supplemental examination outstanding in respect of the work of an earlier year or of Matriculation unless special permission to do so is granted by Faculty. Such permission will be granted only when Faculty is satisfied that the failure to remove the outstanding supplemental examinations had an adequate cause.

8. A student may not continue in a later year any subject in which he has a supplemental examination outstanding from an earlier year, except in the case of compulsory subjects in the Second Year.

9. A student who is not allowed to proceed to a higher year may not register as a partial student in respect of the subjects of that higher year. But a student who is required to repeat his year, may, *on application in writing,* be exempted by the Faculty from attending lectures and passing examinations in subjects in which he has already made at least Second Class standing. In this case he may take, in addition to the subjects of the year which he is repeating, certain subjects of the following year.

10. A student who fails twice in the work of the same year, may, upon the recommendation of the Faculty, be required by the Senate to withdraw from the University.

11. Any student whose academic record, as determined by the tests and examinations of the first term of the First or Second Year, 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. Such a student will not be readmitted to the University as long as any supplemental examinations are outstanding.

12. 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.

Department of Bacteriology

Professor: Hibbert Winslow Hill
Special Lecturer: Charles S. McKee.
Instructor: Freda L. Wilson.
Assistant: Helen M. Mathews.

1. *General 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, and various bactericidal substances and conditions will be studied. The relationship of bacteria to agriculture, household science, and public health will be carefully considered.

Text-book:—MacKie & McCartney, *An Introduction to Practical Bacteriology.*

Prerequisites:—Chemistry 1, and Biology 1.

Seven hours a week. First Term. 2 units.

2. *Special Bacteriology:*—A course consisting of lectures, demonstrations, and laboratory work.

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.

Text-book:—Conn & Conn, *Bacteriology.*

Prerequisite:—Bacteriology 1.

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. Tutorial instruction of one hour a week is arranged in connection with this course.

Text-book:—Zinsser, *Infection and Immunity.*

Prerequisites:—Bacteriology 1 and 2. 3 units.

Department of Botany

Professor: A. H. Hutchinson.
Assistant Professor: John Davidson.
Assistant Professor: Frank Dickson.
Assistant: F. Heward Bell.
Assistant: Gertrude Smith.
Assistant: Marjorie Elliott.

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 courses in Botany and Zoology.

Text-book: — Smallwood, *Text-book of Biology,* Lea & Febiger, 1920.

Two lectures and two hours laboratory per week. 3 units.

2. *Principles of Genetics:*—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.

Text-book:—Castle, *Genetics and Eugenics,* Harvard Press.

Prerequisite:—Biology 1.

Two lectures per week. First Term. 1 unit.

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.

Text-book:—Bayliss, *Principles of General Physiology,* Longmans, Green.

Two lectures and four hours laboratory per week. Reference reading. Second Term. 3 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.

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.

Prerequisite:—Biology 1.

Two lectures and two hours laboratory per week. 3 units.

2. *Morphology:*—A comparative study of plant structures. The relationship 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.

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

Prerequisite:—Botany 1.

Two lectures and four hours laboratory per week. First Term. 2 units.

3. *Plant Physiology.*

Text-book:—V. I. Palladin, *Plant Physiology,* English Edition (Translation of 6th Russian Edition), 1918, Blakiston.

Prerequisite:—Botany 1.

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

Text-books—Stevens, *Plant Anatomy,* Blakiston.

Prerequisite:—Botany 1.

Seven hours per week. Second Term. 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.

Text-books:—Henry, *"Flora of Southern British Columbia,* Gage; Leavitt, *Outlines of Botany with Flora,* American Book Co.

Prerequisite:—Botany 1.

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

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.

Prerequisite:—Botany 1.

One lecture and two or three hours laboratory or field work per week. 2 units.

6 (*a*) *General Plant Pathology:*—Identification and life histories of pathogens causing disease of some common economic plants; means of combating them.

Text-book:—Duggar, *Fungus Diseases of Plants,* Ginn.

Prerequisite:—Botany 1.

One lecture and two hours laboratory per week. Second Term. 1 unit.

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

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

One lecture and two hours laboratory per week during one-half of the Second Term. ½ unit.

6 (*c*) *Plant Pathology* (*Elementary*):—A course similar to 6 (*a*), but including more details concerning the diseases studied.

Text-book:—Duggar, *Fungus Diseases of Plants,* Ginn.

Prerequisite:—Botany 1.

Two lectures and four hours laboratory per week. Second Term. 2 units.

6 (*d*) *Plant Pathology* (*Advanced*):—A course designed for Honour or Graduate students. Technique; isolation and culture work; inoculations; details concerning the various stages in the progress of plant diseases; a detailed study of control measures.

Prerequisite:—Botany 6 (*a*) or 6 (*c*).

One lecture and four hours laboratory per week. 3 units.

6 (*e*) *Mycology:*—A course designed to give the student a general knowledge of the fungi from a taxonomic point of view.

Text-books:—Stevens, *The Fungi which cause Plant Disease,* Macmillan.

Prerequisite:—Botany 1.

Two lectures and four hours laboratory per week. First Term. 2 units.

6 (*f*) *History of Plant Pathology:*—A lecture course dealing with the history of the science of Plant Pathology from ancient times to the present.

Text-book:—Whetzel, *An Outline of the History of Phytopathology,* Saunders.

Prerequisite:—Botany 6 (*a*) or 6 (*c*).

One lecture per week. Second Term. ½ unit.

7. *Plant Ecology.*

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

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

Prerequisite:—Botany 1.

One lecture and one period of field and practical work per week. Second Term.

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. 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.
Lecturer: C. A. H. Wright.
Instructor: John Allardyce.
Assistant: Wm. E. Graham.
Assistant: J. L. Huggett.
Assistant: Swanzey Peck.
Assistant: A. F. Gill.
Assistant: R. N. Crozier.

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.

Text-book:—Alexander Smith, *Inorganic Chemistry,* Century.

Three lectures and three hours laboratory per week. 3 units.

2. *Qualitative and Quantitative Analysis.*

(*a*) *Qualitative Analysis.* — One lecture and six hours laboratory per week throughout the First Term. (During the first six weeks of the term an additional lecture may be substituted for a part of the laboratory work.)

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

Text-books:—A. A. Noyes, *Qualitative Analysis,* Macmillan; Cumming & Kay, *Quantitative Analysis,* Gurney & Jackson.

Prerequisite:—Chemistry 1.

One lecture and six hours laboratory per week. Second Term. 3 units.

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

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.

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,* Wiley; Gatterman, *The Practical Methods of Organic Chemistry,* Macmillan.

Two lectures and three hours laboratory per week. 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.

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

Prerequisite:—Chemistry 2.

Two lectures and three hours laboratory per week. Second Term. 1½ units.

5. *Advanced Qualitative and Quantitative Analysis.*

(*a*) *Qualitative Analysis.*—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.

One lecture and six hours laboratory per week. First Term.

(*b*) *Quantitative Analysis.*—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.

One lecture and six hours laboratory per week. Second Term. 3 units.

6. *Industrial Chemistry.*—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.

Two lectures per week. 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.

Text-books: — Findlay, *Physico-Chemical Measurements,* Longmans.

For reference:—Ramsay's Series of Books on Physical Chemistry, Longmans. Getman, *Theoretical Chemistry,* Wiley.

Prerequisites:—Chemistry 2, 3 and 4.

Two lectures and three hours laboratory per week. 3 units.

8. *Electro-Chemistry.* — Solutions are studied from the standpoint of the osmotic and the dissociation theories. The laws of electrolysis, electroplating, electromotive force, primary and secondary cells are considered in some detail.

For reference:—Le Blanc, *Elements of Electro-Chemistry,* Macmillan; Creighton-Fink, *Theoretical Electro-Chemistry,* Vol. I, John Wiley & Sons; Allmand, *Applied Electro-Chemistry,* Longmans, Green.

Prerequisite:—Chemistry 4.

Three lectures and three hours laboratory per week. First Term. 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.

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

Prerequisites:—Chemistry 2 and 3.

Two lectures and three hours laboratory per week. 3 units.

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

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

Prerequisites:—Chemistry 2, 3, and 4.

Two hours a week. Second Term. 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.

Lectures: 2 units. Laboratory, three hours per week. 3 units.

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

For reference:—Zsigmondy-Spear, *Chemistry of Colloids,* Wiley; Reports on Colloid Chemistry by British Association for Advancement of Science.

Prerequisites:—Chemistry 3 and 4.

Two hours a week. First Term. 1 unit.

14. *Organic Agricultural Chemistry.*—An introduction to the compounds of carbon, with special applications to problems in agriculture. The laboratory work will be adapted to the needs of the individual student.

Prerequisite:—Chemistry 2.

Two lectures and three hours laboratory per week. 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.

Text-book:—Chamberlain, *Agricultural Chemistry,* Macmillan.

Prerequisites:—Chemistry 2 and 3.

One lecture and three hours laboratory per week. 2 units.

Department of Classics

Professor: Lemuel Robertson.
Professor of Greek: O. J. Todd.
Associate Professor: H. T. Logan.

Greek

Beginners' Greek.—White, *First Greek Book,* Chap. I-XLVIII; Copp, Clark.

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

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

History.—Shuckburgh, *History of Greece,* Chap. I-V, Unwin.

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

2. *Lectures.*—Plato, *Apology and Crito,* Dyer-Seymour, Ginn; Aeschylus, *Prometheus Bound,* Wecklein-Allen, Ginn.

Composition—Arnold's Greek Prose Composition, Abbott, Longmans. Selected passages will occasionally be set for Unseen Translation.

History.—Shuckburgh, *History of Greece,* Chap. VI-X, Unwin.

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

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

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

Three hours a week. 3 units.

(Given in 1926-27 and alternate years.)

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

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

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

(Given in 1925-26 and alternate years.)

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

Three hours a week. 3 units.

(Given in 1926-27 and alternate years.)

7. *Lectures.*—Aristotle, *Ars Poetica,* Bywater, Oxford; Plato, *The Republic* (Selections), Burnet, Oxford. (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 1925-26 and alternate years.)

8. *Composition.*—Obligatory for Honour students; to be taken in the Third Year.

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

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10. *Greek Literature in English Translation.*—A survey of Greek literary history from Homer to Lucian, with reading and interpretation of selected works from the most important authors.

Knowledge of Greek is not prerequisite.

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

For those who wish to extend the work to 3 units additional reading will be provided.

Latin

1. *Lectures.*—Cicero, *Pro Lege Manilia,* Select Orations and Letters, Allen and Greenough, Ginn; Ovid, *Elegiac Selections,* Smith, Bell.

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

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

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

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.

2. *Lectures.*—Virgil, *Aeneid, Bk. VI,* Page, Macmillan; Horace *Odes, Bks. I, II* (Selections).

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

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

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

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.

3. *Lectures.*—Terence, *Phormio,* Sloman, Oxford; Virgil, *Aeneid, Bks. VII-XII,* Page, Macmillan.

Literature: Mackail, *Latin Literature,* Murray.

Three hours a week. 3 units.

(Given in 1926-27 and alternate years.)

4. *Lectures.*—Horace, *Epistles,* Wilkins, Macmillan; Cicero, *Selected Letters,* Pritchard & Bernard, Oxford.

Literature: Mackail, *Latin Literature,* Murray.

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

(Given in 1925-26 and alternate years.)

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

Three hours a week. 3 units.

(Given in 1926-27 and alternate years.)

6. *Lectures.*—Tacitus, *Histories I, II,* Godley, Macmillan; Garrod, *Oxford Book of Latin Verse* (Selections), Oxford. (Open only to those who have taken, or are taking Latin 3 or 4.)

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

(Given in 1925-26 and alternate years.)

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

Text-books: *A Short History of the Roman Republic,* Heitland, Cambridge; *A History of the Roman Empire,* Bury, Murray.

Three hours a week. 3 units.

(Given in 1926-27 and alternate years.)

8. *Composition.*—Obligatory for Honour students; to be taken in the Third Year.

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.
Instructor: Huntley M. Sinclair.
Assistant: Doris Lee.

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, 1923. 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. Marshall and Lyon, *Our Economic Organization,* Macmillan; 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,* Appleton. Cole, *Guild Socialism,* Stokes. Carpenter, *Guild Socialism,* Appleton. Simkhovitch, *Marxism versus Socialism,* Williams & Norgate; 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.

Robertson, *Money,* Nisbet. Foster and Catchings, *Money,* Houghton Mifflin. Dunbar, *Theory and History of Banking,* Putnam, 1917. Phillips, *Readings in Money and Banking,* Macmillan; and assigned readings.

Three hours a week. Mr. Boggs. 3 units.
(Given in 1925-26 and alternate years.)

5. *Government Finance.*—An outline course dealing with the principles and methods of taxation, and administration of public funds. Topics examined include: growth of taxation methods; theories of justice in taxation; classification, increase, economic effects, and control of expenditures; property, business, personal, commodity, and inheritance taxes, with reference to Canada, Britain and other countries; the single tax; double taxation; shifting, incidence and economic effects of taxation; flotation, administration, conversion and redemption of government loans.

Seligman, *Essays in Taxation,* Macmillan, 1921; and assigned readings.

Three hours a week. Mr. Beckett. 3 units.
(Given in 1926-27 and alternate years.)

6. *International Trade and Tariff Policy.*—A survey of the theory of international trade and the foreign erchanges; 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; and assigned readings.

Three hours a week. Mr. Boggs. 3 units.
(Given in 1926-27 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. 3 units.

(Given in 1925-26 and alternate years.)

8. *Provincial and Local Finance.* — A brief summary of fundamental principles of taxation. Sources of revenue, and tax systems of federal, and provincial and municipal governments, especially of British Columbia. Problems of War Finance. Chief problems of provincial and municipal finance and administration. Separation of sources of provincial and municipal revenues. Methods of municipal supervision and control. Government debts.

Assigned readings.

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

(Not given in 1925-26.)

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.

Gillette, *Constructive Rural Sociology,* Macmillan; 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; and 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; and 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. *Imperial Problems.*—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.

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

(Given in 1926-27 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 1925-26 and alternate years.)

Department of English

Professor: G. G. Sedgewick.
Associate Professor: W. L. MacDonald.
Associate Professor: F. G. C. Wood.
Associate Professor: Thorleif Larsen.
Assistant Professor: F. C. Walker.
Assistant Professor: M. L. Bollert.
Assistant Professor: Frank H. Wilcox.
Assistant: Stella McGuire.
Assistant: Isobel Harvey.
Assistant: H. C. Lewis.
Assistant: Sallee Murphy.

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 1925-26: Hastings, Clough and Mason, *Short Stories,* Houghton Mifflin. Euripides, *Electra,* in Gilbert Murray's paraphrase. Shakespeare, *Julius Caesar.* Sheridan, *The School for Scandal,* Everyman. Ibsen, *The Doll's House,* Everyman. *An Anthology of Modern Verse,* Methuen.

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. Candidates for honours are referred to Pages 88 and 89.

DIVISION I

9. *Shakespeare.*—This course may be taken for credit in two successive years. In 1925-26, 9 (*a*) will be given as follows:

i. A detailed study of the text of *Henry V; Much Ado About Nothing; Othello; 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 1926-27 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. *Eighteenth Century Literature.*—This course aims to give a view, as comprehensive as possible, of the main currents of English thought and literature during the period 1660-1800. From year to year various periods will be stressed and the work of various writers emphasized. Generally speaking, the course is mainly concerned with the work of such men as Dryden, Pope, Swift, Addison, Steele, Johnson, Goldsmith, Burke 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. Page, *British Poets of the Nineteenth Century,* Sanborn.

For reference: Elton, *A Survey of English Literature,* 1830-1880.

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

19. *Private Reading.*—Students of the Senior Year may pursue, with the consent and under the direction of the Department, a course of private reading. In such courses examinations will be set, but no class instruction will be given. 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 1926-27 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 1926-27 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, are the texts used in this course.

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

(Given in 1925-26 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: Ward, *The English Poets,* Vol. I. *Spenser,* ed. Smith and de Sélincourt, Oxford.

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

(Given in 1925-26 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. There will follow 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 1925-26 and alternate years.)

12. *Narrative Poetry.* — Discussion of the types,—epic, ballad, and romance,—with readings, in suitable translations or modern versions where desirable; modern ballads and metrical romances represented by the work of Scott, Tennyson, Morris, Masefield and others.

Two hours a week. Mr. MacDonald. 2 units.
(Given in 1925-26 and alternate years.)

15. *American Literature.*—A survey of the principal writers of this continent during the Nineteenth Century.

Texts: Broadus, *A Book of Canadian Prose and Verse,* Oxford. Page, *American Poets.*

Two hours a week. Mr. Wilcox. 2 units.
(Given in 1925-26.)

18. Social, literary, religious and scientific movements of the Victorian period: Carlyle, Ruskin, Macaulay, Newman, Darwin, Mill, Arnold, Butler, Stevenson.

Two hours a week. Mr. MacDonald. 2 units.
(Given in 1926-27.)

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 1925-26 and alternate years.)

21a. *Anglo-Saxon.*—Bright, *Anglo-Saxon Reader.*

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

21b. *Anglo-Saxon.*—Beowulf.

Two hours a week after Christmas. 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.

Two hours a week before Christmas. 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 1925-26 will probably be the work of Arnold.

Two hours a week. Mr. Sedgewick. 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.
Lecturer: E. M. Burwash.

Geology

1. *General Geology.*—This course covers, in a general way, the whole field of geology. The following subjects are treated in the lectures:

(*a*) *Physical Geology,* including: weathering, the 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 two hours laboratory per week, First Term. Mr. Schofield.

(*b*) *Historical Geology,* including: the earth before the Cambrian, the Palaeozoic, the Mesozoic, the Cenozoic, and Quaternary eras.

Two lectures and two hours laboratory 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.* Geikie, *Text-book of Geology.* Merrill, *Rocks, Rock-weathering and Soils.* Coleman and Parks, *Elementary Geology. National Geographic Magazine.* Shimer, *Introduction to the Study of Fossils.* Davis, *Geographical Essays.* Hugh Miller's works. 3 units.

2. (*a*) *General Mineralogy.*—A brief survey of the field of Mineralogy.

Lectures take the form of a concise treatment of (1) Crystallography, (2) Physical Mineralogy, and (3) Descriptive Mineralogy of 40 of the most common mineral species, with special reference to Canadian occurrences.

Laboratory Work consists of the study of the common crystal forms and of 40 prescribed minerals, accompanied by a brief outline of the principles and methods of Determinative Mineralogy and Blowpipe Analysis.

Text: Dana, *Manual of Mineralogy,* revised by Ford (new edition), Wiley. (For students taking only Geology 2(*a*).)

Dana, *Text-book of Mineralogy,* revised by Ford, Wiley. (For students who subsequently take Geology 2 (*b*).)

Prerequisite: Chemistry 1.

Two lectures and two hours laboratory per week, First Term. Mr. Uglow. 1½ units.

2. (*b*) *Descriptive and Determinative Mineralogy.* — This course supplements 2(*a*) and consists of a more complete survey of Crystallography, Physical and Chemical Mineralogy, with a critical study of about 50 of the less common minerals, special emphasis being laid on their crystallography, origin, association and alteration.

Text: Dana, *Text-book of Mineralogy,* revised by Ford, Wiley.

Prerequisite: Geology 2(*a*).

Two lectures and two hours laboratory per week, Second Term. Mr. Uglow. 1½ units.

3. *Historical Geology.*—Continental evolution and development of life with special reference to North America.

Text-book: Schuchert, *Historical Geology* (2nd Edn.), Wiley.

Prerequisite: Geology 1.

Three hours per week, First Term. 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.

Prerequisite: Geology 1.

Three hours per week, Second Term. 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 hour laboratory per week. 3 units.

6. *Palaeontology.*—A study of invertebrate and vertebrate fossils, their classification, identification and distribution both geological and geographical.

Reference books: Graban and Shimer, *North American Index Fossils.* Zittel-Eastman, *Text-book of Palaeontology.*

Prerequisite: Geology 1.

Two lectures and one hour laboratory per week.
Mr. Williams. 3 units.

7. *Petrology.*—This course consists of systematic studies of the following: (*a*) Optical Mineralogy, (*b*) Lithology and Petrogeny, (*c*) Microscopical Petrography.

Lectures deal with the principles of crystal optics, and with the origin, occurrence, classification, metamorphism and decay of rocks.

Laboratory Work consists of the study, determination and classification of specimens, structures and textures of rocks contained in the departmental collections. Field and microscopical methods of determination are equally stressed.

Texts: Pirsson, *Rocks and Rock Minerals,* Wiley. Luquer, *Minerals in Rock Sections,* Van Nostrand. Dana, *Text-book of Mineralogy,* revised by Ford, Wiley.

Prerequisites: Geology 1 and 2.

Two lectures and two laboratory periods of 2 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: Emmons, *General Economic Geology,* McGraw-Hill.

Reference books: Lindgren, *Mineral Deposits.* Ries, *Economic Geology.*

Prerequisite: Geology 1. Geology 7 must precede or accompany this course.

Four hours per week. Mr. Brock, Mr. Williams and Mr. Uglow. 4 units.

9. *Mineralography.*—Principally a laboratory course dealing with the study and recognition of the opaque minerals by means of the reflecting microscope.

The work consists of practice in the cutting, grinding and polishing of ore specimens, accompanied by training in microchemical methods of mineral determination.

During the second term each student is assigned a suite of ores from some mining district for a critical examination and report.

Text: Davy and Farnham, *Microscopic Examination of the Ore Minerals,* McGraw-Hill.

Prerequisite: Geology 7 and 8 must precede or accompany this course.

Two hours per week. Mr. Uglow. 1 unit.

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.* Hayes, *Handbook for Field Geologists.* Spurr, *Geology Applied to Mining.*

Prerequisite: Geology 1. Geology 4, if not already taken, must be taken concurrently.

Three hours per week. Mr. Schofield. 1½ units.

12. *Meteorology and Climatology.*—A course covering in a general way the whole field, with practice in using instruments, constructing and using weather charts, and weather perdicting.

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; human geography.

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.
Assistant Professor: F. H. Soward.
Assistant: Stanley Moodie.

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.

A list of books for reading and reference may be obtained from the professor in charge of each course.

FIRST AND SECOND YEARS

1. *Main Currents in Modern World History.*—This course is intended primarily for First Year students and covers the period in World History between the French Revolution and the present day. It will include a discussion of such topics as the French Revolution, the Napoleonic Era, the Industrial Revolution, the Growth of Democracy in the Nineteenth Century, the Eastern Question, Nationality as a Factor in the Nineteenth Century, the Expansion of Europe, the Armed Peace (1870-1914), the Awakening of the Far East (1868-1914), the World War, the Russian Revolution, the League of Nations, Problems of the Pacific.

Preliminary reading: Schapiro, *Modern and Contemporary European History,* Houghton Mifflin.

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

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.

On the colonization of America and the history of New France, students are especially advised to consult: Ramsay Muir, *Expansion of Europe;* the works of Francis Parkman; Munro, *Crusaders of New France;* Fiske, *New France and New England;* Eastman, *Church and State in Early Canada;* Lucas, *History of Canada,* Vol. I, *New France;* Wrong, *Conquest of New France.*

On the British Period: Skelton, *The Canadian Dominion, Life and Letters of Sir Wilfrid Laurier;* Egerton, *History of Canada, Part II,* 1763-1921; Kennedy, *The Constitution of Canada, Documents of the Canadian Constitution,* 1759-1915; Bracq, *Evolution of French Canada;* Morison, *British Supremacy*

and Canadian Self-government; Trotter, *Federation of Canada;* Wallace, *Sir John Macdonald;* Dafoe, *Laurier.*

An essay counting 10% of the year's work must be submitted early in the autumn term.

Subject, *"New France and New England; a Comparison and Contrast";* OR *"The Expulsion of the Acadians."*

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: Muir, *A Short History of the British Commonwealth,* Vol. I.

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," *or* "The Administrative and Legal System of Henry II," *or* "The Relations between the Norman and Angevin Kings and the Papacy, 1066-1216."

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 7 and 8 for Fourth Year. History 4 (or 5) must be taken by all candidates for Honours.

All Honour students (whether in History alone or in a Combination Course) must take a History Seminar of one hour a week in either their Third or their Fourth Year. The Seminar is intended as training in intensive work and carries no credits. If the Graduating Essay be written in History, it will carry a value of 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.

Additional text-books for Honour students: Oman, *The Dark Ages.* Tout, *Empire and Papacy.* Lodge, *The Close of the Middle Ages.* Bryce, *The Holy Roman Empire.*

A preliminary essay, counting 15 per cent. of the year's work, must be handed in as soon as possible after the opening of the autumn term. Subject: "The Causes of the Triumph of Christianity in the Later Roman Empire," *or* "Theodoric the Great," *or* "Mohammed and the First Four Caliphs."

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.

An introductory essay, counting 15 per cent. of the year's work, must be handed in early in the autumn term. Subject: "Dante," *or* "Petrarca," *or* "Boccaccio."

Text-books: W. H. Hudson, *The Story of the Renaissance.* Fisher, *The Reformation.* McGiffert, *Martin Luther.*

Additional reading, especially for Honour students: Sichel, *The Renaissance.* Taylor, *Some Aspects of the Renaissance.*

Symonds, *A Short History of the Renaissance in Italy.* Symonds, *The Renaissance in Italy* (vols.). Burckhardt, *The Renaissance in Italy,* André Michel, *Histoire de l'Art* (III, IV). Christopher Hare, *Life and Letters in the Italian Renaissance.* Preserved Smith, *Erasmus.* Emerton, *Erasmus.* Allen, *The Age of Erasmus.*

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

6. *The Age of Louis XIV, the Pre-Revolution, the Revolution and Napoleon.*

An introductory essay, counting 15 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," *or* "The Work of Colbert," *or* "Literature in the Reign of Louis XIV."

Text-books: Lowell, *The Eve of the French Revolution.* Shailer Matthews, *The French Revolution.* Johnston, *Napoleon.*

Additional reading required of Honour students: Taine, *L'ancien régime* (abridged), Heath. Aulard, *The French Revolution.* Lacour-Gayet, *Napoleon,* or Rose, *Napoleon.* Fisher, *Bonapartism.*

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 15 per cent. of the year's work, must be handed in early in the autumn term. Subject: "The Changes, Permanent and Ephemeral, Wrought in German Society by the French Revolution," *or* "The Influence of the French Revolution upon the Political and Intellectual Life of England."

Text-book: Hazen, *Europe Since* 1815 (1923). Introductory reading: Ramsay Muir, *The Expansion of Europe.*

Additional reading required of Honour students: Gooch, *History of Modern Europe,* 1878-1919. Fueter, *World History,* 1815-1920. Rambaud, *Historie de la Civilisation Française.*

For reading and reference: *Cambridge Modern History.* Lavisse et Rambaud, *Histoire Générale.* Lavisse, *Histoire de France Contemporaine.* Mowat, *A History of European Diplomacy,* 1815-1914. Sait, *Government and Politics of France.* Grant Robertson, *Bismarck.* Von Bülow, *Imperial Germany.* Thayer, *Cavour.* Kornilov, *Modern Russian History.* Toynbee, *The Balkans,* etc.

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

8. *Great Britain Since* 1688. *The British Empire* — 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.

Text-book: Muir, *Short History of the British Commonwealth,* Vol. II.

Additional reading required of Honour students: Grant Robertson, *England under the Hanoverians.* Slater, *The Making of Modern England* (Houghton Mifflin). Morley, *Life of Gladstone.*

For reading and reference: *Cambridge History of British Foreign Policy.* Poole and Hunt, *The Political History of England* (Vols. VIII-XII). *Cambridge Modern History* (Vols. V-XII). Toynbee, *The Industrial Revolution.* Egerton, *A Short History of British Colonial Policy.* Basil Williams, *Life of Chatham.* Moneypenny and Buckle, *Life of Disraeli.* Howard Robinson, *The Development of the British Empire.*

A preliminary essay, counting 15 per cent. of the year's work, must be handed in early in the autumn. Subject: "The Revolution of 1688," *or* "The Development of Political Parties in the Reigns of William III and Anne."

Three hours a week. Mr. Eastman. 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.

Text-book: Muzzey, *American History,* Ginn. Additional text-books for Honour students: Lecky, *The American Revolution.* Lingley, *Since the Civil War.*

An essay, counting 15 per cent. of the year's work, must be handed in early in the autumn. Subject: "The Old Colonial "System," *or* "The Monroe Doctrine," *or* "Jefferson and Jackson: a Comparison and Contrast."

Honour Seminar, 1925-26: (*a*) "The Origins of the World War," Mr. Eastman. (*b*) "British Foreign Policy," Mr. Sage.

Department of Mathematics

Professor: Daniel Buchanan.
Professor: L. S. Dederick.
Associate Professor: G. E. Robinson.
Assistant Professor: E. E. Jordan.
Assistant Professor: L. Richardson.
Assistant Professor: B. S. Hartley.
Assistant: May L. Barclay.
Assistant: J. F. Brown.
Assistant: C. Islay Johnston.

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.

Wilson and Warren, *Intermediate Algebra,* Oxford.

Three hours a week. First Term.

(*b*) *Geometry.* — An elementary course in synthetic and analytical geometry as outlined for Senior Matriculation.

McDougall, *Advanced Geometry,* Copp Clark.

Two hours a week. Second Term.

(*c*) *Trigonometry.* — An elementary course involving the use of logarithms.

Playne and Fawdry, *Practical Trigonometry,* Copp Clark.

Wentworth and Hill, *Logarithmic Tables,* Ginn.

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.*—A review of the straight line and circle, and a study of the other conics.

Fawdry, *Co-ordinate Geometry,* Bell.

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,* Macmillan.

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,* Ginn.

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,* Holt.

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

(Given in 1925-26 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,* Macmillan. 2 units.

Students desiring credit for an additional unit in connection with this course may register for Mathematics 18. They will be required to write essays on prescribed subjects dealing with various phases of Astronomy. 1 unit.

(Given in 1926-27 and alternate years.)

HONOUR COURSES

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

Woods and Bailey, *Elementary Calculus,* Ginn.

Three hours a week. 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,* Uglow.

Two hours a week. 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.

Dupuis, *Elementary Synthetic Geometry,* Macmillan.

Dupuis, *Elements of Synthetic Solid Geometry,* Macmillan.

Two hours a week. 2 units.

(Given in 1926-27 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.*

Two hours a week. 2 units.

(Given in 1925-26 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, Dublin. Weld, *Theory of Determinants.*

Two hours a week. 2 units.

(Given in 1926-27 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,* Macmillan. Chrystal, *Text-book of Algebra,* Part II.

Two hours a week. 2 units.

(Given in 1925-26 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,* Ginn. Murray, *Differential Equations,* Longmans.

Three hours a week. Mr. Buchanan. 3 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.

Loney, *Theoretical Mechanics.*

Three hours a week. Mr. Richardson. 3 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: Henri Chodat.
Instructor: Margaret Ross.
Instructor: Janet T. Greig.
Assistant: E. E. Delavault.
Assistant: G. Barry.
Assistant: Dorothy Dallas.

With the consent of the Professor in charge of the course, a student taking a Pass Degree may be admitted to any course in the Third and Fourth Years in addition to, but not in lieu of, 3(*a*) and 4(*a*). Students from other universities who have already taken the work of 3(*a*) or 4(*a*), may be given special permission by the Head of the Department to substitute other courses.

French

1. (*a*) Molière, *Les Précieuses Ridicules,* Longmans, Toronto. Berthon, *Grammaire Française.* Clément and Macirone, *Voici la France,* Heath. 3 units.

1. (*b*) Prescribed texts as for 1(*a*).

Revision of the essentials of French grammar and syntax applied to the correct writing of French. There will be an oral examination based on the texts read. 3 units.

NOTE:—Students who choose French will be informed which course 1(*a*) or 1(*b*) they must take. The decision will be made after a consideration of the marks in French obtained at the Matriculation examination. Students in 1(*b*) will normally take not more than two years French, as they will not be sufficiently prepared to profit by the Third and Fourth Year courses. If, however, they make rapid progress in the First Year they may be transferred to the higher course in the Second Year when they have satisfied the examiners of their fitness for more advanced work. Students who have not passed the Matriculation examination in French (or its equivalent) are not allowed to take either of the First Year courses in this subject.

1. (*c*) Lectures on French Literature for students who intend to take French throughout the four years. One hour a week; no credit, no examination.

2. (*a*) La Fontaine, *One Hundred Fables, Ginn.* Augier et Sandeau, *Le Gendre de Monsieur Poirier,* American Book Company. Daudet, *Lettres de mon moulin,* Oxford.

Conversation in French on the above. Written résumés.

Composition from Wilson and Jaccard, *A First French Prose Composition,* Bell; or from Jules Lazare, *Elementary French Composition,* Hachette, London. 3 units.

There will be oral tests.

2. (*b*) Texts as above with the exception of La Fontaine. 3 units.

Students intending to take Second Year French will be required to read *Quelques Contes des Romanciers Naturalistes,* Heath, during the summer vacation of 1925, 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.

2. (*c*) Lectures on French Literature for students who intend to take French throughout the four years. One hour a week; no credits, no examination.

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, *Le Misanthrope,* Didier; *Le Tartuffe,* Heath. Schinz and King, *Seventeenth Century French Readings,* Holt.

Conversation and written résumés based on the above.

This course is obligatory for all students taking Third Year French. 3 units.

Students intending to take Third Year French will be required to submit during the first week of the Autumn Term an essay in French based on a course of reading approved by the Department *in the preceding spring.*

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* (Preston), Oxford. Rousseau, *Morceaux choisis* (Mornet), Didier. Diderot, *Extraits* (Fallex), Delagrave. Beaumarchais, *Le Barbier de Séville,* Macmillan. 3 units.

3. (*c*) French Composition and translation from English into French. Weekley, *French Prose Composition,* Clive, London. 3 units.

4. (*a*) *The Romantic Drama.*—Musset, *Quatre Comédies,* Oxford. Hugo, *Hernani,* Oxford. Rostand, *Cyrano de Bergerac.* 3 units.

4. (*b*) *The French Novel.*—Mme. de La Fayette, *La Princesse de clèves,* Cambridge. Balzac, *Eugénie Grandet,* Oxford. Flaubert, *Salammbô,* Oxford. A. de Chateaubriant, *Monsieur des Lourdines,* Grasset, Paris. 3 units.

4. (*c*) *Bibliography, Composition and Oral French.*—Book required: Ritchie and Moore, *A Manual of French Composition,* Cambridge. 3 units.

4. (*d*) *Eighteenth Century Drama.* — Lesage, *Turcaret,* Cambridge; Marivaux, *Le jeu de l'amour et du hasard,* Hatier, Paris (Les classiques pour tous); Regnard, *Le joueur,* Hatier, Paris; Sedaine, *Le Philosophe sans le savoir,* Hatchette, London. 3 units.

NOTES—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. Students intending to take 4(*a*) or 4(*b*) should apply to the Head of the Department *before the end of the present academic year* for instructions for summer reading.

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

A. *Beginners' Course. Composition, Grammar, Conversation.*—Texts: (*a*) Zinnecker, *Deutch für Anfänger,* Heath. (*b*) Haertel, *German Reader for Beginners.* 3 units.

B. *Scientific Reading.* Elementary. Fiedler and Sandbach, *First German Course for Science Students,* Oxford. 2 units.

C. *Scientific Reading.* Advanced. Gore, *German Science Reader,* Heath. 2 units.

1. *Language.* — Completion and Revision of Zinnecker. Composition and conversation based on texts read. Hillern, *Höher als die Kirche,* Scribner. Wells, *Drei kleine Lustspiele,* Heath. Bruns, *Book of German Lyrics,* Heath.

Four hours a week. 3 units.

2. (*a*) *Language.*—Whitney and Stroebe, *Advanced German Composition,* Holt. Composition and conversation based on texts read.

Freytag, *Die Journalisten,* Ginn. Schiller, *Wilhelm Tell,* Heath. 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. *The Classical Period.*

Texts: Lessing, *Minna von Barnhelm,* Macmillan. Goethe, *Egmont,* Ginn. Schiller, *Maria Stuart,* Holt.

Composition based on above texts and Whitney and Stroebe, *Advanced German Composition,* Holt. 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.

5. A reading course in the short story. 3 units.

Department of Philosophy

Professor: H. T. J. Coleman.
Associate Professor: James Henderson.

Professor of Education: George M. Weir.
Special Lecturer: A. O. MacRae.

1. (*a*) *Elementary Psychology.*

Text-book: Woodworth, *Psychology, A Study of Mental Life,* Holt.

References: Stout, *A Manual of Psychology.* Titchener, *A Text-book in Psychology; A Beginner's Psychology.* James, *Psychology* (Briefer Course). Pillsbury, *Essentials of Psychology.*

Two hours a week.

(*b*) *Elementary Logic.*

Text-book: Mellone, *Introductory Text-book of Logic,* Blackwood (latest edition).

One hour a week.

(*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 Honours are, however, advised to take this course. 3 units.

2. *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 this course a special study will be made of Plato's *Republic, Phaedo,* and *Philebus.*

Three hours a week. 3 units.

(Given in 1926-27 and alternate years.)

4. *The History of Philosophy from the Renaissance to the Present time.*

Text-book: 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 1925-26 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 1925-26 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 1926-27 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 1926-27 and alternate years.)

8. *Social Psychology.* — A study of those particular phases of mental life and development which are fundamental in social organization and activity.

Texts: McDougall, *Social Psychology,* Methuen, London. Ginsberg, *Psychology of Society,* Methuen, London. Collateral reading will be prescribed from the following: Hobhouse, *Mind in Evolution, Morals in Evolution.* Sutherland, *Origin and Growth of the Moral Instinct.* Cooley, *Human Nature and the Social Order.* Wallas, *Human Nature in Politics; The Great Society.* Ross, *Social Psychology.* Trotter, *Instincts of the Herd in Peace and War.* McDougall, *The Group Mind.*

Philosophy 1 is recommended as preparatory to this course.

Three hours a week. 3 units.

(Given in 1925-26 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. *Introduction to Physics.*—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 Chemistry, Engineering, and Advanced Physics. Students must reach the required standard in both theoretical and practical work.

Text-book: Millikan, Gale and Pyle, *Practical Physics.*

Three lectures and two hours laboratory per week. 3 units.

2. *College Physics.*—This course consists of a general course in Physics suitable for those students who have taken the two years of Physics given in the High School. It will cover mechanics, properties of matter, heat, light, sound and electricity in a fuller manner than would be possible in an introductory course.

Text-book: Stewart, *Physics, a Text-book for Colleges.*

Prerequisite: High School Physics.

Three lectures and two hours laboratory per week. 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.

Text-book: Millikan, *Mechanics, Molecular Physics and Heat.*

Prerequisite: Physics 1.

Two lectures and three hours laboratory per week. 3 units

4. *Electricity, Sound, and Light.* — A study of the fundamentals of magnetism, electricity, sound, and light.

Text-book: Millikan and Mills, *Electricity, Sound and Light.*

Prerequisite: Physics 1.

Two lectures and three hours laboratory per week. 3 units.

5. *Dynamics of a Particle and of a Rigid Body.*—A rigorous mathematical study of this subject.

Prerequisites: Physics 3 and Mathematics 10.

Two lectures per week. 2 units.

6. *Advanced Electricity and Magnetism.* — In this course, especial attention is given to the theoretical phases of Electricity and Magnetism.

Text-book: Starling, *Electricity and Magnetism.*

Prerequisites: Physics 3 and 4 and Mathematics 10.

Two lectures per week. 2 units.

7. *Kinetic Theory of Gases and Introduction to Thermodynamics.*—A course of lectures elucidating the fundamentals of these subjects.

Books for reference: Poynting and Thomson, *Heat.* Boynton, *Kinetic Theory of Gases.* Preston, *Heat,* and Meyer, *Kinetic Theory of Gases.*

Prerequisites: Physics 3, and Mathematics 10.

Two lectures per week. 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.

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.*

Prerequisites: Physics 3 and 4, and Mathematics 10.

Two lectures and three hours laboratory per week. 3 units.

9. *Recent Advances in Physics.*—A course of lectures dealing with the electrical properties of gases, the electron theory, and radioactivity.

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.*

Prerequisites: Courses 3 and 4, and Differential and Integral Calculus.

Two lectures per week. 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 laboratory per week. 3 to 6 units.

Department of Zoology

Professor: C. McLean Fraser.
Assistant Professor: G. J. Spencer.
Assistant: G. Van Wilby.

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.

Text-books: Parker and Haswell, *Manual of Zoology,* Macmillan. (American Edition, 1916.)

This course is prerequisite to other courses in Zoology.

Two lectures and two hours laboratory per week. 3 units.

2. *Comparative Anatomy of Vertebrates.*—A detailed comparative study of a member of each of the classes of Vertebrates.

Two lectures and four hours laboratory 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 hours laboratory per week. Second Term. 2 units.

4. *Morphology of Insects.*—General Entomology.

Two lectures and four hours laboratory per week. First Term. 2 units.

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.

THE FACULTY OF APPLIED SCIENCE

FACULTY OF APPLIED SCIENCE

PURPOSE

The object of the courses in Applied Science is to train students in exact and fertile thinking, and to give them a sound knowledge of natural laws and of the means of utilizing natural forces and natural products for the benefit of man and the advancement of civilization.

Experience shows that such a training is the best yet devised for a large and increasing proportion of the administrative, supervisory and technical positions.

The object is to turn out neither finished engineers nor industrial leaders — these are the product of years of development in the school of experience — but young men with a special capacity and training for attaining this goal.

The student is offered a full undergraduate course and an additional year of graduate courses of study. The preliminary year required in Arts is intended to increase the student's general knowledge and to broaden his outlook. It is hoped that enough interest will be aroused to encourage the student to continue some study of the humanities as a hobby or recreation.

The first two years in Applied Science proper are spent in a general course that includes Mathematics and all the basal sciences. This gives not only a broad training, but enables the student to discover the work for which he has special liking or aptitude, to select more intelligently the subjects in which to specialize during his two final years at college. During these years students acquire more detailed knowledge and get practice in applying scientific knowledge, in solving problems, in doing things.

There is also training in Economics, Law and Industrial Management.

A broad general course is better suited to British Columbia conditions than a more specialized one, the first aim being to prepare men to develop its industries. Furthermore, experience has proved that narrow, highly specialized undergraduate courses

do not produce as able specialists as do more general courses that furnish a more solid foundation, a better background, a broader outlook and a more stimulating atmosphere.

During the long period between sessions, the student is required to engage in some industrial or professional work that will afford practical experience not obtainable in the laboratory or field classes, but that is a necessary supplement to academic study.

FACILITIES FOR WORK IN APPLIED SCIENCE

For laboratory and other facilities see Pages 23-33.

ADMISSION

The general requirements for admission to the University are given on Pages 36, 37.

1. *All courses except Nursing and Health require* First Year Arts, or equivalent.

(*a*) Physics 1 or 2 (Arts), and Chemistry 1 are compulsory.

(*b*) A grade of 50 per cent. is required in Physics, Chemistry 1, and Mathematics 1 (*a*), (*b*), and (*c*).

(*c*) Biology 1 or Economics 1, if completed in First Year Arts, need not be taken in Applied Science. French is advisable for students expecting to enter Geological Engineering.

2. *Nursing and Health* courses require Junior Matriculation or equivalent.

DEGREES

The degrees offered students in this Faculty are:

Bachelor of Applied Science (B.A.Sc.). (See below.)

Bachelor of Arts and Applied Science (B.A. and B.A.Sc.). (See Page 149.)

Master of Applied Science (M.A.Sc.). See Page 227.)

COURSES LEADING TO THE DEGREE OF B.A.Sc.

The degree of Bachelor of Applied Science is granted on the completion of the work in one of the courses* given below:

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 and Health.

NOTE:—A series of noon-hour talks is given during the session by the Faculty and prominent outsiders on the subjects: choice of a profession; occupations for which an Applied Science course forms a suitable preparation; life and work in different engineering professions and industries. The purpose of these talks is to assist students to select the course best suited to their tastes and aptitudes, and their probable life-work.

PRACTICAL WORK OUTSIDE THE UNIVERSITY

In order to master professional subjects it is very important that the work done at the University should be supplemented by practical experience in related work outside. Therefore students are expected to spend their summers in employment that will give such experience. Before a degree will be granted, a candidate is required to satisfy the Department concerned that he has done at least four months' practical work related to his chosen profession. Third and Fourth Year Essays (see Page 129) should be based, as far as possible, upon the summer work.

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

Students engaged in summer work requiring them to enter the University after the specified date of admission will be allowed to register without penalty, upon the approval of the Dean, in case the work affords necessary experience in connection with their academic courses, as in Geological survey parties; or if statements are received from their employers that circumstances prevent an earlier release.

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 certificates indicating the character of the work done and the time devoted to it.

GENERAL OUTLINE OF UNIVERSITY COURSES

The work of the First and Second Years is the same in all courses, except those in Nursing and Health.

FIRST YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Math. 1 Trigonometry	178	2	..	..	..
Math. 2 Solid Geometry	179	..	..	2	..
Math. 3 Algebra	179	2	..	2	..
Math. 4 Analytic Geom.	179	2	..	2	..
C.E. 1 Descriptive Geom.	159	..	3	..	3
M.E. 1 Drawing 1	180	..	6	..	6
Physics 1 Mechanics	195	3	3	..	..
Physics 2 Heat	196	..	..	3	3
Chem. 2a Qual. Analysis	156	1	3	1	3
M.E. 2a Shop Practice	180	1	3	1	3
Biology 1* Introductory.....	152	1	2	1	2
C.E. 2 Surveying	159	Field Work			
C.E. 30 Engineering Prob. 1 ..	168	..	4	..	4

*If Biology has been taken in Arts it will be accepted in lieu of the Science Course.

SECOND YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Math. 6 Trigonometry	179	3	..	3	..
Math. 7 Anal. Geom.	179	2	..	2	..
Chem. 2b Quan. Analysis	156	1	3	1	3
C.E. 4 Graphics	160	..	2	..	2
M.E. 6a Elem. Theory	182	2	..	2	..
Physics 3 Electricity	196	2	3	2	3
Physics 4 Mechanics	196	2	..	2	..
C.E. 5 Mapping	160	..	3	..	3
C.E. 6 Surveying	160	2	..	2	..
Geology 1 General	174	2	2	2	2
C.E. 7* Surveying	160	Field Work			
C.E. 31† Engineering Prob. 2	168	..	3	..	3

*Students entering Civil, Forest, Geological, Metallurgical, and Mining Engineering are required to take Civil Engineering 7 (see Page) immediately after the spring examinations.

†Beginning 1926-27.

NOTE:—In 1925-26 Chemistry 2a and 2b are given as a single course, one lecture and 6 hours laboratory.

THIRD AND FOURTH YEARS

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 (8½ x 11 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.

COURSES

I. Chemical Engineering

The course in Chemical Engineering should prepare the student for the duties of managing engineer in a chemical manufactory. As such he must be conversant not only 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. In the industrial life of British Columbia the chemical engineer may be more particularly concerned with the manufacture of acids and alkalies, the preparation from natural sources of various organic and inorganic compounds, the pulp and paper industry, and the utilization of the waste from a number of industrial plants indigenous to the Province. Accordingly, the course of study includes a number of courses in the older branches of engineering along with the maximum of chemical training allowed by the time at the disposal of the student.

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Economics 1 Introductory	169	2	..	2	..
Met. 1 Introductory	193	2	..	2	..
Geol. 2 (a) Mineralogy	175	2	2	..	..
Chem. 3 Organic	157	2	3	2	3
Chem. 4 Theoretical	157	..	..	2	3
Chem. 5 Adv. Analysis	157	1	9	1	6
C.E. 10 Str. of Materials	161	2	3	2	3
E.E. 1 General	184	2	2	2	2
Physics 5 Light	196	1	..	1	..
C.E. 12 Hydraulics	162	1	3	1	3

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Chem. 6 Industrial	158	2	..	2	..
Chem. 7 Physical	158	2	3	2	3
Chem. 8 Electro	158	3	3	..	..
Chem. 9 Adv. Organic	158	2	3	2	3
Chem. 16 Engineering	159	..	..	2	..
Met. 2 General	193	2	..	2	..
Thesis		..	12	..	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.

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Econ. 1 Introductory	169	2	..	2	..
Chem. 3 Organic	157	2	3	2	3
Chem. 4 Theoretical	157	..	..	2	3
Chem. 5 Adv. Analysis	157	1	9	1	9
Met. 1 Introductory	193	2	..	2	..
Geol. 2 (a) Mineralogy	175	2	2	..	..
Met. 5 Assaying	194	1	5	..	..
German (Arts) 1	115	3	..	3	..
Physics 5 Light	196	1	..	1	..

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Bacteriology 1 (Arts)	72	..	7	..	..
Physics 9 Advanced	196	2	..	2	..
Chem. 6 Industrial	158	2	..	2	..
Chem. 7 Physical	158	2	3	2	3
Chem. 8 Electro-	158	3	3	..	..
Chem. 9 Adv. Organic	159	2	3	2	3
Met. 2 General	193	2	..	2	..
Thesis		..	9	..	18

III. Civil Engineering

The broad field covered by Civil Engineering makes it an adjunct of many other branches of engineering, yet the Civil Engineer occupies a distinctive field and is intimately associated with a wide group of undertakings vitally affecting the health, comfort and prosperity of the commonwealth.

The various branches of Civil Engineering deal with problems in water supply and water purification; in sewerage systems, sewage disposal plants, and the handling of municipal and industrial wastes; in hydraulic power development; in irrigation and drainage for agricultural activities; in all types of structures, bridges and buildings, piers and docks, sea walls and protective works; in transportation, canals, locks, highways, electric and steam railways; and in the management and direction of public works, public utilities, industrial and commercial enterprises.

The course in Civil Engineering is designed to provide, in so far as time will permit, foundations for continued growth along those lines which the student's interests and environment determine, without compelling too early specialization. Training in pure and applied science, in the humanities, in economics and business engineering, and in the technical phases of professional work establishes a broad basis for the stimulation of a sincere spirit of public service and for the development of that capacity for reliable work and judgment which makes safe the assumption of responsibilities.

The methods of instruction are planned with the view of bringing out the powers and initiative of the students while training them in habits of accurate analysis and careful work. Students are encouraged to secure summer work which will give them an insight into the various phases of the career upon which they are about to enter, and the summer essays lay the foundation for the ability to set forth, in clear and precise language, descriptions and analyses of projects and engineering activities. In the Fourth Year thesis an opportunity is given for special investigation and research under the supervision of experienced engineers.

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
C.E. 8 Foundations	161	1	3	..	..
C.E. 9 Elementary Design	161	..	..	1	3
C.E. 10 Str. of Materials	161	2	3	2	3
C.E. 11 Railways	162	2	..	2	..
C.E. 12 Hydraulics	162	1	3	1	3
C.E. 13 Mapping	163	..	3	..	3
C.E. 14 Surveying	163	2	..	2	..
C.E. 15 Drawing	163	..	2	..	2
M.E. 6 (b) Laboratory	182	..	3	..	3
E.E. 1 General	184	2	2	2	2
Econ. 1* Introductory	169	2	..	2	..
C.E. 16 Surveying	163	Field Work			
C.E. 21 Water Power	165	1	..	1	..
C.E. 28 Seminar	168	1	..	1	..

*Economics 1 in Arts will be accepted in lieu of the Science Course.

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
C.E. 17 Structural Design	163	1	6	1	6
C.E. 18 Engineering Economics	164	2	..	2	..
C.E. 19 Law—Contracts	164	1	..	1	..
C.E. 20 Geodesy	164	1	..	1	..
C.E. 22 Municipal	165	2	2	2	2
C.E. 23 Transportation	166	2	..	2	..
C.E. 24 Mechanics of Mtls.	166	2	3	2	3
C.E. 25 Theory of Structures	167	1	6	1	6
C.E. 26 Trips	167	Required Sat. A.M.			
C.E. 27 Thesis	167	..	3	..	3
C.E. 28 Seminar	168	1	..	1	..
C.E. 29 Hydraulic Machines	168	1	..	1	..

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.

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.

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
M.E. 3 Kinematics	181	..	2	..	2
M.E. 4 Dynamics	181	2	..	2	..
M.E. 5 Design	182	2	3	2	3
M.E. 7 Thermo-dynamics	182	3	3	3	3
C.E. 10 Str. of Materials	161	2	3	2	3
E.E. 2 General	186	3	4	3	4
C.E. 12 Hydraulics	162	1	3	1	3
M.E. 2b Shop Practice	181	..	5	..	3
Math. 8 or 9 Adv. Calculus	179	1	..	1	..

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
E.E. 4 Machines	188	3	6	3	6
E.E. 5 Traction	189	1	..	1	..
E.E. 6 Transmission	190	1	..	1	..
E.E. 7 Design	190	1	3	1	3
E.E. 8 Radio	190	1	..	1	..
M.E. 7 Thermo-dynamics	182	2	3	2	3
M.E. 10 Design	183	2	3	2	3
M.E. 12 Plant Design	184	1	..	1	..
Math. 8 or 9 Adv. Calculus	179	1	..	1	..
C.E. 18 Engr. Economics	164	2	..	2	..
C.E. 19 Engr. Law	164	1	..	1	..
C.E. 29 Hydr. Machines	169	1	..	1	..

V. Forest Engineering

In British Columbia the forest industries, including logging and the manufacture of lumber, pulp and paper, now lead all others, and are rapidly expanding. They must always play a very important part in the economy of the Province, because seven-eighths of the productive land is absolute forest soil, that will grow good timber but no other crop of value; and because over half the remaining stand of saw-timber — the last big reserve — of Canada is here. The development of these industries is requiring more and more the services of engineers, and especially is this true in logging. Furthermore, most of the forest land is owned by the public, and the management of these vast estates is a task that will require constant growth on the part of the government forest services.

This indicates very briefly the various fields of service open to Forest Engineers, and for which the course of studies is designed. Primarily the course is planned for the lumber industry, and a major part of the time — apart from the preliminary foundation work — is devoted to the branches of

engineering most used in it. In addition, the fundamental subjects of forestry are covered. As in other engineering courses the students are expected to obtain practical experience during the summer vacations, this being an essential supplement to the studies at the University.

Vancouver contains large sawmills, 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. A special feature is the affiliation of the Forest Products Laboratory of Canada, maintained at the University by a co-operative arrangement with the Dominion Forestry Branch. A description of this Laboratory and its activities is given in another part of this calendar. It affords opportunities for instruction in testing the mechanical properties of timber and other structural materials, and it is expected that facilities will be provided eventually for experimental and demonstration work in wood seasoning and preserving.

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
F.E. 1 General Forestry	169	1	..	1	..
F.E. 2 Mensuration	170	1	4	1	4
F.E. 3 Protection	170	..	..	1	..
F.E. 4 Finance	170	..	..	2	..
Bot. 1 General Botany	153	2	2	2	2
Bot. 5 (b) Dendrology	155	1	2	1	2
E.E. 1 Fundamentals	184	2	2	2	2
C.E. 8 Foundations	161	1	3	..	..
C.E. 9 Structural Design	161	..	..	1	3
C.E. 10 Strength Materials	161	2	3	2	3
C.E. 11 Railways	162	2	..	2	..
C.E. 13 Mapping	163	..	3	..	..
C.E. 14 Surveying	163	2	..	..	..
C.E. 12 Hydraulics	162	1	3	1	3

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures Lectures	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
F.E. 5 Technology	170	2	3	2	3
F.E. 6 Organization	171	1	..	1	..
F.E. 7 History	171	1	..	1	..
F.E. 8 Silviculture	171	2	..	2	3
F.E. 9 Lumbering	171	1	..	1	..
F.E. 10 Logging	172	1	4	1	4
F.E. 11 Milling	172	2		..	
F.E. 12 Products	172	..		2	
Bot. 6 (b) Pathology / Zool. 7 Entomology	155 / 201	..	..	1	2
Bot. 7 (a) Ecology	155	1	2	..	..
C.E. 17 Structural Design	163	1	3	1	3
C.E. 18 Economics	164	2	..	2	..
C.E. 19 Law	164	1	..	1	..
M.E. 6 (b) Steam Lab.	182	..	3	..	3

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.

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Geol. 2 Mineralogy	175	2	2	2	2
Geol. 3 Historical	176	3	..	..	..
Geol. 4 Structural	176	..	..	3	..
Geol. 5 Regional	176	3	1	3	1
Chem. 4 Theoretical	157	..	..	2	..
Econ. 1 (Arts)	85	3	..	3	..
Min. 1 Metal Mining	191	2	..	2	..
Met. 5 Fire Assaying	194	1	5	..	..
Met. 1 General	193	2	..	2	..
Ore Dressing 1 General	194	2	..	2	..
Zool. 1	201	2	2	2	2
C.E. 13 Mapping	163	..	..	..	3
Chem. 5* Adv. Analysis	157	1	6	1	6
Met. 6* Wet Assaying	194	..	3	..	3

*Either Chem. 5 or Met. 6 must be taken.

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Geol. 6 Palaeontology	176	2	2	2	2
Geol. 7 Petrology	177	2	4	2	4
Geol. 8 Economic	177	3	1	3	1
C.E. 18 Engr. Economics	164	2	..	2	..
Geol. 9 Mineralography	177	..	2	..	2
Geol. 10 Field	178	..	3	..	3
Min. 2 Coal and Placer	191	2	..	2	..
Min. 3 Metal Mining	192	2	..	2	..
Min. 5 Surveying	192	1	..	..	..
Met. 2 Smelting	193	2	..	2	..
Ore Dressing 2 Laboratory	195	..	3	..	3
C.E. 8 Foundations	161	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.

THIRD YEAR

As in Electrical Engineering. (See Page 135.)

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
M.E. 9 Thermodynamics	183	2	6	2	6
M.E. 10 Design	183	2	5	2	5
M.E. 11 Heating	183	1	..	1	..
M.E. 12 Plant Design	184	1	..	1	..
M.E. 13 Metals	184	1	3	1	3
E.E. 3 Standard Practice	187	2	3	2	3
C.E. 18 Engr. Economics	164	2	..	2	..
C.E. 19 Engr. Law	164	1	..	1	..
C.E. 29 Hydraulic Mach.	168	1	..	1	..
Math. 8 or 9 Adv. Calculus ...	179	1	..	1	..

VIII.-IX. Metallurgical and Mining Engineering

Modern Metallurgical practice covers a wide and expanding field. The Metallurgical Engineer has to design and operate a great variety of plants and processes. He must be able to deal with furnace and solution processes, based on chemical principles, and mechanical crushing and separating processes, based on physical principles, together with an immense variety of principal and auxiliary machinery, from small to immense, used in the separation and refining of ores, artificial mineral products and metals. The whole forms a keenly competitive and strictly commercial industry, based on, and closely limited by, the practical economic considerations of costs and profits. Rapid and continuous change and improvement is the rule. Methods and machines quickly become obsolete. The field for research and improvement in methods and machinery is ever widening, though the economic margin is ever narrowing.

The Metallurgical course, in the Third and Fourth Years, based on the fundamental earlier years, is designed to give the student a broad general knowledge of standard metallurgical methods and machinery, with a fundamental grasp of the actual applications of the basic sciences in practical metallurgical operations, and sufficient laboratory practice to illustrate and fix these in his mind and train him for an actual junior position after graduation.

Modern mining operations cover a field notable for its breadth and variety. The discovery, steadily becoming more difficult, and the development, steadily becoming more scientific, of new mineral deposits are based largely on a knowledge of the laws and processes of Nature, ultimately physical and chemical, but immediately, chiefly geological in kind. On the other hand, the operations of actual mining are largely mechanical in kind, and call for use and knowledge of mechanical and electrical equipment, adapted to underground methods and conditions.

The conditions under which mining operations are carried on are often of great natural difficulty, and many of the factors to be dealt with are, to a large extent, obscure and indefinite

oftener than measureable. The qualities of good judgmnt and decision are therefore of great importance in the application of technical knowledge to mining. As in metallurgy, economic considerations are paramount.

The Mining course is correspondingly broad in scope. In addition to the fundamental sciences, it includes fundamental subjects in Civil, Electrical and Mechanical Engineering, Economics and Economic Geology.

The special mining subjects cover the underlying principles and practice on which the discovery, development and economic operation of mines are based, the practical application of technical knowledge to actual operations, and the use of judgment and decision, by precept, example and illustration. Sufficient practical training and laboratory work is included to fit the student for an actual junior position after graduation. While not given as a separate subject, the social, administrative and ethical sides of the professions of Mining and Metallurgy are included in the general treatment of appropriate subjects.

In this University, emphasis is naturally placed on British Columbia conditions and its chief mineral products, namely: Gold, Silver, Lead, Zinc, Copper, Coal and Coke.

The University 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, in connection with which there are large washing and ore concentration plants. There is a large metallurgical works at Tacoma, within an easy day's journey. Students have little difficulty in obtaining positions in mines or smelters during their vacation, as several of the larger companies have established the practice of accepting student employees in reasonable numbers during the vacation months.

Students are recommended to spend their vacations at practical works, in connection with Metallurgy or Mining, and are required to do so between the Third and Fourth Years as an essential part of their course, without which a degree will not be granted. An essay covering this work is also required, as specified in the Fourth Year curriculum.

Students are advised to become student members of the Canadian Institute of Mining and Metallurgy.

VIII. Metallurgical Engineering

THIRD YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Econ. 1	169	2	..	2	..
C.E. 9 Elem. Design	161	..	..	1	3
C.E. 10 Str. of Materials	161	2	3	2	3
C.E. 12 Hydraulics	162	1	3	1	3
C.E. 13 Mapping	163	..	..	..	3
M.E. 6 (b) Laboratory	182	..	3	..	3
Geol. 2 Mineralogy	175	2	2	2	2
E.E. 1 General	184	2	2	2	2
Min. 1 Metal Mining	191	2	..	2	..
Ore Dressing 1 General	194	2	..	2	..
Met. 1 General	193	2	..	2	..
Met. 5 Fire Assay	194	1	5	..	..
Met. 6 Wet Assay	194	..	3	..	3

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Geol. 9 Mineralography	177	..	..	2	2
Geol. 8 Economic	177	3	1	3	1
C.E. 18 Engr. Economics	164	2	..	2	..
Chem. 8 Electro-	158	3	3	..	..
Ore Dressing 2 Laboratory	195	..	9	..	9
Min. 3 Metal Mining	192	2	..	2	..
Met. 2 Smelting	193	2	..	2	..
Met. 3 Calculations	193	2	..	2	..
Met. 4 Analysis	193	..	6	..	12

IX. Mining Engineering

THIRD YEAR

As in Metallurgical Engineering. (See Page 143.)

FOURTH YEAR

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Essay	129				
Geol. 7 Petrology	177	2	4	2	4
Geol. 8 Economic	177	3	1	3	1
C.E. 18 Engr. Economics	164	2	..	2	..
C.E. 19 Engr. Law	164	1	..	1	..
Met. 2 Smelting	193	2	..	2	..
Ore Dressing 2 Laboratory	195	..	9	..	9
Min. 2 Coal and Placer	191	2	..	2	..
Min. 3 Metal Mining	192	2	..	2	..
Min. 4 Machinery	192	2	..	2	..
Min. 5 Surveying	192	1	..	..	..
Min. 7 Methods	192	..	..	1	..
Min. 6 Design	192	..	3	..	3

Short Courses in Mining

The regular Short Courses in Mining for the Session of 1925-26 will commence the second Monday in January, 1926, 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, 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 and Health

Two courses are offered in the Department of Nursing and Health:

1. *Nursing A.*—A five-year undergraduate course. (See below.)

2. *Nursing B.*—A graduate course of one academic year. (See Page 148.)

All students desiring to register for these courses must first communicate, either in person or by letter, with the director of the department, in order that their qualifications from a nursing standpoint may be examined before proceeding with registration.

Nursing A

A five-year combined course leading to the degree of B.A.Sc. (Nursing), and to the diploma in nursing of the associated hospitals approved by the University Senate.

This course is open to applicants possessing Junior Matriculation or its equivalent. In addition they must be able to satisfy the entrance requirements of the associated schools of nursing.*

The aim of the five years combined course is to afford a broader education than can be given by the School of Nursing alone, and thus to build a sound foundation for those who desire to fit themselves for teaching and supervision in schools of nursing and for public health nursing service.

*Until 1925, nurses who have graduated from a hospital in affiliation with the University or otherwise approved of by the Senate may be awarded the degree on complying with the following conditions: They shall have matriculated and 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.

The First and Second Years, which are academic, give students an introduction to general cultural subjects and a foundation in the sciences underlying the practice of nursing. The Third and Fourth Years are devoted to professional training in the hospital, and are planned to afford experience and training in the care of the sick and to develop the skill, observation and judgment necessary to the efficient practice of the nursing profession. In the Fifth Year, students may select as their major subject that particular phase of nursing in which they are most interested and for which, in the opinion of their advisers, they appear to be best qualified.

It is not claimed that at the conclusion of this course students are qualified to immediately assume positions involving great responsibility. They are neither sufficiently mature nor experienced. They will possess, however, a good foundation in the basic sciences of nursing as well as certain cultural background and sound professional training. There are excellent opportunities for advancement in the field of modern nursing for women possessing such qualifications.

FIRST YEAR (Academic)

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
English 1 (a)	90	2	..	2	..
English 1 (b)	90	2	..	2	..
Choice of Mathematics 1	107				
or Latin 1	84				
or French 1	112	3	..	3	..
or History 1, 2, or 3	101				
Physics 1	118	3	2	3	2
Chemistry 1	78	3	3	3	3
Biology 1	73	2	2	2	2
Nursing 1	197	1	..	1	..

PROBATIONARY PERIOD (Hospital)

If they have not already done so, students should enter an approved Training School for Nursing in May, at the close of their First Academic Year, and take the prescribed four months' Preparatory Course for Probationers. Subject to the approval of the Head of the Department, students may be permitted to take this Probationary course at the conclusion of their Second Academic Year instead of in the interval between the First and Second Years. During this period the student will undergo rigid examination as to fitness in physique, temperament and character for the practice of nursing. Hospitals reserve the right to reject candidates who do not reach the required Training School standards.

SECOND YEAR (Academic)

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
English 2 (a)	90	2	..	2	..
English 2 (b)	91	1	..	1	..
Zoology 1	121	2	2	2	2
Philosophy 1	116	4	..	4	..
Economics 1	85				
or Sociology 1	89	3	..	3	..
Bacteriology 1	72	1	6	..	..
Bacteriology 2	72	..	..	1	6
Nursing 2	197	1	..	1	..

THIRD AND FOURTH YEARS (Hospital Service)

The Third and Fourth Years will be spent in practical training in a hospital approved by the Senate. Students are required to register with the University even though during this portion of the course they are in residence at the hospital. During their hospital service they are subject to the authority and are under the direction of the officers of the Training School. The required period of hospital service is twenty-eight months, in

which is included the probationary period of four months. Full maintenance and such allowance as the hospital authorities may designate are accorded, and a yearly vacation of three weeks is granted at the convenience of the Director of the Training School.

For description of subjects see Page 197.

FIFTH YEAR

A choice is offered of two major options, viz.:

(*a*) *Teaching and Supervision.* — Intended for students wishing to enter the hospital field as teachers and supervisors. During the first term a series of lectures and demonstrations will be given in the principles of supervision and in the teaching of nursing principles and methods. A selection will also be made of other courses available in the University which may be suited to the needs of the individual student. This choice would include courses offered in the Teacher Training Course, in the Departments of Biology and Zoology and in Bacteriology. Appropriate field-work will be arranged during the Second Term.

(*b*) *Public Health Nursing.* — Students electing Public Health Nursing as their major will take the courses of lectures and the field-work outlined under Nursing B (see below). With the consent of the Head of the Department, they may substitute one or more of these courses for one or more of those outlined under option "*a*," Teaching and Supervision.

Nursing B

A course of one academic year leading to the certificate in Public Health.

This course is open to nurses in good standing who have graduated from a recognized School of Nursing connected with a hospital of not less than fifty beds, and who are eligible for registration in British Columbia.

The aim of the course is to afford instruction to graduate

nurses that will assist them in dealing with problems of health, economics and education met with 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.

Candidates should apply to the Department not later than September, 1925. A certificate of good health and physical condition, signed by a regular practising physician, must be presented with the application. The registration and class fees for the course are $75.00. These may be paid in two equal instalments, the first not later than October, and the second not later than January.

The course consists 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 a certificate will be issued to successful candidates.

Should the number of students applying for this course be deemed insufficient it may be withdrawn.

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, Biology 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.

THIRD YEAR

1. Three units in one of the following:
   - A language;
   - History;
   - Economics;
   - Philosophy.
2. Chemistry 2a, Applied Science.
3. Mathematics 1, 2, 3, Applied Science.
4. Physics 1 and 2, Applied Science.
5. Mechanical Drawing 1, Mechanical Engineering 2, Civil Engineering 1, and Engineering Problems 1.

Civil Engineering 2 (Field Work) must 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.

EXAMINATIONS AND ADVANCEMENT

1. Examinations are held in December and in April. December examinations will be held in all subjects of the First and Second Years, and are obligatory for all students of these years. December 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 on account of illness or domestic affliction must be submitted to the Dean not later than two days after the close of the examination period.

2. Candidates in order to pass must obtain at least 50 per cent. in each subject, except that in the First and Second Years of the course in Nursing and Health 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.

3. Successful candidates will be graded as follows: First Class, an average of 80 per cent. or over; Second Class, 65 to 80 per cent.; Passed, 50 to 65 per cent.

4. If a student's general standing in the final examinations of any year is sufficiently high, the Faculty may grant him supplemental examinations in the subject or subjects in which he has failed. Notice will be sent to all students to whom such examinations have been granted.

5. Supplemental examinations will be held in September and will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $7.50 per paper.

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.

7. No student may enter a higher year with supplemental examinations still outstanding in respect of more than 4 units of the preceding year, or with any supplemental examination outstanding in respect of the work of an earlier year or of matriculation, unless special permission to do so is granted by Faculty. Such permission will be granted only when Faculty is satisfied that the failure to remove the outstanding supplemental examinations had an adequate cause.

8. No student will be allowed to take any subject unless he has previously passed, or secured exemption, in all pre-requisite subjects. If any subject has another which is concurrent with it, both must be taken in the same session.

9. A student who is not allowed to proceed to a higher year may not register as a partial student in respect of the subjects of that higher year. But a student who is required to repeat his year may, *on application in writing,* be exempted by the Faculty from attending lectures and passing examinations in subjects in which he has already made at least Second Class standing. In this case he may take, in addition to the subjects of the year which he is repeating, certain subjects of the following year.

10. A student who fails twice in the work of the same year may, upon the recommendation of the Faculty, be required by the Senate to withdraw from the University.

11. Any student whose academic record, as determined by the tests and examinations of the first term of the First or Second Year, 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. Such a student will not be readmitted to the University as long as any supplemental examinations are outstanding.

12. Term essays and examination papers will be refused a passing mark if they are noticeably deficient in English.

DEPARTMENTS IN APPLIED SCIENCE

N.B.—The following subjects may be modified during the year as the Faculty may deem advisable.

Department of Botany

Professor: A. H. Hutchinson.
Assistant Professor: John Davidson.
Assistant Professor: Frank Dickson.
Assistant: F. Heward Bell.
Assistant: Gertrude Smith.
Assistant: Marjory Elliott.

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 an 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.

Text-book: Smallwood, *Text-book of Biology,* Lea & Febiger, 1920.

The course is prerequisite to all other courses in Biology.

One lecture and one period of two hours laboratory per week.

2. *Principles of Genetics.*—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.

Text-book: Castle, *Genetics and Eugenics,* Harvard Press.

Two lectures per week. First Term.

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

Text-book: Bayliss, *Principles of General Physiology,* Longmans-Green.

Two lectures and one period of four hours laboratory per week. Second Term.

Botany

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

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

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.

Two lectures and one period of two hours laboratory per week.

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.

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

Two lectures and two periods of two hours laboratory per week. First Term.

3. *Plant Physiology.*

Text-book: Palladin, *Plant Physiology,* English Edition (Translation of 6th Russian Edition), 1918, P. Blakiston.

Two lectures and two periods of two hours laboratory per week. First Term.

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.

Text-book: W. C. Stevens, *Plant Anatomy,* P. Blakiston.

Prerequisite: Botany 1.

One lecture and two periods of three hours laboratory per week. Second Term.

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 and Science.

Text-books: Henry, *Flora of Southern British Columbia,*

Gage; Leavitt, *Outlines of Botany with Flora,* American Book Company.

Prerequisite: Botany 1.

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

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.

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.

One lecture and one period of two or three hours laboratory or field work per week.

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

Text-book: Duggar, *Fungus Diseases of Plants,* Ginn.

Prerequisite: Botany 1.

One lecture and one period of two hours laboratory per week. Second Term.

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

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

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

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.

Text-book: Hardy, *The Geography of Plants*, Oxford University Press.

One lecture per week during one term. Field trips and laboratory work during the session amounting to thirty hours, one period per week.

Department of Chemistry

Professor: E. H. Archibald.
Professor of Organic Chemistry: R. H. Clark.
Associate Professor: W. F. Seyer.
Assistant Professor: M. J. Marshall.
Lecturer: C. A. H. Wright.
Instructor: John Allardyce.
Assistant: Wm. E. Graham.
Assistant: J. L. Huggett.
Assistant: Swanzey Peck.
Assistant: A. F. Gill.
Assistant: R. N. Crozier.

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.

Text-book: Alexander Smith, *Inorganic Chemistry*, Century.

Three lectures and one period of three hours laboratory per week.

2. *Qualitative and Quantitative Analysis.*

(*a*) *Qualitative Analysis.*—During the first six weeks of the term an additional lecture may be substituted for a part of the laboratory work.

Text-book: A. A. Noyes, *Qualitative Analysis*, Macmillan.

Prerequisite: Chemistry 1.

One lecture and one period of three hours laboratory per week.

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

Text-book: Cumming & Kay, *Quantitative Analysis,* Gurney & Jackson.

Prerequisite: Chemistry 1.

One lecture and one period of three hours laboratory per week.

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

3. *Organic Chemistry.*—This introduction to the study of the compounds of carbon will include the method of preparation and a description of the more important groups of compounds in both the fatty and the aromatic series.

Chemistry 3 will also 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,* Wiley; Gatterman, *The Practical Methods of Organic Chemistry,* Macmillan.

Two lectures and one period of three hours laboratory per week.

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.

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

Prerequisite: Chemistry 2.

Two lectures and one period of three hours laboratory per week. Second Term.

5. *Advanced Qualitative and Quantitative Analysis.*

(*a*) *Qualitative Analysis.* — 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.

One lecture and two periods of three hours laboratory per week. First Term.

* NOTES—In 1925-26 Chemistry 2 (*a*) and 2 (*b*) will be given as a single course, one lecture and two three-hour laboratory periods per week. Chemistry 2 (*a*) in First Term, Chemistry 2 (*b*) in Second Term.

(*b*) *Quantitative Analysis.*—The determinations made will include the more difficult estimations in the analysis of rorks, 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.

One lecture and two periods of three hours laboratory per week. Second Term.

6. *Industrial Chemistry.* — 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.

Prerequisite: Chemistry 2 and 3.

Two lectures per week.

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.

Text-book: Findlay, *Physico-Chemical Measurements,* Longmans-Green.

For reference: Ramsay's Series of Books on Physical Chemistry, Longmans. Getman, *Theoretical Chemistry,* Wiley.

Prerequisite: Chemistry 2, 3 and 4.

Two lectures and one period of three hours laboratory per week.

8. *Electro-Chemistry.*—As in Arts. See Page 80.)

9. *Advanced Organic Chemistry.* — As in Arts. (See Page 80.)

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.

Text-book: Walker, Lewis & McAdams, *Principles of Chemical Engineering,* McGraw-Hill.

Reference books: Liddell, *Handbook of Chemical Engineering.* Robinson, *Elements of Practical Distillation.*

Two lectures per week during second term of Fourth Year.

Department of Civil Engineering

Professor: Wm. E. Duckering.
Associate Professor: E. G. Matheson.
Lecturer: W. H. Powell.
Instructor: A. Lighthall.
Instructor: F. A. Wilkin.
Assistant: Cyril Jones.

1. *Descriptive Geometry.* — Geometrical drawing; orthographic, isometric and axometric projections.

Text-book: Armstrong, *Descriptive Geometry,* Wiley.

One three-hour period per week.

Mr. Matheson, Mr. Wilkin, Mr. Jones.

2. *Field Work 1.*—Elementary surveying. Practical problems involving the use of the chain, telemeter, compass, transit and level. Traverses, closed circuits, contour and detail surveys. Levels for profiles, benches and contours.

Work commences immediately upon the close of spring examinations, and consists of field work, eight hours per day for twenty days, or equivalent.

Mr. Duckering, Mr. Powell, Mr. Wilkin, Mr. Jones.

3. *Materials of Engineering.**—Manufacture and properties of iron and steel; principal alloys; considerations governing selection of materials; manufacture and properties of cements;

*Not offered in 1925-26.

concrete; stone and brick masonry; principal kinds of commercial timber; treating and preservation of timber; discussion of standard specifications for engineering work.

Text-book: Moore, *Materials of Engineering,* McGraw-Hill.

References: Mills, *Materials of Engineering;* Johnson, *Materials of Construction;* Upton, *Materials of Engineering.*

One lecture per week. Mr. Matheson.

4. *Graphical Statics.* — Elementary theory of structures; composition of forces; general methods involving the force and equilibrium polygons; determination of resultants, reactions, centres of gravity, bending moments; stress in framed structures, cranes, towers, roof-trusses and bridge-trusses. Algebraic check methods will be used throughout.

Text-book: Hudson and Squire, *Elements of Graphic Statics,* McGraw-Hill.

Prerequisites: Physics 4 must either precede or accompany Civil 4.

One two-hour period per week. Mr. Lighthall.

5. *Mapping 1.*—Draughting from notes obtained in Civil 2. Maps of telemeter, compass and transit surveys. Contour and topographical maps in convention or color. Mine and land plans.

One three-hour period per week. Mr. Lighthall.

6. *Surveying 1.* — Chain and angular surveying; the construction, adjustment and use of the transit, level, compass, stadia, minor field instruments, planimeter, and pantograph; leveling; topography; contour surveying; stadia; railway curves; vertical curves; transition curves.

Text-book: Breed and Hosmer, *Elementary Surveying,* Vol. I, Wiley.

References: Gillespie, *Surveying,* Vol. I; Nugent, *Plane Surveying;* Baker, *Engineer's Surveying Instruments;* Allen, *Curves and Earthwork;* Sullivan, *Spiral Tables.*

Two lectures per week. Mr. Powell.

7. *Field Work 2.*—(*a*) Railway surveys, reconnaissance, preliminary and location surveys, methods of taking topography,

cross-sectioning; estimating quantities; running in easement and vertical curves, etc. The notes secured will be used in class work for mapping and for estimating quantities and costs.

(*b*) Hydrographic surveys, topography of a section of river-bed by sounding and fixing position by transits and sextants; the three-point problem; stream-gauging by surface and deep floats and by the current meter.

(*c*) Solar and stellar observations for latitude and azimuth; adjustments of instruments; the use of plane table, sextant and minor instruments; mine surveying.

Prerequisite: Civil 2.

Time same as for Civil 2.

Mr. Matheson, Mr. Wilkin, Mr. Lighthall.

8. *Foundations and Masonry.*—Borings; bearing power of soils; pile and other foundations; cofferdams; caissons; open dredging; pneumatic and freezing processes; estimates of quantities and costs.

Text-book: Jacoby and Davis, *Foundations of Bridges and Buildings,* McGraw-Hill.

One lecture and one three-hour period. First Term.

Mr. Matheson.

9. *Structural Design 1.*—Problems in draughting, illustrating designs in structural engineering; estimates of quantities and costs; preparation of plans.

Text-book: Conklin, *Structural Draughting and Elementary Design,* Wiley.

Prerequisite: First Term of Civil 10.

One lecture and one three-hour period. Second Term.

Mr. Matheson.

10. *Strength of Materials.*—A thorough introduction to the fundamental principles dealing with the strength of materials; stress, deformation, elasticity and resilience; the application of the laws of derived curves to the construction of load, shear moment, inclination and deflection diagrams; fibre stress, deflec-

tion of simple, cantilever, and continuous beams under any loading; riveted joints; torsion; columns; combined stresses; longitudinal shear; reinforced concrete; special beams.

The laboratory period includes the testing of cement, concrete, timber and steel specimens to determine the strength and elasticity of these materials.

About one-half of the time will be set aside for the solution of problems in investigation and design.

Text-book: Boyd, *Strength of Materials*, McGraw-Hill.

Reference: Swain, *Strength of Materials.*

Prerequisites: Physics 4 and Civil 4.

Two lectures and one three-hour period per week.

Mr. Duckering, Mr. Lighthall.

NOTE:—The laboratory testing is given in the Forest Products Laboratories, under the supervision of Superintendent McElhanney.

11. *Transportation 1. Railways.*—The inception of railway projects; reconnaissance, preliminary and location; grade problems; grades, curvature and distance and their effects upon operating costs and revenue; velocity and pusher grades; adjustment of grades for unbalanced traffic; construction; railway economics, traffic, revenue, branch lines.

Text-book: Williams, *Design of Railway Location,* Wiley.

Reference: Allen, *Railroads, Curves and Earthwork;* Wellington, *Economic Theory of the Location of Railways.*

Two lectures per week. Mr. Wilkin.

12. *Hydraulic Engineering 1.*—(*a*) Hydrostatics; design of standpipes, reservoirs and dams.

(*b*) Hydrodynamics: fundamental principles and their application to problems on the discharge of orifices, notches and weirs; flow in pipes and open channels; practical field and laboratory measurements; examination of hydraulic developments.

Text-book: Russell, *Hydraulics,* Holt.

One lecture and one three-hour period of laboratory per week. Mr. Powell, Mr. Wilkin.

13. *Mapping 2.* — Draughting from notes obtained in Civil 7; railway location and hydrographic surveys; map projections; topographic maps from photographic plates.

One three-hour period per week. Mr. Lighthall.

14. *Surveying 2.*—A continuation of Civil 6. Theory and use of aneroid, sextant, plane-table and precise instruments; plane-table surveying; mine, hydrographic and photo-topographic surveying; Dominion and Provincial surveys; field astronomy.

Text-book: Breed and Hosmer, *Surveying,* Vol. II, Wiley.

References: 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.*

Prerequisite: Civil 6.

Two lectures per week. Mr. Lighthall.

15. *Perspective Drawing and Descriptive Geometry.* — Mathematical perspective; perspective drawings of buildings and structures, shades and shadows.

Text-book: Crosskey, *Elementary Perspective,* Blackie & Son; Armstrong, *Descriptive Geometry,* Wiley.

One two-hour period per week. Mr. Lighthall.

16. *Field Work 3.*—Problems in geodetic and precise surveying; determination of latitude, azimuth and time by solar and stellar observations; baseline measurements; precise levelling.

Prerequisite: Civil 7.

Time, same as for Civil 2. Mr. Lighthall.

17. *Structural Design 2.* — Selection of types of bridges; determination of loadings; stresses; choice of cross-sectional forms and areas; design of combination wood and steel trusses, steel trusses; design of connections; masonry structures, dams and retaining walls; complete drawings.

Text-book: Hool and Kinne, *Structural Member and Connections,* McGraw-Hill.

Reference: Johnson, Bryan and Turneaure, *Modern Framed Structures,* Vol. III. Kirkham, *Structural Engineering.*

Prerequisites: Civil 8, 9 and 10.

One lecture and two three-hour periods per week.
Mr. Matheson.

18. *Engineering Economics.* — A general treatment 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 and interpretation of financial statements.

Text-book: Fish, *Engineering Economics,* McGraw-Hill.

References: Waddell and Wait, *Specifications and Contracts;* Anger, *Digest of Canadian Mercantile Law.*

Two lectures per week. Mr. Wilkin.

19. *Engineering Law.*—The engineer's status; fees; salary; as a witness; responsibility; engineering contracts; tenders; specifications; plans; extras and alterations; time; payments and certificates; penalty, bonus or liquidated damages; maintenance and defects; subcontractors; agents; arbitration and awards; specification and contract writing.

Text-book: Waddell and Wait, *Specifications and Contracts,* McGraw-Hill.

References: Anger, *Digest of Canadian Mercantile Law of Canada;* Ball, *Law Affecting Engineers.*

One lecture per week. Mr. Wilkin.

20. *Surveying 3.*—Geodesy; the determination of azimuth, longitude, latitude, time, the figure of the earth; measurement of baselines; triangulation systems; adjustments and reductions of observations; precise levelling.

References: Hosmer, *Geodesy;* Carey, *Geodetic Surveying;* Gillespie, *Higher Surveying.*

Prerequisite: Civil 14.

One lecture per week. MR. LIGHTHALL.

21. *Hydraulic Engineering 2.* — Waterpower engineering; investigation of power problems; selection of hydraulic machines; hydrographs; auxiliary power; mass curves, load factors and characteristics; impulse and reaction wheels; methods of control and operation of various forms of machines; transmission of hydraulic power.

Text-book: Mead, *Waterpower Engineering,* McGraw-Hill.

References: Gibson, *Hydroelectric Engineering;* Mead, *Hydrology.*

Prerequisites: Civil 12 must either precede or accompany Civil 21.

One lecture per week. MR. WILKIN.

22. *Municipal Engineering.*—(*a*) *Water Supply,* Rainfall; evaporation; run-off; quantity, quality and pressure required; pumping machinery; storage; aqueducts, pipe lines and distribution systems; purification systems; valves, hydrants and fire service; materials, estimates and designs; construction methods and costs.

Text-book: Turneaure, *Public Water Supply,* Wiley.

Reference: Flinn, Westbrook, Bogart, *Waterworks Handbook.*

(*b*) *Sewerage and Sewage Disposal.*—(1) General methods and economic considerations; quantity and run-off; design of sewers, manholes, flushtanks, etc.; construction methods, materials and costs; estimate, design, maintenance and management.

(2) Sewage Disposal: physical, chemical, biological and economical aspects of sewage treatment; dilution; screening, sedimentation, filtration; disinfection; maintenance and management costs.

Text-book: Metcalf and Eddy, *Sewerage and Sewage Disposal,* McGraw-Hill.

(*c*) Town planning; covering the economical and artistic development of a city, city management. Street cleaning and disposal of waste; composition and quantity of city wastes; collection, dumping and disposal; land treatment; incineration and reduction; costs and returns.

Text-book: Lewis, *City Planning*, Wiley.

Prerequisite: Civil 12.

Two lectures and one two-hour period per week. Mr. Powell.

23. *Transportation 2.* (*a*) *Railways.* — 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; improvements of old lines, yards and terminals; maximum capacity of single track.

Prerequisite: Civil 11.

Two lectures per week, First Term. Mr. Wilkin.

(*b*) *Highways.*—(1) Highway economics, surveys and locations; grades; cross-sections; paving materials; construction methods; designs and estimates.

(2) Streets and pavements; materials, design, construction, maintenance and repairs.

Text-book: Agg, *Construction of Roads and Pavements*, McGraw-Hill.

Reference: Harger and Bonney, *Highway Engineer's Handbook.*

Prerequisite: Civil 11.

Two lectures per week, Second Term. Mr. Matheson.

24. *Mechanics of Materials.* — A continuation of Civil 10, Strength of Materials; the application of the Principle of Least Work to the determination of statically indeterminate forces in beams and rigid frames; stress and deflection of unsymmetrical sections and beams with variable moment of inertia; analysis of reinforced concrete beams, slabs, columns, and reinforced concrete arches.

References: Ketchum, *Steel Mill Buildings;* Hool, *Reinforced Concrete,* Vol. III; Hool and Johnson, *Concrete Engineer's Handbook.*

Prerequisite: Civil 10.

Two lectures and one three-hour period per week.

Mr. Duckering.

25. *Theory of Structures.*—The analysis of statically determinate framed structures under dead and live loads; distortion of framed structures; the use of influence lines for analysis of stresses and deflections; hinged and hingeless arches; secondary stresses and redundant members.

Text-book: Hool and Kinne, *Framed Structures,* McGraw-Hill.

References: Johnson, Bryan and Turneaure, *Modern Framed Structures,* Vols. I and II; Malverd Howe, *Influence Lines;* Morley, *Theory of Structures.*

Prerequisite: Civil 10.

One lecture and two three-hour periods per week.

Mr. Matheson.

26. *Class Excursions.* — Members of the Fourth Year class in Civil Engineering, under the supervision of an instructor, will visit such factories, industrial developments, public works, docks, shipyards, and important examples of engineering construction as are calculated to assist the student best to grasp the application and scope of the studies pursued and to broaden his vision of the engineering field. Written reports of trips are required.

27. *Civil Engineering Thesis.*—Original research on selected topics or analyses of engineering projects; experimental or theoretical investigations. Topics may be selected from the Civil Engineering Course: Geodetics, Railways, Hydraulics, Municipal, Highways, Economic and Business Engineering, Structures. Copy of thesis must be filed with the department.

Work extends throughout the year.

28. *Seminar.* — Written and oral discussion of articles appearing in the current Transactions and Proceedings of the various Engineering Societies, also reviews of important papers in engineering periodicals. Reports on local engineering projects visited in Civil 26. Written outlines must be prepared for all oral reports. Includes training in Technical Writing and Public Speaking.

Required of all Third and Fourth Year students in Civil Engineering.

Text-book: Rickard, *Technical Writing,* McGraw-Hill.

One hour per week.

29. *Hydraulic Engineering 3.* — Theory, investigation and design of hydraulic motors and machinery. Turbines, Pelton and impulse wheels, centrifugal pumps, hydro-electric installations, plant design and operation.

Prerequisite: Civil 12.

Text-book: Mead, *Water Power Engineering,* McGraw-Hill.

Reference: Gibson, *Hydro-electric Engineering;* Daugherty, *Centrifugal Pumps, Hydraulic Turbines.*

One lecture per week. Mr. Wilkin.

30. *Engineering Problems 1.* — Training in methods of attacking, analyzing and solving engineering problems. Coaching in proper methods of work and study, including drill in systematic arrangement and workmanship in calculations. The content is based upon the application of mathematics to problems in physics and engineering.

Prerequisite: First Year Arts.

Text-books: Swain, *How to Study,* McGraw-Hill; Duckering, *Notes and Problems,* McGraw-Hill.

Two two-hour periods per week.

Mr. Duckering, Mr. Wilkin, Mr. Lighthall.

31. *Engineering Problems 2.*—A continuation of Engineering Problems 1, involving a thorough drill in problems in the principal divisions of mathematics given in the First and Second

Years of Applied Science, drawn from the field of mechanics, electricity and heat, surveying and draughting.

One three-hour period per week.

Mr. Duckering, Mr. Wilkin, Mr. Lighthall.

50. Elementary problems in rural engineering, dealing with drainage, water supply, sewerage and sewage disposal, ventilation, simple structures and surveying. Adapted to the needs of students in Dairying.

One lecture per week. Mr. Powell.

Department of Economics

Professor: Theodore H. Boggs.
Associate Professor: H. F. Angus.
Assistant Professor: S. E. Beckett.
Instructor: Huntley M. Sinclair.
Assistant: Doris Lee.

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, 1923.

Two lectures per week.

Department of Forestry

Professor: H. R. Christie.
Assistant Professor: F. Malcolm Knapp.

1. *General Forestry.*—A general survey of the subject.

Text-book: Fernow, *Economics of Forestry,* Toronto University Press.

References: Whitford and Craig, *Forests of British Columbia.* Pinchot, *Primer of Forestry.* Moon and Brown, *Elements of Forestry.* Allen, *Practical Forestry in the Pacific Northwest.* Schlich, *Forest Policy in the British Empire.*

Zon and Sparhawk, *Forest Resources of the World.* Various government publications.

One lecture per week.

2. *Forest Mensuration.*—Measurement of felled timber, of standing timber, and of growth of trees and forests. Includes scaling, timber estimating, and preparation of tables of volume, growth and yield.

Text-book: Chapman, *Forest Mensuration,* Wiley.

Reference books: Winkenwerder and Clark, *Problems in Forest Mensuration.* Graves, *Woodsman's Handbook.* Graves, *Forest Mensuration.* Carey, *Manual for Northern Woodsmen.*

One lecture and one period of four hours' field or laboratory work per week.

3. *Forest Protection.*—The fire problem, legislation, organizations, prevention and control.

Text-book: *Western Fire Fighters' Manual,* Western, Forestry and Conservation Association, Portland, Ore.

Reference books: Millar, *Methods of Communication Adapted to Forest Protection,* Dominion Forestry Branch, Ottawa. U. S. Forest Eervice, *Trail Building in the National Forests.*

One lecture per week. Second Term.

4. *Forest Finance.*—Forestry from the financial standpoint, including studies of compound interest, valuation, rotation, insurance and taxation.

Text-book: Roth, *Forest Valuation,* University of Michigan.

Reference books: Chapman, *Forest Valuation.* Woodward, *Valuation of North American Timber Lands.*

Two periods of one hour each, lectures and problems, per week. Second Term.

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.

Text-books: Record, *Economic Woods of the United States,* Wiley. Record, *Mechanical Properties of Wood,* Wiley.

Reference books: Weiss, *Preservation of Structural Timber.* Snow, *Wood and Other Organic Structural Materials.* Roth, *Timber,* U. S. Forest Service, Bul. 10. Tiemann, *The Kiln Drying of Lumber.*

Two lectures and one period of three hours laboratory per week.

6. *Forest Organization.* — The principles and methods of organizing forest areas for business management. Normal forest, increment, rotation, felling budget, working plans.

Text-book: Roth, *Forest Regulation,* Roth, University of Michigan.

Reference books: Recknagel and Bentley, *Forest Management.* Recknagel, *Forest Working Plans.* Schlich, *Forest Management.* Woolsey, *American Forest Regulation.*

One lecture per week.

7. *History of Forestry and Forest Administration.* — The development of forestry in different parts of the world; forest resources and industries, policy, legislation and education.

Reference books: Fernow, *History of Forestry.* Schlich, *Forest Policy in the British Empire.* Boerker, *Our National Forests.* Ise, *The United States Forest Policy.* Zon and Sparhawk, *Forest Resources of the World.* Various government publications.

One lecture per week.

8. *Silviculture.* — Principles and methods of caring for forests and growing timber crops.

Text-book: Hawley, *Practice of Silviculture,* Wiley.

Reference books: Graves, *Principles of Handling Woodlands.* Toumey, *Planting and Seeding.* Woolsey, *Studies in French Forestry.* Schlich, *Silviculture.* Various government publications.

Two lectures per week during the year, and one period of three hours field or laboratory work during the Second Term.

9. *General Lumbering.*—A general study of the principles and practice of logging and milling in the chief timber regions of North America.

Text-book: Bryant, *Logging,* Wiley.

Reference books: Gibbons, *Logging in the Douglas Fir Region,* U. S. D. A. Bul. 711. Berry, *Lumbering in the Sugar and Yellow Pine Region of California,* U. S. D. A. Bul. 440.

One lecture per week.

10. *Logging.*—An intensive study of logging systems and operations in the forests of western North America.

Text-book: Gibbons, *Logging in the Douglas Fir Region,* U. S. D. A. Bul. 711, Superintendent of Documents, Washington, D. C.

Reference books: Various articles in the *Timberman, B. C. Lumberman* and other trade journals.

One lecture per week throughout the year; one period of four hours laboratory or field work per week, alternating with Forestry 11 and 12.

11. *Milling.*—A study of the sawmilling and allied wood-working industries of western North America.

Text-book: Bryant, *Lumber,* Wiley.

Reference books: Oakleaf, *Lumber Manufacture in the Douglas Fir Region.* Brown, *American Lumber industry.* Berry, *Lumbering in the Sugar and Yellow Pine Region of California,* U. S. D. A. Bul. 440. Seeley, *Small Sawmills,* U. S. D. A. Bul. 718.

Two lectures per week; one period of four hours laboratory or field work per week, alternating with Forestry 10. First Term.

12. *Forest Products.*—A study of other forest industries, including paper and pulp, naval stores, and wood distillation.

Reference books: Whitham, *Modern Pulp and Paper Making.* Brown, *Forest Products, Their Manufacture and Use.* Various government publications.

Two lectures per week; one period of four hours laboratory or field work per week, alternating with Forestry 10. Second Term.

Forest Products Laboratory

T. A. McElhanney, B.A.Sc. (Toronto), D.L.S., B.C.L.S., A.M.E.I.C., Acting Superintendent.
R. S. Perry, B.Sc. (McGill), A.M.E.I.C., Timber Tests Engineer.
J. H. Jenkins, B.A.Sc. (Brit. Col.), Specialist in Wood Seasoning.
H. W. Eades, B.Sc.F. (Washington), Forestry Assistant.
J. T. Lee, Timber Tester.
D. S. Wright, Timber Tester.

On account of the importance of the timber industry of British Columbia and its remoteness from the main laboratory at McGill University in Montreal, the Forestry Branch of the Department of the Interior in 1918 established this laboratory as a Branch of the Forest Products Laboratories of Canada. The laboratory was equipped primarily for timber testing on account of the value of the timbers of the Province for structural purposes. The scope of the laboratory has gradually extended. A kiln-drying service has recently been established to assist the timber industries in curtailing serious losses on this account. A most important phase of the work of the laboratory is its technical service to the industries in the dissemination of information on a variety of subjects, such as wood preservation, utilization of wood waste, pulp and paper, wood distillation, timber pathology, etc. Where facilities do not exist in the local laboratory for dealing with any enquiry, it acts as an outpost to the main laboratory in Montreal.

An increasingly valuable amount of material has been collected from the research work of other laboratories and catalogued for reference.

A mutually beneficial scheme of co-operation exists between the Laboratory and the University, whereby students of the University in Engineering and Forestry have access to the laboratory to watch the work being carried on and to use the apparatus at times in testing strength of materials. The staff of the Laboratory also has the benefit of the University library and the advice and assistance of University specialists in related work.

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.
Lecturer: E. M. Burwash.

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 structures of the earth, earthquakes, volcanoes and igneous intrusions, metamorphism, mountains and plateaus, and ore-deposits.

Two lectures and one period of two hours laboratory 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, t he Cenozoic, and Quaternary eras.

Two lectures and one period of two hours laboratory 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.* Geikie, *Text-book of Geology.* Merrill, *Rocks, Rock-weathering and soils.* Coleman and Parks, *Elementary Geology. National Geographic Magazine.* Shimer, *Introduction to the Study of Fossils.* Davis, *Geographical Essays.* Hugh Miller's works.

2. (*a*) *General Mineralogy.*—A brief survey of the field of mineralogy.

Lectures take the form of a concise treatment of (1) Crystallography, (2) Physical Mineralogy, and (3) Descriptive Mineralogy of 40 of the most common mineral species, with special reference to Canadian occurrences.

Laboratory Work consists of the study of the common crystal forms and of 40 prescribed minerals, accompanied by a brief outline of the principles and methods of Determinative Mineralogy and Blowpipe Analysis.

Text-books: Dana, *Manual of Mineralogy,* revised by Ford (new edition), Wiley. (For students taking only Geology 2 (*a*).) Dana, *Text-book of Mineralogy,* revised by Ford, Wiley. (For students who subsequently take Geology 2 (*b*).

Prerequisite: Chemistry 1.

Two lectures and one laboratory period of two hours per week. First Term. Mr. Uglow.

2. (*b*) *Descriptive and Determinate Mineralogy.* — This course supplements 2 (*a*) and consists of a more complete survey of Crystallography, Physical and Chemical Mineralogy, with a critical study of about 50 of the less common minerals, special emphasis being laid on their crystallography, origin, association and alteration.

Text-book: Dana, *Text-book of Mineralogy,* revised by Ford, Wiley.

Prerequisite: Geology 2 (*a*).

Two lectures and one laboratory period of two hours per week. Second Term. Mr. Uglow.

3. *Historical Geology.*—Continental evolution and development of life, with special reference to North America.

Text-book: Schuchert, *Historical Geology,* 2nd Ed., Wiley.

Prerequisite: Geology 1.

Three lectures per week. First Term. Mr. Williams.

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 structures, 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.

Prerequisite: Geology 1.

Three lectures per week. Second Term. Mr. Schofield.

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 of one hour per week.

6. *Palaeontology.*—A study of invertebrate and vertebrate fossils, their classification, identification and distribution both geological and geographical.

Reference books: Grabau and Shimer, *North American Index Fossils.* Zittel-Eastman, *Text-book of Paleontology.*

Prerequisite: Geology 1.

Two lectures and one laboratory period of two hours per week. Mr. Williams.

7. *Petrology.*—This course consists of systematic studies of the following: (*a*) Optical Mineralogy, (*b*) Lithology and Petrogeny, (*c*) Microscopical Petrography.

Lectures deal with the principles of crystal optics, and with the origin, occurrence, classification, metamorphism and decay of rocks.

Laboratory Work consists of the study, determination and classification of specimens, structures and textures of rocks contained in the departmental collections. Field and microscopical methods of determination are equally stressed.

Text-books: Pirsson, *Rocks and Rock Minerals,* Wiley; Luquer, *Minerals in Rock Sections,* Van Nostrand; Dana, *Textbook of Mineralogy,* revised by Ford, Wiley.

Prerequisites: Geology 1 and 2.

Two lectures and two laboratory periods of two hours per week. Mr. Uglow.

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: Emmons, *General Economic Geology,* McGraw-Hill.

Reference book: Lindgren, *Mineral Deposits,* 2nd ed.

Prerequisite: Geology 1. Geology 7 must precede or accompany this course.

Four lectures per week.

Mr. Brock, Mr. Williams and Mr. Uglow.

9. *Mineralography.*—Principally a laboratory course dealing with the study and recognition of the opaque minerals by means of the reflecting microscope.

The work consists of practice in the cutting, grinding and

polishing of ore specimens, accompanied by training in microchemical methods of mineral determination.

During the second term each student is assigned a suite of ores from some mining district for a critical examination and report.

Text-book: Davy and Farnham, *Microscopic Examination of the Ore Minerals,* McGraw-Hill.

Prerequisite: Geology 7 and 8 must precede or accompany this course.

One laboratory period of two hours per week. Mr. Uglow.

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.* Hayes, *Handbook for Field Geologists.* Spurr, *Geology Applied to Mining.*

Prerequisite: Geology 1. Geology 4, if not already taken, must be taken concurrently.

One period of three hours per week. Mr. Schofield.

Department of Mathematics

Professor: Daniel Buchanan.
Professor: L. S. Dederick.
Associate Professor: G. E. Robinson.
Assistant Professor: E. E. Jordan.
Assistant Professor: L. Richardson.
Assistant Professor: B. S. Hartley.

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.

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.

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.

Two lectures per week.

4. *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.

Two lectures per week.

6. *Calculus.*—Differential and integral calculus with various applications.

Text-book: Woods and Bailey, *Elementary Calculus,* Ginn.

7. *Analytical Geometry.*—A study of the conics and other curves occurring in engineering practice, and elementary work in three dimensions.

Text-book: Fawdry, *Co-ordinate Geometry,* Bell.

Two lectures per week.

8. *Applied Calculus.* — The applications of calculus to various problems in engineering.

One lecture per week.

(Given in 1926-27 and alternate years.)

9. *Differential Equations.*—A study of ordinary and partial differential equations and their applications.

Text-book: Murray, *Differential Equation,* Longmans.

One lecture per week.

(Given in 1925-26 and alternate years.)

Department of Mechanical and Electrical Engineering

Professor: Herbert Vickers.
Associate Professor:
Assistant Professor of Mechanical and Electrical Engineering: H. F. G. Letson.
Instructor in Mechanical Drawing and Shopwork: H. P. Archibald.
Instructor in Electrical Engineering: E. M. Coles.
Instructor in Machine Shop: H. Taylor.
Instructor in Thermo Laboratory: E. G. Parsons.
Instructor in Machine Design: G. Sinclair Smith.
Instructor: John F. Bell.
Assistant in Workshop, Mechanical Engineering: C. H. Barker.
Assistant (Woodworker): S. Northrop.

Mechanical Engineering

1. *Mechanical Drawing.*—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 drawings from assembly drawings. Tracing and blueprinting.

Two three-hour periods per week.

2. (*a*) *Shop Work.*—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 machines and structural parts.

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.

Text-book: Colvin & Stanley, *American Machinists' Handbook*, McGraw-Hill.

One lecture per week.

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.

One three-hour period 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.

One three-hour period per week. (One term.)

2. (*b*) *Machine Shop Practice.*—A continuation of Mechanical Engineering 2.

Two three-hour periods per week First Term, and one three-hour period Second Term.

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.

Text-book: Durley, *Kinematics of Machines*, Wiley.

One two-hour period per week.

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.

Reference books: Low, *Applied Mechanics*. Dent & Harper, *Kinematics and Kinetics of Machinery*, Wiley.

Two lectures per week.

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.

Reference books: Spooner, *Machine Design, Construction and Drawing.* Dalby, *Valves and Valve Gears.*

Two lectures and one three-hour period per week.

6. *Elementary Thermodynamics.*—(*a*) 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 compressed air. Elementary theory and practical operation of producer gas plants.

Text-books: Ewing, *Thermodynamics,* Cambridge Press. Callendar, *Steam Power,* Longman's Green.

Reference books: Simmons, *Compressed Air.* Marks and Davis, *Steam Tables and Diagrams.* Gebhardt, *Steam Power Plant Engineering.* Kent, *Mechanical Engineer's Pocket Book.* Fernald & Orrok, *Engineering of Power Plants.*

Two lectures per week.

(*b*) *Laboratory.*—Testing of boilers, steam engines and internal combustion engines. Analysis and calorimetry of fuels.

One three-hour laboratory period per week.

7. *Thermodynamics.* — A more precise study of the performances 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 size, speed and ratio of expansion with variations of load. Compound and triple expansion engines. Use of steam tables in reference to calculations on saturated and

superheated steam. Flow of gases and vapours through orifices and nozzles.

Text-books: Ewing, *Thermodynamics,* Cambridge Press. Callendar, *Steam Power,* Longman's Green.

Reference book: Lucke, *Thermodynamics,* and as under Mechanical 6.

Three lectures and one three-hour laboratory per week.

8. *Thermodynamics.* — 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.

Text-book: Ewing, *Thermodynamics,* Cambridge Press.

Two lectures and one three-hour period per week.

9. *Thermodynamics.*—For Mechanical Engineering students only.

Text-book: *Thermodynamics,* Cambridge Press.

Two lectures and one six-hour laboratory per week.

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.

Text-book: Spooner, *Machine Design,* Longmans Green.

Two lectures and one five-hour laboratory per week for Mechanical Engineering, and two lectures and one three-hour laboratory for Electrical 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.

Reference book: Harding & Willard, *Mechanical Equipment of Buildings* (Vols. I and II).

One lecture per week.

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.

Reference books: Harding & Willard, *Mechanical Equipment of Buildings* (Vols. I and II). Fernald & Orrok, *Engineering of Power Plants.*

One lecture per week.

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.

Text-book: Colvin & Juthe, *The Working of Steel,* McGraw-Hill.

One lecture and one three-hour laboratory per week.

Electrical Engineering

1. *Theory and Operation of Electrical Machines.*—A practical course for students not specializing in Electrical or Mechanical Engineering. *Units:* Absolute electrostatic and electromagnetic, practical units, conversion factors.

Magnetic Circuit: Unit magnetic pole, field, intensity, induction; flux, magnetomotive force, reluctance, permeability, potential, B-H curves, hysteresis. *Electric Circuit:* Unit quantity, current and current density, electromotive force, Ohms Law, Joules Law, Kirchhoff's Laws, resistivity and specific resistance, conductivity and conductance; induction, self and mutual.

Direct Current Machines: The dynamo, motor and generator; Emf. equation; armature, simple lap and wave; excitation; characteristic curves of series, shunt, separately and com-

pound excited generators and motors; armature reaction; commutation; efficiency, rating and heating; types of motors suited to various classes of service; boosters; balancers for three wire systems; parallel operation of generators.

Alternating Current: The production of simple alternating electromotive forces and currents; wave form; form factor; frequency; maximum, average, and root-mean-square values; effect of induction and capacity on the properties of alternating current circuits; vector diagrams; measurement of power; power factor; polyphase circuits; Y and Delta connections.

Alternating Current Machines—Alternator: Emf. equation; armature winding; magneto-motive forces and fluxes; armature reaction; leakage reactance; regulation; efficiency. *Synchronous Motor:* Principle; vector diagram; output; power factor; synchronizing; hunting; parallel operation of alternators. *Transformer:* Constant potential; vector diagrams; leakage reactance; constant current; losses; efficiency; connections; phase transformation; auto and booster transformers. *Induction Motor:* Revolving field; slip; characteristics; circle diagram; variable speed; wound rotor induction motor; choice of type; starting. *Rotary Converters:* Description of operation.

Transmission of Electrical Energy: Comparison of cost of transmission with different number of phases; instrument transformers.

The above course is designed to introduce to the students the principal factors in electrical machinery; only enough theory being given to explain intelligently the operating characteristics of the apparatus studied.

Text-books: Gray, *Principles and Practice of Electrical Engineering,* McGraw-Hill. Maclean, *Electrical Laboratory Course for Junior Students,* Blackie & Sons.

Prerequisite: Physics 3.

Two lectures and one laboratory period of two hours per week.

2. *Elementary Electrical Engineering.—Units:* Absolute, electrostatic, electromagnetic and practical units.

Electromagnetism: Permeability; flux-density; magneto-motive force; magnetic reluctance; calculation of pull of electro-magnets; inductance, self and mutual.

Commercial Current and Voltage Measuring Instruments: Requirements of good measuring instruments, amperemeters and voltmeters; construction and moving-coil; hot-wire; electrostatic and induction-type measuring instruments.

Secondary Batteries: Theory; use and application.

Armature Winding: Theory of lap and wave windings; use of equalizing connections; characteristics of series, shunt and compound wound motors; characteristics of shunt and compound wound generators; commutation, and armature reaction in direct current machines.

Elementary Theory of Alternating Currents: The production of simple alternating electromotive forces and currents; wave form, frequency, crest and RMS valves; Cartesian and Polar diagrams; effect of self induction and capacity on the properties of alternating current circuits; measurement of power in A.C. circuits; polyphase circuits, balanced and unbalanced systems; star and mesh connections; vector treatment.

Elementary Theory of the Transformer. Automatic Reversible Battery Boosters. Testing of apparatus studied.

Wave Form Indicators: The Oscillograph, Joubert's contact, the Ondograph.

Insulation: Characteristics of various types, switches and fuses.

Illumination and Photometry: Arc Lamps, Incandescent Lamps, Street Illumination, etc.

Text-books: MacCall, *Electrical Engineering Continuous Currents,* University Tutorial Press Ltd. MacCall, *Electrical Engineering Alternating Currents,* University Tutorial Press Ltd. Smith, *Testing Dynamos and Motors,* Scientific Publishing

Co. Smith, *Practical Alternating Currents,* Scientific Publishing Co. Maclean, *Electrical Laboratory Course for Junior Students,* Blackie & Sons.

For Third Year Electrical and Mechanical students only.

Prerequisite: Physics 3.

Three lectures and one laboratory period of four hours per week.

3. *Electrical Engineering. — Direct Current Machines:* Separation of losses by various methods; back to back methods of testing efficiency; parallel operation; review of armature reaction and the compensating thereof; further study of commutation.

Alternating Current Machines: The Alternator; Induced Electromotive force, Armature winding, Magnetomotive forces and fluxes concerned in the operation of an Alternator, Armature Reaction, Armature leakage reactance, Armature effective Resistance, Regulation, Methods of predetermining Regulation and the vector diagrams thereof, Losses, Efficiency.

Static Transformers: Types of Transformers, The Ideal Transformer, True equivalent circuit of a Transformer, Approximate equivalent circuit of a transformer, Calculation of Magnetizing current and inphase current supplying Core losses, Calculation of leakage reactance, Solution of the vector diagram and Calculation of Regulation, Losses in a Transformer—Eddy Current Loss—Hysteresis Loss—Copper Loss, Calculation of Efficiency, Ratio Test, Polarity Test, Short Circuit Test. Calculation of Regulation from the short circuit Test, Regulation by loading, Sumpner efficiency Test, Separation of Hysteresis and Eddy Current loss Test, Current Transformer, Potential Transformer, Constant Current Transformer, Auto-Transformer, Induction Regulator, Parallel operation of Transformers, Transformer Connections, Phase Transformation.

Synchronous Motors: General characteristics, Power factor, V Curves, Methods of starting, Explanation of the operation of a Synchronous Motor, Hunting, Damping, Stability, Circle dia-

gram of the Synchronous Motor, Losses and Efficiency, Parallel operation of Alternators.

Synchronous Converters: Voltage Ratio and current relations, Armature heating and resistance and the effect thereof of change in power factor.

Polyphase Induction Motors: Revolving field, slip, Transformer properties of an Induction Motor, True and approximate equivalent circuit of an induction motor, Load equivalent to a non inductive resistance, Circle diagram, Characteristic Curves, Methods of starting Induction Motors, Speed Control.

Transmission of Electrical Energy: A brief treatment dealing with the economy of conducting material for different number of phases.

Text-books: Smith, *Practical Alternating Currents,* Scientific Publishing Co. Lawrence, *Principles of Alternating Current Machinery,* McGraw-Hill.

For Fourth Year Mechanical students only.

Prerequisite: Electrical 2.

Two lectures and one laboratory period of three hours per week.

4. *Electrical Machinery. Theory of the Transformer. Core and Shell types. Vector diagrams.* Magnetizing current, Regulation, Current Rush on suddenly switching on. Systems of Connection. Methods of Cooling. Testing.

The Alternator. Salient and non-salient pole types. Alternator windings. EMF equation. Breadth factor, Form Factor, Coil-span Factor. Method of obtaining pure sine wave form. Regulation. Calculation of Regulation. Synchronous Impedance. Short Circuit Currents. Steady and Transient Method of Calculating excitation on loads of various power factors. Synchronizing of alternators. Synchroscopes. Parallel Operation of Alternators.

The Synchronous Motor. Single and Polyphase Types. Vector diagram. Variation of power factor with excitation. Calculation of excitation necessary for power factor improve-

ment. Damping windings. Hunting and its cure. Methods of Starting.

The Induction Motor. Windings. Production of Rotating field circle diagram. Slip, torque and other characteristics. Squirrel Cage and Slip Ring Types. Effect of rotor resistance. Torque slip curves. Starting methods of Squirrel cage machines. Calculation of steps of starting resistances for wound rotor machines. Crawling of Induction motors. Leakage fluxes in Iuduction motors. Pole changing. Cascade Connection and its characteristics. Speed Control by rotor resistance, by change of frequency, by use of AC commutating motors. Hunt Cascade motor.

Efficiency Tests. Stroboseopic method of slip measurement. Single Phase Induction Motor Theory.

The Rotary Converter. EMF and current relations. Heating of Rotaries. Methods of Changing voltage ratios. Starting and Synchronizing.

The Three Phase Commutator Motor. Shunt and Series Types. Vector diagrams and characteristics.

Text-books: Miles Walker, *Specification and Design of Electrical Machinery,* Longmans, Green & Co. Lawrence, *Alternating Currents,* McGraw-Hill. Steinmetz, *Theory and Calculation of Electric Apparatus,* McGraw-Hill. H. Vickers, *The Induction Motor,* Sir Isaac Pitman & Sons.

Three lectures and one laboratory period of six hours per week.

5. *Electric Traction.*—Electric Railways: advantages and disadvantages of various systems. Low tension DC and high tension DC. High tension systems. Speed-time curves and their estimation. Estimation of power required for electric trains. Train Resistance. Series Traction Motors DC and AC and their complete theory and characteristics. Control and Control Systems. Equipment and Rolling Stock. Regenerative Braking. Overhead construction and rail construction. Feeder systems and their design. Sub-station Equipment.

Text-books: A. T. Dover, *Electric Traction,* Sir Isaac Pitman & Sons. F. W. Carter, *Electric Traction,* Chapman & Hall.

One lecture per week.

6. *Electric Power Plants and Transmission Lines.* — Comparison of amounts of Copper for Various Systems. Choice of Site and type of machinery. Load Factor and diversity factor. Inductance and Capacity Calculations. Voltage drops on Single Phase and Three phase lines. Charging currents. Voltage rises on AC systems. Automatic Protective Switch-gear. Lightning Anesters. Kelvin's Law. Design of Feeders. Voltage drops in feeders and cables. Cnductors and distributing networks: loss of potential in networks. Voltage control. Tirrill Regulator. Economics of hydro-electric development. Design of E.H.T. feeders. Suspension Type Insulators and other types. Mechanical design of line and towers.

Corona. Losses due to Corona. Laws of Corona. Voltage and Power Factor Control of Transmission lines.

Text-book: Still, *Overhead Power Transmission,* McGraw-Hill.

One lecture per week.

7. *Electrical Design.*—Design of DC generators and motors. Induction motors. Salient and non-salient Pole Alternators. Rotary Converters. Transformers.

Text-books: Miles Walker, *Specification and Design of Electrical Machinery,* Longmans, Green & Co. H. Vickers, *The Induction Motor,* Sir Isaac Pitman & Sons. Whittaker, *The Rotary Converter,* Benn Bros.

One lecture per week.

8. *Radio, Telegraphy and Telephony.* — Open and closed oscillators. Resonance. Coupled Circuits. Forced and free vibrations. Waves on coils and wires.

Antennae and Earth Connections. Propagation of waves over the earth's surface.

Generation of Oscillations. Spark. Arc. High-frequency Alternator. Frequency Changers and Ionic Valves.

Methods of Detection. Valve Circuits, beat reception, relaying, amplifying, with special attention to work on Ionic Valves.

Wireless Telephony. Mecrophones: Various Types. Transmitting Circuits. Receiving Circuits. Tuning.

Direction Finding. Latest work on above. Interference and its prevention. Short Wave Work with Beam Systems.

Text-book: Eccles, *Continuous Wave Telegraphy and Telephony.*

One lecture per week.

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. *Metal Mining.*—An introductory course in metal mining, covering the following subjects:

Ores and economic minerals; economic basis of mining; ordinary prospecting; mineral belts; conditions in British Columbia; preliminary development of mines; timbering and framing; tunnelling; shaft sinking; transportation and haulage; drainage; ventilation.

Two lectures per week. Mr. Turnbull.

2. *Coal and Placer Mining.*—A general course in coal and placer mining, covering the following subjects:

(*a*) Classification of coals; prospecting; mine development; mining methods; ventilation; transportation and haulage; drainage; tipples; coal mines acts and laws.

(*b*) Gravel deposits; nature and origin of paystreaks; prospecting; examination and testing of deposits; ordinary mining methods; hydraulic and dredging methods; plant and equipment; placer mines acts and laws.

Two lectures per week. Mr. Turnbull.

3. *Metal Mining.* — An advanced course in metal mining, covering the following subjects:

Scientific prospecting; development work in mines; mining methods; blasting and explosives; examination of mines and prospects; methods of ore sampling; mine valuation; accounting and costs, administration; welfare and safety work; mining laws and contracts; economics; ethics.

Prerequisite: Mining 1.

Two lectures per week. Mr. Turnbull.

4. *Mining Machinery.*—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.

Prerequisites: Mining 1; Mechanical Engineering 3, 6; Civil Engineering 3 and 10.

Two lectures per week. Mr. Gillies.

5. *Mine Surveying.*—A practical course covering the work of the surveyor and staff in metal mines:

Methods and practice in mine surveying; geological work underground; maps, plans and models; notes and records.

Prerequisites: Civil Engineering 2 and 6.

One lecture per week. First Term. Mr. Turnbull.

6. *Mining Design.*—A laboratory draughting 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.

One three-hour period per week. Mr. Gillies.

7. *Mining Methods.*—A special course covering the mining of large ore bodies by special mining methods.

Prerequisite: Mining 1.

Concurrent Courses: Mining 2, 3 and 4.

One lecture per week. Second Term. Mr. Turnbull.

Metallurgy

1. *General Metallurgy.*—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. Electrometallurgy. Slags. Matte. Bullion. Refractory materials. Fuels. Combustion. Furnaces.

Text-book: Fulton, *Principles of Metallurgy,* McGraw-Hill.

Reference books: Hofman, *General Metallurgy.* Current Mining and Metallurgical Journals. Trade Catalogues.

Prerequisites: Chemistry 1 and Physics 1 and 2.

Two lectures per week. Mr. Thomson.

2. *Smelting and Leaching.*—A general course covering principles and practice of Pyrometallurgy and Hydrometallurgy as applied to gold, silver, copper, iron, lead and zinc.

Prerequisite: Metallurgy 1.

Two lectures per week. Mr. Thomson.

3. *Metallurgical Calculations.*—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.

Reference book: Richards, *Metallurgical Calculations.*

Prerequisites: Metallurgy 1, Chemistry 1.

Two hours per week. Mr. Thomson.

4. *Metallurgical Analysis.*—Advanced 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.

Prerequisites: Metallurgy 1, Metallurgy 6.

Six hours laboratory per week, First Term. Twelve hours laboratory per week, Second Term. Mr. Thomson.

5. *Fire Assaying.*—Quantitative determination of gold, silver, and other metals by fire-assay methods, with underlying principles.

Text-book: Fulton, *Manual of Fire Assaying,* McGraw-Hill.

One lecture and one five-hour laboratory period per week. First Term. Mr. Thomson.

6. *Wet Assaying.*—An introductory course in metallurgical analysis of ores and concentrates.

Most of the time will be given to the technical determination of zinc, copper and lead.

One three-hour laboratory period per week. Mr. Thomson.

Ore Dressing

1. *Ore Dressing.*—A general course covering the concentration of ores by mechanical means.

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.

Text-books: Richards, *Text-book of Ore Dressing,* McGraw-Hill. F. Taggart, *A Manual of Flotation Processes,* Wiley.

Two lectures per week. Mr. Gillies.

2. *Ore Dressing Laboratory.*—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.

Prerequisite: Ore Dressing 1.

Nine hours laboratory per week. Mr. Gillies.

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

Professor: T. C. Hebb.
Associate Professor: A. E. Hennings.
Associate Professor: J. G. Davidson.
Assistant: Cyril Jones.

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. Opportunity will be given to acquire experience with all the principal instruments used in exact physical and practical measurements.

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.

Text-books: Loney, *Mechanics and Hydrostatics,* Cambridge University Press. Millikan, *Mechanics, Molecular Physics and Heat,* Ginn.

Three lectures and one three-hour laboratory period per week.

2. *Advanced Heat.*—This course is begun when Mechanics 1 is finished, and the six 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,* Macmillan. Millikan, *Mechanics, Molecular Physics and Heat,* Ginn.

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.

Text-books: Millikan and Mills, *Electricity, Sound and Light* (first part), Ginn. Smith, *Electrical Measurements,* McGraw-Hill.

Two lectures and one three-hour laboratory period per week.

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.

Prerequisite: Mechanics 1.

Text-book: Poorman, *Applied Mechanics,* McGraw-Hill.

Two lectures per week.

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.

9. *Recent Advances in Physics.*—A course of lectures dealing with the electrical properties of gases, the electron theory, and radioactivity.

Prerequisites: Physics 3 and 4, and Mathematics 10.

Reference books: Thomson, *Conductivity of Electricity Through Gases.* Rutherford, *Radio-active Substances and Their Radiations.* Millikan, *Electron.* Thomson, *Positive Rays.* Hughes, *Photo-electricity,* and Kaye, *X-Rays.*

Department of Nursing and Health

Professor: Hibbert Winslow Hill.
Assistant Professor: Ethel I. Johns.
Lecturer, Preventive Medicine: Alison Cumming.
Lecturer, Preventive Medicine: Lyall Hodgins.

Subjects of Nursing A
(Five-year Undergraduate Course)

1. *Introduction to Nursing.*—A series of lectures dealing with the nature of hospital service and discipline, designed to prepare students for entrance to the School of Nursing. No formal credit is given for this course, but attendance is compulsory.

One hour per week throughout the First Year. Miss Johns.

2. *History of Nursing.*—A series of lectures dealing with the history and origin of Nursing. No formal credit is given for this course, but attendance is compulsory.

One hour per week throughout the Second Year.

Miss Johns.

Third and Fourth Year Subjects

Instruction in the following Nursing subjects is given by members of the medical staff of the hospital and by qualified nurse instructors: Introductory Ethics of Nursing, Practical Nursing Procedure, Elementary Nutrition and Cookery, Drugs and Solutions, Materia Medica, Surgical Nursing, Medical Nursing (including charting), Gynecological Nursing, Nursing of Communicable Diseases, Obstetrical Nursing, Diet in Disease, Pediatric Nursing and Infant Feeding; Nursing in Diseases of the Eye, Ear, Nose and Throat; Nursing in Tuberculosis, Urinalysis; Introduction to Anaesthesia; Introduction to Physiotherapy and X-Ray. This schedule is open to change at any time.

The period of hospital service includes actual nursing experience in the following departments:

Medical.	Operating Room.
Surgical.	Eye, Ear, Nose and Throat.
Gynecological.	Obstetrical.
Pediatric and Orthopaedic.	Infectious.
Observation and Neurological.	Tuberculosis.
Infants.	Diet Kitchen.

Subjects of Nursing B (One Year Graduate Course)

1. *Public Health Nursing* (Urban).—A study of the principles and practice of public health nursing in urban communities.

One hour per week. First Term.

2. *Public Health Nursing* (Rural).—A study of the principles and practice of public health nursing in rural communities.

One hour per week. First Term.

3. *School Nursing.*—A series of lectures given by members of the staff of the Medical Department of the Vancouver School Board dealing with the specific problems of this division of Public Health.

One hour per week. First Term.

4. *Preventive Medicine.*—(*a*) Sanitation and Hygiene. A series of lectures dealing with the sanitation of food, water, milk, disposal of waste, housing, ventilation, heating, etc.

One hour per week. First Term.

(*b*) Communicable Diseases. A series of lectures dealing with the principles of communicable diseases, their origin, spread and prevention. Opportunities are given for studying in detail the prevalent infectious diseases.

One hour per week. First Term.

5. *History of Nursing and Contemporary Nursing Problems.*—A study of the origin and history of nursing, followed by the consideration of recent developments in the nursing field.

One hour per week. First Term. Miss Johns.

6. *Economics and Social Legislation.*—(*a*) An introduction to the study of economic problems as they affect health, including immigration and unemployment.

Dr. Boggs and Mr. Beckett.

(*b*) A study of the health and social legislation of British Columbia.

Dr. Henry Esson Young, Provincial Officer of Health; Dr. F. T. Underhill, Medical Officer of Health, Vancouver, and other lecturers.

One hour per week. First Term.

7. *Mental Hygiene.*—An introduction, with clinical demonstration, to the study of mental illness, its cure and prevention.

One hour per week. First Term.

8. *Infant Welfare.*—A series of lectures and clinics dealing with the disorders of infancy, their prevention and cure.

One hour per week. First Term. Clinics as arranged.

9. *Tuberculosis.*—A study of tuberculosis from the preventive standpoint.

One hour per week. First Term.

10. *Crippled and Deformed Children.*—A series of lectures dealing with the problem of children handicapped by deformities.

One hour per week for six weeks during the First Term.

11. *Nutrition.*—This course deals with the consideration of food values and costs and the application of this knowledge to the nutrition of family groups.

One hour per week. First Term.

12. *Practical Sociology.*—A series of twelve lectures given by the directing officers of various agencies engaged in social work in the Province of British Columbia, planned to give students such information as will enable them to realize their functions and scope with a view to future co-operation.

One hour per week. First Term.

13. *Psychology.*—A series of twelve lectures in Elementary Psychology and Principles of Teaching.

One hour per week. First Term. Dr. Weir.

14. *Teaching of Nursing Principles and Methods.*—A series of twelve lectures dealing with modern methods of instruction in Elementary Hygiene and Nursing Procedure.

One hour per week. First Term. Miss Johns.

Observation and practice as arranged.

15. *Motor Mechanics.*—Practical instruction in the structure and operation of automobiles, including practice driving.

One hour per week. First Term.

Arranged by the Department of Mechanical Engineering.

FIELD WORK

Through the courtesy and co-operation of the following agencies, arrangements have been made for practical field experience for Fifth Year students of Nursing A course who have chosen the public health option and for students in Nursing B:

The Victorian Order of Nurses.

The Medical Department of the Vancouver Public Schools.

The Rotary Clinic for Diseases of the Chest.

The Department of Child Hygiene, City of Vancouver.

The Rural Health Centres of the Provincial Department of Health.

The Social Service Department of the Vancouver General Hospital.

A bulletin of rules and regulations concerning field work, and other information, may be obtained on application to the Department.

Department of Zoology

Professor: C. McLean Fraser.
Assistant Professor: G. J. Spencer.
Assistant: George Van Wilby.

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.

Text-books: T. J. Parker and W. A. Haswell, *Manual of Zoology,* Macmillan (American Edition, 1916).

Two lectures and two hours laboratory per week.

7 (in part). The portion of the course in Economic Entomology that deals with forest insects.

One lecture and two hours' laboratory work per week for half of Second Term.

THE FACULTY OF AGRICULTURE

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.

(Not offered in 1925-26.)

Graduate Work

For general regulations, see page 227.

Examinations and Advancement

1. Examinations in all subjects and obligatory for all students are held in December and in April. Applications for special consideration on account of illness or domestic affliction must be submitted to the Dean not later than two days after the close of the examination period.

2. In the First and Second Years candidates will not be considered as having passed unless they obtain at least 40 per cent. on each subject and 50 per cent. on the aggregate. In the Third and Fourth Years candidates must obtain at least 50 per cent. on each subject.

3. Successful candidates will be graded as follows: First Class, an average of 80 per cent. or over; Second Class, 65 to 80 per cent.; Passed, 50 to 65 per cent.

4. If a student's general standing in the final examinations of any year is sufficiently high, the Faculty may grant him supplemental examinations in the subject or subjects in which he has failed. Notice will be sent to all students to whom such examinations have been granted.

5. Supplemental examinations will be held in September and will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $7.50 per paper.

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.

7. No student may enter a higher year with supplemental examinations still outstanding in respect of more than 3 units of the preceding year, nor with any supplemental examination outstanding in respect of the work of an earlier year or of Matriculation unless special permission to do so is granted by Faculty. Such permission will be granted only when Faculty is satisfied that the failure to remove the outstanding supplemental examinations had an adequate cause.

8. A student may not continue in a later year any subject in which he has a supplemental examination outstanding from an earlier year, except in the case of compulsory subjects in the Second Year.

9. A student who is not allowed to proceed to a higher year may not register as a partial student in respect of the subjects of that higher year. But a student who is required to repeat his year may, *on application in writing,* be exempted by the Faculty from attending lectures and passing examinations in subjects in which he has already made at least Second Class standing. In this case he may take, in addition to the subjects of the year which he is repeating, certain subjects of the following year.

10. A student who fails twice in the work of the same year may, upon the recommendation of the Faculty, be required by the Senate to withdraw from the University.

11. Any student whose academic record, as determined by the tests and examinations of the first term of the First or Second Year, 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. Such a student will not be readmitted to the University as long as any supplemental examinations are outstanding.

12. 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.

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

	Units
Agronomy 1 and 2	3
Animal Husbandry 1 and 4	3
Biology 1	3
Chemistry 1	3
English 1	3
The first course in a language offered for Matriculation	3
Total required	18

SECOND YEAR

	Units
Poultry Husbandry 1	1½
Horticulture 1	1½
Dairying 1	1½
Botany 1	3
Zoology 1	3
English 2	3
Bacteriology 1	2
Chemistry 2	3
Total required	18½

THIRD AND FOURTH YEARS

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.

A thesis shall be prepared by each student on some topic, the subject of which shall be selected, with the approval of the Head of the Department in which the student is majoring, before the end of the Third Year's work.

Two typewritten copies of each thesis on standard-sized paper (8½ in. by 11 in.) shall be submitted on or before the 1st of April in the graduating year.

Agricultural students are required to take a total of 35 units, thesis included, in their Third and Fourth Years.

THIRD YEAR

(Required subjects)

	Units
Economics 1	3
Chemistry (Special Course)	3
Principles of Heredity—Biology 2	1
Total required	7

FOURTH YEAR

(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
Plant Physiology—Botany 3	2
Systematic Entomology—Zoology 4	2
Economic Entomology—Zoology 7	2
*Total	13

FOURTH YEAR

	Units
Required subjects, as above	4½
Animal Husbandry 9	1½
*Total	6

* Students are required, with the advice and consent of the Head of the Department, to elect up to a total of from 15 to 18 units.

Animal Husbandry Major

THIRD YEAR

	Units
Required subjects, as above	7
Animal Husbandry 2	1½
Animal Husbandry 3	1
*Total	9½

FOURTH YEAR

	Units
Required subjects, as above	4½
Agronomy 7	1½
*Total	6

Dairying Major

THIRD YEAR

	Units
Required subjects, as above	7
Dairying 3	2
*Total	9

FOURTH YEAR

	Units
Required subjects, as above	4½
Civil Engineering (Special)	1
Plant Physiology—Botany 3	2
Dairy Chemistry	2
*Total	9½

*** Students are required, with the advice and consent of the Head of the Department, to elect up to a total of from 15 to 18 units.**

Horticulture Major

THIRD YEAR

	Units
Required subjects, as above	7
Plant Physiology—Botany 3	2
Systematic Entomology—Zoology 4	2
Economic Entomology—Zoology 7	2
*Total	13

FOURTH YEAR

	Units
Required subjects, as above	4½
Plant Pathology—Botany 6 (*a*)	1
*Total	5½

Poultry Husbandry Major

THIRD YEAR

	Units
Required subjects, as above	7
Embryology—Zoology 6	2
*Total	9

FOURTH YEAR

	Units
Required subjects, as above	4½
Poultry Husbandry	4
*Total	8½

*** Students are required, with the advice and consent of the Head of the Department, to elect up to a total of from 15 to 18 units.**

COURSES IN AGRICULTURE

Department of Agronomy

Professor: P. A. Boving.
Associate Professor: G. G. Moe.
Assistant Professor: D. G. Laird.
Assistant: G. B. Boving.

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 per week. 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 per week. Second Term, First 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 per week. 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 per week. 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 per week. First Term, Third 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 per week. 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 one laboratory per week. 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 per week. 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 per week. Second Term, Fourth Year. 1 unit.

10. *Thesis.* 3 units.

11. *Crop Adaptation and Distribution (Crop Ecology).*— 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 per week. Second 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

Professor: H. M. King.
Assistant Professor: R. L. Davis.
Assistant Professor: 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, swine and goats.

Texts: Plumb, *Judging Farm Animals.* Vaughan, *Types and Market Classes of Live Stock.*

Three laboratories per week. First 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. Students are required to make several trips to leading herds in the Province.

Text: Plumb, *Types and Breeds of Farm Animals.*

Prerequisites: Animal Husbandry 1 and 4.

Three laboratories per week. First Term, Third Year.

1½ units.

3. *Breeds of Horses, Sheep, Swine and Goats.*—A study of the origin, history of development, characteristics, and adaptations of the breeds of horses, sheep, swine and goats.

Text: Plumb, *Types and Breeds of Farm Animals.*

Prerequisites: Animal Husbandry 1 and 4.

Two laboratories per week. Second Term, Third Year.

1 unit.

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. Second Term, First 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. Special work in the fitting and handling of live stock is presented. Students are required to make several trips to leading herds in the Province.

Prerequisites: Animal Husbandry 2 and 3.

Three laboratories per week. First Term, Fourth Year.
1½ units.

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 lectures 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 lectures and one laboratory 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 lectures per week. Second Term, Fourth Year. 1½ units.

(Not offered in 1925-26.)

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.

(Not offered in 1925-26.)

11. *Thesis.* 3 units.

12. *Live-stock Practice and Seminar.*—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.

A seminar of one hour per week for the special study of current problems and literature is held. 1½ units.

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.* Sampson, *Farm and Range Management.*

Prerequisite: Animal Husbandry 12.

Two lectures and one laboratory per week. Second Term, Fourth Year. 1½ units.

14. *Veterinary Science.* — A study of the common diseases of horses, cattle, sheep, swine and goats; their causes, prevention, and treatment.

Prerequisites: Animal Husbandry 1 and 4.

Three lectures per week. First Term, Third Year. 1½ units.

(Not offered in 1925-26.)

Department of Dairying

Professor: Wilfrid Sadler.
Associate Professor: N. S. Golding.
Assistant: .....

1. *Elementary Dairying.*—An elementary course of lectures on milk, cream, and the principles and practices of butter-making. Leboratory work in cream-raising, separators, preparation of cream for butter-making, butter-making on the farm, preparation of Devonshire clotted cream.

Two lectures and one 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 two laboratories per week for one term. 1½ units.

(Not offered in 1925-26.)

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 two laboratories 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 two laboratories per week. First 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 two laboratories 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 two laboratories per week. 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 two laboratories 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 per week. First Term, Fourth Year. ½ unit.

(Open to Third Year students in 1925-26.)

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 per week. Second Term, Fourth Year. 1 unit.

(Not offered in 1925-26.)

10. *The Judging and Grading of Milk and Milk Products.*— Offered to students of the Senior Year. 1½ units.

(Open to Third Year students in 1925-26.)

11. *Thesis.* 3 units.

Department of Horticulture

Professor: F. M. Clement.
Associate Professor: A. F. Barss.
Assistant Professor: F. E. Buck.
Assistant: .....

1. *Principles of Horticulture.* — A study of the principles involved in the selection, propagation, planting, and general care of the more important fruits, vegetables, flowers and ornamental trees and shrubs, with sufficient practice to enable a student to care for the home plantings.

Two lectures and one laboratory per week. Second Term, Second Year. 1½ units.

This course is designed to meet the needs of all students in Agriculture, giving them a general knowledge of Horticultural Crops. At the same time the work is fundamental for students who are planning to take further courses in Horticulture.

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 per week. Second Term, Second Year. 1 unit.

(Required of Second Year students in 1925-26.)

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 per 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 per week. Second 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 per week. First Term, Fourth Year. 1½ units.

(Not offered in 1925-26.)

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 and two laboratories per week. First Term, Fourth Year. 1½ units.

(Open to Third Year students in 1925-26.)

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 per week. Second Term, Fourth Year. 1½ units.

(Not offered in 1925-26.)

8. *Special Horticulture.*—A course for the study of special branches of Commercial Horticulture, including the manufacture of horticultural products, such as canned fruits, dried products, jams, jellies, and fruit juices.

Two lectures per week. Second Term, Fourth Year. 1 unit.

(Open to Third Year students in 1925-26.)

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 per week. First Term, Fourth Year. 1½ units.

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 per week. First Term, Fourth Year. 1½ units.

11. *Thesis.* 3 units.

Department of Poultry Husbandry

Professor: E. A. Lloyd.
Assistant Professor: V. S. Asmundson.
Assistant: .....

1. *General.*—Fundamentals of poultry-keeping, including breeds, breeding, judging, selection, culling, feeds, feeding, incubation, brooding, poultry-house construction, killing, egg-grading, marketing, sanitation and hygiene, diseases, general management.

The regular laboratory exercises are supplemented by practice work in the feeding and care of poultry flocks.

Two lectures and one laboratory per week. First Term, Second Year. 1½ units.

2. *Markets and Marketing.*—Marketing conditions for poultry products in British Columbia. The relation of the home market to outside markets. Canadian Egg Marketing Regulations. Provincial Egg Acts and Regulations. Egg-grading, care, packing, storing, selling. Fattening poultry for market; killing, packing, storing, selling. Production and sale of high-class breeding stock for local demand and export trade. Advertising. Principles and practice of marketing, private and co-operative. Study of prices.

One lecture and two laboratories per week. First Term, Third Year. 1½ units.

3. *Incubation and Brooding.*—Selection and care of hatching eggs. Shipping hatching eggs. Natural incubation. Artificial incubation. Types of incubators. Natural brooding. Artificial brooding. Rearing, including systems of management, housing, feeding and training chicks. Brooding equipment. Practice in operating incubators and brooders.

Prerequisite: Poultry Husbandry 1.

One lecture and two laboratories and practice per week. Second Term, Third Year. 1½ units.

4. *Breeds and Breeding.*—The breeds of poultry; their history, origin and economic qualities. The principles of breeding as applied to Poultry Husbandry. Breeding records.

Prerequisite: Poultry Husbandry 1 and Biology 2.

Two lectures and one laboratory per week. Second Term, Third Year. 1½ units.

4. (*a*) *Advanced Breeding* (formerly included in Poultry 6, as part of Advanced Poultry Husbandry).—Breeding for egg and meat production. Statistical study of production records.

Prerequisite: Poultry Husbandry 4.

One lecture and one laboratory per week. Second Term, Fourth Year. 1 unit.

5. *Poultry Management.*—Types of poultry farms and their respective problems. Farm layouts. Economy of investment of capital in land, buildings, stock and equipment. Efficiency in breeds, maintenance, labor, housing, feeding, production and personnel. Marketing. Farm income, labor income and profit as based on University survey. Studies of individual farms for criticism.

One lecture and two laboratories per week. First Term, Fourth Year. 1½ units.

5. (*a*) *Advanced Farm Management* (formerly included in Poultry 6, as part of Advanced Poultry Husbandry).—Continuation of Poultry 5, with more detailed study of surveys and cost account records to determine labor income and profits. Inventory valuations. Special study of disease problems. Estimates on cost of developing poultry farms. Efficiency factors. Costs of production.

One lecture and one laboratory per week. Second Term, Fourth Year. 1 unit.

6. *Diseases, Housing and Hygiene* (formerly included in Poultry Husbandry 6, as part of Advanced Poultry Husbandry).—Common ailments of poultry and their treatment. Parasites. Infectious and contagious diseases of poultry and chicks, turkeys, geese and ducks. Autopsies. Dissection. Poultry-house construction, building sites, types, costs and uses. Yarding. Sanitation and hygiene.

Two lectures and one laboratory per week. Second Term, Fourth Year. 1½ units.

7. *Feeds and Feeding.*—A study of the digestive processes of poultry. Nutritional requirements of poultry. The various feedstuffs, their composition and value. The compounding of rations. Experimental data. Problems.

Two lectures per week. First Term, Fourth Year. 1 unit.

7. (*a*) *Feeding Management* (formerly included in Poultry 6, as part of Advanced Poultry Husbandry).—Feeding growing stock, laying hens, breeding males and females, turkeys, ducks and geese. Use of lights. Practice in routine management.

One lecture and one laboratory and practice per week. Second Term, Fourth Year. 1 unit.

8. *Seminar* (formerly Poultry Literature).—Poultry literature. Reports on current events. Research and experimental problems. Preparation of reports and bulletins. Export trade. Advertising and other economic propaganda.

One lecture per week. Three hours practice per week. Second Term, Fourth Year. 1 unit.

9. *Judging and Selection.*—Judging according to standard. Changes induced by egg production. Characteristics of layers. Selection for egg production. Selection for meat production.

Two laboratories per week. First Term, Fourth Year. 1 unit.

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.

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.

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.

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 graduate of another university applying for permission to enter as a graduate student is required to submit with his application an official statement of his graduation together with a certificate of the standing gained in the several subjects of his course. The Faculty concerned 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. Candidates for the M.S.A. degree may select their minor subject in another Faculty.

5. (*a.*) A thesis must be prepared on some approved topic in the major subject.

(*b.*) Examinations, written or oral, or both, shall be required.

6. 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.")

7. Application for admission as a graduate student shall be made to the Registrar by October 15th. For fees see Page 40.

LIST OF STUDENTS IN ATTENDANCE, SESSION 1924-25

FACULTY OF ARTS AND SCIENCE

FIRST YEAR

Full Undergraduates

Name.	*Home Address.*
Abrams, Edith M.	New Westminster
Abrams, Elsie A.	New Westminster
Adams, Charles	Vancouver
Adams, Frank O.	Vancouver
Aitken, Catherine A.	Vancouver
Alderson, Annie E.	Jubilee
Allan, Donald S.	Vancouver
Allan, D. Kathleen	Vancouver
Allardyce, V. Fraser	Vancouver
Allen, Doris C.	Vancouver
Almond, Irene	Vancouver
Alsbury, William	New Westminster
Anderson, George C.	New Westminster
Andresen, Sigurd	Vancouver
Armour, Arlie M.	New Westminster
Arnold, Irene M.	Woodfibre
Arnold, Sydney	North Vancouver
Atkinson, Adelaide M.	Rossland
Atkinson, Herbert S.	Rossland
Attenborough, Mary A.	Aldergrove
Aune, Ornulf	New Westminster
Baillie, Ruth A.	Vancouver
Baird, Kathleen P.	Vancouver
Baker, John A.	Eburne
Ballentine, C. Gordon	Vancouver
Bamber, Irene	Vancouver
Barker, Ruth E.	Vancouver
Barnett, Thomas P.	Vancouver
Baron, R. Denis	Vancouver
Barton, George G.	Vancouver
Barton, Mary K.	Vancouver
Beach, Donald W.	New Westminster
Beall, Charlotte R.	Vancouver
Beasley, M. Jean	Courtenay
Beattie, Arthur H.	Vancouver
Bebb, Elon	Fernie
Bell, Florence A.	Vancouver
Belovich, Anna H.	Vancouver
Benedict, Donald W.	Abbotsford
Bergquist, A. Rubert	Vancouver
Berry, Ethel	Vancouver
Berto, Tom V.	Vancouver
Bettes, Florence V.	Vancouver
Bishop, Joseph W.	Vancouver
Black, George A.	New Westminster
Blair, George A.	Vancouver

Name.	*Home Address.*
Bowering, Violet	Vancouver
Bowes, Howard E.	Vancouver
Bradley, Eva M.	Port Moody
Bradley, L. Ellen	Vancouver
Bramwell, C. Hector	Vancouver
Brennan, W. Earle	Vancouver
Bride, William W.	Vancouver
Bridgman, Edward O.	North Vancouver
Britton, Florence G.	Merritt
Brooks, W. Robert T.	New Westminster
Brown, Clifford McG.	Vancouver
Brown, H. Leslie	Vancouver
Brown, Hugh	Vancouver
Brown, Mona	Vancouver
Brown, Robert C.	North Vancouver
Brown, William MacB.	Vancouver
Bryson, Lawrence E.	New Westminster
Buckley, Constance V.	Point Grey
Buckley, Laurence M.	Vancouver
Bulger, Russell J.	Prince Rupert
Bull, Ernest B.	Vancouver
Burbridge, James P.	Theodore, Sask.
Burd, Doris	Vancouver
Burgess, Thomas E.	Vancouver
Burke, Kathleen J.	McKay
Burns, Sarah	Grantham's Landing
Burton, Helen J. M.	Vancouver
Butler, Francis A.	New Westminster
Cadwallader, Eva R.	New Westminster
Cairns, Jean McC.	North Vancouver
Caldicott, Judith H.	Vancouver
Cameron, Eugene F.	Vancouver
Camerson, Frances W.	New Westminster
Campbell, Annie J.	Vancouver
Campbell, Jean A.	Vancouver
Campbell, R. Kenneth	Grand Fords
Carruthers, E. Johnston	Steveston
Carter, Elizabeth B.	Vancouver
Cashato, Olivia	Revelstoke
Casselman, Ralph	Vancouver
Catterall, Alice M.	Vancouver
Chamberlain, Douglas G.	Vancouver
Chappell, Jack G.	Vancouver
Chilton, Eleanor G.	Hollyburn
Clark, James F.	Grand Forks
Clarke, Doris E.	Vancouver
Clarke, Sidney V.	Vancouver
Coburn, Hazel I.	Vancouver
Coles, Ruth M.	Merritt
Collinson, Alfred W.	Vancouver
Colquette, C. Bruce	Vancouver
Conklin, James S. A.	Vancouver
Copeland, Elizabeth E.	New Westminster
Corlette, Anita M.	Vancouver

Name.	*Home Address.*
Cornwall, George L.	Vancouver
Cornwall, May V. A.	Vancouver
Costain, Madge	Vancouver
Coursier, Isabel P.	Revelstoke
Craig, L. Margaret	Vancouver
Creelman, Katherine	Vancouver
Creer, K. Joan	Vancouver
Crosby, Geoffrey P.	Vancouver
Crossland, Marion	Vancouver
Crowder, Amy N.	Vancouver
Crozier, Mary A.	Vancouver
Cummings, Elgin McC.	Vancouver
Cunliffe, Florence E. A.	West Summerland
Cunningham, J. Alvin	Steveston
Cupit, Frank L.	Vancouver
Currie, John H.	Vancouver
Curtis, Helen L.	Vancouver
Cuthbertson, Robert T.	Vancouver
Dale, Claude C.	Vancouver
Dalton, V. John	North Vancouver
Darling, David A.	Vancouver
Davidson, George F.	Vancouver
Davidson, Richard S.	Vancouver
Dawson, A. Doreen	Vancouver
Dawson, Lorne	Trail
Day, Gertrude W.	West Burnaby
DeCew, Dorothy M.	Vancouver
Deeks, Dorothy I.	Vancouver
Delbridge, Clayton B.	Vancouver
Demmery, Annie C.	Vancouver
Desrosiers, M. Eveline	Vancouver
Dewar, D. James	Vancouver
Dhami, Sadhu Singh	Dominion Mills
Dignan, Marian M.	Port Moody
Dimmick, Fred W.	New Westminster
Doberer, Donald	Calgary, Alta.
Dobson, Frank W.	Vancouver
Dobson, Mary I.	Vancouver
Donaldson, Clarence H.	Grand Forks
Donley, Wilfred G.	New Westminster
Douglas, Ellen I.	New Westminster
Dow, Ada E.	Vancouver
Dow, Lillian M.	Vancouver
Duckering, Charles E.	Vancouver
Duffell, Stanley	Vancouver
Dunmore, Florence I.	Vancouver
Dunn, James W.	Vancouver
Duthie, Thelma G.	Vancouver
Dynes, Alice E.	New Westminster
Eagleson, Charlotte E.	Vancouver
Eaton, G. Howard	Vancouver
Eckert, Kenneth	Agassiz
Egdecombe, W. Brenda O.	Vancouver

Name.	*Home Address.*
Efford, Grace H.	Vancouver
Elliott, Philip L.	Vancouver
Emery, Marie B.	Burnaby
English, Charles	North Vancouver
Erickson, Evart A.	Silverton
Erlendson, Helga	Vancouver
Estey, Margaret J.	Vancouver
Evans, William P.	Vancouver
Ewert, Emil H.	Vancouver
Farris, Donald F.	Vancouver
Fawdrey, Edith L. M.	Lynn Creek
Finch, Leona M.	Vancouver
Fisher, M. Jean	Ladner
Fitzpatrick, Dudley M.	Kelowna
Fleet, W. Gordon	Burnaby
Fleming, Iola L.	Vancouver
Fletcher, Ralph R.	Merritt
Foerster, Fred S.	Vancouver
Forbes, Reginald S.	Eburne
Forster, George	Vancouver
Fournier, Frank L.	Vancouver
Franklin, William D.	Vancouver
Fraser, Christina A.	Vancouver
Frith, Mary K.	Keremeos
Fuller, Evelyn L.	Vancouver
Fulton, Olive M. F.	Vancouver
Gamble, George K.	Vancouver
Gammie, Margaret H.	Vancouver
Gard, Lourde K. M.	Vancouver
Gaudin, Melvin L.	New Westminster
Gehrke, Irene M.	Vancouver
Gerrard, Eleanor E.	Vancouver
Gibbs, Enid A.	Vancouver
Gibson, C. Alexander	Vancouver
Gillespie, Gordon D.	Vancouver
Gillespie, Vera I.	Mayo, Y. T.
Gillies, Margaret I. D.	Vancouver
Gillingham, Donald W.	Vancouver
Gillson, John W.	Vancouver
Godkin, Morley E.	Vancouver
Goebert, Anne C.	Vancouver
Gormely, Marcus W.	Vancouver
Gould, Charles E. G.	Vancouver
Graham, Leslie W.	Vancouver
Grant, Jessie C.	Nanaimo
Grant, Leslie E.	Vancouver
Grant, Vivian J.	Kerrisdale
Greenlees, Margaret M.	Vancouver
Greig, Margaret L.	Kerrisdale
Groves, Elizabeth A.	Vancouver
Gunn, Lewis L.	Vancouver
Guns, Vera	Vancouver
Gustafson, Homer T.	Vancouver
Haddock, Norah	Vancouver

Name.	*Home Address.*
Hall, Harold	Vancouver
Hall, Wilfred N.	Vancouver
Hallonguist, Earland G.	New Westminster
Hampton, Ethel	Vancouver
Harding, Hazel R.	North Vancouver
Hardy, Evelyn W.	Agassiz
Hargitt, F. William	Vancouver
Harvey, Mamie V.	New Westminster
Harvey, W. Russell	Vancouver
Hasler, Alethea M.	Chilliwack
Hay, Dorothy B.	New Westminster
Healy, E. Justine	Vancouver
Henderson, Elinor J.	Vancouver
Henry, Clarence E.	Vancouver
Hepher, William S.	Boswell
Herd, Thomas D.	Vancouver
Hill, Vernon R.	Vancouver
Hillas, Gertrude	Vancouver
Hipperson, Dorothy C.	Nelson
Hockridge, Murray	Vancouver
Hodgson, Evelyn	Vancouver
Hodgson, Shirley W.	New Westminster
Hoffman, Elfriede H.	Aldergrove
Hoffman, Marjorie E.	Vancouver
Home, Nora A.	Cranbrook
Hornsby, Ruth M.	Prince George
Howarth, Harry	Vancouver
Hundal, Teja Singh	Point Grey
Hunt, Basil G.	North Vancouver
Hunt, Florence S.	Vancouver
Hunter, Beatrice M.	Spokane, Wash.
Hunter, Gordon M.	Vancouver
Hutchinson, Joyce	Vancouver
Hyndman, Ernest E.	Vancouver
Hyodo, Hide	Vancouver
Imrie, Gerald D.	Vancouver
Ingledew, Edith V. L.	Vancouver
Inglis, Hugh F.	Gibson's Landing
Ink, Joseph C.	Nelson
Ireland, Harold	Vancouver
Jackson, Elaine M.	Kamloops
Jackson, W. Allin	Vancouver
Jacobs, Florence M.	Vancouver
James, Marion N.	Vancouver
James, Ralph D.	Vancouver
Jeffrey, J. Lenora	Vancouver
Johns, Jessie	Vancouver
Johnson, A. Sloane	Burnaby
Johnson, F. Henry	Vancouver
Jones, Gomer	Hedley
Kamitakahara, Hiroshi	Vancouver
Kask, John L.	Vancouver
Kelly, Gordon E.	Silverton
Kendall, Elizabeth V.	Vancouver

Name.	*Home Address.*
Kendall, Noble	Vancouver
Kennedy, Dorothy N.	Vancouver
Kerr, Ruby E.	Point Grey
Kipp, Velma B.	Vancouver
Kirk, Jean S.	Vancouver
Kirk, Marjorie M. S.	Vancouver
Knox, George A.	Vancouver
Kosowski, Mary	Vancouver
Lamb, Helen A.	Vancouver
Lando, Ezra B.	Vancouver
Lane, Edith W.	Vancouver
Lane, Eric S.	Vancouver
Lane, Joseph H.	South Wellington
Lange, J. Malcolm J.	Vancouver
Lanyon, Margaret J.	North Vancouver
Lawler, Beatrice M.	Vancouver
Lazarus, Bernard H.	Vancouver
Lee, Ernest	Burnaby
Lee, Gerald H.	Bonnington Falls
Lee, Yone M.	Vancouver
Lewis, Frank A.	Kelowna
Logie, Rosa M.	Kerrisdale
Lord, Clifford S.	New Westminster
Lothian, Fremlin E.	Vancouver
Lucas, Richard B.	Vancouver
Lucas, Verna Z.	Vancouver
Lyons, Florence M.	Vancouver
Madeley, J. Elizabeth	Vancouver
Madeley, W. Arthur	Vancouver
Madsen, Christy	Vancouver
Magar, W. Lloyd	Eburne
Maikawa, Fred H.	Vancouver
Mallory, W. A. Roger	Lang Bay
Mann, Doris E.	New Westminster
Marrion, Oscar G.	Vancouver
Marrs, Laverock	Revelstoke
Marshall, M. Alexander	West Summerland
Marshall, Vera F.	Vancouver
Martin, Inez K.	Vancouver
Martin, J. Elizabeth	Vancouver
Masterson, William J.	New Westminster
Matheson, Helen D.	Vancouver
Matheson, Jean U.	New Westminster
Matheson, William M.	Vancouver
Mathews, Lawrence G.	Vancouver
Matthews, Jean I.	Vancouver
Mawdsley, Constance L.	Vancouver
Mayne, Amy D.	Vancouver
Mennie, Lilian J.	Central Park
Mercer, Gladys E.	New Westminster
Meredith, J. Laurence R.	Vancouver
Merryfield, Basil R.	Vancouver
Milley, Elva M.	Vancouver
Monroe, Lorna C.	Vancouver

Name.	*Home Address.*
Moore, Amy R.	Vancouver
Morgan, Agnes H.	Vancouver
Morrison, Francis A.	Hammond
Moscrop, Harold J.	Vancouver
Munro, Ferdinand L.	Vancouver
Murphy, Lorna M.	Vancouver
Musgrave, Gwendolen M.	Cobble Hill
McAllister, Marguerite L.	Vancouver
McAlpine, Gladys C.	North Vancouver
McBain, Wilberta J.	Vancouver
MacCallum, Grace C. E.	Agassiz
McCharles, John A.	Vancouver
McCleery, F. Marie	Vancouver
McDevitt, Elizabeth A.	Vancouver
Macdonald, Ian	Vancouver
McDonald, Jean G.	Vancouver
Macdonald, John E.	Vancouver
McDonald, L. Dorothy	Vancouver
MacDonald, Margaret C.	New Westminster
McDonald, Margaret C. C.	Vancouver
McDonald, Marion E.	Vancouver
MacDonald, Norman D.	New Westminster
McDonald, Walter V.	Vancouver
Macfarlane, A. Lorna	Vancouver
McFarlane, M. Meredith	Vancouver
McGill, Catherine L. E.	Vancouver
McGill, Esther M.	Vancouver
McGregor, John G.	New Westminster
McGugan, Donald McP.	Vancouver
MacInnes, William E.	Vancouver
McIntosh, Graham R.	Vancouver
McIntyre, Borden	Revelstoke
MacIver, Dolina C.	Vancouver
MacKay, Muriel A.	Vancouver
McLachlan, E. Josephine	Haney
McLaughlin, Grace V.	Vancouver
McLean, Alexander	Vancouver
MacLean, Edwin U.	Vancouver
McLennan, Alice M.	New Westminster
McLennan, Edna C.	Vancouver
MacLeod, Jeannette L.	Vancouver
McLuckie, Kathleen L.	Vancouver
MacLurg, Alexander	Kelowna
McMillan, Jack A.	Vancouver
McMurphy, E. Margaret	New Westminster
McNeill, Douglas F.	Vancouver
McNeil, Sarah M.	Ladysmith
McRae, C. Edmund	Vancouver
MacTavish, Constance C.	Vancouver
Neill, Ruth A.	Vancouver
Neubrand, Emil	Nakusp
Newall, Nathan	Vancouver
Nielsen, A. Doris	New Westminster
Nimsick, Leo T.	Rossland

Name.	*Home Address.*
Noble, Robertson D.	Vancouver
Nordberg, Elsie	Lynn Creek
Oberg, Kalervo	Tofino
Odlum, Roger M.	Vancouver
Ogawa, Thomas T.	Vancouver
Ogg, Winnifred H.	Vancouver
Olkovick, Tania	Vancouver
O'Neill, Doris M.	Vancouver
O'Neill, Graeme	Vancouver
Osterhout, Victor H.	Vancouver
Oswald, Drummond W.	Mt. Lehman
Palmer, David B.	Glendye, Scot.
Parker, Mary	Vancouver
Paterson, Ethylwin A.	Vancouver
Paterson, Paula N. E.	Vancouver
Patrick, W. Beverly	Vancouver
Pilkington, Francis C.	Vancouver
Plummer, Theodore S.	Vancouver
Pollock, M. Elizabeth	Vancouver
Poole, F. Abner	Port Hammond
Pradolini, Ugo	Revelstoke
Prendergast, Robina I.	Vancouver
Rathie, Ian McW.	Vancouver
Ratledge, L. Jack	Quesnel
Rayner, G. Eric	Naramata
Reed, Hetty	Vancouver
Reid, Isabel T. F.	Burnaby
Reid, Marjorie S.	New Westminster
Richmond, W. Osborn	Chilliwack
Ridley, Henry McD.	Vancouver
Rilance, Arnold B.	Vancouver
Robarts, Norma V.	Vancouver
Roberts, Helen E.	Vancouver
Robertson, Francis McG.	North Vancouver
Robertson, Muriel A.	Vancouver
Robinson, Alexander F.	Vancouver
Robinson, Eleanor E.	Vancouver
Robinson, Lillian J.	Vancouver
Rogers, Edward W.	Rossland
Ronald, Helen M.	New Westminster
Ross, David W.	Waldo
Ruark, R. Charlotte	North Bend
Rudnicki, Louie A. H.	Fernie
Russell, Catherine M.	Burnaby
Salisbury, Dorothy E.	Vancouver
Saunders, Frederick E.	Vancouver
Savage, Helen G.	Vancouver
Sayers, George E.	Port Haney
Scott, Albert E.	Anyox
Seed, Harry J.	North Vancouver
Selbie, Horace W.	Vancouver
Selby, William R.	Kimberly
Selman, W. Russell	Vancouver
Shannon, Kathleen M.	Vancouver

Name.	*Home Address.*
Sharp, Gertrude C.	Vancouver
Sharp, Robert F.	Vancouver
Shaw, Ralph M.	Vancouver
Shears, Nellie M. B.	Vancouver
Shields, Gordon J. I.	Vancouver
Shimokura, Harold M.	Vancouver
Simpson, Samuel L.	Massett
Simpson, Vera	Vancouver
Smaby, Sylvia H.	Ocean Falls
Smith, Margaret L.	New Westminster
Smith, Margaret S.	Vancouver
Smith, Mildred M.	New Westminster
Sobey, M. Constance	Vancouver
Sostad, Odin S.	Vancouver
Spencer, Myrtle A.	Vancouver
Southon, Olive A.	Vancouver
Spilsbury, Richard H.	North Vancouver
Stacey, Ruth M.	Vancouver
Stanley, Thomas R.	Vancouver
Stark, Janette E.	Vancouver
Starr, Jean C.	Vancouver
Steele, E. Emma A.	Vancouver
Stephens, Harriette G.	Vancouver
Stevens, Lillian B.	Vancouver
Stevenson, Alan M.	North Vancouver
Stevenson, John S.	New Westminster
Steves, M. Winnifred	Steveston
Stewart, Kenny N.	Fernie
Stewart, Vernard L.	Vancouver
Stinson, Rena C.	Vancouver
Stones, Bessie W.	Vancouver
Sturdy, Florence MacD.	Vancouver
Stusser, Max	Vancouver
Sugarman, Howard W.	Vancouver
Sugarman, Ruth A.	Vancouver
Sutherland, Donald	Vancouver
Swaisland, Helen L.	Vancouver
Swanson, Gladys E.	Vancouver
Swanson, Jack D.	Vancouver
Swanson, John R.	Vancouver
Tait, Claudine P.	North Vancouver
Taylor, Christopher I.	North Vancouver
Taylor, Edward B.	North Vancouver
Taylor, Grace E.	Vancouver
Taylor, Margaret T.	Vancouver
Taylor, Sydney	Vancouver
Taylor, William H.	Vancouver
Telford, Douglas	Vancouver
Thompson, G. Hester	Cranbrook
Thomson, G. Elsbeth	Vancouver
Thomson, Margaret M.	Vancouver
Thomson, Primrose M.	Keremeos
Thomson, William E.	Vancouver
Thorpe, Cecil C.	Vancouver

Name.	*Home Address.*
Thurston, Kenneth T.	Port Moody
Tindall, John R.	Vancouver
Tingley, Beth R.	Vancouver
Todd, Eric E.	Vancouver
Tolmie, M. K. Jean	Coleman, Alta.
Trenholm, William A.	Chemainus
Trent, G. D. John	Point Grey
Tufts, Evelyn E.	Vancouver
Turpin, William H.	Vancouver
Vosburgh, John W.	Hatzic
Vosper, V. Lorine	Vancouver
Wainman, Charles	Vernon
Walker, Margaret M. W.	Vancouver
Walker, Mary A.	Vancouver
Wallace, John B.	Vancouver
Wallace, M. Kathleen	Vancouver
Warden, Thomas	Vancouver
Washington, Norma R.	Vancouver
Watson, Howard D.	Vancouver
Watson, Neil McK.	Vancouver
Weaver, Alice L.	Vancouver
West, Elsie H.	Vancouver
Westman, Mabel C.	Vancouver
White, Cecil B.	Vancouver
White, Helen A.	Vancouver
Wilkman, Victor O.	Gibson's Landing
Williams, John H.	Kelowna
Wilson, Charlotte R.	Ioco
Wilson, Clara M.	Dundarave
Wilson, George H.	Vancouver
Wilson, Gerald, D.	Vancouver
Wilson, Jean K.	Cranbrook
Wilson, Sybil M. M.	New Westminster
Wiren, Wiljo W.	Gibson's Landing
Wonder, C. E. Ruel	Vancouver
Woo, Chong W.	New Westminster
Wood, Laura-Linda F.	Vancouver
Wood, Robert G.	Burnaby
Woods, Doris J.	Vancouver
Woodside, Valerie E.	Vancouver
Workman, William R.	Coal Creek
Worsley, Vietta	Vancouver
Wray, Grace M.	New Westminster
Wray, Violet G.	New Westminster
Wredberg, Gunhilde	Port Kells
Wright, Amy M.	Kerrisdale
Wright, Jean C.	Kelowna
Wright, Laurence O.	Vancouver
Wright, Robert H.	Vancouver
Young, Maurice T.	New Westminster

SECOND YEAR

Full Undergraduates

Name.	*Home Address.*
Allen, John S.	Naramata
Almond, Blanche	Vancouver
Ash, G. Ruth	Cloverdale
Atkins, Nancy E.	Vancouver
Ballard, Ernest R.	Vancouver
Black, Albert F.	Point Grey
Black, R. May	Vancouver
Boyes, Winnifred E.	Vancouver
Brown, Dorothy E.	Vancouver
Brown, Norman	Vancouver
Buchanan, Harry A.	Vancouver
Buckingham, William N.	Vancouver
Bumstead, V. Grace	Vancouver
Butler, Estelle M.	Kaslo
Calvert, Donald E.	Kaslo
Cameron, Maxwell A.	Nelson
Cameron, William M.	Vancouver
Campbell, Henry N.	Vancouver
Chadbourne, Bessie S.	Vancouver
Chisholm, Beatrice M.	Eburne
Clegg, E. Beatrix	Vancouver
Clyne, Nora K.	Vancouver
Coade, Lillian M.	Vancouver
Cole, Mary R.	Vancouver
Coles, Hilda	Vancouver
Coombe, Dorothy L.	Vancouver
Cottingham, Mollie E.	Vancouver
Crawford, Alan M.	Vancouver
Cunliffe, Muriel A.	Vancouver
Dalrymple, Thomas	Vancouver
Davidson, Elsie A.	Vancouver
DeCew, W. Howard	Vancouver
Denman, Ester O'.	Vancouver
Dick, R. Norman	Britannia Mines
Dowsley, Gertrude O.	Vancouver
Duncan, James W. D.	Vancouver
Dwinnell, Edith L.	New Westminster
Elliott, Frank W.	Vancouver
Fagan, F. Bertram	North Bend
Farris, Katherine	Vancouver
Fraser, James A.	Vancouver
Fraser, Jean H.	Vancouver
Freeborn, Grace M.	Vancouver
Fugler, M. Ethel	Vancouver
Fullerton, W. Evan	Vancouver
Galbraith, Gladys E.	Vancouver
Gillespie, Robert M.	Vancouver
Gilley, Jean R. D.	New Westminster
Gretton, Ronald H.	North Vancouver
Groves, Kenneth P.	Vancouver
Guernsey, Elizabeth	Vancouver

Name.	*Home Address.*
Hadgkiss, Annie L.	Vancouver
Harding, Cora L.	Vancouver
Harvey, Gladys S.	Vancouver
Hatfield, Harley R.	Penticton
Hemsworth, Phyllis M.	Vancouver
Henderson, Arnold E.	Vancouver
Hicks, Ruby F.	Vancouver
Higginbotham, Mary J.	Vancouver
Hill, Evelyn M.	Vancouver
Hockin, John MacG.	Vancouver
Holland, F. Jean	Vancouver
Hood, Orlo McG.	Vancouver
Hope, Grace E.	Vancouver
Howay, Undine L.	New Westminster
Hurry, Margaret I.	Vancouver
Ingledew, William E.	Kerrisdale
Jagger, Albert E.	Vancouver
Johnston, Frederick B.	Vancouver
Johnston, Mary H.	Vancouver
Keatley, Nora K.	Grand Forks
Keillor, Margaret G.	Vancouver
Kerr, Ida M.	Vancouver
Kilpatrick, M. Elspeth	Vancouver
King, Hubert B.	Vancouver
King, Roy	North Vancouver
Lam, George	Vancouver
Lamb, Kaye	Cloverdale
Lambert, Phyllis M.	North Lonsdale
Lamont, Donald MacK.	Vancouver
Lamont, Katherine M.	Vancouver
Lane, Mary E.	New Westminster
Lasser, Freda	Vancouver
Leigh, M. Digby	Revelstoke
Leith, Edward I.	Prince George
Liersch, John E.	North Vancouver
Lockerbie, David S.	Sullivan
Logie, Russell M.	Vancouver
Lucas, Marian M.	Victoria
Mattice, Clarence R.	Vancouver
Meagher, John F.	Nelson
Mercer, Clara M.	New Westminster
Metz, Alice W.	Vancouver
Millward, Louis G.	Vancouver
Morell, A. Ernest	Vancouver
Morris, John R.	Vancouver
Morriss, Mary R.	Vancouver
Morrison, Robert L.	Vancouver
Mottley, Charles McC.	Vancouver
Munro, Hector G.	Vancouver
McBeath, Hazel M.	Vancouver
McDiarmid, Margaret A.	Ladner
MacGraw, Christina	Penticton
MacDonald, Josephine	New Westminster
McIntyre, Marjorie C.	Vancouver

Name.	*Home Address.*
Mackenzie, Henrietta D.	Point Grey
McKechnie, Robert E.	Vancouver
McKie, Archibald	Vancouver
MacKinnon, John M.	Fraser Mills
MacLean, Courtney F.	Vancouver
McLean, James B.	Vancouver
McLean, John A.	Vancouver
McLuckie, Alan J.	Vancouver
MacNeill, Lorne C.	Vancouver
McPhee, Angus L.	Vancouver
McQuarrie, Clare N.	Vancouver
McQuarrie, George R.	New Westminster
MacTavish, Isabelle G.	Vancouver
McWilliams, Harold G.	Vancouver
Newby, Cecil D.	Sardis
Nixon, Myrtle	Vancouver
Noble, Kenneth F.	Vancouver
Northey, Helen G.	Vancouver
Oliver, John C.	Vancouver
Page, Miriam H.	Clinton
Parmley, J. Robert	Penticton
Partington, Dorothy L. R.	Hollyburn
Patten, C. Gordon	Armstrong
Peck, Helen T.	Vancouver
Pettapiece, Edna L.	Vancouver
Phillips, G. Lindsay	Vancouver
Phillips, R. Gaundry	Vancouver
Piggott, Eleanora	Armstrong
Pumphrey, K. Avis	Vancouver
Quigley, Arthur K.	Vancouver
Ralph, Isobel	Vancouver
Ramsay, Amelia S. A.	Vancouver
Rankin, Margaret J.	Vancouver
Reid, M. Elsie	Vancouver
Reynolds, H. Elizabeth	Vernon
Riddell, J. Marie	Vancouver
Ripstein, Horace R.	Vancouver
Robertson, Mary S.	Vancouver
Robinson, Audrey F.	Vancouver
Robinson, G. Russell	Vancouver
Robinson, Lillian A.	Vancouver
Robson, Annie O.	Vancouver
Russell, Dorothy B.	Vancouver
Scouse, Agnes H.	Steveston
Seymour, Wallace W.	Vancouver
Shakespeare, Jack S.	North Vancouver
Smith, Harold D.	Vancouver
Stanley, John	New Westminster
Stedman, Ralph E.	Vancouver
Stevens, Francis H.	Vancouver
Stevenson, M. Ian	Vancouver
Stewart, C. Jean	New Westminster
Stewart, J. Eileen	Vancouver
Stocks, George H.	Vancouver

Name.	*Home Address.*
Strauss, A. Donalda	Vancouver
Streight, H. R. Lyle	New Westminster
Sturdy, David A.	Revelstoke
Swanson, Violet M.	Vancouver
Taylor, Reginald M.	Vancouver
Thompson, Henrietta B.	Vancouver
Todd, Duncan K.	Vancouver
Turley, Edith F.	Vancouver
Tutill, Douglas	Merritt
Underhill, H. Margaretta	New Westminster
Wagenhauser, Muriel E.	Princeton
Wales, Mona M.	Vancouver
Wakefield, Amy E.	Vancouver
Walker, Day	North Vancouver
Walmsley, Sheridan E.	New Westminster
Warden, David C.	Vancouver
Welch, Constance M.	Vancouver
Wells, Harry N.	Vancouver
Wilkinson, John H.	Vancouver
Wilkinson, Margery H.	Vancouver
Williams, Dorothy E.	Vancouver
Winter, Edythe W.	Point Grey
Wong, Margaret	Vancouver
Woodworth, Charles A.	Vancouver
Woodworth, Hugh MacC.	Vancouver
Wright, Max H. C.	North Vancouver

Conditioned

Allan, Dalton D.	Vancouver
Arnold, Jack R.	Vancouver
Barons, Dorothy K.	Vancouver
Chislett, Charlotte	Vancouver
Clark, William T.	Middlesboro
Gordon, Ronald, E. K.	New Westminster
Grayston, Harry V.	Vancouver
Ladner, Edward M.	Vancouver
Maxwell, J. Allison	New Westminster
Millener, Violet M.	Vancouver
Morrison, Edmund	Vancouver
McIntosh, Josephine H.	O'Brien Bay
McKay, Dorothy C.	New Westminster
MacKay, Jack C.	Vancouver
Mackenzie, Anne C.	Vancouver
MacKenzie, Donald	Vancouver
McSweyn, Maxine M. M.	Vancouver
Reid, James	New Westminster
Reid, Katharine O. M.	New Westminster
Reynolds, C. Murray	Nanaimo
Rive, Gertrude	Abbotsford
Scott, Norman T.	Kamloops
Singleton, Margaret C. R.	North Vancouver
Sutherland, J. Burton	Vancouver
Wagg, Elda B.	Vancouver
Wellington, Beatrice M.	Vancouver

Name.	*Home Address.*
Wilson, Carl A.	Sardis
Wilson, Isabel A.	Vancouver

THIRD YEAR

Full Undergraduates

Armour, J. Arnold K.	New Westminster
Armstrong, Helen J.	Penticton
Ashworth, George W.	Vancouver
Baillie, Oenone G.	Vancouver
Baines, Alyce A.	Victoria
Ball, Ralph H.	Kelowna
Balmer, Ian A.	Tuxford, Sask.
Barton, Bernice E.	Vancouver
Barton, Isobel W.	Vancouver
Barton, Lorna D.	Vancouver
Baynes, Doris L.	Vancouver
Beane, May E.	Victoria
Bell, William J.	Vancouver
Berkeley, Alfreda A.	Nanaimo
Birney, A. Earle	Vancouver
Blatchford, Annie	Vancouver
Bolt, Sybil	Vancouver
Bonsall, Henry B.	Vancouver
Boyles, Sadie M.	Vancouver
Bridge, John W.	Vancouver
Bridgman, Clara M.	Vancouver
Brown, Florence V.	Vancouver
Bullock-Webster, Marion I.	Victoria
Burnett, Lila W.	Vancouver
Byrne, Thomas S.	Vancouver
Campbell, Mildred H.	Vancouver
Catterall, John L.	Vancouver
Chalmers, William	Vancouver
Chamberlain, Edward R.	Vancouver
Clark, Herbert, E. F.	Vancouver
Clark, Kathleen L.	Vancouver
Coghlan, Basil S.	Vancouver
Conrad, Elsie	Vancouver
Cooper, Ursula H.	Vancouver
Cowx, Joseph G.	Vancouver
Crees, Norman J.	Vancouver
Cull, J. Simpson	Vancouver
Davidson, Allen E.	New Westminster
Dickman, Esther E.	New Westminster
Dimock, Marjorie C.	Armstrong
Dobie, M. Helen	New Westminster
Eaton, Virginia	Vancouver
Edgett, Freda B.	Vancouver
Esler, Mary R.	Vancouver
Faulkner, Jean C.	Vancouver
Fowler, Horace W.	Vancouver
Fraser, Ruth A.	Vancouver
Freeman, Maurice	Vancouver

Name.	*Home Address.*
Fuller, Betty S. C.	Victoria
Gadd, Gwendolyn M.	Vancouver
Gallaugher, Arthur F.	Vancouver
Garesche, Gladys M.	Victoria
Garner, Edna B.	Vancouver
Gartshore, Hendrie L.	Vancouver
Gauthier, A. Cairns	Vancouver
Gibbard, Charles A.	Mission City
Gilley, Hazel L.	New Westminster
Gould, Clara W. H.	Vancouver
Grace, John	New Westminster
Graham, Jean A. C.	Vancouver
Griffith, Braham G.	Vancouver
Gruchy, Allan G.	Vancouver
Handford, Cecile	Vancouver
Henderson, Anne A.	Vancouver
Henderson, Robert A.	Vancouver
Hill, Mark R.	Vancouver
Hodgins, Lillian L.	Nanaimo
Hunter, H. Murray	Vancouver
Irwin, M. Lenora	Vancouver
Jones, Margaret E.	Vancouver
Kidd, Honor M.	Vancouver
King, Esther E.	Vancouver
King, G. Agnes	Vancouver
Lade, Mary E.	Vancouver
Langridge, Gertrude A.	Vancouver
Leach, F. Wanetta	Vancouver
Leeming, Marjorie H.	Victoria
Levirs, Franklin O. P.	Victoria
Logie, W. James	Vancouver
Lynn, Mildred B.	Vancouver
Lyttleton, Helen M.	Vancouver
Marin, Rosa A. M.	Vancouver
Marsh, D'Arcy G.	Victoria
Mellish, A. Preston	Vancouver
Menten, Marjorie E.	New Westminster
Mercer, W. E. Arthur	New Westminster
Meredith, Joan O. F.	North Vancouver
Minaty, William	Vancouver
Mitchell, Marion	Vancouver
Moore, Hilton M.	Vancouver
Morrison, Margaret G.	Vancouver
Murphy, William	Vancouver
Musgrave, Flora M.	Royal Oak
Myers, Alice	Naramata
MacArthur, Freida C.	Vancouver
McCulloch, Walter F.	Kamloops
MacDonald, Eileen	Vernon
MacDonald, Kenna C.	Vernon
McGregor, Mary C.	Vancouver
McIntyre, Charles M.	Vancouver
McKay, Doris G.	Vancouver
MacKay, Mary A.	Vancouver

Name.	*Home Address.*
McKee, Mary M.	Vancouver
MacKenzie, L. Margaret	New Westminster
MacKinnon, Ronald L.	Vancouver
McLennan, Alan B.	Vancouver
MacRae, Jean W.	Vancouver
Nakano, Noboru A.	Cumberland
Norman, Ralph O.	Vancouver
Osborne, Donald J. F.	Vancouver
Palmer, Russel A.	Vancouver
Phipps, E. Shiela M.	Vancouver
Pillsbury, Richard W.	Prince Rupert
Piters, Jack	Vancouver
Porter, Ida S.	Hollyburn
Potter, Frank	Cumberland
Price, Anna E.	Vernon
Raby, Ila G.	Salmon Arm
Reid, Mary F.	Vancouver
Selwood, Pierce W.	Dundarave
Sheridan, Richard H.	Vancouver
Smith, Louis F.	West Summerland
Smith, Marion R.	Vancouver
St. Denis, Frederic G.	Vancouver
Stirling, Barbara G.	Kelowna
Stirling, Gwendolyn G.	Kelowna
Story, Jean M.	Vancouver
Straight, Winona T.	Vancouver
Stuart, Ronald J.	Echo Bay
Sutherland, John H.	Vancouver
Swanson, Margaret	Vancouver
Swencisky, Grace H.	New Westminster
Taylor, David	South Wellington
Teeple, Ruth E.	Vancouver
Telford, Gordon D.	Vancouver
Thompson, Bertha H.	Vancouver
Tighe, Elsie M.	Calgary, Alta.
Turnbull, Walter R.	Vancouver
Usher, Katherine H.	Vancouver
Verchere, David R.	Ladysmith
Wales, Bertram E.	Vancouver
Washington, Dorothy M.	Vancouver
Woodrow, Jean	Vancouver

Conditioned

Aitken, James	Vancouver
Farrand, Charles J. S.	Vancouver
Kobe, Susumu	Vancouver
Moffat, Alda C.	Vancouver
McLennan, Percy G.	Vancouver
Swannell, Charles F.	Victoria
Taylor, Thomas M. C.	Kelowna
Thompson, J. Harold	Vancouver
Vincent, George Gaston	Victoria
Wilkinson, Jane H.	Vancouver

FOURTH YEAR

Full Undergraduates

Name.	*Home Address.*
Allen, George A.	Vancouver
Anderson, Gwladys M.	Vancouver
Angell, Eloise	Vancouver
Anthony, Edward J.	Nakusp
Arkley, Adalene	Vancouver
Arkley, Heileman O.	Vancouver
Arkley, Stanley T.	Vancouver
Auden, Kenneth F.	London, Ont.
Ball, Robert W.	Sandwick
Barnes, Vera F.	Upper Sackville, N. B.
Bell, Ella W.	Vancouver
Bell, Marjorie A.	Vancouver
Brown, Thomas W.	Vancouver
Bull, Armour McK.	Vancouver
Burns, Nancy S.	Vancouver
Carpenter, Gilbert B.	Vancouver
Charlton, David B.	Port Haney
Chapman, Edward F.	New Westminster
Clarke, M. Kathleen	Vancouver
Craig, James H.	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.	Vancouver
Edwards, Lucy L.	Vancouver
Elliott, Muriel E.	Kamloops
Farrand, Zoe E.	Vancouver
Farrington, Eileen G.	Vancouver
Fee, Archibald R.	West Burnaby
Fee, Doris L.	Kamloops
Fisher, Jessie L.	Vancouver
Ford, M. Doris	Vancouver
Forster, Eric	Capilano
Gaddes, Leonard	Edgewater
Gage, Walter H.	Burnaby
Gignac, Frances V.	Vancouver
Gillanders, Earle B.	Chilliwack
Graham, Etta L.	Vancouver
Grauer, Albert E.	Vancouver
Gregory, Phyllis M.	Rossland
Griffith, W. Ivor	Vancouver
Groves, Dorothy	Vancouver
Hall, Winnifred M.	Vancouver
Hallamore, Gertrude J.	Vancouver
Hankinson, Bessie	Vancouver
Hardie, William L.	Vancouver
Harvey, Mary	Vancouver
Hemingway, Allan	Victoria

Name.	*Home Address.*
Henderson, Harold R.	Vancouver
Hood, Helen R.	Vancouver
Inglis, Kathleen M.	Gibson's Landing
Ingram, Sydney B.	Lethbridge, Alta.
Jackson, Mary I.	Vancouver
Keay, Norah A.	Victoria
Keenan, Thomas J.	Squamish
Kelly, Clive A.	Vancouver
Kelly, Wilfred	Vancouver
Knowling, Edith L.	Vancouver
Lanning, Walter S. W.	Vancouver
Lucas, Edith E.	Victoria
Lyness, Dora I.	Vancouver
Mather, Vera G.	North Vancouver
Mathews, Ralph B.	Victoria
Miller, Kenneth L.	Vancouver
Mills, Reginald C.	Vancouver
Mowatt, Laura S.	Vancouver
MacDonald, Janet R.	New Westminster
McDonald, Marguerite	Armstrong
MacGill, Helen G.	Vancouver
McGugan, E. Muriel	Vancouver
McIntyre, Margary	Vancouver
McKillop, Lex L.	Vancouver
McLarty, E. Islay	Vancouver
McLean, Leslie M.	Vancouver
McLeod, Florence A.	Vancouver
MacLeod, Robert L.	North Vancouver
McMears, Jean R.	Vancouver
Nelson, Clarence	Vancouver
Newcombe, Gwendolyn	North Vancouver
Painter, Francis M.	Vancouver
Palmer, Peter F.	Vancouver
Pattullo, L. Doris	Victoria
Railton, Joan M.	Vancouver
Rilance, Elsie G. L.	Vancouver
Russell, Isabel M.	Vancouver
Schell, Kenneth A.	Vancouver
Sharpe, Vera M.	Enderby
Sheppard, Lucy A.	Vancouver
Shorney, K. Doris	Vancouver
Sing, H. Carman	Cobble Hill
Smith, Grace E. M.	Vancouver
Smith, H. Bertram	Victoria
Smith, James	Vancouver
Stevens, Ernest G. B.	Vancouver
Sutherland, Marion G.	New Westminster
Swanson, Mary K.	Vancouver
Taylor, Dorothy G.	New Westminster
Taylor, Elsie G.	Victoria
Thompson, Homer A.	Rosedale
Thrupp, Sylvia L.	Kamloops
Tipping, Wessie M. M.	Vancouver
Wasson, Evans E.	Nelson

Name.	*Home Address.*
Watney, Douglas P.	New Westminster
Weinberg, Jeanette	Vancouver
Welch, Beatrice R.	Vancouver
Whiteside, Helen R.	New Westminster
Whittaker, Norah M.	Vancouver
Wilcox, Laura	Vancouver
Williamson, Cecilia	Vancouver
Winter, A. Greta	Vancouver
Woolliams, G. Ewart	Cloverdale

Conditioned

Dougan, Clarence A.	Port Hammond
Eades, James E.	Vancouver
Hagelstein, George F.	Langley Prairie
Knapton, Ernest J.	Victoria
Miyazaski, Masajiro	Vancouver
Morrison, Louise D.	Vancouver
Murray, Dorothy A.	Vancouver
Shore, J. Wallace B.	Vancouver
Thomson, Jean	Vancouver
Wilkinson, Nelly	Vancouver

UNCLASSIFIED

SECOND YEAR

Alihan, Milla	Vancouver
Anders, Charles H.	Vancouver
Anderson, Gustaf A.	Chungking, China
Anthony, Arthur T.	Vancouver
Arkwright, Dorothy	Kerrisdale
Auchinvole, Harry	Union Bay
Baird, J. Douglas	Vancouver
Baker, Lorimer G.	Vancouver
Bates, W. Lever	Kobe, Japan
Blackburn, Malcolm S.	Beachburg, Ont.
Cameron, Elizabeth V.	Vancouver
Cant, Hector R.	New Westminster
Crickmay, Alfred E.	North Vancouver
Crickmay, Geoffrey W.	North Vancouver
Cullinane, James A.	Rossland
Cunningham, Fred H.	Burnaby
Darling, Phyllis	Vancouver
Dhami, Bhagat Singh	Hoshiarpur, India
Doad, Mota Singh	Punjab, India
Doidge, Gilbert	North Vancouver
Domoney, Clarence	Vancouver
Evans, A. Maxwell	Vancouver
Frederickson, Clarence J.	Vancouver
Galloway, Walter F.	Vancouver
Gill, Bhagat Singh	Moga, India
Gill, Puran Singh	Chanan Wal, India
Godfrey, Arthur T.	Nelson
Gooding, F. M. Margaret	New Westminster
Goult, Barrington H. E.	Vancouver

Name.	*Home Address.*
Graham, Thomas R. S.	Cumberland
Green, Lillooet K.	New Westminster
Greggor, C. Fenella	Vancouver
Griffin, Martin J.	Vancouver
Keenan, David P.	Squamish
Kerr, George	Vancouver
Lambert, Walter H.	Vancouver
Ledingham, George M.	Vancouver
Ledingham, John P.	Vancouver
Ledingham, Mary P.	Vancouver
Legg, John H.	New Westminster
Marshall, Evelyn	Vancouver
Martin, Edith I.	New Westminster
Mitton, J. Raymond	Vancouver
Mulhern, Edmond F.	Vancouver
McDermott, Andrew M.	New Westminster
Macdonald, Alexander B.	Vancouver
McIntosh, Mary C. E.	Vancouver
Mackay, Donald C.	Vancouver
McKechnie, Neil D.	New Westminster
MacKinnon, N. D. Clyde	Cranbrook
McLaughlin, Cecil E.	Vancouver
McMurphy, Audrie E.	New Westminster
Porter, Aileen G.	Vancouver
Pretious, Edward S.	Hollyburn
Purdy, Harry L.	Vancouver
Rae, Hugh M.	New Westminster
Rafiof, Aflaton	Ispahan, Persia
Schultz, Charles D.	North Vancouver
Shaw, John C.	Vancouver
Sohi, Budh Singh	Punjab, India
Sparks, Frederick P.	Vancouver
Takagaki, Shinzo	Vancouver
Taylor, Bernard W.	West Summerland
Thompson, George	Vancouver
Watson, Janet K.	Vancouver
Winn, Herbert	Vancouver

FACULTY OF APPLIED SCIENCE

FIRST YEAR

Full Undergraduates

Astell, Joseph J.	Vancouver
Bailey, Basil E.	Vancouver
Bailey, Charles F.	Vancouver
Baillie, Allan D.	Port Hammond
Beatty, George E.	Yokohama, Japan
Bell, Douglas E.	Vancouver
Canfield, Orra W.	New Westminster
Carpenter, Robert B.	Vancouver
Challenger, John W.	Vancouver
Crawford, Lionel G.	Middlesboro
Curtis, James D.	North Vancouver

Name.	*Home Address.*
Davies, Dermot A.	Vancouver
Davis, Harry V.	Revelstoke
Duncan, John D.	Vancouver
Edwards, Harold H.	Vancouver
Elliott, E. Nelles	Victoria
Farrington, John L.	Kerrisdale
Goranson, Edwin A.	New Westminster
Goudie, Douglas M.	Notch Hill
Grant, Wylie S.	Victoria
Grimmett, Jack A.	Vancouver
Groves, Tom D.	Westholme
Gurd, Jack W. M.	Vancouver
Gustafson, Carl E.	Vancouver
Gwyther, Harold W.	Vancouver
Hadgkiss, James	Vancouver
Harvie, Ralph A.	Vancouver
Hedley, Mathew S.	Vancouver
Heelas, John C.	Armstrong
Hill, Robert A.	Vancouver
Hodgins, Hugh J.	Vancouver
Honeyford, O. Keith	Vancouver
Horwood, Hereward C.	Kingston, Ont.
Irwin, Ronald E.	North Vancouver
Jones, John A.	Nanaimo
Kelly, F. Harold	Vancouver
Lazorek, William	Anyox
Leek, Walter E.	Vancouver
Logan, Gordon V. E.	Vancouver
Mooyboer, Abram P.	Grand Forks
Morris, Wilfred H.	Vancouver
McQuarrie, Hector N.	North Vancouver
Pollard, William F. A.	Victoria
Porter, Basil W.	New Westminster
Rayner, Cyril T.	Naramata
Ridington, Bernard C.	Vancouver
Sampson, C. Howard	Cadboro Bay
Sangha, Ajaib Singh	Punjab, India
Scott, John J.	Vancouver
Sharpham, Arthur L.	Vancouver
Sinclair, James	Vancouver
Stapleton, Ralph W.	North Vancouver
Stewardson, Alan	New Westminster
Sutherland, James B.	Vancouver
Terhune, Stuart J.	Rossland
Tokunaga, Tadashi	Vancouver
Touzeau, Ernest G.	Vancouver
Tupper, Bert	Vancouver
Woodman, Owen O. M.	Parksville

Conditioned

Crickmay, James L.	North Vancouver
Doberer, Cameron	Calgary, Alta.
Patrick, Hugh C.	Victoria

SECOND YEAR

Full Undergraduates

Name.	*Home Address.*
Arnold, Theodore E.	Kerrisdale
Bishop, Charles B.	Vancouver
Bloom, Jason	Vancouver
Brown, Rex L.	Vancouver
Clement, Bruce D.	Vancouver
D'Aoust, J. Gilbert	Vancouver
Elley, Frederick W.	Fernie
Gale, Stanley C.	Vancouver
Gibson, Swanston	Vancouver
Gill, Otto H.	Cranbrook
Gordon, Arthur I. E.	Skidegate
Hartley, James D.	Victoria
Hatch, David A.	Vancouver
Hubner, Rudolph	Trail
Johnston, H. Lloyd	Victoria
Kerslake, Ben	Vicosa
Larson, Arthur G. A.	Vancouver
Leek, Charles W.	Vancouver
Lees, Everett J.	Vancouver
Manson, Harold E.	Hatzic
Marin, Joseph	Vancouver
Mathewson, Philip L.	Essondale
Millar, Jame W.	Revelstoke
Miller, George W.	Vancouver
Mounce, L. Shannon	Vancouver
McDiarmid, Ralph G.	North Vancouver
Newmarch, Gerald	Vancouver
Nunn, E. Hazen	Vancouver
Nikiel, Charles V.	Vancouver
Owen, F. James	Trail
Phillips, Ernest A.	Vancouver
Pottinger, Alexander	Vancouver
Rees, Arthur F.	New Westminster
Rothwell, James M.	Vancouver
Shannon, Jack D.	Vancouver
Tamura, Kikuichi	Yamaguchi Ken, Japan
Todd, Robert L.	Vancouver
Wainman,, Philip R.	Vernon
Stevenson, C. Douglas	Victoria

Conditioned

Arland, Andrew J.	Cloverdale
Barnsley, Frank R.	Vancouver
Fanning, Oscar	Vancouver
Kidd, Desmond F.	Vancouver
Lang, Arthur H.	Vernon
Mathews, John T.	Vancouver
North, J. Terry	Vancouver
Phillips, Wilfred J.	London, Eng.

THIRD YEAR

Full Undergraduates

Name.	*Home Address.*
Abernethy, Gordon McK.	Vancouver
Bain, William A.	Vancouver
Barton, Carl F.	Vancouver
Bassett, Edward W.	Victoria
Bayliss, Robert H.	Vancouver
Brock, B. Britton	Vancouver
Buchanan, Thomas G.	Vancouver
Guernsey, Frederick W.	Vancouver
Hale, Frederick M.	Vancouver
Jones, William A.	Vancouver
Kania, Joseph E. A.	Vancouver
Louden, Thomas N.	Vancouver
Norman, George W. H.	North Vancouver
Pearcey, John G.	Vancouver
Robinson, George R.	Vancouver
Tamura, Morikiyo	Haney
Tarr, Francis G. A.	North Vancouver
Timleck, Curtis J.	New Westminster
Warren, Harry V.	Vancouver
Wilks, Ernest F.	Vancouver

Conditioned

Kidd, George S.	New Westminster
Maclean, Hugh A.	Vancouver
Richmond, A. Morton	Nanaimo

FOURTH YEAR

Full Undergraduates

Arnott, Clarence	Vancouver
Bennett, James L.	North Vancouver
Callander, Bruce M.	Vancouver
Campbell, J. Middleton	Vancouver
Carter, M. Neal	Vancouver
Cox, C. Roland	Kamloops
Demidoff, Peter H.	Trail
Disney, Charles N.	New Westminster
Evjen, Ralph W.	Vancouver
Ferguson, Royden H.	Vancouver
Greggor, Robert D.	Vancouver
Groves, Godfrey F. C.	Kelowna
Hicks, Kenneth W.	Vancouver
Hincks, Drennan	Cadboro Bay
Israeli, Moshe	Vancouver
Jackson, Robert M.	Vancouver
Lambert, Arthur A.	Nelson
Lazenby, Frederic A.	Port Hammond
Lucas, Colin C.	Vancouver
Maguire, John A.	Campbellford, Ont.
Morgan, Frederick S.	Vancouver
Morton, Ralph McK.	Vancouver
McDonald, Malcolm	Vancouver

Name.	*Home Address.*
McPherson, John W.	Vancouver
Price, Peter	Parksville
Ramsell, John L.	Vancouver
Steede, John H.	Port Alberni
Sutherland, Brian P.	Vancouver
Walsh, Harold E.	Vancouver
Woodhouse, Arthur R.	Vancouver

Conditioned

Niederman, Otto	Longview, Wash.
Stoodley, George E.	Armstrong

UNCLASSIFIED

Black, Thomas B.	Prince Rupert
Dhut, Bhag Singh	Dhut Kalan, India
Eales, George H.	Vancouver
Emery, Geoffrey B.	Edmonds
Falconer, Joseph G.	Bindloss, Alta.
Gibson, Ernest S.	Vancouver
Huestis, Eric S.	Vancouver
Hunter, George G.	Cranbrook
Parsons, Harold E.	Vancouver
Pollock, James R.	Vancouver
Sparks, Wilbur H.	Vancouver
Tsuyoshi, Miyake	Vancouver
Young, Robert B.	Compeer, Alta.

NURSING

FIRST YEAR

Full Undergraduates

Aitchison, Margaret	Vancouver
Anderton, Evelyn	Cranbrook
Archibald, Marian	Vancouver
Aske, Jessie	Vancouver
Dorsett, Margaret	Vancouver
Henderson, Mary E.	Vancouver
Hilton, Grace I.	Vancouver
Jenkins, Anne S.	Notch Hill
Kilpatrick, Heather	Vancouver
McPhee, Mary L.	Vancouver
Tisdall, Edith W.	Vancouver
Upshall, E. Muriel	Vancouver
Wilkie, Dora W.	Victoria
Woodcock, Olive G.	Vancouver
Young, Margaret	Vancouver

SECOND YEAR

Full Undergraduates

Griggs, H. Rebecca	Tacoma, Wash.
Johnston, Mabel G. J.	North Vancouver
Macdonald, Ruth	Vancouver
Yates, Annie T.	Vancouver

Conditioned

Name.	*Home Address.*
McKechnie, Flora	Vancouver
Swerdfager, Myrtle E.	Kamloops

THIRD YEAR

Full Undergraduates

Higgs, Nora L.	Albert Head
Lyne, Frances	Creston
Reilly, Ruby R.	Vancouver
Stoddart, Elizabeth	Clinton

Conditioned

Olmstead, Dorothy G.	Vancouver

FOURTH YEAR

Full Undergraduates

Innes, Florence A. I.	Vancouver

FIFTH YEAR

Full Undergraduates

Bennet, Helen M.	Victoria
Carson, Leila A.	Victoria
Hedley, Anne	Vancouver
Rogers, Dorothy M.	Seattle, Wash.

UNCLASSIFIED

Armstrong, Norah E.	Fort a La Corne, Sask.
Creelman, Florence M. L.	Vancouver
Kerr, Margaret E.	New Westminster
Rolston, Miriam I.	Vancouver
Swencisky, Victoria M.	New Westminster

FACULTY OF AGRICULTURE

FIRST YEAR

Full Undergraduates

Berlet, Roy F.	Vancouver
Boyes, Edgar D.	Vancouver
Corbishley, Donald	Penticton
Dick, Cecil R.	Vancouver
Hundal, Jermeja Singh	Point Grey
Martin, George MacE.	Sardis
Moffatt, Kenneth F.	Vernon
McIntyre, Douglas C.	Vancouver
MacKenzie, C. Duncan	New Westminster
MacKenzie, J. Cameron	New Westminster
Thornloe, Keith	Vancouver

SECOND YEAR

Full Undergraduates

Asher, C. Richard	Kelowna
Berry, Jack C.	Langley Prairie
Milne, Helen I.	Vancouver
Ross, Herbert H.	Vancouver

Conditioned

Name.	*Home Address.*
Eden, Allan H.	Vancouver
Noble, Grace I.	Hatzic
Reid, Edgar C.	Haney

Third Year

Full Undergraduates

Biely, Jacob	Chita, Siberia
Gough, William F.	Hull, England
Mutrie, Fergus	Vernon
McCurrach, J. Bruce	New Westminster
Rayment, Arthur B.	Sooke
Rive, Charles	Vancouver
Tarr, Hugh L. A.	North Vancouver

Conditioned

Newcombe, Frederick E.	Vancouver

Fourth Year

Full Undergraduates

Argue, Charles W.	Vancouver
Atkinson, Lyle A.	Vancouver
Aylard, Arthur W.	Victoria
Baxendale, Robert D.	Trial
Buckley, Hubert L.	North Vancouver
Cameron, William C.	Chilliwack
Challenger, George W.	Ladner
Chester, Herbert	Cranbrook
Fraser, Edward B.	Nanaimo
Gutteridge, Harry S.	Vancouver
Hay, Kenneth A.	Lachute, Que.
Laing, Arthur	Eburne
Murphy, Laurence A.	New Westminster
Nelson, John C.	Vancouver
Townsend, Charles T.	London, Eng.

Unclassified

Allen, Maude A.	Vancouver
Bowman, Sydney J.	Vancouver
Briggs, Helen V.	Vancouver
Brown, William C.	Hammond
Caple, Kenneth P.	Vancouver
Dynes, George M.	New Westminster
Haywood, Harold D.	Vancouver
Luyat, Gabriel A.	Agassiz
Matthews, Willoughby W.	Westholme
Philip, William P.	Kamloops
Thompson, David W.	Eburne
Verchere, Frank G.	Mission City
Vroom, Paul N.	St. Stephen, N. B.
Wilkinson, Thomas G.	Vancouver

GRADUATES

FACULTY OF ARTS AND SCIENCE

Name.	*Home Address.*
Abercrombie, C. William	Vancouver
Brink, Reginald M.	Vancouver
Brown, Joseph F.	Hammond
Burton, John S.	Vancouver
Clark, Charles A. F.	Vancouver
Crozier, Robert N.	Vancouver
Crummy, Richard B.	Vancouver
Crute, Ebenezer	North Vancouver
Dallas, Dorothy F.	Vancouver
Duffy, James	Co. Clare, Ireland
Elliott, M. Louise	Vancouver
Garner, William	Trail
Gibbard, John E.	Mission City
Gill, Alan F.	North Vancouver
Gillen, Agnes S.	Abbotsford
Gordon, Margaret	Vancouver
Hamilton, George H.	Vancouver
Harvey, Isobel	Vancouver
Heaslip, Leonard W.	Vancouver
Hewetson, Henry W.	Vancouver
Hodgson, C. Walter	Vancouver
Johnston, C. Islay	North Vancouver
Lee, Doris E.	Bonnington Falls
Lewis, Hunter C.	Vancouver
Limpus, George H.	Vancouver
Lock, Ernest H.	New Westminster
Mather, Greta E.	North Vancouver
Mathews, Helen M.	Vancouver
Nuttall, T. Herbert	New Westminster
Offord, Harold R.	Vancouver
Reith, Helen W.	Penticton
Smith, D. Blair	Vancouver
Smith, Gertrude M.	New Denver
Southon, H. Stewart A.	Vancouver
Wilby, G. Van	Vancouver

FACULTY OF APPLIED SCIENCE

Bramston-Cook, H. E.	Vancouver
Graham, William E.	Vancouver
Huggett, Jack L.	North Vancouver
McLashlan, C. Gordon	Vancouver
Osborne, Freleigh F.	Vancouver
Peck, W. Swanzey	Vancouver
Smitheringale, William V.	Vancouver

FACULTY OF AGRICULTURE

Clarke, George E. W.	Vancouver
Fleming, William M.	Duncan
Robertson, William H.	Victoria
White, Edward W.	Victoria

TEACHER TRAINING COURSE

Name.	*Home Address.*
Albo, Joseph	Rossland
Aske, Flora M.	Vancouver
Astell, Mary C. L.	Vancouver
Baird, John D.	Vancouver
Beckwith, Grace D. McL.	Victoria
Buchanan, Allen	Vancouver
Burton, Erling W.	Vancouver
Cawthorne, Winifred B.	Victoria
Chapin, F. Marie	Kelowna
Chapman, Mary I.	New Westminster
Coates, Bertha W.	Vancouver
Cope, Mary C. L.	Vancouver
Crawford, Howard S.	Detroit, Mich.
Creelman, Helen	Vancouver
Edwards, Nellie	Vancouver
English, John F.	Chilliwack
*Forward, J. Margaret	Ladysmith
Gibbard, John E.	Mission City
Goodchild, Margaret E.	Matsquin
Green, Rowland T.	Kaslo
Harman, Eileen B.	Vancouver
Harris, Richard C.	New Denver
James, Fern D. G.	Vancouver
Johnston, Florence E.	Vancouver
Jones, John D.	Cloverdale
Knowling, Edith L.	Vancouver
Langdale, Ada G.	Vancouver
Lawrence, Mary E.	St. George, N. B.
Lillico, Annie B.	Vancouver
Limpus, George H.	Vancouver
Meadows, Lyman E.	Vancouver
McDonald, Gertrude E.	Nelson
McMorris, Frances E.	Vancouver
McRae, Rena V.	Vancouver
MacWilliam, Ruth A.	Vancouver
Newton, Edward H.	Vancouver
Notzel, Clifford A.	Vancouver
Paradis, Josephine A.	Enderby
Parsons, Arthur V.	Nakusp
Peck, Dorothy C.	Vancouver
Pittendrigh, Mary A.	Vancouver
Reid, Mary L.	Vancouver
Reith, Helen W.	Penticton
Schmidt, Walter E.	Vancouver
Smith, Agnes C.	Kamloops
Stewart, Edith M.	Vancouver
Strauss, Jean L.	Vancouver
Taylor, Clifford N.	Vancouver
Topper, Robert	Mission City
Turner, Alice V.	Vancouver
Turpin, Helen M.	Vancouver
Williams, Florence I.	Vancouver
Wyllie, William J. E.	Kamloops

*Deceased

Registration for 1924-25

Faculty of Arts and Science

	Women	Men	Total	
First Year	263	263	526	
Second Year	110	103	213	
Third Year	85	68	153	
Fourth Year	70	55	125	
Unclassified	14	53	67	
				1084

Faculty of Applied Science

	Women	Men	Total	
First Year	0	62	62	
Second Year	0	47	47	
Third Year	0	23	23	
Fourth Year	0	32	32	
Unclassified	0	13	13	
				177

Nursing

	Women	Men	Total	
First Year	15	0	15	
Second Year	6	0	6	
Third Year	5	0	5	
Fourth Year	1	0	1	
Fifth Year	4	0	4	
Unclassified	5	0	5	
				36

Faculty of Agriculture

	Women	Men	Total	
First Year	0	11	11	
Second Year	2	5	7	
Third Year	0	8	8	
Fourth Year	0	15	15	
Unclassified	2	12	14	
				55

Graduates

	Women	Men	Total	
Arts and Science	11	24	35	
Applied Science	0	7	7	
Agriculture	0	4	4	
				46

Teacher Training Course

	Women	Men	Total	
Teacher Training Course	34	19	53	
				53
				1451

Short Courses

Summer School	294	
Agriculture	61	
Public Health Nursing	3	
Botany	57	
		415

EXAMINATION RESULTS (Session 1923-24)
DEGREES CONFERRED

Faculty of Arts and Science

CONFERRING THE DEGREE OF MASTER OF ARTS

(Names in alphabetical order)

Bain, Janet Burnett, B.A.	Major: Bacteriology Minor: Chemistry
Beech, William Kenneth, B.A.	Major: Economics Minor: Government
Bolton, Lloyd Lawrence, B.A.	Major: Zoology Minor: Botany
Kerr, Donna Enid, B.A.	Major: Chemistry Minor: Bacteriology
LeNeveu, Allan Henry, B.A.	Major: Economics Minor: Sociology
Osterhout, Minnie Mildred, B.A.	Major: Philosophy Minor: English
Smith, William Rosswell, B.A.	Major: History Minor: Economics
Weld, Charles Beecher, B.A.	Major: Bacteriology Minor: Chemistry
Wilby, George Van, B.A.	Major: Zoology Minor: Botany

CONFERRING THE DEGREE OF BACHELOR OF ARTS

With Honours

(Names in alphabetical order)

Albo, Joseph	(1st class honours in French
Aske, Magdalene	(2nd class honours in English and Greek)
Bell, Frederick Heward	(1st class honours in Biology)
Brand, Frederick James	(1st class honours in Mathematics)
Bruun, Arthur Geoffrey	(1st class honours in History and Philosophy)
Cowdell, Lillian Francis	(2nd class honours in Economics and History)
Crozier, Robert Nelson	(1st class honours in Chemistry)
Curtis, Philip Sheldon	(1st class honours in Philosophy)
Elsey, Charles Roy	(1st class honours in Biology)
Gibbard, John Edgar	(2nd class honours in History and Economics)
Gill, Alan Findlay	(1st class honours in Chemistry)
Harman, Eileen Beatrice	(1st class honours in French)
Ingram, Lucy	(1st class honours in French and English)
Jackson, Eric Whitcliffe	(2nd class honours in History)
Limpus, George Henry	(1st class honours in Bacteriology and Biology)
Mather, Greta Ellen	(1st class honours in Economics)
Morgan, Lorne Thompson	(1st class honours in Economics)

Notzel, Clifford Arthur ..... (1st class honours in French)
Offord, Harold Reginald ..... (2nd class honours in Chemistry)
Paradis, Josephine Alphonsine .. (1st class honours in French)
Riddehough, Geoffrey Blundell .. (1st class honours in English and Latin; 1st class honours in English Language and Literature)
Simpson, William Wesley ..... (1st class honours in Biology)
Tolman, Carl ..... (1st class honours in Geology)
Wheeler, Arthur Lloyd ..... (2nd class honours in English and Latin)

In Pass Course

(Names in order of merit)

Class I

MacKinnon, Isabel Mary

Class II

Elliott, Marjorie Louise
Jones, John Denzil
Cawthorne, Winifred Beatrice
Goodwin, Theodore Howard
Burton, Jean
James, Fern Dulcie Grace
Telfer, Jean
Brink, Reginald Murray
Fawcett, Marie Louise
Teeple, Mildred Grace
Evans, Muriel Magdalene
Grant, John Allan
Turpin, Helen Mary
Hodgson, Charles Walter
Astell, Mary Catherine Laura
Gillen, Agnes Sarah
Higginbotham, Frances Irene
Topper, Robert
Burton, John Stoneman
Coates, Bertha Wilhemina
Somerset, Ventris Ann
Cantelon, Harold Brock
Goodchild, Margaret Elizabeth
Hyland, Ivadele Harriette
Lundie, James Athol
Macnaghten, Kathleen Edith
Lewis, Gordon Allen
Reith, Helen Wilma
Archibald, Laura Mary
Forward, Jessie Margaret
Yonemura, Hozumi
Davidson, John Ross
Kievell, Myrtle Lorraine
Langdale, Ada Grace
McDonald, Gertrude
Edgell, Phyllis Margaret
Edgett, Lloyd Warren
Green, Rowland, Thomas
Miller, George Stanley
Palmer, Sarah
Peck, Dorothy Campbell
Turner, Alice Verna
Williams, Florence Irene

Passed

Ormond, Eleanor Olive
Lillico, Annie Brown
McRae, Rena Viola
Smith, Donald Blair
Cope, Mary Catherine Lillian
Holmes, Dorothy Margaret
McLane, Paul Vernon
Mangat, Nahar Singh
Meadows, Lyman
Johnston, Florence Evangeline
Reilly, Ruby Rhoda
Cross, Henry Norman
Jones, Florence Aileen
McMorris, Frances Elizabeth
Pittendrigh, Mary Aleda
Hislop, Gordon Bruce
Munn, Lyle Errington
Smith, Agnes Christina
Smith, Jones Alexander Campbell

Aegrotat

Mitchell, John Hardie

Double Course
(Arts and Applied Science)
Letson, Gordon McIntosh

Unranked

Buchanan, Allen
Caspell, Jessie Marguerite
Colton, Leonard Conroy
Creelman, Helen
Dawson, David Collins
Hunter, Robert
Jardine, Agnes Alexander
Livingston, Garrett Stuart
Mitchell, James Reid
Maclean, Ethel Margaret

Faculty of Applied Science

CONFERRING THE DEGREE OF MASTER OF APPLIED SCIENCE

Ure, William, B.A.Sc. ..... Major: Chemistry
Minor: Physics

CONFERRING THE DEGREE OF BACHELOR OF APPLIED SCIENCE
(Names in order of merit)

Chemical Engineering

Class I

Bramston-Cook, Harold E.
Huggett, Jack L.

Class II

Corfield, Guy
Charnley, Frank
Bickell, Leslie K.
Elliott, Frederick G.
Wallis, Hubert G.

Passed

None

Civil Engineering

Class I

Finlay, Allan H.
Stroyan, Philip B.

Class II

Gwyther, Valentine M. W.
Coffin, Fred W.

Passed

None

Electrical Engineering

Class I

Underhill, Jack E.
Heaslip, Wilbur J.
Stacey, Leonard B.
Norman, George H. C.

Class II

Peele, Percy J. F.
Graham, Roland C.

Passed

None

Forest Engineering

Class I

Barr, Percy M.

Class II

McKee, Robert G.
Ternan, Clifford C.
Carlisle, Kenneth W.

Passed

None

Geographical Engineering

Class I

Evans, Charles S.
Stockwell, Clifford H.

Class II

Guernsey, Tarrant D. (B.A.Sc. in Met. Eng.)

Passed

None

Mechanical Engineering

Class I

None

Class II

Wolverton, Jasper M.

Passed

Bell, John G.
Hardie, Dudley B.

Metallurgical Engineering

Class I

McLachlan, Gordon C.

Class II

Hedley, Robert H.

Passed

None

Mining Engineering

Class I

Osborne, Freleigh F.
Giegerich, Henry C.

Class II

Lipsey, George C.
Smitheringale, William V.
Falconer, Stuart A.

Passed

Campbell, Douglas S.
McCutcheon, James C.
Jackson, Gerald C. A.
Jure, Albert E.

Unranked

Forrester, William W.

CONFERRING THE DEGREE OF BACHELOR OF APPLIED SCIENCE IN NURSING

(Names in order of merit)

Class I

None

Class II

Cook, Louise
Pearce, Beatrice
Naden, Esther
Wilson, Everilda
Gill, Bonnie

Passed

None

Faculty of Agriculture

CONFERRING THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURE

(Names in alphabetical order)

Kelly, Clifford Darton, B.S.A. ..... Major: Dairying
Minor: Chemistry

Leckie, Claude Perrin, B.S.A. ..... Major: Horticulture
Minor: Plant Pathology

CONFERRING THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE

(Names in order of merit)

Class I

Wilcox, John Carman
Steves, Harold Leslie
Hope, Ernest Charles
Etter, Harold Clinton
Martin, George Rutherford

Class II

Barton, Charles MacKenzie
Wilcox, Ralph Victor
Zoond, Alexander
Ogilvie, Alvin Easton
Russell, Hugh McLaten

Passed

Plummer, Arthur Howard

MEDALS, SCHOLARSHIPS, AND PRIZES

AWARDED MAY, 1924

For Post Graduate Studies

1. University Scholarship, $200.00.....Joseph F. Brown
2. The Anne Wesbrook Scholarship, $100.00..Winifred Cawthorne

Faculty of Arts and Science

Fourth Year

1. The Governor-General's Gold Medal .....G.B. Riddehough
2. The Historical Society Gold Medal .....A. Geoffrey Bruun
3. Alliance Francoise Gold Medal .....Lucy Ingram

Third Year

1. University Scholarship, $75.00.....Edith E. Lucas
2. University Scholarship, $75.00 .....Sydney B. Ingram
3. The Arts '19 Scholarship, $150.00 .....Helen G. MacGill
4. The Gerald Myles Harvey Prize, $50.00—Books..Sylvia Thrupp

Second Year

1. The McGill Graduates' Scholarship, $137.50 ..Sadie M. Boyles
2. University Scholarship, $75.00.....Sadie M. Boyles, by reversion to William Chalmers.
3. University Scholarship, $75.00.....William Chalmers, by reversion to F. Wanetta Leach.
4. The Terminal City Club Memorial Scholarship, $110.00—A. Earle Birney.
5. The Scott Memorial Scholarship, $110.00—Alfreda Berkeley
6. The Shaw Memorial Scholarship, $137.50—John L. Catterall

First Year

1. Royal Institution Scholarship, $75.00.....David C. Warden
2. Royal Istitution Scholarship, $75.00.....Margaret G. Keillor
3. Royal Institution Scholarship, $75.00.....Francis H. Stevens
4. The Vancouver Women's Conservative Associaton Prize, $25.00—Charles Bailey.
5. The P. E. O. Sisterhood Prize, $25.00.....Undine L. Howay
6. The P. E. O. Sisterhood Prize, $25.00.....No award

Faculty of Applied Science

For Post Graduate Studies

The Dean Brock Scholarship, $100.00.....P. M. Barr

Fourth Year

The Convocation Scholarship, $50.00.....J. E. Underhill

Third Year

The Dunsmuir Scholarship, $165.00.....Peter Price

Second Year

University Scholarship, $75.00.....G. W. H. Norman

First Year

Royal Institution Scholarship, $75.00.....F. H. Sanders

Nursing—Public Health

1. Provincial Board of Health Prize, Regular Course, $50.00—Louise Cook.
2. Provincial Board of Health Prize, Short Course, $50.00—Florence L. Fullerton.

Faculty of Agriculture

For Post Graduate Studies

W. C. Macdonald Scholarship, $500.00.....Cecil Lamb

Third Year

1. The B. C. Fruit Growers' Association Scholarship, $100.00—C. W. Argue.
2. The B. C. Dairymen's Association Prizes—Three equal prizes amounting to $100: A. Y. Aylard, R. G. Blair, K. A. Hay

First Year

University Scholarship, $75.00.....Helen Milne

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, $110.00—Marion Mitchell
4. The Historical Society Prize, $25.00.....Harold Cantelon
5. The Captain LeRoy Memorial Scholarship, $250.00—Carl Tolman
6. The Players' Club Prize, $50.00 .....No award
7. University Scholarship for Returned Soldiers, $75.00—H. E. Manson
8. University Scholarship for Returned Soldiers, $75.00—C. A. Gibbard
9. The Letters Club Prize, $25.00 .....H. Carman Sing
10. The Canadian Institute of Mining and Metallurgy—Bursary, $50.00—J. L. Ramsell.
11. The Canadian Club of Vancouver Scholarship—
    First Prize, $200.00.....C. Roy Elsey
    Second Prize, $100.00.....J. C. Wilcox

THE UNIVERSITY OF BRITISH COLUMBIA

TEACHER TRAINING COURSE

1. Explanatory Statement

At the request of the Provincial Department of Education, the University undertook, in September, 1923, the direction of the professional training of candidates for the Academic Certificate.

Courses in elementary methods and in the special subjects of the elementary school curriculum were provided in the Provincial Normal School, and facilities for practice teaching were furnished through the kindness of the Vancouver School Board and the Principal and Staff of the King Edward High School. These courses were open only to University graduates, and the original registration was 55.

The Dean of Arts and Science acted as provisional director and lecturer in the History and Principles of Education and in Educational Psychology. In November, 1923, Dr. George M. Weir, Principal of the Provincial Normal School, Saskatoon, Sask., was appointed Professor of Education and Director of Teacher Training, and assumed the duties of his office January 1, 1924.

Lecturers on Methods in high school subjects were appointed from the University staff.

2. The Course

(*a*) *First Term*—Concurrent with the First Term of the University year.

During this term the Methods courses in elementary school subjects will be given under the supervision of the University. Observation assignments and practice teaching in the elementary school are required.

Texts and references will be announced at the beginning of the term.

(*b*) *Second Term*—Concurrent with the Second Term of the University year.

The Methods courses given during this term by members of the University staff are confined to the high school subjects. Candidates will be permitted to register for professional instruction (including observation assignments and practice teaching in the high school) only in those subjects which they are qualified to teach by reason of their previous academic preparation. Methods courses in three subjects are obligatory.

Texts and references will be announced at the beginning of the term.

(*c*) *Obligatory Subjects*—Required of all candidates for the Academic Certificate.

(1) Educational Psychology—2 hours a week. Both terms.

(2) History and Principles of Education—2 hours a week. Both terms.

(3) School Administration and Law—1 hour a week. Both terms.

Texts and references in the above courses will be announced at the beginning of the First Term.

(*d*) *Observation Assignments and Practice Teaching*—Approximately 100 hours: 40 hours in the elementary school and 60 hours in the high school.

3. Registration and Fee

Documentary evidence of graduation in Arts or Science from a recognized university must be submitted to the University Registrar by all candidates other than graduates of The University of British Columbia. All correspondence in connection with the Teacher Training course should be addressed to the University Registrar, from whom registration cards may be procured.

The fee for the course is sixty dollars, payable in two instalments of thirty dollars each, at the Office of the Bursar, The University of British Columbia.

4. University Privileges and Discipline

All students registered in the Teacher Training course at the University are entitled to the privileges accorded to students in the various Faculties, and are also subject to the regulations of the University regarding discipline and attendance at lectures.

5. Certificate and Diploma

At the close of the session, successful candidates will be recommended to the Provincial Department of Education for the Academic Certificate and to the Faculty of Arts and Science for the granting of the University Diploma in Education.

UNIVERSITY SUMMER SESSION, 1925

Six Weeks—July 6th to August 15th

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 four years.

Summer session students wishing to transfer to the regular 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.

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.

Each student on admittance to the University automatically becomes a member of the Alma Mater Society. All student activities are regulated and questions of student discipline are controlled by the Students' Council. It consists of twelve members, chosen from the Third and Fourth Years. With the exception of the Editor-in-chief of the "Ubyssey," the members are elected by ballot 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, the "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," which is published at the end of the spring term, summarizes the activities of the various classes and societies.

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, membership in which is granted as a result of competitive try-outs, consists of an orchestra and mixed chorus comprising over a hundred students under professional leadership.

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, the chief of which are herewith briefly described:

The Women's Basketball Club enters two teams in the City League.

The Women's Swimming Club competes with the V.A.S.C., and also against Victoria during the annual trip. This year a course in life-saving has been given.

The women may join the Badminton and Tennis clubs, which are under the Men's Athletic Association.

The Grass Hockey Club, though not entered in a league, plays challenge games against the High Schools, New Westminster and Victoria.

The Women's Gymnasium Club meets once a week, under a physical instructor.

The Track Club holds, with the Men's Track Club, a joint meet which takes place annually at Brockton Point, one of the women's events being the relay for the Arts '25 Cup.

A Training Club for all women playing on any University team. This club meets twice a week, under the supervision of the University trainer.

Inter-class matches are arranged in basketball, badminton, swimming, track, etc., for which points are awarded, the winning

class being the holders of the Chris. Spencer Cup for the ensuing year.

Men's Athletics

The Men's Athletic Association endeavors to foster all branches of clean and manly sport.

The Rugby season opens at the beginning of the Fall Term. Practices are held once a week, and teams are entered by the Rugby Club as follows: Two teams play in the Miller Cup League for the city championship, and from these a First Team is chosen to play in the McKechnie Cup League for the provincial championship. The Second and Freshmen teams, the latter comprised entirely of Freshmen, play in the Intermediate League of the city for the Province Cup.

Basketball season follows that of Rugby. Four teams, two senior and two intermediate, are chosen and entered in the City League.

The Soccer Club enters three teams in the City leagues. The first team plays in the First Division League and in the provincial championship series. The second team plays in the Third Division, while the third team is entered in the Junior League.

The Track Club takes charge of all field events, its big features being the Western Canada Inter-collegiate Amateur Athletic Union track meet, the Arts '20 relay race, and the annual inter-class track meet.

The Men's Grass Hockey Club, recently formed, enters a team in the City League.

This year a Canadian Rugby Club has been formed, and two teams have been entered in the City League.

The Rowing Club is affiliated with the Vancouver Rowing Club, and retains its identity as a University Club.

The Ice Hockey Club enters a team each year 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.

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 B. C.)

STAFF

EDWARD B. PAUL, M.A. LL.D. (Aberdeen), Principal, Associate Professor of Classics.

E. HOWARD RUSSELL, B.A. (Queen's), Registrar, 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, Assistant Professor of French.

MISS A. RIDDELL, M.A. (Glasgow), Instructor in English.

W. H. HUGHES, B.A., B.Sc. (Queen's), Assistant in Physical Laboratory.

E. S. FARR, B.A., LL.B. (Toronto), Instructor in History and Economics.

W. H. CHRISTIE, Assistant in Physical Laboratory.

The College at Victoria, B. C., gives instruction in the first two years of the course in Arts and Science. The courses offered are:

First and Second Years

The work of the first two years consists of 30 units, 15 of which must be taken in each year.

Each student must take:—

	UNITS
(*a*) English 1 in the First Year and English 2 in the Second Year	6
(*b*) The first two courses in a language offered for Matriculation, one course in each year	6
(*c*) Mathematics 1 in the First Year	3
(*d*) History 1 or 2 or 3, or Philosophy 1 or Economics 1 (if possible)	3
(*e*) Chemistry 1 or Physics 1	3
(*f*) Three courses—not already chosen—selected from the following:— Chemistry 1, Economics 1, French 1, French 2, Greek 1, Greek 2, Hisory 1, History 2, Latin 1, Latin 2, Mathematics 2, Mathematics 3, Mathematics 4, Philosophy 1, Physics 1	9

The rules and regulations governing the College are the same as those in force in the University.

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 61.)

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 61.)

For further information in reference to Faculty, Courses of Study, etc., see calendar of the College.

RYERSON COLLEGE

(Methodist)

VANCOUVER, B. C.

(In affiliation with The University of British Columbia)

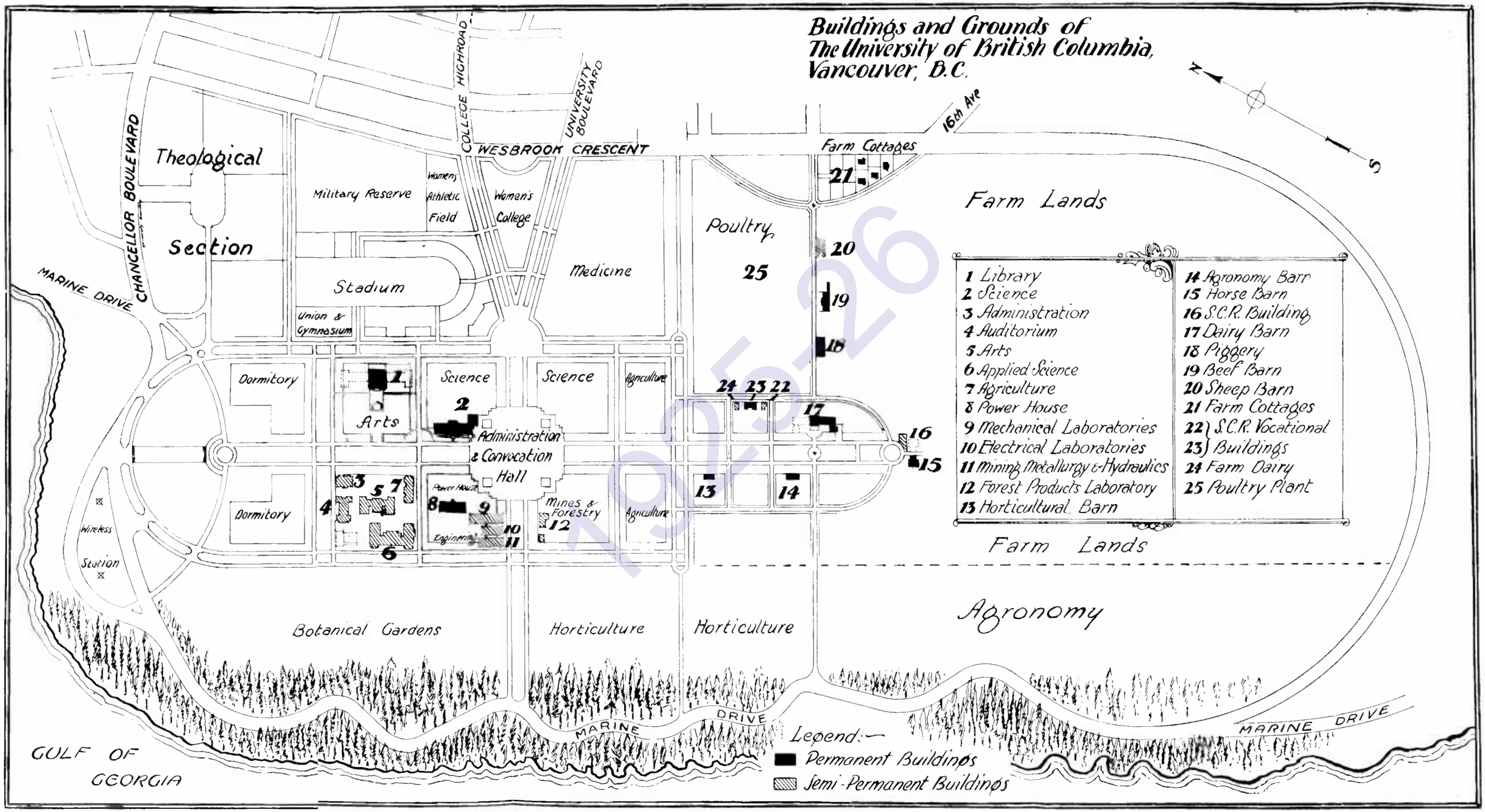
Principal

REV. J. G. BROWN, M.A.

Ryerson College offers courses of instruction in Theology leading to the degree of B.D. and for ordination to the Christian Ministry, and, under the general regulations of the University with reference to affiliated Theological Colleges, provides Religious Knowledge options for which credit is given in the course leading to the B.A. degree. (See Page 61.)

For further information in reference to Faculty, Courses of Study, etc., see calendar of Ryerson College.

Buildings and Grounds of The University of British Columbia, Vancouver, B.C.



1 Library
2 Science
3 Administration
4 Auditorium
5 Arts
6 Applied Science
7 Agriculture
8 Power House
9 Mechanical Laboratories
10 Electrical Laboratories
11 Mining, Metallurgy & Hydraulics
12 Forest Products Laboratory
13 Horticultural Barn
14 Agronomy Barn
15 Horse Barn
16 S.C.R. Building
17 Dairy Barn
18 Piggery
19 Beef Barn
20 Sheep Barn
21 Farm Cottages
22, 23 S.C.R. Vocational Buildings
24 Farm Dairy
25 Poultry Plant

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