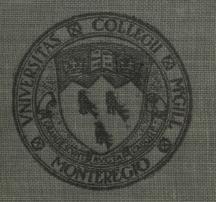
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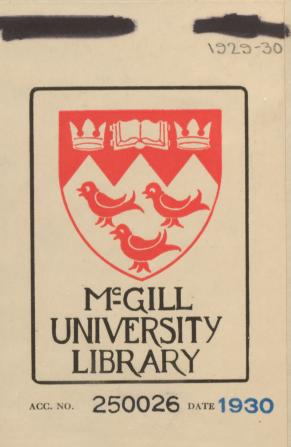
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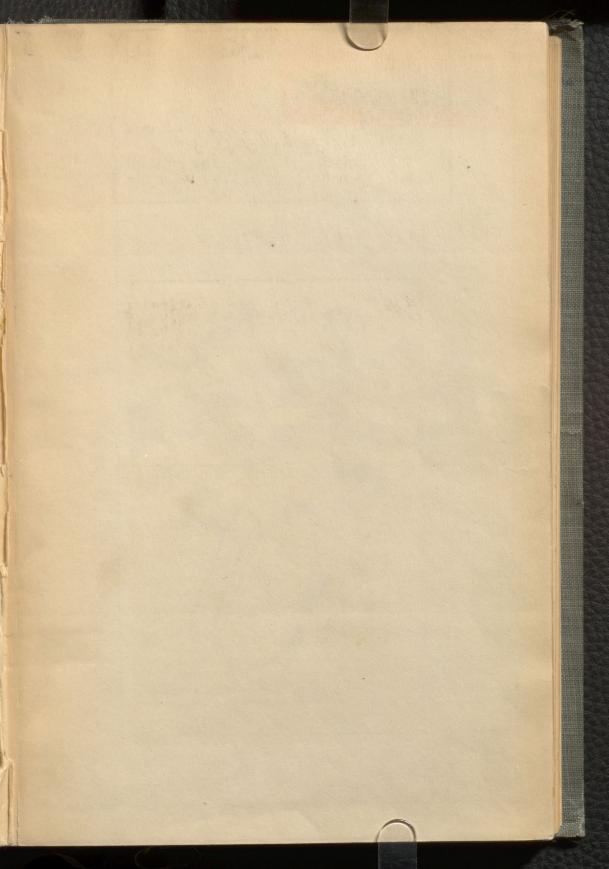
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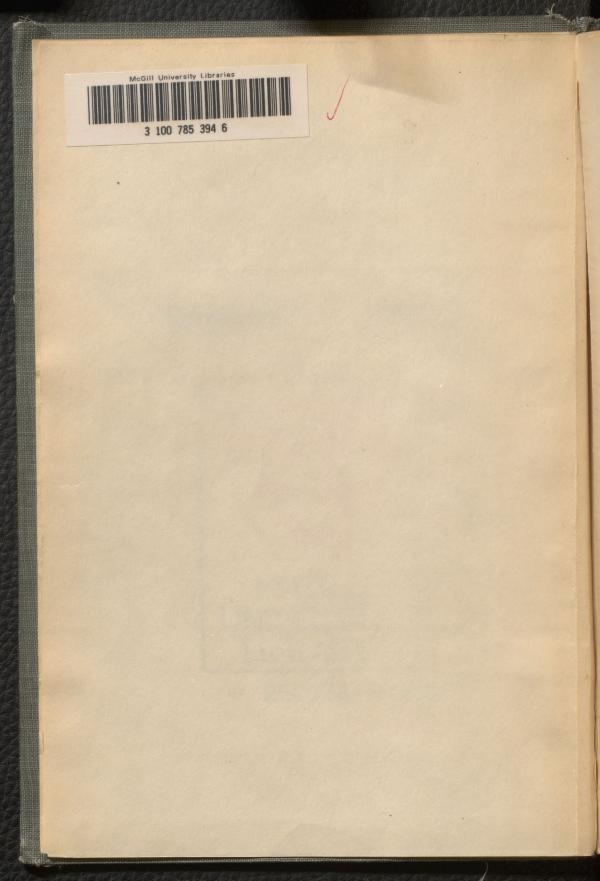
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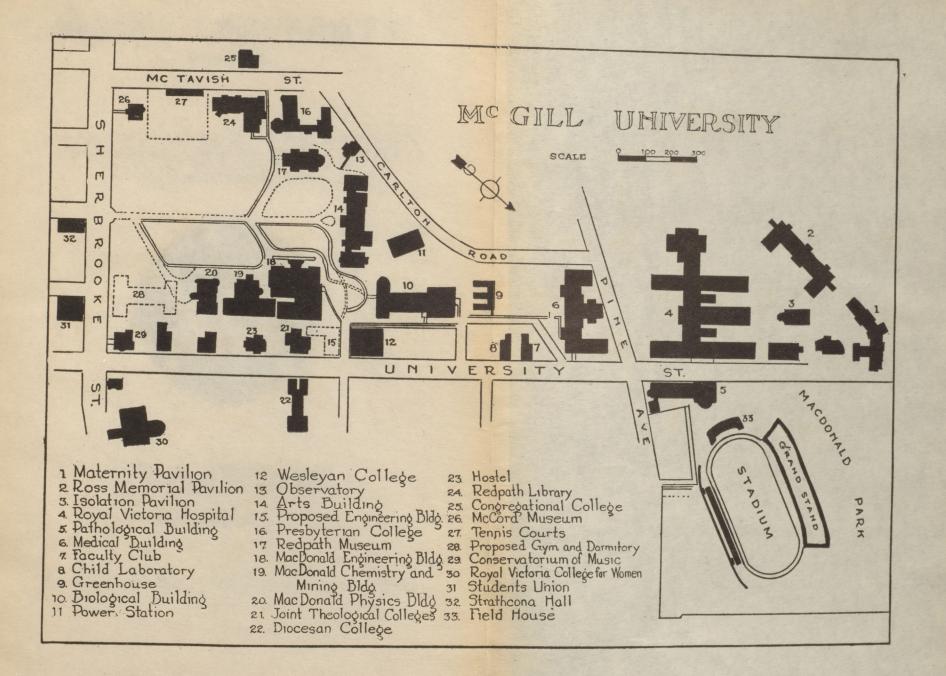
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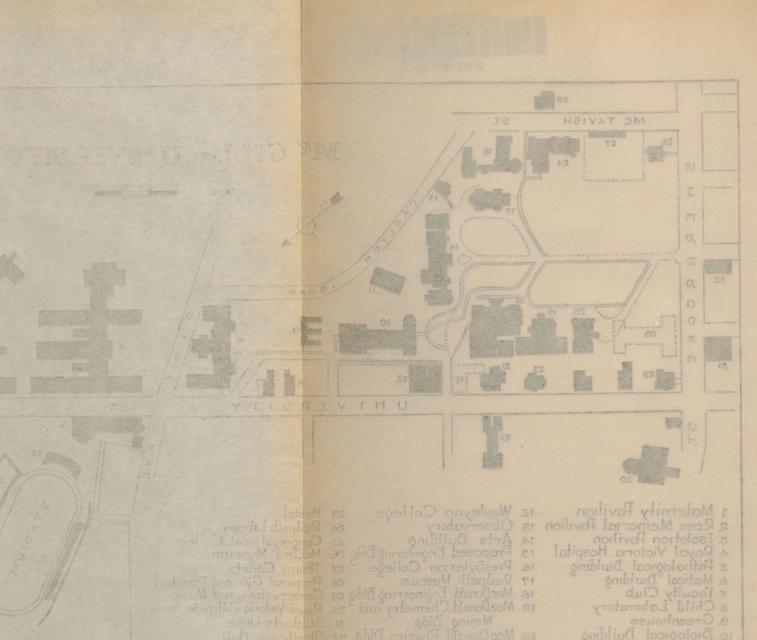
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WALTER CLAPPERTON.	Conservatorium of Music.
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S. A. CRAIG, B.Sc.	uiua Engineering Duitding
Demonstrator in Electrical Enginee	ring. Engineering building.
H. W. CUNNINGHAM.	Macdonald College.
Instructor in Dairying.	Macuonaru Conege.
MISS RENÉE D'AMOUR, L.Mus. Instructor in Violin and Viola.	Conservatorium of Music.
F. T. DAVIES, M.Sc. (absent on leave).	conservatorium or music.
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André Durieux.	
Instructor in Violin and Viola.	Conservatorium of Music.
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T. M. RICHARDSON, B.A., M.D.	School for Social Workers.
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W. L. RITCHIE, M.B. Montreal General Hospital. Demonstrator in Radiology. E. E. ROBBINS, D.V.S., M.D. Demonstrator in Medicine. 574 Durocher Ave., Outremont. J. T. ROGERS, B.A., M.D. Demonstrator in Oto-Laryngology. 1538 Sherbrooke St. West. G. ROMANO. Instructor on the Clarionet. Conservatorium of Music. I. ROSENBAUM, M.D. Assistant Demonstrator in Ophthalmology. Medico-Dental Building, 1396 St. Catherine St. West. A. Ross, M.C., B.A., M.D. Demonstrator in Anatomy and Assistant Demonstrator 5027 Sherbrooke St. West. in Surgery. DUDLEY E. Ross, M.Sc., M.D. Demonstrator in Anatomy and Assistant Demonstrator Medical Arts Building. in Surgery. W. W. RUDNCK, M.D. 1499 Crescent St. Demonstrator in Anatomy. W. R. SAWYER. Demonstrator in Chemistry. Chemistry Building. JESSIE BOYD SCRIVER, B.A., M.D. Research Fellow, University Medical Clinic. Royal Victoria Hospital. W. DEM. SCRIVER, B.A., M.D. Research Fellow, University Medical Clinic and Demonstrator Royal Victoria Hospital. in Pharmacology. H. N. SEGAL, M.D. Assistant Demonstrator in Medicine and Physiology. Medical Arts Building. M. I. SENG, M.D. Demonstrator in Urology. Medical Arts Building. MISS D. SHEARWOOD-STUBINGTON, A.R.C.M. Instructor in Pianoforte. Conservatorium of Music. P. G. SILVEI, M.D. Demonstrator in Anatomy and Assistant Demonstrator in 2019 Peel St. Surgery. R. C. SILVER, B.Sc. Demonstrator in Electrical Engineeering. Engineering Building. H. A. SIMS, M.D. Demonstrator in Psychiatry. Medical Arts Building. ZERADA SLACK, B.A. Assistant Physical Director for Women. Royal Victoria College. KENNETH W. SPENCE, B.A. Arts Building. Demonstrator in Psychology.

MARGARET L. SMYTH, B.A.	
Assistant in Sociology.	Arts Building.
JANE D. SPIER, M.Sc.	
Instructor in Botany.	Biological Building.
J. B. SPIERS, L.A.R.M., A.R.C.M.	
Instructor in Pianoforte.	Conservatorium of Music.
Mrs. B. Stackhouse.	
Instructor in Violin and Viola. 22 Webst	er Ave., St. Lambert, Que.
MR. A. W. STANFORD.	Madada Physical Dis
Instructor in French Horn.	Conservatorium of Music.
G. A. STANTON, L.R.A.M.	
Instructor in School Class Music.	Conservatorium of Music.
N. O. STEIN.	
Demonstrator in Chemistry.	Chemistry Building.
A. Stewart, M.D.	chicking Dunung.
Demonstrator in Anatomy and Surgery.	746 Sherbrooke St. West.
C. C. Stewart, M.D.	The short build built the
Demonstrator in Anæsthesia.	746 Sherbrooke St. West.
R. CAMERON STEWART, B.Sc. (Arts), M.D.	The Sherbrooke St. West.
	40 Côte St. Antoine Road.
M. G. STURROCK, M.Sc.	to cote St. Hintoine Road.
Demonstrator in Chemistry.	Chemistry Building.
HUGH A. STUART, M.D.	onemistry bunding.
Assistant Demonstrator in Pathology.	Pathological Institute.
Colin Sutherland, B.A. (Dal.), M.D.	- and
Demonstrator in Medicine.	1509 Sherbrooke St.
H. S. SUTHERLAND.	
Demonstrator in Chemistry.	Chemistry Building.
George M. Tait, B.S.A.	All internations in the first in
Assistant in Horticulture.	Macdonald College.
BERTRAM W. TAYLOR, B.Sc.	when when the state of the
Demonstrator in Zoology.	Biological Building.
F. C. THOMSON, D.D.S.	
Clinical Demonstrator in Dentistry.	Medical Arts Building.
C. J. TIDMARSH, M.A., M.D.	
Assistant Demonstrator in Medicine and	Pharmacology.
	1390 Sherbrooke St. W.
F. J. TOOLE, M.Sc.	
Demonstrator in Chemistry.	Chemistry Building.
R. G. TOWNSEND, B.Sc., M.D.	
Assistant Demonstrator in Pathology.	Pathological Institute.
G. E. TREMBLE, M.D., C.M., D.L.O. R. C. of	P. and R. C. of S. (Eng.).
Assistant Demonstrator in Oto-Laryngo	logy.

1390 Sherbrooke St. West.

R. DE H. TUPPER. Instructor in Bassoon and Secretary of the Conservatorium 677 Sherbrooke St. West. of Music NORMAN VINER, B.A., M.D. 1396 St. Catherine St. Demonstrator in Neurology. F. M. VAN WAGNER, B.P.E. Track Coach and Assistant Physical Director. 3484 University St. ETHEL WAIN. Assistant Physical Director for Women. School of Physical Education. A. H. WALKER. Instructor in Floriculture. Macdonald College. J. J. WALKER, B.A., M.D. Demonstrator in Medicine. Medical Arts Building. R. VANCE WARD, M.D. Demonstrator in Industrial Hygiene. 1060 Bernard St. W. E. E. WATSON. Demonstrator in Physics. Physics Building. JOHN J. WEATHERSEED. Instructor in Pianoforte and Organ. Conservatorium of Music. T. N. WHITE, M.Sc. Demonstrator in Physics. Physics Building. W. E. WHITEHEAD. Assistant in Entomology. Macdonald College. J. С. WICKHAM, В.А., М.D. Demonstrator in Medicine. 4484 Sherbrooke St., Westmount. W. E. WILLIAMS. M.D. Demonstrator in Pediatrics. 1834 Park Ave. N. T. WILLIAMSON, M.D. Demonstrator in Orthopædic Surgery. Medical Arts Building. A. R. WINN, B.Sc., D.D.S. Clinical Demonstrator in Dentistry. 14 Phillips Square. R. H. WRIGHT. Demonstrator in Chemistry. Chemistry Building. MRS. W. J. WRIGHT, R.N. Instructor in Home Nursing. Macdonald College.

ACADEMIC YEAR, 1929-30			
SEPTEMBER, 1929			
1 SUNDAY 2 Monday 3 Tuesday 4 Wednesday 5 Thursday 6 Friday 7 Saturday	Last day for receiving applications for the Matriculation Examination.		
8 SUNDAY 9 Monday 10 Tuesday 11 Wednesday 12 Thursday 13 Friday 14 Saturday	Register opens for Students in Physical Education. Register opens for Students in Medicine and Dentistry. Hostel opens. Matriculation Examination begins. Exhibition, Scholarship and Sup- plemental Examinations in Arts. Schoo lof Physica lEducation opens.		
15 SUNDAY 16 Monday 17 Tucesday 18 Wednesday 19 Thursday 20 Friday 21 Saturday	Conservatorium of Music opens. Lectures begin in Medicine and Dentistry.		
22 SUNDAY 23 Monday	Register opens for Students in Law, the School for Social Workers, First Year Applied Science and others in Applied Science who have no condi- tions.		
24 Tuesday 25 Wednesday 26 Thursday 27 Friday 28 Saturday	Registration of Students in Arts and the Library School. Registration of Students in Arts, Applied Science and the Library School. Registration of Students in Arts and the Library School.		
29SUNDAY30Monday	Lectures begin in Arts, Applied Science, Law, and the Schools for Social Workers and Graduate Nurses.		
	OCTOBER, 1929		
1 Tuesday 2 Wednesday 3 Thursday 4 Friday 5 Saturday	Meeting of McCord Museum Committee.		
6 SUNDAY	Founder's Day.		
7 Monday 8 Tuesday 9 Wednesday 10 Thursday 11 Friday 12 Saturday	General Convocation for Conferring Degrees. Opening Address for the Session. Register closes in Medicine. Meeting of the Faculty of Applied Science. Library Committee Meeting. Regular Meeting of Corporation. Summer Essays in Applied Science to be sent in. Sports Day. No Lectures.		
<ol> <li>SUNDAY</li> <li>Monday</li> <li>Tuesday</li> <li>Wednesday</li> <li>Thursday</li> <li>Friday</li> <li>Saturday</li> </ol>	Cadina and Carrier and Carrier and Cadina an		
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5 Tuesday 6 Wednesday		
7 Thursday 8 Friday	Meeting of the McCord Museum Committee.	
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10 SUNDAY	and the second of the second se	
11 Monday 12 Tuesday	Thanksgiving Day. No Lectures.	
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11 Wednesday 12 Thursday	Regular Meeting of Corporation.	
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20 Friday 21 Saturday	Last day of lectures before Christmas.	
22 SUNDAY	Last day of rectared before entronings.	
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24 Tuesday 25 Wednesday	Christmas Day.	
26 Thursday		
21 Friday		
27 Friday 28 Saturday		

	JANUARY, 1930	
1 Wednesday 2 Thursday 3 Friday 4 Saturday	New Year's Day. Meeting of the McCord Museum Committee.	Andreas and a second se
5 SUNDAY	All Wester of the Market Market Countration in the	
6 Monday 7 Tuesday 8 Wednesday 9 Thursday 10 Friday 11 Saturday	Lectures resumed in all Faculties. Meeting of the Science. Library Committee Meeting.	Faculty of Applied
12 SUNDAY	Posterio Francisco Press State	
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5 Wednesday 6 Thursday 7 Friday	Meeting of the McCord Museum Committee.	
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<ul> <li>8 Saturday</li> <li>9 SUNDAY</li> <li>10 Monday</li> <li>11 Tuesday</li> <li>12 Wednesday</li> <li>13 Thursday</li> <li>14 Friday</li> </ul>	Founder's Day, Macdonald College. Regular Meeting of Corporation	
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MARCH, 1930
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JULY, 1930				
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#### HISTORY AND CONSTITUTION

# McGill University

#### HISTORY AND CONSTITUTION

#### FOUNDATION AND HISTORY

McGill University owes its origin to a private endowment. It was founded by the Hon. James McGill, a leading merchant and publicspiried citizen of Montreal, who died in 1813. By his will, dated January 8th, 1811, he bequeathed his property of Burnside (consisting of 4i acres of land with the dwelling-house and other buildings thereon) and a sum of £10,000 in money to found a college in a provincial universty, the erection of which had already been provided for by the Britsh Government. The four trustees appointed under his will were directed to convey the property of the bequest to the Royal Institution for the Advancement of Learning, a body which, in 1802, had been incoporated by the Legislature "for the establishment of free schools and the advancement of learning" in the Province of Quebec. The conditions upon which the property was to be transferred to the Royal Institution for the Advancement of Learning were, mainly, that the Institution should, within ten years after the testator's decease, erect and establish on his Burnside estate "a University or College for the purposes of education and the advancement of learning in this Province," and that the college, or one of the colleges in the University if established, should "be named and perpetually be known and distinguished by the appellation of McGill College." Owing to persistent opposition by the leaders of one section of the people to any system of government education and to the refusal of the Legislature to make the grants of land and money which had been promised, the proposed establishment of the provincial university by the British Government was abandoned.

In so far as the McGill College was concerned, however, the Royal Institution at once took action by applying for a Royal Charter. Such a clarter was granted in 1821, and the Royal Institution prepared to take possession of the estate, but, owing to protracted litigation, this was not surrendered to them till 1829, when the work of teaching was begun in two faculties, Arts and Medicine. The record of the first thirty years of the University's existence is an unbroken tale of financial embarrassment and administrative difficulties. The charter was cumbrous and unwieldy, and unsuited for a small college in the circumstances of this country, and the University, with the exception of its medical faculty, became almost extinct. But after thirty years the citizens of

#### HISTORICAL CALENDAR

Montreal awoke to the value of the institution which was struggling in their midst. Several gentlemen undertook the responsibility of its reorganization and, in 1852, an amended charter was secured. The Governor-General of Canada for the time being, Sir Edmund Head, became interested in its fortunes, and in 1855, with the advent of a new Principal, an era of progress and prosperity began.

#### HISTORICAL CALENDAR

October	6,	1744	James McGill born.
January	8,	1811	Date of Will of Hon. James McGll, bequeathing
			to certain persons, for transfer to the Royal In-
			stitution for the Advancement of Learning, his
			Burnside property of 46 acres and £10,000 in
			money, for the founding of McGill College.
December	19,	1813	James McGill died.
March	31,	1821	Royal Charter granted to the Royal Institution for
			the Advancement of Learning for the foundation
			of McGill College.
May			Montreal General Hospital opened for patients.
January		1823	Charter granted to the Montreal General Hospital.
October		1824	Lectures begun in the Montreal Medical Institution.
January	29,	1829	Venerable Archdeacon Mountain appointed Prin-
			cipal. Teaching begun in two Faculties, Arts and
The first on	olia	3 70	Medicine.
June	28,	1829	The Montreal Medical Institution became the
origines in or			Medical Faculty of McGill University.
April		1834	Principal Mountain resigned.
April		1834	Rev. T. T. Uxford appointed Principal.
July		1835	Principal Uxford resigned.
		1835	Rev. John Bethune appointed Principal, pro tem.
July		1843	Rev. John Bethune appointed Principal.
		1846	Principal Bethune resigned.
July	1,	1846	Mr. Edward Allen Meredith appointed Principal. Course in Law begun in the Faculy of Arts.
		1848	Amended Charter obtained.
TI	1	1852	
February			Principal Meredith resigned. Hon. Mr. Justice C. D. Day appointed Principal.
February	1,	1853	
		1052	pro tem. Faculty of Law established.
C	0	1853	
September			Principal Day resigned. Sir William Dawson appointed Prncipal.
September	8,	1855	Course in Engineering begun in the Faculty of
		1856	Arte

#### HISTORICAL CALENDAR

October	10	1862	William Molson Hall opened.
October	10,	1863	Observatory opened.
		1864	Congregational College of Canada opened in
		1001	Montreal and affiliated to McGill University.
			(This College had been founded in Dundas,
			Ontario, in 1839.)
		1865	Montreal Presbyterian College founded. (Work
			begun in the Lecture Hall of Erskine Church,
			corner of St. Catherine and Windsor Streets.)
		1870	Courses of lectures by McGill Professors estab-
			lished for women.
		1871	Engineering Course amplified into the Department
			of Practical Science in the Faculty of Arts.
		1872	Work of the Faculty of Medicine transferred from
			their downtown quarters to the McGill Campus.
		1873	Diocesan College founded.
		1873	First Montreal Presbyterian College Building
			erected.
		1875	Wesleyan Theological College opened.
		1878	Faculty of Applied Science organized.
		1879	Wesleyan Theological College affiliated to McGill
			University.
		1880	Diocesan College affiliated to McGill University.
August	16,	1882	Peter Redpath Museum opened.
		1882	Presbyterian College enlarged by the erection of
			the David Morrice Hall.
		1883	Old Wesleyan Theological College erected.
		1884	Present Congregational College Buildings opened.
			(From 1864 to 1884 the work of the College had
			been carried on first in Zion Church and after-
		1004	wards in Emmanuel Church.)
		1884	Women admitted to courses in Arts leading to degrees, under the Donalda endowment.
February	24	1903	Macdonald Physics and Engineering Buildings
rebruary	24,	1095	opened.
July	31	1893	Sir William Dawson resigned the Principalship.
October		1893	Redpath Library opened.
OCTODEL	01,	1894	Observatory enlarged.
		1894	Royal Victoria Hospital opened.
August	7.	1895	Sir William Peterson appointed Principal.
		1895	- A tract oi about 35 acres, comprising the top of
			Westmount Mountain, purchased and donated to
			the University by Sir William Macdonald.
		1896	Present Montreal Diocesan College Buildings
			opened.

#### HISTORICAL CALENDAR

December September November September	4, 18,	1899 1899	Department of Architecture established. Macdonald Chemistry and Mining Building opened. Royal Victoria College for women opened. Sir William Dawson died. Strathcona Medical Building opened. Dental Department opened in connection with the
October	14,	1904 1905 1905 1906 1906	Faculty of Medicine. Conservatorium of Music opened. Strathcona Hall opened. (This is the home of the Students' Christian Association of McGill University.) The Medical Faculty of Bishop's College analga- mated with McGill. McGill Union (the students' social centre) opened. Department of Commerce established under the
			Faculty of Arts.
April	5.	1907	Macdonald Engineering Building burned.
66		1907	Medical Building burned.
66 —		1907	Faculty of Agriculture established.
November		1907	Macdonald College opened.
April		1909	New Engineering Building opened.
		1909	Power Plant erected.
		1909	Joseph property, at the south-west corner of the McGill Campus, purchased and donated to the University by Sir William Macdonald.
June	5	1911	New Medical Building opened.
July		1911	Gift of Frothingham, Molson and Law properties (25 acres) from Sir William Macdonald.
	-24	1911	\$1,500,000.00 raised chiefly from the citizens of
20	-47,	1911	Montreal as a general endowment for the Uni- versity.
entitulati		1912	Montreal Co-operating Theological Colleges estab- lished. (This was a union of the Congregational, Diocesan, Presbyterian and Wesleyan Colleges for a certain number of lecture courses.)
		1912	McGill School of Physical Education established.
		1912	New Wesleyan Theological College opened.
		1915	McGill Stadium completed. (This was erected on Macdonald Park, which was donated to the Uni- versity by Sir William Macdonald in 1911.)
		1917	Montreal College of Pharmacy incorporated with McGill University as the Department of Pharmacy
			of the Faculty of Medicine.

HISTORICAL CALENDAR

February 25,	1918	Gift of \$1,000,000 from the Carnegie Corporation
		of New York." in recognition of the noble and
		devoted service and sacrifice of McGill towards
		Canada's part in the Great War."
May 1.	1918	Sir William Peterson resigned the Principalship
have been a second		on account of ill-health.
	1918	Department of Social Science established.
October 25.	1919	Name of the McGill Stadium changed to "The
October 23,	1919	Percival Molson Stadium" and formally dedicated
		to the memory of the late Percival Molson, who
		was killed in the Great War and who bequeathed
		\$75,000 for its erection.
	1919	Faculty of Dentistry established.
	1920	Faculty of Music established.
	1920	School for Graduate Nurses established.
	1920	Sir Arthur Currie appointed Principal.
November		
15-20,	1920	Over \$4,000,000 subscribed by citizens of Montreal
		and graduates for the funds of the University;
		and \$1,000,000 granted for the same purpose by
		the Government of the Province of Quebec, and
		\$1,000,000 by the Rockefeller Foundation of New
		York for medical education.
January 4,	1921	York for medical education. Sir William Peterson died.
v v ,		Sir William Peterson died.
October 26,	1922	Sir William Peterson died. Biological Building opened.
October 26,		Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation
October 26, June 5,	1922 1924	Sir William Peterson died. Biological Building opened.
October 26, June 5, October 6,	1922 1924 1924	Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation for the purpose of establishing a medical clinic. Pathological Institute opened.
October 26, June 5, October 6,	1922 1924 1924 1925	Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation for the purpose of establishing a medical clinic. Pathological Institute opened. Roddick Memorial Gates opened.
October 26, June 5, October 6,	1922 1924 1924	Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation for the purpose of establishing a medical clinic. Pathological Institute opened. Roddick Memorial Gates opened. Opening of the Royal Victoria-Montreal Mater-
October 26, June 5, October 6, May 28,	1922 1924 1924 1925 1926	Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation for the purpose of establishing a medical clinic. Pathological Institute opened. Roddick Memorial Gates opened. Opening of the Royal Victoria-Montreal Mater- nity Pavilion.
October 26, June 5, October 6, May 28,	1922 1924 1924 1925	Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation for the purpose of establishing a medical clinic. Pathological Institute opened. Roddick Memorial Gates opened. Opening of the Royal Victoria-Montreal Mater- nity Pavilion. Opening of the reconstructed Arts Building
October 26, June 5, October 6, May 28, October 6,	1922 1924 1924 1925 1926	Sir William Peterson died. Biological Building opened. Gift of \$500,000 from the Rockefeller Foundation for the purpose of establishing a medical clinic. Pathological Institute opened. Roddick Memorial Gates opened. Opening of the Royal Victoria-Montreal Mater- nity Pavilion.

### GOVERNMENT OF THE UNIVERSITY

By the Charter "the Governors, Principal, and Fellows" of the University are constituted a body politic and corporate, with all the usual rights and privileges of corporate bodies. The supreme authority, however, is vested in the Crown, and is exercised by his Excellency the Governor-General of Canada, for the time being, as **Visitor.** This is a special and important feature of the constitution, for, while it gives the University an imperial character and removes it at once from any merely local or party influence, it secures the patronage of the head of the political system of the country.

#### GOVERNMENT OF THE UNIVERSITY

The Governors of the University are the members of the Royal Institution for the Advancement of Learning, above mentioned, and in them are vested the management of finances, the passing of University statutes and ordinances, the appointment of professors, and other important duties. Their number is limited to twenty-five. Three of these are elected by the members of the Graduates' Society and other appointments are made by the nomination of the remaining members with the approval of the Visitor. The President of the Board of Governors is ex-officio Chancellor of the University.

The Principal is the academic head and chief administrative officer. He is appointed by the Board of Governors (of which body he is a member ex-officio). He also holds the office of Vice-Chancellor of the University.

The Fellows (49 in number) are selected with reference to the representation of all the faculties and departments of the University, and of the graduates, affiliated colleges, and other bodies.

The Governors, Principal and Fellows together constitute the Corporation, the highest academical body. Its powers are fixed by statute and include the framing of all regulations touching courses of study, matriculation, graduation, discipline and the granting of degrees.

The carrying out of the regulations of Corporation, along with primary responsibility for the conduct of the educational work of the University, is entrusted to the several Faculties.

#### INCORPORATED AND AFFILIATED COLLEGES

# INCORPORATED AND AFFILIATED COLLEGES

### INCORPORATED COLLEGES

Macdonald College is situated at Ste. Anne de Bellevue, about twenty miles from Montreal. It consists of three departments:—The School of Agriculture, the School of Household Science, and the School for Teachers. Courses leading to the Bachelor's and Master's degrees in Agriculture are under the control of the Corporation of McGill University; all the short term courses in agriculture, as well as the course in domestic science, are under the direction of the Executive Committee of Macdonald College, and those for diplomas to teach in the Province of Quebec are prescribed and regulated by the Department of Education. Full information is given in the Macdonald College Announcement, which will be sent on application to the Registrar, Macdonald College, Que.

The Royal Victoria College is the women's College of McGill University for courses in the Faculty of Arts. For further particulars, see pages 210 to 214.

### AFFILIATED COLLEGES

Acadia, Alberta and Mount Allison Universities and the University of St., Francis Xavier College are affiliated to McGill University to the extept that students who have completed the twoyear course in engineering given by these universities are admitted directly to the Third Year in any of the engineering courses in the Faculty of Applied Science.

Students from these universities entering the Third Year must take the summer school suitable to their course, in May, or the special school in September, which will open in 1929 on September 3rd, in Chemical, Mechanical and Metallurgical Engineering and on September 16th in Civil and Mining Engineering.

Royal Military College.—Graduates of the Royal Military College of Kingston, when specially recommended by the Director of Studies of that Institution, are admitted to the Fourth Year in the Civil Engineering Course and to the Third Year in the other engineering departments of the Faculty of Applied Science. They must in all cases take the respective summer schools pertaining to these several courses, which are held in September, as per the preceding paragraph.

Arrangements have also been made whereby graduates and students of the Mechanical Science course in the University of

#### AFFILIATED THEOLOGICAL COLLEGES

Cambridge will be admitted to advanced standing in the Faculty of Applied Science under definite regulations, particulars of which can be obtained from the Dean of the Faculty.

#### AFFILIATED THEOLOGICAL COLLEGES

The Theological Colleges named below are affiliated to the University under the following arrangements:—Students in these institutions, who are pursuing a double course in Arts and Theology (six years at least) will be exempted from a half course in Arts in each of the Third and Fourth Years or a whole course in either.

The United Theological College of Montreal.—Principal, Rev. James Smyth, B.A., B.D., LL.D., 3506 University St.

The Diocesan College of Montreal.—Principal, Rev. G. Abbott-Smith, M.A., D.D., D.C.L., 3473 University St.

The Presbyterian College, Montreal.—Principal, Rev. F. Scott McKenzie, M.A., 3489 McTavish St.

For Calendars and all necessary information, apply to the Principals of the several Colleges.

#### AFFILIATION TO OTHER UNIVERSITIES

The University is affiliated to the universities of Oxford, Cambridge and Dublin, under conditions which allow an undergraduate who has taken two years' work, and has passed the Second Year sessional examination in Arts, to pursue his studies and take his degree at any of these universities on a reduced period of residence.

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### FACULTIES, COURSES AND DEGREES

The educational work of the University is carried on in McGill College, the Royal Victoria College for Women, and other University buildings in Montreal; and also in Macdonald College at Ste. Anne de Bellevue.

# COURSES FOR DEGREES AND DIPLOMAS

The several courses offered by the University are as follows :--

### In McGill College.

For the degree of Bachelor of Arts (B.A.). " " " Bachelor of Science (B.Sc.). " " " Bachelor of Commerce (B.Com.).

The undergraduate courses of study which lead to the degree of B.A. or B.Sc. extend over four sessions of eight months each. In the Second, Third and Fourth Years extensive options are provided, and certain exemptions are also allowed to professional students. See pages 144 and 148.

The course for the degree of Bachelor of Commerce extends over four years. (Full information is given on pages 215 to 228.)

Courses leading to the degrees of Bachelor of Household Science and Bachelor of Science in Agriculture are also offered. The first two years are taken in the Faculty of Arts and the last two in the School of Household Science or the Faculty of Agriculture, as the case may be. Details of the courses will be found on page 153, and in the Macdonald College Announcement.

The degrees of B.Sc. and M.D. can be obtained in eight years.

The courses in Arts are open to women (who are educated mainly in separate classes) on equal terms with men. Residential accommodation for women students is provided in the Royal Victoria College. Further particulars are given on pages 210 to 214.

Holders of the degree of B.A. from this University are admitted to the study of the learned professions, without preliminary examination, in the different provinces of Canada, and in Great Britain and Ireland, and elsewhere.

Candidates for the degree of B.A., B.Sc., or B.Sc. in Agriculture, can qualify, on graduation, for a First Class High School, or a Specialists' Diploma, as the case may be, by taking in their course, the subjects required by the Department of Education for these diplomas and by doing the practice teaching which the law demands (see pages 170-172).

#### In the Faculty of Applied Science.

For the degree of Bachelor of Architecture (B. Arch.).

For the degree of Bachelor of Science (B.Sc.), in the departments of Chemical, Civil, Electrical, Mechanical, Metallurgical, and Mining Engineering.

The undergraduate courses of study for the degree of B.Sc. extend over four sessions, averaging (with summer sessions) about eight months each, and provide a thorough professional training in the departments mentioned above. Candidates for entrance must pass the Senior Matriculation Examination in certain subjects, or complete one year in the Faculty of Arts. (See page 91.) The course for the degree of B.Arch. extends over five years. Full particulars are given on pages 235-319.

### In the Faculty of Law.

For the degree of Bachelor of Civil Law (B.C.L.).

The undergraduate course for this degree extends over three sessions of eight months each.

### In the Faculty of Medicine.

For the degree of Doctor of Medicine and Master of Surgery (M.D., C.M.).

For the Diploma of Public Health.

For the Diploma of Pharmacy.

The undergraduate course of study leading to the degree of M.D., C.M., extends over five sessions of eight months each, following two pre-medical years in the Faculty of Arts. Further information will be found on pages 320-372.

### In Macdonald College.

For the degree of Bachelor of Science in Agriculture (B.Sc. in Agriculture and B.S.A.).

Other courses in the School of Agriculture.

For the degree of Bachelor of Household Science (B.H.S.), two years in Arts, and two in the School of Household Science.

Other courses in the School of Household Science.

The several courses for teachers' diplomas.

The course of study for the degree of Bachelor of Science in Agriculture extends over four sessions of about eight months each. It aims to provide a thorough theoretical and practical training in the several branches of the science.

The Macdonald College Announcement, containing full details as to buildings, courses, terms of admission, fees, etc., can be obtained from the Registrar, Macdonald College P.O., Que.

### In the Faculty of Dentistry.

For the degree of Doctor of Dental Surgery (D.D.S.).

The undergraduate course of study leading to the degree of D.D.S. extends over four sessions of eight months each, following two predental years in the Faculty of Arts. (For further particulars, see pages 382 to 396.)

### In the Faculty of Music.

For the degree of Bachelor of Music (Mus. Bac.).

For the Diploma of Licentiate in Music, and the several Grade examination certificates.

Students are admitted as *Regular Students* taking an organized course leading to the diploma of Licentiate in Music or the degree of Bachelor of Music or as *Partial Students*, who. under certain conditions and after examination, can obtain certificates bearing the imprimatur of the University. Full details can be obtained on application to the Secretary of the McGill Conservatorium of Music, 677 Sherbrooke St. West, Montreal.

# In the Faculty of Graduate Studies and Research.

For the degree of Master of Arts (M.A.), Master of Science (M.Sc.), Master of Science in Agriculture (M.S.A.), Master of Commerce, Doctor of Philosophy (Ph.D.), Doctor of Science (D.Sc.), Doctor of Literature (Litt.D.), Doctor of Civil Law (D.C.L.), and Doctor of Music (Mus. Doc.).

Full information as to admission and departments in which studies are offered will be found on pages 427 to 492.

#### School for Graduate Nurses.

Four courses, each covering an academic year, and leading to a certificate: (a) For Public Health Nursing; (b) Teaching in Schools of Nursing; (c) Administration in Schools of Nursing; (d) Supervision in Schools of Nursing. (See pages 528 to 558.)

#### School of Physical Education.

Two-year course, leading to a diploma. Further particulars are given on pages 503 to 517.

### School for Social Workers.

A Diploma Course extending over two years. See pages 518 to 527.

# Department of Extra-Mural Relations.

Extra-Mural Courses in Montreal and elsewhere on subjects of general interest (Psychology, History, English, Mental Hygiene, etc.).

Courses carried on in co-operation with professional associations and leading to their diplomas (Chartered Institute of Secretaries, Canadian Credit Institute).

Lyceum Lectures (single lectures on special subjects) given to any group in the Province.

Lantern Lectures on many subjects sent out on request. Reading courses supplied.

Detailed announcement on application to the Department.

Winter course (October to May).

### Library School.

A one-year course, leading to a diploma. The University also offers a six weeks' summer course in library work, of the apprentice type, for assistants in smaller libraries.

Further information is given on pages 559 to 575.

### Extension Courses.

Afternoon and evening lectures on a variety of subjects. A special announcement will be issued before the opening of the session.

### ENTRANCE REQUIREMENTS

### JUNIOR MATRICULATION

(For admission to the Faculties of Arts, Music, Agriculture, the Department of Architecture and the School of Physical Education.)

#### I. REGULATIONS

1. Junior Matriculation examinations are held in June and September—in June at McGill University and local centres; in September, at Montreal only, except in cases which require special consideration.

ALL INQUIRIES RELATING TO THE EXAMINATIONS SHOULD BE ADDRESSED TO THE REGISTRAR OF THE UNIVERSITY.

For the convenience of candidates in Great Britain, who are not otherwise qualified for entrance, an examination will be held regularly in London, Eng., each year, commencing on or about the 16th of June. Full information regarding the exact date of the examination, fee, etc., may be obtained from the Honorary Representative of the University, W. A. Bulkeley-Evans, Esq., C.B.E., M.A., Secretary, Headmasters' Conference, 5 Paper Buildings, Temple, London, E.C. 4.

2. Every candidate for examination is required to fill up an application form and return the same with the necessary fee (for which see page 126) one month before the examination begins. Blank forms may be obtained from the Registrar.

No application for the examination in June, at outside centres, will be received after May 15th.

3. In order to pass, a candidate must obtain 60 per cent of the aggregate for all subjects of the Matriculation Examination, and not less than 40 per cent in any paper; provided, however, that a candidate who makes an exceptionally high aggregate, but fails in one paper only, may be admitted at the discretion of the Faculty, or Department, concerned. The examination may be taken in parts, but it must be completed within thirteen months from the date of the first attempt. Subjects passed more than thirteen months before any June examination cannot therefore be counted to the credit of a candidate writing at that time. The September examination is considered merely as supplemental to that in June.

This regulation also applies in the case of certificates granted by other recognized examining bodies.

4. Matriculation certificates will be issued to candidates who have passed the examination conducted by the University, but not to those who have satisfied the greater part of the entrance requirements by means of certificates granted by other examining bodies.

5. The certificates and diplomas named below will (if they have been obtained under no easier conditions than those which apply in the

case of the McGill Matriculation certificate) be accepted *pro tanto* in lieu of the Junior Matriculation examination, *i.e.*, in so far as the subjects and standard of the examination taken to obtain them are, to the satisfaction of the Matriculation Board, equivalent to those required for the Matriculation Examination of this University. Candidates offering certificates which are not a full equivalent will be required to pass in the subjects in which they are deficient under the provisions of Regulation 3.

Intending students who wish to enter by certificates should under no circumstances come to the University without having first obtained from the Registrar a statement of the value of the certificate they hold, as many may lack one or more essential subjects, or the work done in a subject may not be adequate, or again, the percentage gained may not be sufficiently high (see Regulation 3). When a diploma or certificate does not show the marks obtained in the several subjects of the examination, it must be accompanied by an official statement containing thus information.

### Province of Quebec.

The High School Leaving Certificate. The Intermediate School Diploma.

### Province of Ontario.

Certificate of entrance to the Normal Schools. Junior Matriculation Certificate.

### Province of New Brunswick.

First Class, Superior and Grammar School Licenses. Grade XI Certificate.

### Province of Nova Scotia.

Grade XI Certificate.

### Province of Prince Edward Island.

First Class Teachers' License. Second Year Certificate of Prince of Wales College.

### Province of British Columbia.

Grade XI Certificate.

### Province of Manitoba.

Second Class Teachers' Certificate. Grade XI Certificate.

### Provinces of Alberta and Saskatchewan.

The Departmental Certificate of Standard XI.

### Newfoundland.

Junior Associate Grade Certificate.

### United States.

Certificates granted by the College Entrance Examination Board and by the New York State Board of Regents.

### Great Britain.

The Higher Certificate or the School Certificate of the Oxford and Cambridge Schools Examination Board.

The Senior Certificate of the Oxford or Cambridge Board of Examiners.

The First Class Certificate of the College of Preceptors.

The Higher Examination Certificate of the Scotch and Welsh Education Departments.

### Miscellaneous.

Other certificates, such as those issued by reputable universities or recognized public Examining Boards, will be judged on their merits and accepted in so far as they meet the entrance requirements.

### II. SUBJECTS OF EXAMINATION

### For 1930

### Faculty of Arts

A. For admission to the B.A. course.

	Marks	
	Assigned	
1.	200	English.
2.	100	History.
3.	200	Latin or Greek.
4.	200	One of the following:-
		Greek or Latin (the one not already chosen);
		French; German.
5.	200	Elementary Mathematics.
6.	100	One of the following*:-
		Botany; Chemistry; Physics; Music; Interme-
		diate Mathematics; a foreign language not
		already chosen.
Tot	tal 1.000	

\*When a science subject is selected under this head candidates are advised to choose Physics.

<sup>†</sup>Candidates who intend to enter Applied Science ultimately are advised to take this subject.

B. For admission to the B.Sc. course in Arts.		
	Marks Assigned	
1.	200	English.
2.	100	History.
3.	200	French.
4.	200	Elementary Mathematics.
5.	100	One of the following*:
		Botany; Chemistry; Physics.
6.	200	Latin, or German or Intermediate Mathema- tics <sup>†</sup> ; or any two of the subjects named under No. 5, not already taken, or one of these and Drawing.

Total 1,000

### C. For admission to the School of Commerce.

The matriculation examination for the B.A. or the B.Sc. course in Arts, but in the case of the latter German or Spanish may be substituted for French.

# Department of Architecture

Marks Assigned	
200	English.
100	History.
200	One of the following:-
	French; German; Spanish; Latin; Greek.
200	Elementary Mathematics.
200	Intermediate Mathematics.
100	One of the following*:
	Botany; Chemistry; Physics; a language not already chosen.
	200 100 200 200 200

Total 1,000

\* When a science subject is selected under this head candidates are advised to choose Physics.

† Candidates who intend to enter Applied Science ultimately are advised to take this subject.

Candidates must also satisfy the Head of the Department as to their proficiency in Freehand and Geometrical Drawing. To this end they may send in specimens of their work before September 20th, or they may take an examination at the time of the regular matriculation examination in that month. No examinations taken elsewhere are accepted as an equivalent and no student will be admitted to the Department as an undergraduate until he has satisfied the requirements in this subject.

### Faculty of Agriculture

The matriculation examination for the B.A. or the B.Sc. course in Arts, with this difference that Physical Geography will be accepted as an option under head No. 6 in List A and under No. 5 in List B.

Candidates, without academic training sufficient to qualify for entrance by any of the methods above, who are at least twenty years of age and possess a substantial farm experience, together with mental endowments sufficient to successfully undertake the course despite some academic handicap, may be admitted to the course by the Admission Committee, provided the students so admitted be required to obtain matriculation standing before entering the Third Year.

Opportunity for Matriculation.—A limited number of students who have no matriculation standing, but who think they might be able to obtain it after one or two years' study, can be accommodated in residence and take work at the High School, provided they are sufficiently advanced to enter Grade X or XI.

# School of Physical Education

#### Marks Assigned

1.	200	English.
2.	100	History.
3.	200	Latin or French or German or Spanish (French preferred).
4.	200	Elementary Mathematics.
5.	100	Any one of the following:—Botany; Chemistry; Physics; Zoology.

Total 800

#### Faculty of Music

	Marks	
	Assigned	
1.	200	English.
2.	100	History.
3.	400	Two of the following:-French; German; Span-
		ish; Italian; Latin.
4.	100	Algebra or Geometry.
5.	100	Rudiments of Music: musical intervals, scales,
		clefs, time signatures, construction of chords,
		elementary harmony to chord of dominant
		seventh.
		Seventil.

#### Total 900

For admission requirements in the Schools for Social Workers and Graduate Nurses, see pages 519 and 536, and for information touching admission to the Faculties of Medicine, Dentistry and Applied Science, see under Senior Matriculation, page 91.

### III. PRESCRIPTION OF WORK IN EACH SUBJECT

#### For 1930

### English.

A. Composition. As in the Ontario High School Composition, pages 198 to the end (Copp, Clark Co.), with a short essay on a general subject and two or three others based on the works prescribed for reading, as follows:—Shakespeare, As You Like It (Copp, Clarke Co.\*); Thackeray, Henry Esmond (Macmillan\*); Macdonald's English Prose Selections (Macmillan), Part II.

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

Frequent practice in composition is essential.

B. Literature (for critical study).—Shakespeare, Julius Cæsar (Copp, Clark Co.\*); Poems of the Romantic Revival, pages 29-56 and 107-162 (Copp, Clark Co., Ltd., Toronto).

Passages for memorization :--

The Prelude, lines 40-56; The Rainbow, the whole; Ode on Intimations of Immortality, lines 58-66; She Dwelt Among the Untrodden Ways, the whole; The World is too Much with us, the whole; Ode to a Nightingale, lines 61-70; Songs from Pippa Passes, lines 1-8; The

\* These editions are recommended, not prescribed.

Italian in England, lines 145-160; Andrea del Sarto, lines 69-98; Asolando, lines 11-20; As You Like It, Act II, Scene VII, lines 139-166; Julius Cæsar, Act II, Scene I, lines 10-35; Act III, Scene 1, lines 148-163; Act III, Scene II, lines 217-231; Act V, Scene V, lines 68-75.

Candidates will also be expected to commit to memory other passages of a striking nature, but not exceeding 25 per cent of the amount prescribed.

Two examination papers; one on Composition and the other on Literature (for critical study).

Spelling will be tested by the candidates' papers in English. Examiners in other subjects will also take rote of mis-spelled words and will report flagrant cases to the Board.

### History and Historical Geography.

General History from 1300 A.D. to the present time. West's World Progress (Allyn & Bacon), pp. 305 to the end, which is authorized for the schools of the Province of Quebec, indicates the scope of the examination. (Chapters XXXII, XXXIII, XXXVIII, XL, XLI, XLVIII, XLIX, L, LI, LV, LVI, LIX, LX, LXI, LXII, will be for reading only.) Any standard General History covering the same ground may be used instead.

Or

British History from 1714 to the present time. *Text-Book:*—The Groundwork of British History, by Warner and Marten (Blackie & Sons, Edinburgh), Part III, with appendices.

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

One examination paper.

### Greek.

Text.-Easy Selections from Xenophon, Philpotts and Jerram, chaps. 3, 4, 5; Homer, Iliad I, lines 1 to 350.

Grammar.-Knowledge of grammar will be tested by translation and by grammatical questions based on the specified texts.

Translation at Sight from Greek into English.

Two examination papers; one on Xenophon and Composition, the other on Homer and Translation at Sight.

### Latin.

Texts (Translation and Grammatical study).

Selections from Cicero, ed. Charles (Bell's Illustrated Classics); Virgil, Aeneid, Book II.

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

Translation at Sight from Latin into English.

Composition.-Translation into Latin of detached English sentences and easy narrative.

Two examination papers; one on Cicero and Composition, and the other on Virgil and Translation at Sight.

Note.-The "Roman" method of pronouncing Latin is recommended.

#### French.

Prescribed texts:-Daudet, Trois contes choisis (Heath); Jules Girardin, Les braves gens (Oxford University Press, Toronto).

Grammar.—A thorough knowledge of French accidence and of those points of syntax which are of more frequent occurrence in an ordinary easy style.

*Translation* into English from prescribed texts and at sight of a French passage of moderate difficulty.

Translation at Sight into French of detached English sentences and an easy English passage. Material for such translation is selected with a view to testing the candidate's general knowledge of French grammar.

Books recommended:—Fraser and Squair's French Grammar or Bertenshaw's French Grammar (Longmans), and Cameron's Elements of French Prose Composition (Holt & Co.).

Two examination papers; one on prescribed texts and grammar, including translation of short English sentences into French, and one on translation of continuous passages from French into English and from English into French.

#### German.

Texts .- ('Translation and grammatical study) :--

Guerber, Märchen und Erzählungen (Heath), omitting Nos. 3, 4, 10, 14 and Poems; Baumbach, Der Schwiergershon (Copp, Clark Co.).

Grammar.—A thorough knowledge of German accidence and syntax, as in Van der Smissen, or any other German grammar of equally good standing.

Translation at Sight into English of a German passage of moderate difficulty.

Translation into German of detached English sentences and of an easy English passage. Material for such translation is selected with a view to exemplifying the points of grammar included within the above limits.

Two papers; one on prescribed texts and grammar, including translation of short English sentences into German, and one on translation of continuous passages from German into English and from English into German.

#### Spanish.

Two papers will be set, containing (1) questions on grammar and syntax, (2) passages for translation from prescribed text books, (3) unseen translation from Spanish into English, and (4) translation from English into Spanish.

Texts prescribed:-Juan Valera's "El pajaro verde" (Ginn & Co.); Hills & Cano, "Cuentos y Leyendas" (Heath & Co.).

Books recommended:-Elementary Spanish grammar, Sanin Cano (Oxford Press); Spanish Composition, Loiseaux (Silver, Burdett & Company).

### Italian.

Frescribed texts:-Bowen's Italian Reader (Heath); Manzoni, I promessi spisi.

Grammar.—A thorough knowledge of Italian accidence and of those points of syntax which are of more frequent occurrence in an ordinary easy style.

*Translation at Sight* into English of an Italian passage of moderate ditficulty.

Translation into Italian of detached English sentences and an easy English passage. Material for such translation is selected with a view to testing the candidate's general knowledge of Italian grammar.

Books recommended:-Grandgent's Italian Grammar (Heath); Grandgent's Italian Composition (Heath).

Two papers will be set; one on grammar, including translation of short English sentences into Italian, and one on translation of continuous passages from Italian into English (from prescribed texts) and from English into Italian.

#### Elementary Mathematics.

Algebra.--Elementary rules, involution, evolution, fractions, indices, surds, simple and quadratic equations of one or more unknown quanti-

ties, ratio and proportion, as in Hall and Knight's Elementary Algebra, Chapters I to XXXII (omitting portions marked with an asterisk and Arts 303-311), or as in similar text-books.

One examination paper.

Geometry.—The paper shall contain questions on practical and on theoretical geometry.

In practical geometry, where the validity of a construction is not obvious, the reasoning by which it is justified may be required. Every candidate shall provide himself with a ruler graduated in inches and tenths of an inch, and in centimetres and milimetres, a set square, a protractor, compasses and a hard pencil. All figures should be drawn accurately.

The questions on theoretical geometry shall consist of theorems contained in the text-book prescribed, together with questions upon these theorems, easy deductions from them, and arithmetical illustrations. Any proof of a proposition will be accepted if it forms part of a systematic treatment of the subject.

In the proof of theorems and deductions from them, the use of hypothetical constructions will be permitted. Proofs which are only applicable to commensurable magnitudes will be accepted.

Text-book recommended:-Hall and Stevens' School Geometry, pp. 1-203, 219-265, 267-276 and Theorems 69, 70, 71, 72.

One examination paper.

### Intermediate Mathematics.

Algebra.—The three progressions, variations, permutations and combinations, binomial theorem, logarithms, theory of quadratic equations, as in the remainder of Hall and Knight's Elementary Algebra (omitting chaps. 40 to 44 inclusive), or as in similar text-books.

One examination paper.

Geometry.—As in Hall and Stevens' School Geometry, pp. 202-212, 266-269, 280-310, 319-322, and also Godfrey and Siddons Elementary Geometry (Pitt Press, Cambridge), pp. 143-153 and 288-294, or as in similar text-books. Candidates are expected to know how to use squared paper, to locate points, to find areas of rectilinear and curvilinear figures, to plot loci (in particular the ellipse, hyperbola and parabola) and to plot loci as envelopes.

Trigonometry.—Measurement of angles, trigonometrical ratios or functions of one angle, ot two angles, and of a multiple angle; as in Lock's Elementary Trigonometry, Chaps. I to XII; Hall and Knight's Trigonometry, Chaps. I to XII, inclusive; or as in similar text-books.

Geometry and Trigonometry will be included in one examination paper.

### Chemistry.

An elementary treatment of the fundamental principles of chemistry, with the preparation and properties of the commoner elements and their most important compounds, the application of these in the home and in the industries, the laws of chemical action, the essential hypotheses, etc.

Text-book:—"Elementary Chemistry for High Schools" (Revised Edition) by Nevil Norton Evans (W. J. Gage & Co. Ltd., Toronto), Chaps. I-XXV inclusive.

One examination paper.

#### Physics.

Properties of matter; elementary mechanics of solids and fluids, including the laws of motion, simple machines, work, energy; fluid pressure and specific gravity; thermometry, the effects and modes of transmission of heat.

*Text-book recommended:*—High School Physics, by Merchant and Chant (revised edition), Parts I, II, III, IV and VI, or the equivalent in other text-books.

One examination paper.

### Botany.

Candidates will be examined on the following schedule :--

1. The form, structure and work of plants, especially higher plants, and of their various organs.

Bergen and Caldwell, Chapters I to IX and XXI, with some amplification as to microscopic structure and physiology. The practical work in Eikenberry provides a basis for this amplification. The teacher is referred to Gager, Parts I and II.

2. Broad classifications and comparative study of the main groups of plants; familiarity with standard types.

Bergen and Caldwell, Chapters X to XIX.

3. Distinguishing characters of the commoner families of flowering plants. (Bergen and Caldwell, Chapter XX.) Field study; an elementary acquaintance with the flora and ecology of the district in which the candidate lives. (The remaining chapters of Bergen and Caldwell may serve as a guide, but first hand acquaintance with local plants is mainly desired.)

*Text-books:*—Bergen and Caldwell's "Practical Botany," to be used with Eikenberry's "Problems in Botany," a laboratory manual for the guidance of teachers. Gager's "General Botany," or Macgregor Skene's "Biology of Flowering Plants" are also recommended for teachers.

#### SENIOR MATRICULATION

### Music.

The Intermediate Grade Certificate of McGill University in practical subjects and the Junior Grade Certificate in theoretical *or* vice versa. (Details will be found in the Announcement of the Conservatorium of Music.)

#### Drawing.

Candidates may take either Parts I and 1I or Parts III and IV.

### PART I

Elementary problems in Geometrical Drawing, with applications, as in Part I of Armstrong's Geometrical Drawing (Renouf and Co.).

#### PART II

- (a) Reproduce freehand ornament designs from flat copies.
- (b) Make drawings, by freehand or otherwise, of objects described, illustrating the principles of perspective.
- (c) Make outline drawings of objects placed at a short distance.

#### PART III

Draw in light and shade, with charcoal or pencil, from a plaster cast or ornament in high relief.

#### PART IV

Make water colour drawings of still life groups.

### SENIOR MATRICULATION

(For admission to Second Year)

### I. B.A. COURSE

English.

Latin or Greek.

Mathematics or a third foreign language. Any two of the following:—

1. History.

- 2. Latin or Greek (the one not already taken).
- 3. French.

4. German.

5. Science (Physics or Chemistry or Biology).

Candidates cannot substitute a third foreign language for Mathematics unless they have passed in the Mathematics prescribed for Junior Matriculation.

#### SENIOR MATRICULATION

II. B.Sc. Course

Chemistry. English. French. Mathematics. Physics.

### III. B.Com. Course

English. Mathematics. French or German or Spanish. Accountancy. Any two of the following:—

- 1. Latin or Greek.
- 2. French or German or Spanish (the one not already taken).
- 3. Physics or Biology or Chemistry.
- 4. History.

This examination may be taken in two parts, but a candidate must complete the requirements within thirteen months from the date of the first attempt. The pass mark is 50 per cent in each paper.

> REQUIREMENTS IN EACH SUBJECT (For the Years 1930 and 1931)

#### Accountancy.

Double-entry bookkeeping, control accounts, trading and profit and loss statements, balance sheets, various forms of Cash Books, imprest system petty cash, Columnar Journals, Bills Registers, reserves for discounts, bad debts and depreciation, single-entry, consignments, working sheets, inward and outward freight, capital and revenue expenditure, bills of exchange, bills of lading, etc.

Text-books:—"Accounting Principles and Practice," by Smails and Walker (Ryerson Press, Toronto), Chapters 1-7 inclusive, and "One Hundred and Twenty Graduated Exercises in Bookkeeping," by Thompson (Pitmans, Toronto). Exercises A to Q, inclusive.

One examination paper.

Further details will be given on application to the Registrar.

#### Biology.

Text-books:-Conn, H. W. (Silver, Burdett & Co.), Chaps. 1 to 10, inclusive, and Spirogyra, Mucor, and a fern; J. B. S. Haldane and Julian Huxley, Animal Biology (Clarendon Press).

In addition, a certificate will be required, signed by the Headmaster of the school attended, to the effect that the candidate had regularly carried out the necessary laboratory work on the course indicated.

One examination paper.

### Chemistry.

Text-book:-Newell, College Chemistry, omitting chapter on Radioactivity.

One examination paper.

#### English.

Composition.—The examination will be designed mainly to test the candidate's ability to write English. He will be expected to have acquired a fairly clear and accurate style, to be able to arrange material in an effective fashion, and to show discrimination in the choice of words. In preparation for the examination it is suggested that students be required to write mainly on simple, expository subjects that are within the range of their actual experience.

Carpenter's Rhetoric and English Composition (Macmillan) is recommended as a suitable text-book.

Literature.—The examination will be based on the following texts:— Chaucer's Prologue to the Canterbury 'Tales; Spenser's Faerie Queene, Book 1, Cantos 1 and 2; Shakespeare's Macbeth and As You Like It; Milton's Minor Poems (L'Allegro, Il Penseroso, Lycidas and Comus); and Bunyan's Pilgrim's Progress, Part I.

Candidates will also be expected to read Long's English Literature (Ginn & Co.), Chapters I-VII, inclusive, with special emphasis on the portions most closely connected with the foregoing list of books.

Two examination papers.

### French.

#### (1) For the B.A. Course.

Bouvet, French Syntax and Composition (Heath); Lavisse, Histoire de France, Cours Moyen; Maupassant, Huit Contes Choisis; Jules Verne, Le Tour du Monde (Heath); Dumas, Les Trois Mousquetaires (Heath); Hugo, Gavroche (Oxford).

#### (2) For the B.Sc. Course.

Bowen, First Scientific French Reader (Heath); Jules Verne, Vingt Mille Lieues sous les Mers (Heath); Williams, Technical and Scientific French (Heath); Ardouin-Dumazet, La France qui travaille (Heath); Hugo, Les Travailleurs de la Mer (Heath).

Translation at Sight from English into French and from French into English in both cases.

Two examination papers.

#### SENIOR MATRICULATION

#### German.

### (1) For the B.A. Course.

### (For 1930)

Van der Smissen and Fraser, High School German Grammar (Copp, Clark Co.); Heyse, Die Blinden (Holt); Hauff, Die Karawane (Macmillan or Holt); Storm, In St. Jurgen (Holt).

### (For 1931)

Van der Smissen and Fraser, High School German Grammar (Copp, Clark Co.); Hauff, Die Karawane (Macmillan or Holt); Diamond and Reinsch, Nachlese (Holt).

Translation at Sight from German into English and from English into German.

Two examination papers.

### (2) For the B.Sc. Course.

Vos, Essentials of German (Holt); Guerber's Märchen und Erzählungen, Vol. 1 (Heath); Gore's German Science Reader (Heath).

One examination paper.

### Greek.

Homer, Iliad XXII (Pitt Press Series, Camb. Univ. Press); Lysias, pp. 30-92, in Shuckburgh's Lysias, Orationes (Macmillan).

N.B.—Although the above editions are suggested, others may be used.

The examination will include a paper on grammar, composition and sight translation.

One of the following books is recommended for grammar:—First Greek Grammar, Rutherford (Macmillan); Goodwin's Greek Grammar (Ginn & Co.).

Two examination papers.

#### History.

General History of Europe from the break-up of the Roman Empire to the present day.

No text-book is prescribed. Such a book as J. H. Robinson's Introduction to the History of Western Europe (new brief edition in one vol., Ginn & Co.) would furnish the candidate with an adequate basis of knowledge. G. B. Adams's European History, an Outline of its Development, would also be found useful. The student will find Robinson's Readings in European History a valuable supplement to whatever text-book he uses.

#### SENIOR MATRICULATION

Candidates should read at least one of the works in each of the following groups:-

- (1) Einhard's Life of Charles the Great (tr. S. E. Turner, American Book Co., or W. Glaister, Bell & Son); Memoirs of the Crusades (Everyman's Series); Froissart's Chronicles (Everyman's Series).
- (2) Machiavelli's Prince (Everyman's Series); Macaulay's Essays on Machiavelli and Ranke's History of the Popes; Motley's Rise of the Dutch Republic, Part III (Everyman's edition, vol. II).
- (3) Macaulay's Essays on the War of the Succession in Spain and Frederick the Great; Carlyle's French Revolution.
- (4) A. W. Kinglake's Eothen; G. M. Trevelyan's Garibaldi and the Thousand.

One examination paper.

### Latin.

Virgil, Aeneid I (Sidgwick, Camb. Univ. Press, edition with vocabulary); and Cicero, In Catilinam, I, III, IV.

The examination will include a paper on grammar, composition and sight translation.

The grammar recommended is New Latin Grammar by Sonnenschein (Oxford Clarendon Press).

Two examination papers.

#### Mathematics.

Algebra.—Hall and Knight's Elementary Algebra (omitting chapters 40-42, inclusive), or the same subject matter in similar text-books.

Plain and Solid Geometry.-Hall and Stevens' School Geometry to Theorem 98, inclusive.

Trigonometry.—Hall and Knight's Elementary Trigonometry, Chapters I to XIX, inclusive, omitting pages 212 to 230.

Two examination papers.

### Physics.

A general knowledge of the more important principles of elementary physics will be required.

Text-book:--Kimball, College Physics (Henry Holt & Co., New York, 1912).

The student's notebook, setting forth his own laboratory work, certified by the Instructor and Headmaster of the School, must be forwarded to the Registrar for the examiners' valuation. Unless this is done, an examination on practical physics will have to be taken.

One examination paper.

#### ADMISSION TO PROFESSIONAL FACULTIES

#### Spanish.

Two papers will be set as in the Junior Matriculation, but the examination will be of a more advanced character.

Text-books prescribed:—Baroja's "Zalacain el aventurero" (Heath & Co.); Azorin's "Las Confesiones" (Heath & Co.).

### ADMISSION TO LAW, MEDICINE, DENTISTRY AND APPLIED SCIENCE

FACULTY OF LAW .- Two years in Arts (B.A. Course).

FACULTY OF MEDICINE.—Two pre-medical years, taken in the Faculty of Arts. These pre-medical years must include two years of Chemistry (covering both Inorganic and Organic), two of English, one of Physics and one of Biology. The other subjects are to be chosen from those offered in the first two years of the Faculty of Arts.

Those who intend to practise medicine in any of the provinces of Canada must register with the licensing body of their home province before beginning their medical studies. Students from the Province of Ontario must pass the Middle School Examination of that province in order to qualify for registration there. Further information on this point, as well as the names of the Medical Board Registrars of the different provinces, will be found in the Announcement of the Faculty of Medicine, which will be sent on request; also on page 336.

FACULTY OF DENTISTRY.—Two years in Arts in a recognized university, including lectures and laboratory work in Chemistry (Inorganic and Organic—two years), Physics (one year) and Biology (one year). In the case of those who intend to practise in the Province of Quebec these two years must be taken in a recognized English University in that Province.

FACULTY OF APPLIED SCIENCE.—Senior Matriculation, or First Year Arts, covering English, Mathematics, Physics, and any two of the following:—History, Biology, French, German, Greek, Latin, Spanish.

### APPLICATIONS FOR ADMISSION TO ARTS

All students who wish to attend the First Year, or any subsequent Year, for the first time in the Faculty of Arts during the session 1929-30 must apply in writing to the Registrar before September 9th, 1929. This application must contain data showing the applicant's age, home address, nationality, religion, length of residence in Canada and other particulars. Blank forms may be obtained from the Registrar, McGill University, Montreal. The College is not bound to accept all students who may have succeeded in passing the required examinations. Not more than 375 will be admitted into the First Year for the session 1929-30.

#### PHYSICAL EXAMINATION

### ADMISSION TO ADVANCED STANDING

A student of another university applying for exemption from any subject or subjects which he has already studied is required to submit with his application a Calendar of the University in which he had previously studied, together with a complete statement of the course he has followed and a certificate of the standing gained therein.

#### AGE OF ADMISSION

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

### PHYSICAL EXAMINATION, VACCINATION AND HEALTH

In order to promote as far as possible the physical welfare of the student body, all First and Second Year students and all students in other years, coming to the University for the first time, are required to pass a physical examination to be conducted by, or under the direction of, the Director of the Department of Physical Education. Students of all Years who wish to engage in athletic activities are also required to be physically examined. The hours for this examination will be announced at registration.

Students who do not present themselves for this examination (or otherwise satisfy the Director) before November 1st, will not be allowed to attend the University.

By such examination, physical defects and weaknesses may be discovered. In such cases special exercises will be prescribed and instruction provided.

Re-examination will be held frequently throughout the session for those students who are of low category, or who are suffering from physical disabilities.

All students entering the University are required to present a certificate, or other satisfactory evidence, of successful vaccination within seven years, or of insusceptibility to vaccine within five years, failing which, they shall at once be vaccinated in a manner satisfactory to the medical examiner.

Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, and for this time only, when requisitioned for by the Department. A leaflet concerning this service and the general work of the Department, together with the requirements in physical education for all students, will be distributed at the opening of the session. CLASSES OF STUDENTS

# CLASSES OF STUDENTS

There are four classes of students in the University :--

- (1) Graduates—students who have previously obtained an ordinary degree at McGill, or elsewhere, and who are now pursuing courses for the Master's degree, or for the degree of Ph.D.
- (2) Undergraduates—students who have passed the matriculation examination and, in the case of Second, Third and Fourth Year students, all the examinations of their courses in the Years below that in which they are registered.
- (3) Limited undergraduates—students in the Faculty of Arts who have matriculated, but who for special reasons are not able to follow the regular curriculum of four years. Such students may, if the reasons advanced appear satisfactory to the Dean, be given the status of Limited Undergraduates and may distribute their work for the degree over five, but not over more than eight years, on the understanding that the sequence and arrangement of courses shall follow the requirements laid down in the regular undergraduate curriculum, and shall conform to the time-table.

Limited Undergraduates will not be eligible for Honour courses, scholarships, exhibitions, bursaries or prizes of any description.

(4) Partial students—comprising all those who, not belonging to one of the above classes, are taking a partial course of study in the University. In order to obtain admission, such students must pass the matriculation examination in the subject, or subjects, which they wish to take, or, failing this,\*must be able to satisfy the Head of the Department concerned that they are qualified to proceed with the courses.

#### REGISTRATION

# REGISTRATION AND ATTENDANCE

### 1. REGISTRATION

The dates for the registration of students in the different Faculties for the session 1929-30 will be found on page 57.

Women students of the Faculty of Arts, after registration, are required to enter in the roll book of the Royal Victoria College their names, home addresses and addresses in Montreal. Students of the College not residing with their parents or guardians in Montreal, and who do not apply for residence in the College, are required to submit their plans for residence in writing to the Warden and to obtain written approval.

Students of all Years above the First will be allowed to register after the official registration days only on payment of a fee of \$5.06 during the first week of the session, and of \$10.00 during the second.

This fee will not be refunded, except for satisfactory reasons and by authorization of the Faculty concerned.

After the fifteenth day of the session no student will be admitted, except by special permission of the Faculty concerned.

Students desiring to make changes in their choice of studies must make application to the Registrar to do so. If this is in accordance with the regulations, the change, or changes, will be made at once, otherwise the applicant must receive the endorsation of the Registration Committee or of the Dean, as the case may be. No change can be made in courses after the twentieth day of the session, except under special circumstances.

### 2. ATTENDANCE

1. Students are required to attend at least seven-eighths of the total number of lectures or laboratory periods in any one course.\* In Applied Science this regulation is not strictly enforced, except as regard's lectures in the First Year. Those whose unexcused absences exceed one-eighth of the total number of lectures in a course in which attendance is compulsory shall not be permitted to come up for the regular examination in that course, and those whose unexcused absences in such courses have exceeded one-fourth must repeat the work in that course.

Excuses on the ground of illness, domestic affliction or inevitable accident, shall be dealt with only by the Deans of the respective Faculties.

\* Physical education is included under this regulation.

#### ATTENDANCE RULES

Excuses for absences in excess of one-eighth will be entertained only in cases of serious illness (which must be vouched for by a proper medical certificate), domestic affliction, and such other cases as are provided for by special regulations of the Faculty. Medical certificates covering absences must be presented at the Dean's office by the student immediately after his return to University work. Such certificates will be filed, and, if acceptable, the Dean shall give the student a statement certifying to the absences covered, and this must be shown to all the professors concerned as promptly as possible.

2. Credit for attendance on any lecture or class may be refused on the grounds of lateness, inattention, neglect of study, or disorderly conduct in the class room or laboratory. These cases will be dealt with by the Dean of the Faculty.

3. Lectures will commence at five minutes after the hour, on the conclusion of the roll call. After the commencement of a lecture students are not allowed to enter, except with the permission of the Professor. If permitted to enter, they will, on reporting themselves at the close of the lecture, be marked "late." Two lates will count as one absence. Lectures end at five minutes before the hour. In cases where it is impracticable to record late attendance, students who are not present at the commencement of these lectures will be marked absent.

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# SCHOLARSHIPS, MEDALS AND PRIZES

### GENERAL REGULATIONS IN ARTS

1. No student can be awarded more than one scholarship in Group C or D; in Groups A and B, however, a student may hold several but only up to a total value of \$500.

2. Scholarships will not necessarily be awarded to the candidates who have obtained the highest marks. An adequate standard of merit will be required.

3. If in any College Year there be not a sufficient number of candidates showing adequate merit, any one or more of the scholarships offered for competition may be given to more deserving candidates in another year.

4. A successful candidate must, in order to retain his scholarship, proceed regularly with his college course to the satisfaction of the Faculty.

5. The annual income of the scholarships will be paid in four instalments, viz.:-In October, December, February and April, about the 20th of each month.

# GROUP A.-ENTRANCE SCHOLARSHIPS IN ALL FACULTIES

#### The P. S. Ross Exhibition

This exhibition, of the value of \$100, was founded by Mr. P. D. Ross, B.A.Sc., in memory of his late father, Mr. P. S. Ross, and is given through the Ottawa Valley Graduates' Society. It is awarded annually to the candidate from the Ottawa Valley who obtains the highest percentage at the June matriculation examination and attends the University during the ensuing session. Candidates must apply before July 1st.

### The Ottawa Valley Graduates' Society's Exhibition

This exhibition, of the value of \$75, will be awarded annually to the candidate from the Ottawa Valley who obtains the second highest percentage at the June matriculation examination and attends the University during the ensuing session. Applications must be made before July 1st.

### The Dr. H. Ami Exhibition

This exhibition, of the value of \$50, will be awarded annually to the candidate from the Ottawa Valley who obtains the third highest percentage at the June matriculation examination and attends the University during the ensuing session. Applications must be made before-July 1st. This exhibition is given through the Ottawa Valley Graduates' Society.

### The Sidney J. Hodgson Exhibitions

These exhibitions were founded by Arthur J. Hodgson, Esq., in memory of his late son, Sidney James Hodgson, a student of the First Year in Arts, who was killed in action on September 27th, 1918, while serving in the 66th Battery of the Canadian Field Artillery. One of these exhibitions is of the value of \$250 and the other of \$175. They are open to pupils of the Westmount High School who have been in attendance for at least one year, and will be awarded on the result of the June matriculation examination to the two pupils who obtain the highest and the second highest percentage, respectively, on the subjects required for entrance to the Faculty of Arts, and who attend the University during the ensuing session.

### Bursaries Granted by the Imperial Order of the Daughters of the Empire

These bursaries are of the annual value of \$300, are tenable for four years at any university and are open to the sons and daughters of deceased or totally disabled soldiers and sailors. One is available for each Province each year.

Full information can be obtained by writing to the Head Office of the Order for Canada, 238 Bloor Street East, Toronto, 5, Ont.

### Scholarship Granted by the Graduates' Society of the District of Bedford

This scholarship, of the value of \$120, will be awarded annually to a "matriculated student in Arts whose parents reside in the District of Bedford, and whose candidature has been approved by a committee of the Society."

#### Narcissa Farrand (Mrs. N. Pettes) Scholarship

This scholarship, of the value of \$300 (\$150 for two years), founded by Mr. and Mrs. H. V. Truell, of Sweet Acre, Knowlton, Que., and endowed by them with the sum of \$7,000 out of the Narcissa Farrand Fund, will be awarded annually to the candidate from the Eastern Townships who obtains the highest marks at the Arts matriculation examination in June, and who has had his domicile in the Eastern Townships for five consecutive years immediately preceding the examination. Intending competitors must apply to the Registrar before July 1st each year.

### The Trafalgar Scholarship

Founded in 1913 by certain friends and former pupils of Miss Grace Fairley, to signalize her long and faithful service to education

in Montreal, and particularly as head of the Trafalgar Institute. It is of the value of \$135, is tenable for one year only, and will be awarded annually to the student of Trafalgar Institute who obtains the highest marks in the June matriculation examination and matriculates as an undergraduate in the Faculty of Arts.

### Scholarship for Holders of Intermediate Diplomas

A scholarship of \$150 is offered annually in the Faculty of Arts to holders of Intermediate diplomas obtained after a course of study in Macdonald College, under the following conditions:—

(1) Candidates must apply through the Dean of the School for Teachers before May 1st.

(2) They must satisfy the entrance requirements of the Faculty of Arts and declare their intention to proceed to a First Class High School diploma following the course prescribed by the University.

The scholarship will be awarded on the academic subjects of the examination for the Intermediate diploma; but although the practice marks will not be taken into account directly, the opinion of the Macdonald College staff as to the general fitness of the applicant for a University course will be considered. In case there is no applicant from the graduating class in any year, applications from graduates of previous years will be considered on their merits.

Holders of this scholarship will be permitted to count practice teaching and post-graduate work towards the fulfilment of their agreement to teach for a period of three years in the Province of Quebec.

### The Sir William Macdonald Entrance Scholarships in Arts

The following scholarships, endowed by the late Sir William Macdonald, tenable in the Faculty of Arts, and open to men only, will be offered for competition in June each year :---

Five scholarships, of the value of \$150 each (three open to candidates not residing on the Island of Montreal), will be awarded on the result of the matriculation examination in June.

Application must be made before July 1st.

### University Entrance Scholarships in Arts

Three scholarships of the value of \$100 each and two of the value of \$75.00 each (one of each value open to candidates not residing on Montreal Island) are offered for entrance to the Faculty of Arts, and will be awarded on the result of the matriculation examination in June. Application must be made before July 1st.

#### Royal Victoria College Entrance Scholarships

Two scholarships, open to women only and conditional on residence in the Royal Victoria College, are offered each year, one of the value of \$200 and one of \$100. These will be awarded on the result of the matriculation examination. Application must be made to the Registrar before July 1st.

### The Hon. Robert Jones Scholarship

THE HON. ROBERT JONES SCHOLARSHIP, having a value of One Hundred and Twenty-five Dollars (\$125) per annum, "is granted from time to time to some poor student for the full term of study in the Faculty of Arts or of Applied Science."

Application for this scholarship should be made through the Dean of the Faculty of Arts or Applied Science, as the case may be. In awarding the scholarship the standing of the student in the matriculation examination will be considered, and the scholarship will not be continued if the standing of the student at any time during his course proves to be unsatisfactory.

### The Robert Bruce Bursaries and Scholarships

Under the will of the late Robert Bruce, of the City of Quebec, provision is made for the establishment of bursaries and scholarships.

One bursary, of the value of \$100, will be open each year to "young men and women of promising abilities but of straitened circumstances who have qualified for entrance and are taking a course of study in Arts or Science."

Two scholarships have also been established; one open to candidates for entrance to the University, of the value of \$100, tenable for one year, awarded for high standing at the Matriculation Examination. For the other which is awarded on the result of the First Year Examinations in Arts, see page 103.

For the first twenty-five years students of Scottish extraction will be given the preference.

#### The Lord Atholstan Scholarship

1. This scholarship, of the value of \$1,000, has been donated by Right Honourable Lord Atholstan for competition among the pupils of Huntingdon Academy who have taken their full high school course of study in that institution. It will be awarded to the pupil in this category who obtains the highest standing at the June Matriculation Examination for entrance to any Faculty and who attends McGill University during the subsequent session.

2. The holder of the scholarship shall receive \$250 per year for four years, but the scholarship shall be forfeited at any stage through failure to satisfy the regulations of the University regarding advancement from year to year. The amount of the annual scholarship shall be paid to the scholar in four equal instalments.

### The Edith Silver Memorial Scholarship

1. This scholarship, founded by a group of Jewish women students and of the value of \$100.00, will be awarded on the result of the June University Matriculation examination or the High School Leaving Examination of the Province of Quebec covering the subjects required for admission to the Faculty of Arts.

2. It is open to women students who obtain over 70% of the total marks possible and will be awarded to the applicant who stands highest in this division and who at the same time needs assistance to undertake the course. Applications must be received before July 1st.

### The Isabella C. MacRae Scholarship

By the bequest of \$3,021.17 from the late Isabella C. MacRae, a scholarship has been founded, open to residents of Maxville, Ont., who have satisfied the requirements for entrance to McGill University. Should there be no applicants from this locality for six years, the scholarship will be open to any resident in Ontario.

#### Canadian Pacific Railway Scholarships

Scholarships covering one year's tuition in the Faculty of Arts and four in the Faculty of Applied Science are awarded annually by the Canadian Pacific Railway Company. These are open for competition to apprentices and other employees of the Company under twenty-one years of age, as well as to minor sons of employees, and the award is made on the result of the Junior Matriculation Examination in June. For full particulars as to number of scholarships available, etc., application should be made to C. H. Buell, Esq., Staff Registrar and Secretary, Pension Department, C.P.R. Offices, Montreal.

#### The Beatty Scholarships

Two scholarships, of the value of \$500 each, have been founded by Dr. E. W. Beatty, Chancellor of the University, tenable in the Faculty of Arts, one for Classics (Latin and Greek) and the other for Mathematics. The award will be made on the standing of the candidates in the Junior Matriculation Examination of the year in which the scholarship is granted, or of the previous year, and the result of a special examination in connection with the Junior Matriculation Examination in June. This

special examination will, in the case of Classics, be in the form of two papers on prose and sight work and, in the case of Mathematics, of a special three-hour paper on topics of Algebra, Geometry and Trigonometry of the standard of Intermediate Mathematics. (See page 84.)

Applications for these scholarships must be received before May 15th.

These scholarships are open only to male students born in Canada, educated in Canadian schools and whose parents, moreover, are British or Canadian born. Applicants for the Scholarship in Classics, in addition to these requirements, must also take the McGill Junior Matriculation Examination, or the Quebec High School Leaving Examination, in order to be eligible.

### Affiliated Theological College Scholarships

THE UNITED THEOLOGICAL COLLEGE SCHOLARSHIPS.—The Board of Management of the United Theological College offers scholarships for the payment of fees of undergraduates in Arts who are registered at this College as in training for the study of theology with a view to the Christian Ministry and who have passed with credit the sessional examinations. For particulars, application should be made to the Principal, 3506 University Street, Montreal.

PRESBYTERIAN COLLEGE SCHOLARSHIPS.—The Board of Management of the Presbyterian College offers a number of scholarships for the payment of fees of undergraduates in Arts who are registered at the Presbyterian College as in training for the study of theology with a view to the Ministry and who have creditably passed the sessional examinations. For further particulars, application should be made to the Principal, the Presbyterian College, Montreal.

# Scholarships in the Conservatorium of Music

(1) PETERSON MEMORIAL SCHOLARSHIPS.—In memory of the late Principal Sir William Peterson, an endowment fund was created in 1921 which provides for two scholarships each of the value of \$175 per annum, awarded annually to students following the course for Mus. Bac. or that for L. Mus., priority being given to the former.

(2) MACDONALD MEMORIAL SCHOLARSHIPS.—Two scholarships of the same value in memory of a former Chancellor of the University, Sir William Macdonald, were founded in 1921 and are awarded under similar conditions.

(3) LINDSAY SCHOLARSHIP.—Mr. C. W. Lindsay donates annually a scholarship of the value of \$175, which is awarded under similar conditions to the above with the proviso that the recipient's chief subject shall be the Pianoforte.

#### SCHOLARSHIPS IN ARTS

(4) ELLEN BALLON SCHOLARSHIP.—Through the instrumentality of Miss Ellen Ballon, an ex-student of the Conservatorium of Music, a fund has been created amounting to \$1,501.87 to provide a scholarship in the Faculty of Music of the value of \$200 per year until principal and interest are exhausted.

(5) CONSERVATORIUM BURSARIES.—Several bursaries of the value of \$75 and \$50 are annually granted to deserving students who are debarred for one reason or another from the foregoing scholarships.

### GROUP B.—SCHOLARSHIPS IN ARTS AWARDED ON THE RESULT OF THE SESSIONAL EXAMINATION

THE JANE REDPATH SCHOLARSHIP.—Founded by the late Mrs. Redpath, of Terrace Bank, Montreal, for the maintenance of a scholarship in Arts. It will be awarded on the result of the sessional examination of the First Year to the student who makes the highest average on the year's work. Value of scholarship, \$115.

THE BARBARA SCOTT SCHOLARSHIP.—Founded by the will of the late Barbara Scott to form an annual scholarship for the student "excelling in Classics in the First Year." Value, \$115.

THE JAMES DARLING MCCALL SCHOLARSHIP.—This scholarship was founded by J. T. McCall, Esq., in memory of his son, James D. McCall, B.Sc., who was drowned shortly after the close of the war, in which he had served with distinction. This scholarship will be awarded each year, to a male student of the Third Year Arts who has "given proof of scholarship and ability as an honour student in the subject of English and Philosophy." It is of the value of \$275.

THE CHARLES WILLIAM SNYDER MEMORIAL SCHOLARSHIP.—This scholarship has been founded by L. P. Snyder, Esq., in memory of his son, Charles William Snyder, a student of the First Year Arts, who was killed in the Battle of Sanctuary Wood on June 2nd, 1916. It is of the value of \$250 and will be awarded annually on the result of the examination in English and Economics of the Second Year, and is subject to the condition that the holder take an honour course in English, with Economics as a minor subject in his Third Year, or the Honour Course in English and Economics, should such be established. It is open to male students in the Faculty of Arts professing the Christian religion.

MACKENZIE SCHOLARSHIPS.—Four scholarships, known as the Mackenzie Scholarships, are awarded annually in the Department of Economics and Political Science. Two of these, of the value respectively of \$100 and \$50, tenable for one year, are awarded, on the results of the Second Year examination in Economics 1 and 3, to students whose courses have been approved by the Department, but no student is eligible who has not completed the work of this Year.

The tenure of the scholarships is conditional upon the holders pursuing their studies in the honour work in Economics and Political Science of the Third Year. The other two scholarships, of the value respectively of \$100 and \$50, are awarded on the result of the honour examination of the Third Year in Economics and Political Science. The scholarships will not be awarded except on satisfactory evidence of merit; their tenure is conditional upon the holders pursuing their studies in the honour work in Economics and Political Science of the Fourth Year.

A Fourth Year Mackenzie scholarship may be held by a student who holds another; a Third Year scholarship cannot.

THE SIR WILLIAM DAWSON SCHOLARSHIP.—Given by the New York Graduates' Society; value, \$60.

THE DR. BARCLAY SCHOLARSHIP.—Awarded in the Classical Department; value, \$50.

ROBERT BRUCE SCHOLARSHIP.—From a fund, created by the will of the late Robert Bruce, of Quebec City, one scholarship of \$100 annual value and tenable for three years will be awarded for high standing in the examinations at the end of the First Year.

THE REFORD SCHOLARSHIP.—The interest on this fund, amounting to about \$275 per annum, will be equally divided each year and placed at the disposal of the Department of English and Philosophy.

THE HOUSTON SCHOLARSHIP.—Founded by the will of the late Thomas Houston, for the purpose of establishing a scholarship for French students studying for the Presbyterian Ministry. It is open only to undergraduates in the Faculty of Arts under the above restriction and will be awarded on the result of the sessional examination without regard to Year. The value of the scholarship is about \$60.

THE HOWARD MURRAY SCHOLARSHIPS.—Two scholarships of the value of \$100.00 each will be awarded annually for the next five years through the kindness of Howard Murray, Esq., to the two best students in French in the Third Year Commerce who continue their studies in this subject in the Fourth Year.

THE NATHAN FISH MEMORIAL SCHOLARSHIP.—This scholarship, of the value of \$50.00, has been founded by the Chi Chapter of the Sigma Alpha Mu Fraternity in memory of Nathan Fish, a student in Pharmacy who died in 1925. It is awarded annually to the student obtaining the highest distinction in the Second Year honour subjects of the Department of English, or in any other course or courses at McGill University, which the authorities may select.

# GROUP C.—SECOND YEAR SCHOLARSHIPS IN ARTS AWARDED ON THE RESULT OF A SPECIAL EXAMINATION IN SEPTEMBER

Six scholarships, ranging in value from \$100 to \$150 each, will be offered for competition to students entering the Second Year in September, 1929.

Group I.-Greek, Latin, French, German, English, History.

Group II.-Mathematics, Physics.

Candidates are required to offer two major subjects and one minor subject. The two major subjects must be selected from the same group, the minor subject from either group, the examination in the major subject being more extensive than that in the same subject presented as a minor subject. Two scholarships of \$150 each and two of \$100 each are offered to candidates taking their major subjects from Group I, and one of \$150 and one of \$100 to candidates taking their major subjects from Group II.

One of these scholarships is "The Charles Alexander Scholarship," for men only, and is awarded for "classics and other subjects."

The above scholarships are open to all undergraduates in Arts, whether they are taking the B.A. or the B.Sc. course.

Notice of intention to take the examination for these scholarships must be sent to the Registrar before July 1st.

### REQUIREMENTS IN EACH SUBJECT

### Greek.

### (As a Major Subject)

- I. (a) Homer, Odyssey VI.
  - (b) Colson, Greek Reader, pages 88-116.
- II. Translation at sight.

III. History:-Edmonds, Greek History for Schools (Camb. Univ. Press), to the end of the war with Persia.

### (As a Minor Subject)

The same as above, omitting I (b) and III.

### Latin.

## (As a Major Subject)

I. (a) Cicero, De Senectute.

(b) Horace, Odes II.

- II. Composition and translation at sight.
- III. Roman History:-How and Leigh, from the foundation of Rome to the end of the Second Punic War.

# (As a Minor Subject) The same as above, omitting I (b) and III.

### French.

# (As a Major Subject)

(a) Grammar; (b) translation at sight of an English passage into French; (c) French essay on a prescribed subject; (d) translation of passages taken from the prescribed texts; (e) a critical story of the following texts, tested by questions in the French language to be answered in French:—

Corneille, Cima (Holt); Molière, La Malade Imaginaire (Macmillan); Thiers, Expédition de Bonaparte en Egypte (Holt); Loti, Pêcheurs d'Islande (Rivington).

### (As a Minor Subject)

The same as above, omitting Molière and Thiers.

## German.

# (As a Major Subject)

(a) Grammar; (b) translation at sight from German into English and from English into German; (c) critical study and translation of the following texts:---

Schiller, Maria Stuart (Heath & Co.); Fulda, Talisman (Heath); Hauff, Lichtenstein (Heath).

### (As a Minor Subject)

The same as above, omitting Schiller.

#### English.

# (As a Major Subject)

Shakspere, Twelfth Night (ed. Macmillan); Macaulay, History of England, Vol. I, Chap. 3 (England in 1685); Scott, Marmion; Thackeray, Pendennis; George Eliot, The Mill on the Floss; Tennyson, The Coming of Arthur, The Last Tournament.

### (As a Minor Subject)

The Scott and Tennyson prescribed above.

### History.

## (As a Major Subject)

J. A. Symonds: Short History of the Renaissance in Italy (one volume); M. Creighton: A History of the Papacy from the Great Schism to the Sack of Rome, Book VI; More's Utopia.

## (As a Minor Subject)

J. A. Symonds: Short History of the Renaissance in Italy (one volume).

# Mathematics.

# (As a Major Subject)

Plane Geometry.—Godfrey and Siddon's Modern Geometry, omitting appendices.

Algebra.—Hall and Knight's Higher Algebra; also Fine's College Algebra (Ginn & Co.), pages 424 to 511.

Plane Trigonometry.-Carslaw's Plane Trigonometry (Macmillan & Co.), except Chap. 13.

## (As a Minor Subject)

The mathematics of the First Year general course.

#### Physics.

## (As a Major Subject)

Duncan and Starling's "Heat, Light and Sound" (Macmillan); and Bragg's "Concerning the Nature of Things."

# (As a Minor Subject)

Kimball's "College Physics" (Henry Holt & Co.).

# GROUP D.—THIRD YEAR SCHOLARSHIPS IN ARTS, AWARDED ON THE RESULT OF A SPECIAL EXAMINATION IN SEPTEMBER

The following five scholarships, of the value of \$300 (\$150 per year for two years), will be open for competition to students entering the Third Year in September, 1929:---

One for English and History and another language.

One for Latin or Greek and another language<sup>†</sup> (English excepted). One for French or German and another language<sup>†</sup> (English excepted). Two for Mathematics and Physics.

Of the above five scholarships two are known as "Sir William Macdonald Scholarships" and are open to men only.

The four following scholarships, of the value of \$150 each, are also offered for competition to students entering the Third Year :--

One for Philosophy.

One for Psychology.

One for Chemistry.

<sup>†</sup> The language not chosen in the first instance may be taken as the second language.

(Of the above three scholarships, one is called a "Sir William Macdonald Scholarship" and is open to men only.)

One for Biology.

(This scholarship is called "The Major Hiram Mills Scholarship." It is open to both men and women.)

A Bursary of \$25 will be awarded to that one of the holders of these three scholarships who is considered most deserving on entering the Fourth Year.

An exhibition of \$80, to be known as the Hannah Willard Lyman Exhibition, will also be awarded annually in the Fourth Year, to the best woman student who may have been the holder of a Third Year scholarship in biology or chemistry or philosophy. Should there be no sufficiently deserving candidate, this exhibition may be awarded at the beginning of the Third Year to a woman candidate who may fail to obtain one of the hve regular scholarships offered to Third Year students.

In the award of Third Year scholarships, the Second Year standing of candidates, in the subjects selected, will be taken into account.

In the event of no candidate of sufficient merit presenting himself, the scholarship assigned to any group of students may, at the discretion of the Faculty, be awarded in another group, whether a scholarship has been already assigned to that group or not.

Notice of intention to take the examination for these scholarships must be sent to the Registrar before July 1st.

### REQUIREMENTS IN EACH SUBJECT

# Greek.

Translation at sight.

Study of the following texts :- Euripides, Medea; Plato, Crito.

History:-Edmonds' Greek History for Schools (Camb. Univ. Press), from the end of the war with Persia to the death of Alexander.

### Latin.

Prose composition; translation at sight.

Study of the following texts:-Cicero, De Senectute; Virgil, Aeneid VI; Cicero, Pro Archia.

Roman History :--How and Leigh, from the end of the Second Punic War to the death of Cæsar.

### English and History.

Literature.—Shakespeare, Hamlet (ed. Deighton, Macmillan); Milton, Paradise Lost, Books I and II, ed. Macmillan (Macmillan); Ruskin, Sesame and Lilies, Crown of Wild Olive; Arnold, Essays in Criticism, Second Series (Macmillan's Colonial Library).

*Composition.*—The candidate will be required to write an essay on some subject connected with the literature or history prescribed. High marks will be given for this subject.

History.--W. H. Prescott: The Conquest of Mexico; Francis Parkman: Pioneers of France in the New World, Montcalm and Wolfe.

## French.

(a) Translation at sight from French into English, and from English into French; (b) translation of passages from the prescribed texts; (c) questions on the subject matter of the following texts, and the lives of their authors:—Molière: Le médecin malgré lui (Heath); Racine: Andromaque (Heath); Rostand: Cyrano de Bergerac (Holt); Hugo: Ruy Blas (Holt); Rudmore Brown: French short stories (Oxford); Taine: L'Ancien Régime (Heath).

The entire examination will be held in the French language.

### German.

(a) Translation at sight from German into English, and from English into German; (b) critical study and translation of the following texts:—Goethe, Dichtung und Wahrheit, Books I, II, III (Heath); Schiller, Das Lied von der Glocke (Holt), and Wallenstein's Lager (Holt); Eichendorff, Aus dem Leben eines Taugenichts (Holt); Heine, Prose Selections (Macmillan).

### Mathematics and Physics.

CALCULUS:—Fundamental principles relating to functions, limits and continuity; differentiation and integration of ordinary functions; geometrical applications; maxima and minima; curvature; areas; volumes; length of curves; mean values; approximate integration; Taylor's and MacLaurin's Series.

Books for reference:--Murray's Differential and Integral Calculus (or similar text books) and, most especially, Lamb's Infinitesimal Calculus, Chaps. I-VIII inclusive, and Arts 133-135, 183, 184.

ANALYTIC GEOMETRY :--Plotting of curves and finding their slopes, and the analytical treatment of the conic sections.

Books for reference:—Tander and Allen's Analytic Geometry (or similar text books) and, most especially, C. Smith's Conic Sections, Chaps. I-IX inclusive (omitting Articles 52, 54-64), and Arts, 187, 188, 222-229 inclusive.

HIGHER TRIGONOMETRY :- Carslaw's Plane Trigonometry.

PHYSICS:-Maxwell's "Matter and Motion," excluding appendix (S.P.C.K.), and Maxwell's Theory of Heat (Longmans). An essay or article prepared during the summer must be submitted. It may be on

any one of the following topics:—(1) Calorimetry; (2) Recent Advances in Radio; (3) an account of an investigation performed during the summer.

## Philosophy.

Locke's Essay Concerning Human Understanding, Book I and Book II, chaps. 1-23; Berkeley's Principles of Human Knowledge, paragraphs 1-33 inclusive, and the Three Dialogues Between Hylas and Philonous; Jevon's Lessons on Logic or Mellone's Text Book of Logic, complete. The selections from Locke and Berkeley in Rand's Modern Classical Philosophers (Houghton Mifflin & Co.) are sufficient to cover the work required in Locke and Berkeley, except the Three Dialogues named.

# Psychology.

Woodworth, Psychology.

## Chemistry.

Smith's College Chemistry, by James Kendall. Subject of Essay.—"Aqueous Solution."

### Biology.

Animal Biology.—"Light and Behaviour of Organisms," by S. O. Mast (John Wiley and Sons, New York).

Plant Biology.—Candidates for this scholarship will be expected to pursue an independent study of classification of plants during the summer months. An original collection of 75 species must be made and properly identified, and must form a basis of an understanding of the general interrelations of the larger groupings. A few lectures will be given during the latter part of the session for the benefit of those who wish to undertake this work. These will deal with the rationale of taxonomy and methods of collection and study. Advice as to the proper literature will also be given at this time.

#### MEDALS IN ARTS

Medals will be available in the final Honours examination for the students who take the highest honours of the first rank in the subjects stated below, and who shall have passed creditably the ordinary examination for the degree of B.A. or B.Sc., provided they have been recommended therefor to the Corporation by the Faculty, on the report of the examiners:—

#### MEDALS AND PRIZES IN ARTS

The Henry Chapman Gold Medal, for Classical Languages and Literature.

The Prince of Wales Gold Medal, for Mental and Moral Philosophy.

The Anne Molson Gold Medal, for Mathematics and Natural Philosophy.

The Shakespere Gold Medal, for English Language and Literature.

The Logan Gold Medal, for Geology, Mineralogy and Palæontology.

The Major Hiram Mills Gold Medal, for Biology.

The Governor-General's Gold Medal, for Modern Languages and Literature.

The Allen Oliver Gold Medal, for Economics and Political Science (founded by Mrs. Frank Oliver, in memory of her late son, Allen Oliver, B.A., M.C., Lieutenant 26th Battery, C.F.A., who was killed in action at the Somme, on November 18th, 1916).

The Lieutenant-Governor's Silver Medal, to be awarded to the student standing highest in the Final Year Honours in the Department of History.

The Lieutenant-Governor's Bronze Medal, to be awarded to the student standing highest in the Second Year in Latin and Mathematics.

In addition to the above, certain medals are offered annually by the Alliance Française, at the discretion of the Department of Romance Languages.

If there be no candidate for any medal, or if none of the candidates fulfill the required conditions, the medal will be withheld, and the proceeds of its endowment for the year may be devoted to prizes in the subject for which it was intended.

#### PRIZES IN ARTS

1. The Neil Stewart Hebrew Prize.—An annual prize of \$15 is open to all undergraduates and graduates of this University, and also to graduates of any other university who are students of theology in some college affiliated to this University. It will be awarded on the result of the sessional examination in Hebrew of the Second Year.

2. Early English Text Society's Prize.—This prize will be awarded for proficiency in the subjects of the language group in the English honour curriculum of the Third and Fourth Years.

3. New Shakespere Society's Prize.—This prize, open to graduates and undergraduates, will be awarded for a critical knowledge of the following plays of Shakespere:—Hamlet, Macbeth, Othello, King Lear.

4. Charles G. Coster Memorial Prize.—This prize, of the value of \$25, and intended as a tribute to the memory of the late Rev. Chas. G. Coster, M.A., Ph.D., Principal of the Grammar School, St. John, N.B., is offered for competition by Mr. Colin H. Livingstone, B.A., to under-

### SCHOLARSHIPS AND PRIZES IN APPLIED SCIENCE

graduates from the Maritime Provinces of Canada. It is awarded on the decision of the Dean of the Faculty of Arts to that student in Arts from these Provinces who shows the greatest proficiency in the examinations at the end of the session.

5. Annie Macintosh Prize.—The income of the sum of \$1,130 (\$425 of which was subscribed by the pupils and friends of the late Miss Annie Macintosh, and \$618.97 bequeathed by the late Miss I. G. Macintosh) is offered as a prize or prizes to students of the Royal Victoria College in such subject or for such work as the Faculty may determine.

6. Penhallow Prize.—The income of the sum of \$1,100, collected by the Arts Undergraduates' Society in 1911, will be awarded annually as a prize in the Department of Botany.

7. Henry Chapman Prize.—This prize, of the value of \$15, is given in such modern languages as may be taught in the Faculty of Arts, other than English, and Hebrew shall also be included.

8. The Chester Macnaghten Prize, of the value of \$25 in books, established by the late Russell E. Macnaghten, Esq., M.A., in memory of his late uncle, will be awarded annually, through the University Literary and Debating Society, for reading in English.

9. Prizes in Hebrew.—(a) The O. and S. Fitch prize, value \$50.00;
(b) the A. J. Freiman prize, value \$100.00;
(c) the A. Pierce prize, value \$100.00.

10. The Cherry Prize.—This prize, of the value of \$50.00 in books, founded by Wilbur H. Cherry, Arts 1907, and Anna Cherry, Arts 1918, in memory of their father, William Cherry, Med. 1869, and of their brother, William McFie Cherry, Arts 1911, is awarded annually by the Department of Economics and Political Science to the student who at the end of his Second Year is, in the opinion of the Department, deserving of such recognition, it being understood, however, that the prize shall not be awarded to any student who is in receipt of a scholarship in his Third Year.

### SCHOLARSHIPS AND PRIZES IN APPLIED SCIENCE

AWARDED ON THE RESULT OF SPECIAL EXAMINATIONS

1. Two prizes, each of \$10.00, presented by J. M. McCarthy, Esq., B.A.Sc., to students entering the Third Year, for proficiency in levelling and transit work.

2. Messrs. Babcock & Wilcox, Limited, offer a scholarship of the value of \$200.00. This Scholarship is open to undergraduates in the Third and Fourth Year courses in Mechanical Engineering who intend to make a special study of steam engineering, and is tenable for one year. Should it be awarded to an undergraduate in the Third Year course, it may be re-awarded for a second year at the discretion of the committee making the award. The conditions under which this scholar-

### SCHOLARSHIPS AND PRIZES IN APPLIED SCIENCE

ship is awarded may be ascertained on application to the Dean of the Faculty. The scholarship is open for competition in October, 1929.

3. The Jenkins Bros., Ltd., Scholarship, presented by Messrs. Jenkins Bros., Ltd., of Philadelphia and Montreal, and having an annual value of \$200.00, is open to all engineering students entering the Fourth Year of their course. The scholarship will be awarded on the basis of academic standing and personality.

## AWARDED ON THE RESULTS OF THE SESSIONAL EXAMINATIONS OR FOR SPECIAL THESES

1. A British Association exhibition of \$50.00 and a prize of \$25.00 at the end of the Third Year, to the students who obtain the highest and the second highest aggregate marks, respectively, in the sessional examinations in Strength of Materials and Mechanics of the Third Year.

2. Three prizes of \$25.00, \$15.00 and \$10.00, at the end of the Second Year, to the students obtaining the highest, and the second and third highest aggregate marks, respectively, in the sessional examinations in Analytic Geometry, Calculus and Mechanics of the Second Year.

3. A Scott exhibition of \$50.00, founded by the Caledonian Society of Montreal, in commemoration of the centenary of Sir Walter Scott, and two prizes of \$25.00 and \$15.00, to the students obtaining the highest, and the second and third highest aggregate marks, respectively, in the sessional examinations in Mathematics, Descriptive Geometry and Physics of the First Year.

4. A prize of \$50.00, presented by Mr. James Tighe, B.A.Sc., for research work in Hydraulics.

5. An exhibition offered to graduates by Mr. A. E. Childs, M.Sc., for a special research on "The flow of gas through pipes under pressure."

6. A prize of \$25.00, presented by Messrs. Anglin, Norcross, Ltd., to the student obtaining the highest marks in Architectural Drawing in the Second Year (No. 34) of the Department of Architecture.

7. A prize of \$25.00, presented by Messrs. Anglin, Norcross, Ltd., to the student obtaining the highest marks in Architectural Engineering in the Department of Architecture.

8. The Louis Robertson Prize, founded by Mr. and Mrs. John A. Robertson, in memory of their son, John Louis Armour Robertson, who was killed in the Great War on July 18th, 1916, to be awarded to the undergraduate student who ranks highest in Design in the Final Year of the course in Architecture.

9. A prize of \$25.00, presented by P. J. Turner, Esq., to the student obtaining the highest marks in Building Construction of the Second Year course in Architecture.

### SCHOLARSHIPS AND PRIZES IN APPLIED SCIENCE

10. Prizes given by the Montreal Light, Heat & Power Consolidated to Fourth Year students in the Department of Electrical Engineering, amounting to \$200.00.

To the students of the Civil Engineering course, a prize of \$25.00, from a friend.

To the students of the Metallurgical Engineering course, a prize of \$25.00, presented by Milton L. Hersey, Esq., D.Sc.

To the students of the Mechanical Engineering course, a prize of \$25.00, presented by the Crosby Steam Gauge & Valve Co.

To the students of the Mining Engineering course, a prize of \$25.00, presented by Dr. J. B. Porter.

12. There are offered each year by the Engineering Institute of Canada five student prizes of twenty-five dollars each, for the best paper in each of the branches of engineering—civil, mechanical, electrical, mining and chemical—received from a student member of the Institute. The successful papers become part of the literature of the Institute and place the authors in prominent touch with the engineering profession. Further particulars from R. J. Durley, Secretary, 2050 Mansfield Street, Montreal.

13. Three prizes, one of \$25.00 and the President's gold medal, one of \$15.00 and one of \$10.00, are offered annually for the best papers submitted to the Canadian Institute of Mining and Metallurgy by student members of the Institute.

14. The sum of \$50.00 has been voted by the Undergraduates' Society of the Faculty of Applied Science, to be given as prizes for the best papers read before the Society during the session.

15. A Sir William Dawson Exhibition, given by the New York Graduates' Society: value, \$60.00.

16. A prize of \$25.00, offered by the Canadian Section of the Society of Chemical Industry, is awarded for the best essay on some important phase of chemical industry. Further particulars from the Secretary of the Society.

### AWARDED AT THE DISCRETION OF THE FACULTY

1. The Hon. Robert Jones Scholarship, having a value of One Hundred and Twenty-five Dollars (\$125.00) per annum, "is granted from time to time to some poor student for the full term of study in the Faculty of Applied Science."

Application for this scholarship should be made through the Dean of the Faculty of Applied Science. In awarding the scholarship the standing of the student in the matriculation examination will be con-

# MEDALS AND LOAN FUNDS IN APPLIED SCIENCE

sidered, and it will not be continued if the standing of the student at any time during his course proves to be unsatisfactory.

2. The Baylis Scholarship, founded in memory of Mr. and Mrs. James Baylis, of Montreal, and having an annual value of \$100.00, is awarded to some student who is in need of financial assistance to complete his course on entering the Second Year of the Faculty. The scholarship will be continued during the Third and Fourth Years, if the standing of the student continues to be satisfactory.

Application should be made through the Dean of the Faculty of Applied Science.

3. The late Dr. James Douglas, who was a member of the Board of Governors, provided for twelve or more tutorial bursaries in the Faculty of Applied Science. In assigning these bursaries account will be taken of the circumstances of the applicants as well as of their academic standing.

These bursaries have a value of \$100.00 per annum, and carry the obligation of giving tutorial instruction equivalent to one evening a week, to the satisfaction of the Faculty Committee. Students in the Third and Fourth Years of Applied Science are eligible.

# MEDALS AND LOAN FUNDS IN APPLIED SCIENCE

#### 1. MEDALS

1. A British Association medal is open for competition to students of the graduating class in each of the Engineering courses, and, if the examiners so recommend, will be awarded to the student taking the highest position in the final examination. The British Association medals and exhibition were founded by the British Association for the Advancement of Science in commemoration of the meeting held in Montreal in the year 1884.

2. A gold medal and three prizes, offered by the Canadian Institute of Mining and Metallurgy. For further particulars, see page 301.

3. 'The Lieutenant-Governor's Silver Medal is awarded to the student ranking highest in the Final Year Examinations of the Department of Architecture, provided his work is considered of sufficient merit.

The Lieutenant-Governor's Bronze Medal is awarded to the student obtaining the second place in the Graduating Class in Architecture, provided his work is considered of sufficient merit.

### 2. LOAN FUNDS

1. A fund has been established by the Applied Science Class of 1899, to be known as "The Class of 1899 Fund," for the purpose of aiding, each year, one or more students who, upon the completion of

#### MEDALS IN MEDICINE

their Second Year work, require assistance to enable them to finish their course of study. The loans from this fund will be repayable after graduation. Applications should be made to the Dean.

2. The George Henry Frost Fund was founded by the late G. H. Frost, B.Sc. '60, for the purpose of aiding students who, when commencing the work of the second or a subsequent year in the Faculty of Applied Science, require assistance to enable them to complete their course. Loans from this fund will bear interest at three per cent and will be repayable within three years after graduation. In making loans from this fund the academic standing of the students will be taken into account. Applications should be made to the Dean.

3. The Waddell Fund, founded by J. B. Waddell, Esq. Loans may be made from this fund under the same conditions as apply to the George Henry Frost Fund, except that the benefits are available to graduate students as well as to undergraduates.

# MEDALS, PRIZES, FELLOWSHIPS AND SCHOLARSHIPS IN MEDICINE

#### MEDALS

The Holmes Gold Medal, founded by the Medical Faculty in the year 1865, as a memorial of the late Andrew Holmes, Esq., M.D., LL.D., one time Dean of the Faculty of Medicine, is awarded to the student graduating with the highest aggregate number of marks in the different branches comprised in the medical curriculum.

The student who wins the Holmes Medal has the option of exchanging it for a bronze medal and the money equivalent of the gold medal.

The Wood Gold Medal, founded by Casey A. Wood, M.D., LL.D., awarded to the student graduating with the highest aggregate number of marks in the clinical examinations of the Final Year. The winner of the Holmes Medal is not permitted to compete for this medal.

The Sutherland Gold Medal, founded in 1878 by the late Mrs. Sutherland, in memory of her late husband, William Sutherland, M.D., formerly Professor of Chemistry in this Faculty, is awarded for the best examination in Bio-chemistry, together with a creditable examination in the primary branches.

The Lieutenant Governor's Silver Medal, to be awarded to the student who obtains the highest marks in General Medicine at the end of the Fifth Year.

The Lieutenant Governor's Bronze Medal, to be awarded to the student who obtains the highest standing in the Final Examination in Physiology.

## PRIZES AND FELLOWSHIPS IN MEDICINE

### PRIZES

The Joseph Hils Prize. (Founded by the late Dr. Joseph Hils, of Woonsocket, R.I.).—A prize in books, awarded to the student who obtains the highest number of marks in the subject of Pharmacology.

The Joseph Morley Drake Prize. (Founded by the late Joseph Morley Drake, M.D.).—A prize in books, to be awarded to the student who obtains the highest number of marks at the Final Examination in Pathology.

**Primary Prize.** A prize in books awarded for the best aggregate standing in the subjects of the first division (Anatomy, Histology, Physiology, Biochemistry and Bacteriology).

The F. Slater Jackson Prize. An annual prize of \$50.00, founded by Mr. and Mrs. H. F. Jackson in memory of their son, the late F. Slater Jackson, M.D. The prize is awarded on the result of a special examination, written and oral, in Histology and Embryology.

The Alexander D. Stewart Prize. An annual prize in books, founded by the late W. Grant Stewart (Arts 1885, Med. 1888) in memory of his brother, the late Alexander D. Stewart (Med. 1888), to be awarded to the member of the graduating class who, in the opinion of the Faculty, presents in every respect the highest qualifications to practise his profession.

### FELLOWSHIPS

The A. A. Browne Memorial Fellowship. The sum of \$10,000 was received by the Faculty from the committee of the A. A. Browne Memorial Fund. With this sum a fellowship has been established, to be known as the "A. A. Browne Memorial Fellowship." This fellowship is open to graduates of any recognized Medical School and is for the advancement of medical science, special preference being given to the subjects of obstetrics and gynæcology.

The James Douglas Research Fellowship.—The sum of \$25,000 was donated by the late Dr. James Douglas, the proceeds to be devoted to co-ordinated research in the laboratories of pathology in or associated with the University.

The James Douglas Studentship.—A studentship in pathology, given by the late Dr. James Douglas, open to McGill graduates only, tenable for six years and of the value of \$1,250 for the first year, increasing to \$2,500.

The James Cooper Fellowships for the Study of Internal Medicine.—This fund of \$60,000 was donated in 1912 by the will of the late James Cooper of Montreal to promote study and research in Internal Medicine.

## PRIZES AND FELLOWSHIPS IN MEDICINE

The John McCrae Fellowship.—A fellowship of approximately \$600, founded in 1918 as a yearly donation by Mr. H. J. Fuller, of New York, in memory of the late Lt.-Col. John McCrae, for the purpose of scientific research in Experimental Surgery. Established as a permanent fellowship in 1920 by Mr. Fuller and the Canadian Fairbanks-Morse Company.

The John W. Flinn Research Fellowship.—In 1921 Dr. John W. Flinn, of Prescott, Arizona, gave the sum of \$5,000, to be paid in five equal annual instalments of \$1,000, this sum to be used for the assistance of medical research in tuberculosis.

The Hiram N. Vineberg Fellowship in Gynæcology, of the value of \$250.00 per annum, donated in 1924 by Dr. Hiram N. Vineberg, of New York, a graduate of McGill University, 1878.

The J. W. McConnell Scholarship.—The sum of \$1,000.00 was donated to the Department of Surgery for purposes of research for the year 1925-26. This was renewed each year since and in 1928 was increased in value to \$1,500. It will be again available for the session 1929-30.

The Clara Law Fellowship, founded in 1927 by Mrs. J. R. Fraser for the furtherance of research in the laboratory of the Department of Obstetrics and Gynæcology, is of the value of \$1,200 per annum.

The P. P. Cowans Scholarship of \$1,000.00 was presented to the Department of Surgery and Physiology for purposes of investigation in these subjects during the year 1925-26. It was renewed each year since and will be again available in 1929-30.

The Walter J. Hoare Memorial Scholarship.—A sum of money has been donated by Dr. Charles W. Hoare, a graduate of McGill University, as a Scholarship in Medicine, in memory of his son, Walter J. Hoare, who was killed in the Great War. This Scholarship is open to pupils of the Collegiate Institutes of the counties of Essex, Kent and Lambton entering the Faculty of Medicine.

Six scholarships for Canadian students, four donated in 1927. by Mrs. R. MacDougall Paterson, Mrs. Charles Meredith, Mrs. C. F. Martin and Louis Colwell, Esq., and two in 1928 by C. W. Lindsay, Esq., and A. B. Purvis, Esq. These scholarships are valued at \$400.00 each per annum, and extend over the five years of the course. The conditions pertaining to these scholarships may be had on application to the Dean or Secretary of the Faculty of Medicine.

The Dr. J. Francis Williams Scholarship of \$500.00, founded by the late J. Francis Williams, M.D., to be awarded to the student of the Final Year who obtains the highest standing in Medicine and Clinical Medicine.

# PRIZES, SCHOLARSHIPS AND MEDALS IN LAW

# PRIZES, SCHOLARSHIPS AND MEDALS IN LAW

The "Elizabeth Torrance Gold Medal," founded in 1864 by Professor John Torrance in memory of his wife, is awarded to the student who obtains the highest marks in the Final Examination.

The Montreal Bar Association offers a prize of \$50.00 to the student who obtains the highest standing in Commercial Law, and the Junior Bar Association a prize of \$15.00 to the student who obtains the best marks in Civil Procedure in the Final Year.

The "Alexander Morris Exhibition," of the value of \$50.00, founded in memory of the late Hon. Alexander Morris, M.A., D.C.L., of Toronto, will be awarded to the student who obtains the highest standing in the Second Year.

Other prizes may be awarded at the discretion of the Governors.

The "Macdonald Travelling Scholarship" was founded by the will of the late Sir William Macdonald "for the purpose of enabling English-speaking Law students to take a course of studies in France," the testator "deeming it of great importance that the English-speaking members of the legal profession should be proficient in the French language." The value of the scholarship is the income derived from a capital sum of \$20,000, and the scholar elected is required to pursue a year's study in the Law Faculty of a French University approved, in each case, by the McGill Faculty of Law. The award is made at the discretion of the Faculty to a student of the graduating class who has obtained first or second class honours in the Final Examination.

Women students are not eligible for a Macdonald Scholarship so long as the law excludes them from admission to the Bar in the Province of Quebec.

The "Thomas Alexander Rowat Scholarship" was founded by Mr. Donald McKenzie Rowat, N.P., in memory of his brother, Lieutenant Thomas Alexander Rowat, B.C.L., who was killed in action at Lens, France, on the 28th June, 1917. It is of the value of \$120, and is awarded in alternate years for proficiency in the French language and in the old French law. Candidates must be British subjects of the Anglo-Saxon or Celtic origin. The next award of this scholarship will be in 1929.

Students in the Faculty are eligible for election to the Rhodes Scholarships tenable at the University of Oxford for a term of three years.

The Lieutenant-Governor's Silver Medal will be awarded to the student who stands highest in the Final Examination in Roman Law.

The Lieutenant-Governor's Bronze Medal will be awarded to the student who stands highest in the First Year course in Obligations.

No medals, prizes or scholarship will be awarded, if in the opinion of the Faculty there is no candidate of sufficient merit.

#### MEDALS AND PRIZES IN DENTISTRY AND COMMERCE

### MEDALS AND PRIZES IN DENTISTRY

The F. A. Stevenson Gold Medal.—Awarded to the student in the Final Year who stands first in the science and practice of Dentistry. The standing will be determined not only by the written and practical examinations at the end of the year, but by the general work of the student during the whole course.

The Lieut.-Governor's Silver Medal.—Awarded to the student in the Final Year who stands highest in the practical work done during the year and at the final examinations.

The Lieut.-Governor's Bronze Medal.—Awarded to the student obtaining the highest marks, in the Final Year examinations, in Dental Pathology and Dental Therapeutics.

Final Year Prize.—A prize in books will be awarded to the Final Year student who stands second in the class. The standing will be determined in a manner similar to that followed in the awarding of the gold medal.

Third Year Prize.—Two prizes (first and second), in books, will be awarded in the Third Year. The method of determining the winners of these prizes will be similar to that adopted in awarding the prizes in the Final Year.

Second and First Year Prizes.—A prize in books is awarded to the student obtaining the highest standing at the sessional examinations.

### MEDALS, SCHOLARSHIPS AND PRIZES IN COMMERCE

A silver medal and a bronze medal have been offered to the School of Commerce by his Honour, the Lieutenant-Governor of the Province of Quebec, the silver medal for the student with the best average, throughout his four years of study, in Mathematics, Accountancy, Business Organization and Commercial Law; the bronze medal for the one who has the best average, throughout the four years of study, in the French and Spanish languages.

Two scholarships of \$100 each are offered by Mr. Howard Murray, to the two best students in the Third Year class in French. The winners must continue the study of French during their Fourth Year, and it is during this Year that the scholarships will be paid.

A prize in books is offered by the Spanish Government for distribution as the Department may deem fit, among the best students in Spanish for the Second, Third and Fourth Years, or of the Third and Fourth Years alone.

The Sharp Prize (value \$150) in Mathematics and Accountancy. This will be given at the end of the Second Year to the best student in Mathematics and Accountancy combined. The Second Year courses to be taken are Accountancy, Mathematics 42 and Mathematics 2 or 3 of

#### SCHOLARSHIPS-GENERAL

the Faculty of Arts. The recipient of the prize must take in his Third Year either Mathematics 7 or whichever of Mathematics 2 and 3 he has not already taken.

The Royal Bank Fellowship in Economics, value \$1,000, open to candidates from all Canadian universities.

### SCHOLARSHIPS IN MUSIC

See page 101 and Special Announcement.

MEDALS AND PRIZES IN THE SCHOOL OF PHYSICAL EDUCATION See page 509.

SCHOLARSHIPS, MEDALS, AND PRIZES IN THE SCHOOL FOR GRADUATE NURSES

See page 539.

SCHOLARSHIPS IN THE SCHOOL FOR SOCIAL WORKERS See page 521.

SCHOLARSHIPS AND PRIZES IN THE LIBRARY SCHOOL See page 561.

### MEDAL IN PHARMACY

See page 496.

### SCHOLARSHIPS-GENERAL

THE RHODES SCHOLARSHIP.—This scholarship, open to students in the Province of Quebec, is of the annual value of £400 sterling and is tenable at the University of Oxford for three years. The scholar must be a British subject, must be over 19 and under 25 years of age and must have reached at least the end of his Sophomore, or Second Year, in the University.

Full particulars can be obtained from Gilbert S. Stairs, B.A., K.C., of McGibbon, Mitchell and Stairs, 132 St. James St. West, Montreal, who is Secretary of the Selection Committee for the Province of Quebec.

SCIENCE SCHOLARSHIPS GRANTED BY HER MAJESTY'S COMMISSIONERS FOR THE EXHIBITION OF 1851.—These scholarships, of the value of at least £250 sterling a year, are tenable for two, or, in rare instances, three years. They are limited, according to the Report of the Commission, "to those branches of science, such as physics, mechanics and chemistry, the extension of which is especially important to our national industries." Their object is not to facilitate ordinary collegiate studies, but to enable students to continue the prosecution of science with the view of aiding in its advance or in its application to the industries of the country.

They are open to students of not less than three years' standing who have shown evidence of capacity for original research and are tenable at any institution approved by the Commission.

Three of these Scholarships are allotted to Canada each year, the scholars being chosen by the Commission from the nominees of certain Universities, among which McGill is included.

#### SCHOLARSHIPS AND FELLOWSHIPS FOR GRADUATES

1. THE MCGILL DELTA UPSILON MEMORIAL SCHOLARSHIP.—This scholarship has been founded by the McGill Chapter of the Delta Upsilon Fraternity to perpetuate the memory of the members of that Chapter who gave their lives in the Great War.

It is open to all graduates of the University, and the following considerations will govern the award:—(a) the general scholarship of the candidate; (b) his need of financial assistance for further study; (c) the general usefulness to the community of the special branch of study he proposes to follow; (d) the likelihood that the candidate will reflect credit on the University.

The present value of the scholarship is about \$950.

This scholarship will be paid in three instalments, in October, January and April, about the 20th of each of these months, but the second and third instalments will be paid only on receipt of a satisfactory report from the professor or professors under whom the scholar is carrying on his work.

2. THE ALLEN OLIVER FELLOWSHIP.—This scholarship has been established by Mrs. Frank Oliver, of Edmonton, Alta., in "proud and loving memory of her son, the late Allen Oliver, M.C., B.A.,\* Lieutenant 26th Battery, C.F.A., who was killed in action at the Somme on November 18th, 1916." The scholarship will be awarded annually to the student who stands highest in first class honours in the Department of Economics and Political Science at the final B.A. examination, and the holder is required to pursue his studies in Economics and Political Science in McGill University or elsewhere. The present value of the scholarship is about \$650.

3. THE LEROY MEMORIAL FELLOWSHIP IN GEOLOGY.—This feliowship was established by some friends of Captain O. E. LeRoy (Arts, 1895), who was killed in the Battle of Passchendaele, in October, 1917. It will be annually awarded to a worthy student who desires to proceed to post-graduate studies in Geology at McGill University. The recipient of this award may be called upon to assist in the teaching work of the

<sup>\*</sup>Lieut. Oliver was an honour graduate in 1915 in the Department of Economics and Political Science.

Department. This Fellowship is awarded by the head of the Department of Geology and Mineralogy in consultation with the Principal. It is of the annual value of \$700.

4. THE DR. T. STERRY HUNT RESEARCH SCHOLARSHIP IN CHEM-ISTRY.—This scholarship of the value of \$1,000 is open to graduates in Chemistry and Chemical Engineering who have completed the course for the degree of M.Sc. or Ph.D. and have shown high capacity for research.

5. POST-GRADUATE SCHOLARSHIPS GRANTED BY THE IMPERIAL ORDER OF THE DAUGHTERS OF THE EMPIRE.—Nine are offered annually—one for each province. They are of the value of \$1,400, and have been founded "to enable students to carry on studies at any university in the United Kingdom, in British and Imperial history, the economics and government of the Empire and Dominion, or any subject vital to the interests of the Empire."

Full details may be obtained from the Secretary of the National Chapter of Canada, 238 Bloor Street East, Toronto, 5, Ont.

6. UNIVERSITY WOMEN'S FEDERATION SCHOLARSHIP.—The Scholarship of the Canadian Federation of University Women, of the value of \$1,250, available for study or research work, 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 or two years of graduate study and have a definite research in preparation. The award is based on evidence of character and ability of the candidate and promise of success in the subject to which she is devoting herself.

The choice of the University at which the successful candidate shall pursue her study or research work is left to the Committee of Selection in consultation with the candidate.

Full information can be obtained from the Convener of the Scholarship Committee. Mrs. Douglas Thom, 2220 College Street, Regina, Sask.

Applications must be received not later than February 1st.

7. MONTREAL MANUFACTURERS' GRADUATE FELLOWSHIP.—This fellowship, of the annual value of \$800.00, has been established by the Montreal Branch of the Canadian Manufacturers' Association. It shall be awarded annually to a member of the graduating class in honours in Economics and Political Science to be selected by the head of the department. The student receiving the Fellowship shall pursue his graduate studies for the M.A. degree in the department and shall take as the special subject of his investigation one dealing with Canadian trade or industry approved by the head of the department and by the Chairman of the Montreal Branch of the Canadian Manufacturers' Association.

8. THE MOYSE TRAVELLING SCHOLARSHIPS.—Two scholarships of the value of \$1,500 each, to be known as The Moyse Travelling Scholarships, tenable for one year, have been founded by Right Honourable Lord Atholstan, to commemorate the "splendid services of Dr. Charles E. Moyse, for forty-two years Professor of English, during sixteen of which he was Dean of the Faculty of Arts and Vice-Principal of the University."

These scholarships are awarded by the Faculty of Arts. One will be awarded for distinction in literary subjects, and the other for distinction in scientific subjects. If a deserving applicant in one of these divisions is not forthcoming, both scholarships may be awarded to applicants who belong to the other. The holder must devote the period of the tenure of the scholarship to advanced study, preferably in a British or European university, but not to the exclusion of other universities.

Applications are to be made to the Dean of the Faculty of Aits, before the first of April each year.

9. THE PROVINCE OF QUEBEC SCHOLARSHIPS.—Fifteen scholarships are granted annually by the Government of the Province of Quebec to men graduates of a Provincial University desirous of completing their studies in Europe.

Candidates are required to make application to the Principal. Applications must be approved by the Dean of the Faculty to which the candidate belongs or from which he has graduated, and may be supported by other recommendations. Candidates must be Canadians, bona fide residents of the Province of Quebec and not over twenty-five years of age. The Government of the Province does not necessarily accept all the candidates recommended by the University.

Two or three of these are usually awarded to graduates of McGill University.

10. RESEARCH SCHOLARSHIP IN CANADIAN HISTORY.—The Scholarship of \$2,000, offered by the Women's Canadian Club of Montreal for research study in Canadian History, is open to graduates of McGill. Applicants must be prepared to spend two years of study under the terms of the Scholarship and the stipend will be paid in half-yearly instalments of \$500.00 each. Applications for 1929 should be forwarded to the President of the Women's Canadian Club, 772 Sherbrooke St. W., Montreal.

11. Three research and teaching fellowships of the value of \$750.00 each have been established in the Mining Department—one endowed in memory of the late Sir William Dawson, one endowed by the late Dr. James Douglas, and a third, of a slightly less value, supported by graduates in Mining in the name of the late Dr. B. J. Harrington. All three fellowships are awarded annually if suitable candidates offer.

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12. A research and teaching fellowship of the value of \$80.00 per month during the University session is offered to students graduating in the Metallurgical Department. The student holding this fellowship is expected to devote two-thirds of his time in research and study for the M.Sc. degree, and one-third in teaching and other work for the Department.

13. A research Scholarship of \$1,200, open to members of the graduating class in Chemical Engineering, offered by the New Jersey Zinc Company for research in rubber, under Dr. G. S. Whitby.

14. THE HUGH MCLENNAN MEMORIAL SCHOLARSHIP.—A scholarship established by Hon. John Stewart McLennan and Dr. Francis and Miss Isabelle McLennan in memory of the late Hugh McLennan, son of the Hon. John Stewart McLennan, who was killed at the Battle of Ypres in 1915. This scholarship is of the value of about \$1,000 and will be awarded annually to the student who during his course in Architecture has shown the greatest capacity in the solution of problems and who gives promise of creative ability.

15. THE GRADUATE (WORKING) FELLOWSHIP; \$800 a year. The holder of this fellowship is required to devote one-third of his time to the work of the University in the correction of junior exercises, etc., in the Department of Economics and Political Science.

16. MACDONALD COLLEGE AGRICULTURAL ALUMNI ASSOCIATION GRADUATE SCHOLARSHIP.—In memory of graduates and undergraduates of the Faculty of Agriculture who died in service during the Great War, 1914-1918. It has a value of about \$200 and is available to any graduate in Agriculture of Macdonald College (McGill University) for graduate work, in any branch pertaining to agriculture at any college or university of a recognized standing. Application for this scholarship should be addressed to:—Mr. Emile A. Lods, General Secretary, Macdonald College, P.Q.

17. MACDONALD GRADUATE SCHOLARSHIPS.—The W. C. Macdonald Reg'd. have offered one scholarship, of the value of \$500, for the academic year and tenable at Macdonald College, to a graduate of the University of Montreal (Agricultural Institute at Oka), or to a graduate of Laval University (Agricultural College at Ste. Anne de la Pocatière). Applications should be made through the Deputy Minister of Agriculture, Quebec, P.Q.

18. QUEBEC MINISTER OF AGRICULTURE GRADUATE SCHOLARSHIPS.— The Minister of Agriculture of the Province of Quebec has granted three scholarships for the session 1929-30, one each to graduates of the Oka Agricultural Institute (University of Montreal), the School of Agriculture, Ste. Anne de la Pocatière (Laval University), and the

School of Agriculture, Macdonald College (McGill University); of the value of \$500 each, for graduate work at Macdonald College; on the understanding that the holders of such scholarships are residents of the Province of Quebec and that such scholarships shall be awarded by the Minister on the recommendation of the three Schools of Agriculture concerned.

19. THE JOHN BONSALL PORTER SCHOLARSHIP.—This scholarship, of the value of about \$500, founded by Dr. W. W. Colpitts, is open to graduate students proceeding to the degree of M.Sc. in Civil Engineering. Applications, which in the case of graduates of other universities must be accompanied by duly certified statements of academic standing and letters of recommendation, should be in the hands of the Dean of the Faculty of Applied Science not later than June 15th.

20. SCHOLARSHIPS TO BE AWARDED BY THE NATIONAL RESEARCH COUNCIL.—Bursaries of the value of \$750 will be open to award to applicants who have graduated with high distinction in scientific study. Application must be made not later than March 15 next.

Studentships of the value of \$1,000 will be open to award to applicants who have already done some original graduate research in science. Application must be made not later than March 15 next.

Fellowships of the value of \$1,200 will be open to award to applicants who have given distinct evidence of capacity to conduct independent research in science. Application must be made not later than March 15 next.

A Ramsay Memorial Fellowship, tenable in Great Britain and of the value of \$1,750, will be open to award to an applicant who has given distinct evidence of a high capacity for independent research in the science of chemistry. The winner of this Fellowship is eligible for re-appointment for a second year. The last award was made in March, 1927. Application must be made not later than March 15 next.

Application blanks and circulars containing full information may be obtained from the Registrar of the University. Mail application direct to the National Research Council, Ottawa,

# FEES FOR MATRICULATION EXAMINATION

### FEES

# MATRICULATION EXAMINATION FEES

# I. JUNIOR MATRICULATION EXAMINATION

A dollar per paper, with a maximum charge of ten dollars and a minimum of two.

# II. SENIOR MATRICULATION EXAMINATION

Two dollars per paper, with a maximum of fifteen dollars and a minimum of three.

Matriculation examination fees must be sent to the University Registrar at the time of application for the examination. No application will be accepted unless accompanied by the regular fee.

Certificates will be issued to successful candidates without additional fee.

(For an examination at a local centre where not more than four candidates are writing, the fee to cover the cost of invigilation will be determined by the Registrar.)

# GENERAL REGULATIONS RE PAYMENT OF SESSIONAL FEES

1. Fees are due and payable to the Bursar as follows :--

Students in Arts (men and women), Commerce excepted .....October 7th and 8th

" " Commerce .....October 1st

They may also be paid by both classes of students on October 2nd, 3rd, 4th or 5th, or before October 1st.

They may be paid by cheque, which should be mailed so as to reach the Bursar not later than October 14th.

Students who pay by instalments will be required to pay the second instalment on or before February 1st.

2. After October 15th, or February 1st (in the case of those who pay by instalments) an additional fee of \$2.00 will be exacted of all students in default.

3. Students registering after October 15th shall pay their fees at the time of registration, failing which they become subject to the provisions of regulation 2.

4. Immediately after October 20th, or February 5th (in the case of students who pay by instalments), the Bursar will send to the Deans of the several Faculties, or the Heads of Schools, as the case may be, a list of the registered students who have not paid their fees, on receipt

#### FEES IN ARTS

of which the Dean, or Head, shall cause their names to be struck from the registers of attendance, and such students cannot be readmitted to any class except on presentation of a special ticket, signed by the Bursar, certifying to the payment of fees.

#### FEES IN ARTS

Sessional fee for the undergraduate course..... \*\$125.00

(This includes fee for library, athletics and graduation.)

By instalments :--

Graduates in Arts of this University are allowed, on payment of one-half of the usual fees, to attend all lectures in the undergraduate course, except those for which a special fee is exigible. Graduates of other universities attending full courses in affiliated theological colleges are allowed the like privilege.

### Fees for Limited Undergraduates.

In the First Year the fees shall be \$22.00 per course; in the Second Year \$26.00 per course; in the Third and Fourth Years \$33.00 per course.

### Fees for Partial Students.

The fees for partial students are: \$4.00 for library, \$3.00 for athletics and athletic grounds, and a fee at the rate of \$9.00 for an hour a week of instruction during the academic year for courses in the First and Second Years and \$11.00 per hour for Third and Fourth Year courses, but the maximum fee shall in no case exceed the full undergraduate fee.

### Fees for Laboratory Courses.

\$5.00 per hour per week of instruction for the academic year, but the maximum fee shall not exceed \$30.00 for any one course nor \$60.00 for any one student. This fee will cover laboratory materials, reagents, the use of instruments, and ordinary wear and tear of instruments and apparatus, but it will not cover losses through waste, neglect or breakage. The charges under this head will be deducted from the students' caution money at the end of the session.

\* For students enrolled before the session 1926-27, this fee will be \$100.00.

#### FEES IN ARTS

### Fees for Supplemental Examinations.

Each supplemental examination paper taken at the regular date	
fixed by the Faculty in September or May	\$ 5.00
Each subsequent supplemental examination paper in the same	
subject	10.00
Each special supplemental examination paper at any other	
period	10.00

All fees for supplemental examinations must be paid to the Bursar and the receipts shown to the Dean before the examination.

### Miscellaneous Fees.

Fee for the support of various undergraduate organizations, for the skating rinks and tennis courts during the session and for admission to the home games under the control of the Athletic Board :--

For	men u	ndergraduates							\$17.00
66	women	undergraduates							10.00
	Momon	undorgraduates	in	Arte	and	Music	are	also requi	ired to

women undergraduates in Arts and Music are also required in pay one dollar for athletic purposes.

Partial students who pay the above fees will have the same privileges as undergraduates in this respect.

Fee for valuation and registration of certificates which are ac-

cepted for admission to any Year in any Faculty...... \$ 5.00 For a general certificate of standing (after the first two)..... 1.00 For a certificate of standing, giving the candidate's classification

in the several subjects of examination (after the first two). 2.00

Applications for certificates must be addressed to the Registrar of the University, accompanied by the required fee.

No certificates are given for attendance on lectures unless the corresponding examinations have been passed.

Fee for a degree conferred in absentia (except when the

candidate has been specially exempted by the Faculty).... \$20.00

**Caution Money.**—Every student is required to deposit with the Bursar the sum of \$10.00 as caution money, to cover damages done to furniture, apparatus, books, etc. This amount, less deductions (if any), will be returned at the close of the session.

### FEES IN COMMERCE

Sessional fee for the undergraduate course..... \$150.00

(This includes fees for library, athletics and graduation.)

By instalments :--

First instalment, payable before October 15th...... 77.00 Second instalment, payable before February 1st...... 77.00

Any Arts students transferring to Second Year Commerce must pay a fee of \$175.00 for that year.

#### FEES IN COMMERCE

### Fees for Limited Undergraduates.

In the First Year the fees shall be \$30.00 per course; in the Second, Third and Fourth Years, \$35.00 per course.

### Fees for Partial Students.

\$4.00 for library, \$3.00 for athletics and athletic grounds and a fee at the rate of \$11.00 for an hour a week of instruction during the academic year, but the maximum fee shall in no case exceed the full undergraduate fee.

# Fees for Supplemental Examinations.

Each supplemental examination paper taken at the regular date	
fixed by the Faculty in September or May	\$ 5.00
Each subsequent supplemental examination paper in the same	
subject	10.00
Each special supplemental examination paper at any other	1
period	10.00

All fees for supplemental examinations must be paid to the Bursar and the receipts shown to the Dean before the examination.

#### Miscellaneous Fees.

Fee for the support of various undergraduate organizations, for the skating rinks and tennis courts during the session, and for admission to the home games under the control of the Athletic Board.

For	men undergraduates	\$17.00
66	women undergraduates	10.00

Partial students who pay the above fees will have the same privileges as undergraduates in this respect.

Fee for valuation and registration of certificates which are ac- cepted for admission to any Year in any Faculty	\$ 5.00
For a general certificate of standing (after the first two) For a certificate of standing, giving the candidate's classifica-	1.00
tion in the several subjects of examination (after the first two)	2.00

All applications for certificates must be addressed to the Registrar of the University, accompanied by the required fee.

No certificates are given for attendance on lectures unless the corresponding examinations have been passed.

For the degree of B.A. or B.Sc. (Arts) conferred in absentia

(except when the candidate has been specially exempted

by the Faculty)..... \$20.00

Caution Money.—Every student is required to deposit with the Bursar the sum of \$10.00 as caution money, to cover damages done to furniture, apparatus, books, etc. This amount, less deductions (if any), will be returned at the close of the session.

#### FEES IN APPLIED SCIENCE

### FEES IN APPLIED SCIENCE

Sessional fee for the undergraduate course...... \$205.00

By instalments :--

First instalment, if paid before October 12th..... \$105.00 Second instalment, if paid on or before February 1st..... 105.00

The special days set apart for the payment of fees for students in Applied Science are Wednesday, October 9th, and Thursday, October 10th, but they will also be received on October 2nd, 3rd, 4th or 5th and before September 30th. They may be paid by cheque, which, if mailed, should reach the Bursar not later than October 15th.

After October 15th or February 1st (as the case may be) an additional fee of \$2.00 will be exacted of all students in default.

Students taking the summer schools in May and September are required to pay the sum of \$35.00, which includes the Caution Money Deposit. This will be placed to their credit on the fee for the following session.

Fee for the support of various undergraduate organizations, for the skating rinks and tennis courts during the session and for admission to the home games under the control of the Athlatic Board

the Athletic Board ..... \$17.00

Graduates of this Faculty taking an additional undergraduate course will pay one-half of the undergraduate fee for that course.

The fees for partial students are:—\$4.00 for library, \$3.00 for athletics and athletic grounds, \$1.00 for the Undergraduates' Society, and a fee at the rate of \$7.00 for an hour a week of instruction during the academic year, but the maximum fee shall in no case exceed the full undergraduate fee.

Partial students may, if they so desire, secure the privileges of the skating rinks and tennis courts during the session and admission to the home games under the control of the Athletic Board by the payment of an additional amount of \$7.00.

Fee for the degree of B.Sc., conferred in absentia (except when the candidate has been specially exempted by the

Faculty) ..... \$20.00

For a regular supplemental examination, the fee is \$5.00; for each subsequent supplemental examination in the same subject, \$10.00; for a special supplemental examination, \$10.00.

**Caution Money.**—Every student is required to deposit with the Bursar the sum of \$10.00, as caution money, to cover damages done to furniture, apparatus, books, etc. This amount, less deductions (if any), will be returned at the close of the session.

#### FEES IN MEDICINE

#### FEES IN MEDICINE

All students must register with the University Registrar before paying their fees.

Fees are due and payable to the Bursar on September 26th and 27th. They may be paid by cheque, which should be mailed so as to reach the Bursar by the date named.

Fees will also be accepted before September 18th.

Students who pay by instalments will be required to pay the second instalment on or before February 1st.

After September 30th or February 1st (in the case of those who pay by instalments) an additional fee of \$2.00 will be exacted of all students in default.

Students registering after September 30th shall pay their fees at the time of registration, failing which they become liable for the additional fee of \$2.00 exacted of students in default.

Fee for the support of various undergraduate organizations, for the skating rinks and tennis courts during the session, and for admission to the home games under the control of the Athletic Board :--

For	men undergraduates	 \$17.00
For	women undergraduates	 10.00

Partial students who pay the above fees will have the same privileges as undergraduates in these respects.

The sum of \$10.00 is collected from all students at the time of registration as "caution money," from which deductions for breakage reported from the laboratories or lecture rooms are made, and a refund is granted at the close of the session.

Partial students will be admitted to one or more courses on payment of special fees and a fee of \$3.00 for athletics.

Students repeating the course of study of any academic session are not required to pay full fees. A fee of one hundred dollars will be charged, which will include dissecting material, chemical reagents, laboratory fees, etc.

Students taking out extra dissecting material will be charged at the rate of \$10.00 for a half session and \$20.00 for a whole session.

An ad eundem fee of \$10.00 is charged students entering from another university in any Year above the First.

When the degree of Doctor of Medicine and Master of Surgery is conferred in absentia, a fee of twenty dollars will be charged, unless the candidate has been specially exempted by the Faculty.

The fee for the graduate course in Public Health, including laboratory fee, the fee for outdoor work and the diploma fee, is \$100.00.

#### FEES IN MEDICINE

### SUMMARY OF FEES

Sessional fee	nicons. o	\$250.00*
By instalments :		
First instalment, if paid before September 27th	\$127.50†	
Second instalment, if paid before February 5th	127.50†	
Microscope, first instalment (on deferred payment		
plan)	32.00	32.00
Caution money (deposit)	10.00	10.00
Fee for Union, athletics, etc	17.00	17.00
	\$314.00	\$309.00

#### MICROSCOPES

Each student is required to provide himself, on beginning his studies, with a first-class miscroscope for laboratory and private study throughout his course. The microscope must be of substantial construction and be provided, as a minimum, with the following accessories :—2/3, 1/6, and 1/12 oil immersion objective, and a substage condenser. Such an instrument will last a lifetime and is an essential part of the equipment of a practitioner in medicine.

Should the student not be provided with such a microsope, he may purchase a new guaranteed instrument through the Bursar's office of the University for the sum of \$105.00 or on the deferred payment plan, by which payment is spread over five years, as follows :—First year, \$32.00; second year, \$25.00; third year, \$22.00; fourth year, \$20.00; fifth year, \$16.00.

### FEES IN LAW

The sessional fee of \$205.00 is payable to the Bursar on October 11th, but it may also be paid on October 2nd, 3rd, 4th or 5th, or before September 30th. Students who prefer to do so may pay the fee in two instalments of \$105.00 each, the second of which is due on the 1st of February.

Students who make default in payment are liable to be removed from the Faculty in accordance with the regulations of the University.

Men students pay an additional fee of \$17.00 for the support of various undergraduate activities and for the use of the skating rinks and tennis courts during the Session, and for admission to the home games under the control of the Athletic Board.

<sup>\*</sup> For students who entered the Faculty prior to the session 1926-27 this fee will be \$205.00.

<sup>&</sup>lt;sup>†</sup>For students who entered prior to 1926-27, \$105.00.

#### FEES IN LAW AND DENTISTRY

Women students pay an additional fee of \$6.00 for the use of the skating rinks and tennis courts during the Session, and for admission to the home games under the control of the Athletic Board; \$1.50 for the McGill Daily and \$2.50 for the McGill Women Students' Society, which includes all Royal Victoria College Societies. Membership in this Society is also open to women students taking partial courses on payment of the regular fee.

When the degree of B.C.L. is conferred in absentia a fee of \$20.00 will be exacted, unless the student has been specially exempted by the Faculty.

Partial students will pay a fee calculated at the rate of \$9.00 for an hour per week of instruction for one half-session, and \$3.00 for athletics and the use of athletic grounds.

Every student is required to deposit with the Bursar the sum of \$5.00 as caution money to cover damage done to University property. The balance, less any deductions, will be returned at the close of the session.

#### FEES IN DENTISTRY

Sessional fee	\$210.00
By instalments :	
First instalment, if paid by 30th September \$107.50	
Second instalment, if paid by 1st February 107.50	
Athletics and Societies	17.00
Rental of Dental Cabinet	10.90
Caution Money (deposit)	10.00

### \$247.00

The fee of \$20.00 is exacted when the degree of D.D.S. is conferred in absentia.

The cost of instruments and material for First Year students is at least \$150.00 and for Second Year students \$350.00. These instruments are practically all that will be needed in an ordinary dental practice.

The sum of \$10.00 is collected from all students at the time of registration as "Caution Money," from which deductions for breakages reported from the laboratories or lecture rooms are made. The balance will be refunded at the close of the session.

Partial students will be admitted to one or more courses on payment of special fees.

Students of this University repeating the course of study of any academic session are not required to pay full fees. A fee of one-half the regular fee will be charged, which will include dissecting material. chemical reagents, laboratory fees, etc. Students repeating the Third or Fourth Year will be required to pay in addition a Hospital Fee of \$25.00.

### FEES IN DENTISTRY AND MUSIC

An "ad eundem" fee of 10.00 will be charged students entering from another university in the Second, Third or Fourth Year of the course.

The day specially set for the payment of fees by students in Dentistry is Friday, September 27th, but they may be paid before that date or on September 30th or on October 1st, 2nd, 3rd, 4th or 5th. They may be paid by cheque, which should be mailed so as to reach the Bursar by the date mentioned. After September 30th, or February 1st (in the case of those who pay by instalments), an additional fee of \$2.00 will be exacted of all students in default.

Students registering after September 30th shall pay their fees at the time of registration, failing which, they become subject to the provisions of the above regulation.

All undergraduate women students must pay in addition to their tuition fees, \$6.00 for athletics and athletic grounds, \$1.50 for the McGill Daily and \$2.50 for the McGill Women Students' Society.

#### FEES IN MUSIC

#### CONSERVATORIUM FEES

The fees will be as follows :---

Regular Students. \$200.00 a year payable at the beginning of the session (not later than October 1st) or in two instalments of \$102.00 each, payable before October 1st and February 1st, respectively. This sum will also cover the fees for the Diploma or Degree Examination at the end of the year, as well as fees to Students' Societies.

Partial Students. \$40.00 to \$50.00 (according to instructor selected) per term of eleven weeks. Students paying in full for three terms of eleven weeks each will be allowed to take the examination for a Certificate at the end of the year without any further fee.

Class Students. Fees vary between \$5.00 and \$25.00 per term, according to class. Precise information can be obtained on this point from the Secretary.

The fees for examinations for Certificates, when not included in the term fees as above mentioned, will be the same as the fees for the Local Examinations. See page 425.

In all cases fees must be paid strictly in advance at the office of the Conservatorium.

No individual or class lessons will be given to any student who is unable to produce a receipt showing that the necessary fees have been paid.

#### FEES FOR DIPLOMA AND DEGREE EXAMINATION

DIPLOMA OF LICENTIATE (L. Mus.).—Fees for examinations, \$45.00, of which \$15.00 is payable at each examination. Diploma fee, \$5.00.

#### FEES IN MUSIC AND THE GRADUATE SCHOOL

DEGREE OF BACHELOR OF MUSIC (Mus. Bac.).—Matriculation fee, \$10.00 (see University Calendar). Fees for examinations payable as follows:—First examination in Music, \$20.00. Second examination in Music, \$20.00. Final examination in Music, \$20.00. Graduating fee, \$20.00.

Although under special conditions exemptions from certain examinations for the Diploma of Licentiate and Degree of Bachelor of Music may be allowed, there will be no exemption from the fees given above, except in the case of candidates holding McGill Local Centre Certificates.

DEGREE OF DOCTOR OF MUSIC (Mus. Doc.).—Fee \$100.00, one-half of which (\$50.00) is to be paid when submitting exercise and the balance (\$50.00) before the final examination.

but will be required to pay laboratory and registration fees and the fee for graduation in every case. In the event of their leaving the staff after one year of the course, they are required to pay a tuition fee of \$20.00 in the M.A., M.Sc. or M.S.A. course and the prescribed fee in the Ph.D. course.

# FEES IN PHARMACY, THE SCHOOLS OF PHYSICAL EDUCATION, SOCIAL WORKERS, GRADUATE NURSES AND LIBRARY ADMINISTRATION

See pages 496, 508, 522, 541 and 562.

#### FEES IN THE GRADUATE SCHOOL

N.B.—Candidates examined in theoretical subjects connected with the above Degrees and Diplomas at centres other than Montreal will probably have to pay a local supervisor's fee in addition to the fees stated above.

# FEES IN THE FACULTY OF GRADUATE STUDIES

For the course leading to the degree of M.A., M.Sc., M.S.A.

or M.Com	\$60.00
For each year of the course leading to the degree of Ph.D	60.00
Graduation fee for M.A., M.Sc., M.S.A. or M.Com	20.00
Graduation fee for Ph.D., M.A., M.Sc. or M.S.A. (in absentia)	40.00
Graduation fee for Ph.D	30.00
Graduation fee for D.Litt	80.00
Graduation fee for the degree of D.C.L	80.00
Graduation fee for the degree of D.Sc	80.00
Graduation fee for the degree of Mus. Doc	100.00

Students taking the advanced Summer course in French will be remitted \$20.00 from the fee for M.A. for each Summer course.

Laboratory fee, \$5.00 per hour, with a maximum fee of \$25.00.

Registration:—Students taking more than one year for the degree of M.Sc. or M.A. and those taking more than three years for the Ph.D. degree are required to pay only \$5.00 on registration for each additional year.

All fees for courses of instruction are payable on registration.

There is no fee for the degrees of LL.D. or M.A. when granted honoris causa.

The graduation fee (which covers the charges for examination) is payable when the candidate presents himself for examination and is not returnable if he is unsuccessful. No thesis can be accepted unless it is accompanied by a receipt from the Bursar for this fee. If, however, a candidate for the degree of M.A., M.Sc., or M.S.A. fails, he may present himself for the examination in a subsequent year without further payment of fees. A candidate for the degree of Ph.D., D.Sc. or D.Litt., in case of failure, may present himself once again, in a subsequent year, upon payment of an additional sum amounting to one-half of the usual fee for this degree.

Lecturers, tutors and demonstrators in the University who are proceeding to the degree of Master of Arts, Master of Science, Master of Science in Agriculture or Doctor of Philosophy shall, so long as they remain members of the teaching staff, be exempt from the tuition fee,

### STUDENTS' EXPENSES

# STUDENTS' EXPENSES

# 1. BOARD AND RESIDENCE

No college residences have as yet been erected for men students, but dormitory accommodation for about 60 is provided in Strathcona Hall, the home of the Student Christian Association of McGill University. Full particulars concerning terms of residence, etc., may be obtained from the Secretary of the Association, 772 Sherbrooke Street West, Montreal, who will also make arrangements to have students who are strangers to the City met on arrival and helped to secure lodgings, if due notice is sent of the station and time at which they will arrive.

Information about boarding and lodging houses may be had on application to the Secretary at Strathcona Hall. A list of suitable houses is prepared about a fortnight before the opening of the session each year. Owing to frequency of change, this list is not mailed.

The Royal Victoria College provides, in addition to separate lecture rooms, residential accommodation for the women students of the Faculties of Arts and of Music. The expense of board and residence for the session in the Royal Victoria College is \$500. Further particulars will be furnished by the Warden.

The Department of Physical Education maintains a Hostel for Students of the School of Physical Education. The expense of board and residence for the session is \$520. Full particulars will be furnished by the Secretary, School of Physical Education.

Board and lodging can be obtained in several of the theological colleges affiliated to the University and also in the numerous Fraternity houses in the vicinity of the College campus. The price of board and room in private houses is from \$60.00 and upwards per month; or, separately, board at \$45.00 to \$55.00 per month, rooms from \$15.00 to \$20.00 per month.

Board is furnished in the McGill Union at low rates. The dining room, which is a special feature of the Union, will accommodate over 120 students at a time. There is also a lunch counter where meals are served à la carte.

### 2. APPROXIMATE COST OF COURSE PER YEAR

# Faculty of Arts (Men).

(In all Years except the last the session extends from October 1st to May 15th. The course is one of four years.)

## STUDENTS' EXPENSES

TUDENTS EXPLOSES	Minimum	Moderate	
Tuition Fees	\$125	\$125	
Fee for Athletics, Union, etc		17	
Board and Lodging		550	
Books, Apparatus and Laboratory Fees	33	38	
aculty of Applied Science.	\$625	\$730	

(In all Years except the last the session extends from October 1st to May 1st with, as a rule, two or three summer schools of from three to four weeks' duration—Course, four years, with a preparatory year in the Faculty of Arts or Senior Matriculation.)

Tuition Fees       I         Fee for Athletics, Union, etc       Board and Lodging         Books and Instruments       I	Minimum \$205 17 435 43	Moderate \$205 17 525 53
	\$700	\$800

The sum of from \$60.00 to \$75.00 per year will also have to be reckoned on as extra expenditure in connection with the summer schools.

### Faculty of Medicine.

(In all Years except the last the session extends fr 20th to May 20th. Course, five years, preceded	om about by two p	September re-medical
years in the Faculty of Arts.)	Minimum	
Tuition Fees	\$250	\$250
Fee for Athletics, Union, etc		17
Board and Lodging	480	560
Books, Instruments, etc		173
	\$900	\$1,000

Undergraduates in Arts residing in affiliated theological colleges, with a view to a course in theology, are able to obtain board and lodging for less than the minimum shown above, and in all Faculties the expense under the head of "Books and Instruments" can be reduced by purchasing these at second-hand.

It will be noticed that in the above estimate no account is taken of personal expenses, such as cost of clothes, laundry, etc., nor yet of the caution money deposit which is made by each student at the commencement of the session. This amounts to \$5.00 in the Faculty of Law and \$10.00 in the Faculties of Arts, Medicine and Applied Science. It would be well also to reckon on at least \$20.00 to \$25.00 per annum for subscriptions of various kinds.

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#### MORALS AND DISCIPLINE

# MORALS AND DISCIPLINE

1. University discipline shall be exercised by the several Faculties, and by the Committee on Morals and Discipline, subject in the cases hereinafter mentioned to revision or confirmation by Corporation.

2. Subject to the provisions of the following sections, each Faculty shall be entitled to exercise University discipline over its own students.

3. All cases of discipline involving the interests of more than one Faculty, or of the University in general, shall be dealt with by a standing Committee of Corporation, to be known as the Committee on Morals and Discipline. The Committee shall have power to summon as assessors the President and Vice-President of the Students' Council.

4. All such cases of discipline as are referred to in sub-section 3 shall be reported to the Principal, or, in his absence, to the Vice-Principal, or, in the absence of both, to the senior Dean present in the city. If the Principal, or, as the case may be, the Vice-Principal or the Dean, deems action necessary, the matter shall be reported to the Committee on Morals and Discipline. Corporation shall also have the power to report such matters to the said Committee.

5. When sentence of expulsion, or of suspension for more than three months, has been pronounced or recommended by a faculty, or by the Committee on Morals and Discipline, the Corporation may entertain an appeal, which shall be final.

6. "University discipline" shall mean any appropriate method of exercising authority over students, and shall, but without prejudice to the foregoing generality, include the power of expulsion, suspension, disqualifying from competing for scholarships, exhibitions, medals, prizes or honours, imposing fines, not exceeding \$25.00 on any student, levying assessments for damage done, reporting to parents or guardians and admonition.

7. Any students found guilty of immoral, dishonest, disorderly or improper conduct, or of wrongfully causing damage to person or property, shall be liable to University discipline.

8. If on an occasion of general disorder on the part of a year, class, or group of students, damage be done to University property, or acts committed meriting discipline, and the individuals who have done such damage or committed such acts have not been discovered, an assessment to cover the damage may be laid, or a fine imposed, or both, on all the members of such year, class or group.

#### ACADEMIC DRESS

## ACADEMIC DRESS

Professors, lecturers and students are required to wear academic dress at lectures, except in those cases in which a dispensation shall have been granted by the Faculty.

Undergraduates shall wear a plain black stuff gown, not longer than half way between the knee and the ankle, with round sleeve cut above elbow.

Bachelor of Arts.—Black stuff gown, falling down below knee with full sleeve cut to elbow and terminating in a point (similar to that of the Cambridge B.A.); hood, black silk, lined with pale blue silk and edged with white fur.

Bachelor of Science.-The same gown as Bachelors of Arts; hood, black silk, lined with yellow silk and edged with white fur.

Bachelor of Science in Agriculture.—The same gown as Bachelors of Arts; hood, black silk, lined with dark green silk and edged with white fur.

Bachelor of Civil Law.-The same gown as Bachelors of Arts; hood, black silk, lined with French grey silk and edged with white fur.

Bachelor of Architecture.—The same gown as Bachelors of Arts; hood, black silk, lined with white silk and edged with white fur.

Bachelor of Music.--The same gown as Bachelors of Arts; hood, black silk, lined with pale mauve silk and edged with white fur.

Bachelor of Commerce.--The same gown as Bachelors of Arts; hood, black silk, lined with purple silk and edged with white fur.

Master of Arts.-Black gown of stuff or silk, falling below knee, with long sleeves with semi-circular cut at the bottom (similar to that of the Cambridge M.A.); hood, black silk, lined with pale blue silk.

Master of Science.- The same gown as Masters of Arts; hood, black silk, lined with yellow silk.

Master of Commerce.-The same gown as Masters of Arts; hood, black silk, lined with purple silk.

Doctor of Medicine.-The same gown as Masters of Arts; hood, scarlet cloth, lined with dark blue silk.

Doctor of Dental Surgery.-The same gown as Masters of Arts; hood, scarlet cloth, lined with pink silk.

#### ACADEMIC DRESS

Doctor of Laws.—The same gown as Masters of Arts; hood, scarlet cloth, lined with white silk.

Doctor of Literature.-The same gown as Masters of Arts; hood, scarlet cloth, lined with pale blue silk.

Doctor of Science.-The same gown as Masters of Arts; hood, scarlet cloth, lined with yellow silk.

Doctor of Civil Law .-- The same gown as Masters of Arts; hood, scarlet cloth, lined with French grey silk.

Doctor of Music.-The same gown as Masters of Arts; hood, scarlet cloth, lined with mauve silk.

Doctor of Philosophy.-The same gown as Masters of Arts; hood, scarlet cloth, lined with pale green silk.

Doctors of Laws, Doctors of Civil Law, Doctors of Literature, Doctors of Science, Doctors of Philosophy and Doctors of Music shall be entitled to wear for full dress a robe of scarlet cloth (similar in pattern to that of the Cambridge LL.D.), faced with silk of the same colour as the lining of their respective hoods.

All hoods shall be in pattern similar to that of the Masters of Arts of Cambridge University.

Undergraduates and graduates shall wear the ordinary black trencher with black tassel, but Doctors of Law, Doctors of Civil Law, Doctors of Literature, Doctors of Science, Doctors of Philosophy and Doctors of Music shall wear for full dress a black velvet hat with gold cord, similar to that worn by Doctors of Laws of Cambridge University.

Samples of the colours of the linings of all hoods shall be kept for inspection in the office of the Registrar.

For the information of graduates in Great Britain, it may be stated that the gowns and hoods for the various degrees specified above can be purchased from Messrs. Ede, Son & Ravencroft, 93 and 94 Chancery Lane, London, W.C. 2.

# FACULTY OF ARTS

The work done by McGill College, usually called the Faculty of Arts, covers all the work of the University in Arts, Pure Science and Commerce. Students should not confuse the work in Pure Science leading to the degree of B.Sc. with the work of the Faculty of Applied Science or Engineering. A separate announcement is published covering the work in Commerce.

Students may enter the undergraduate course by passing either the junior or the senior matriculation examination. In the former case, in order to obtain the degree of B.A. or B.Sc., they are required to attend regularly the prescribed courses of lectures for four years; in the latter, for three. No course or courses can be counted towards a degree or diploma in the Faculty of Arts except such as have been taken and passed after matriculation requirements have been satisfied and according to the regulations governing the various Years of the undergraduate course. Undergraduates are arranged in Years, from First to Fourth, according to their academic standing. The respective conditions of passing into the last three Years of the course are stated on page 156. The pass mark in all subjects of examination throughout the course is 50% and the marks for second and first class standing are 65% and 80% respectively.

An undergraduate may proceed to the degree of B.A. by taking either the General course or one of the Honour courses.

# 1. GENERAL COURSE FOR THE DEGREE OF B.A.

In each of the First and Second Years five courses shall be taken, i.e., fifteen hours of class work per week; and in the Third and Fourth Years respectively, four courses (twelve hours). The third hour in each course each week may be devoted to group conferences.

#### FIRST YEAR

(a) Compulsory.

Latin or Greek. English 1 and 2. Mathematics.

But in the case of students who have already shown some aptitude in languages and are permitted to take three languages (exclusive of English), Mathematics shall not be compulsory. Physical Education (two hours per week).

#### GENERAL COURSE FOR B.A. DEGREE

(b) Elective.

Two of the following:--History. Greek or Latin (if not already taken). French. German. Science (Physics or Chemistry\* or Botany 1 and Zoology 1B.)

For the subjects required to be taken by students who wish to qualify for the First Class High School diploma of the Province of Quebec, see page 171.

Details of the work in each subject are given on pages 158 to 205.

Advanced Courses.—A student qualified to take work of a more advanced character than that in the general course of the First Year in any subject, may take such advanced work in that subject as the department concerned may recommend. Students taking advanced courses may be excused from the corresponding general courses on the recommendation of the department.

Advisers.—A Board of First Year student advisers, consisting for the most part of members of the Staff teaching First Year subjects, shall be appointed each year. The Board shall have an executive committee, the Chairman of which shall be the Chairman of the Board. The Board, the Executive Committee and the Chairman shall be appointed by the Dean.

The number of advisers shall, if possible, be large enough to preclude the possibility of any one of them having more than ten advisees.

All First Year students should interview their advisers at least once a month.

Interim Tests and Probation.—There shall be two regular interim tests for all students of the First Year, the first to be held near the middle of the month of November and the second during the week preceding the Christmas vacation. There is no regular prescribed form of test, but it shall be as near as possible the equivalent of a standard examination of one hour's duration. All students who fall below the required standard in more than one-third of these tests shall be placed on probation for the rest of the academic year. During this period of probation students shall not be allowed to become members of a College athletic team or to hold office in any College society or to take part in any major student activities. All students who are below the required standard in one-half or more of these tests shall be dropped from the University for that year and shall not be allowed to re-enter

\*A course in high school Physics or Chemistry is a prerequisite for the Chemistry option.

the University except with the consent of the Faculty. Reports on First Year students who are delinquent in their tests shall be submitted promptly to the Dean's office by the examiners.

#### SECOND, THIRD AND FOURTH YEARS

Students shall choose two subjects for continued study through the Second, Third and Fourth Years.

These shall be designated continuation subjects.

In each of the continuation subjects, a full course or two half courses will be taken each year.

One of the continuation subjects must be selected from Division I below, and one from Division II, or both must be selected from either Division I or Division II.

DIVISION I	DIVISION II	DIVISION III	DIVISION IV
English.	Economics.	Botany.	Education.
French.	History.	Chemistry.	Ancient
German.	Mathematics.	Geology.	History.
Greek.	Philosophy.	Physics.	
Hebrew.	Political Science.	Zoology.	
Latin.	Psychology.		
	Sociology.		

Physical Education is compulsory in the Second Year for two hours per week.

Additional courses, or the equivalent number of half courses, shall be chosen as follows:---

In the Second Year-Three additional fuil courses;

In the Third Year-Two additional full courses;

In the Fourth Year-Two additional full courses.

Of the additional courses one must be selected from Division III unless the student has already passed in a science subject in the First Year; one also must be a modern foreign language, from Division I, unless the student has chosen such a language as a continuation subject, or has passed it in the First Year.

All students are required to consult one of the Departments in which they are doing continuation work on the selection of these additional subjects.

Students who are pursuing a double course in Arts and Divinity (six years at least) will take in the Third and Fourth Years the courses which constitute the ordinary curriculum in Arts, less a half course in each of these Years, or a whole course in either.

# COURSES AND PREREQUISITES

SECOND YEAR		THIRD YEAR		Fourth Year	
Course	PREREQUI- SITE	Course	PREREQUI- SITE	Course	PREREQUI- SITE
DIVISION 1. English, 3, 4, 6, 7, 15 French, 2	1 and 2	4, 5	2		2
German, 5, 6. 4	1 or 2 3	8, 9, 10, 11 12, 13}	5 or 7	(6, 7 8, 9, 10, 11, 12, 13)	5 or 7
Greek 2 4 Hebrew 1	1	5 2, 3, 5, 8 3, 4, 6, 7 9, 10	2 or 4 1 Greek 1	5 3,5, 8 3, 4, 6, 7 9, 10	2 or 4 1 Greek 1
AND ALL AREA	C. CORTERS. C		por aldimog		
Latin 2	1	3	2	3	2
DIVISION II. Economics		4, 5, 6 7, 8, 9, 10	1 or 2 or 3	8, 9, 10 11, 12, 13,)	1 or 2 or 3.
inalist state	on bouidmy	11, 31,)	1 or 2 or 3	14, 15, 16, 17, 18, 31,	1 or 2 or 3.
History 2 Mathematics 2, 3, 4	1	3	2	4	3
Philosophy		2, 3, 4 5, 6, 7 2, 4, 6	1 2 and 3 1	5, 6, 7 8 2, 4, 5, 6, 7, 8	1 2 and 3 7 1
Political Science Psychology		4 5, 8, 9, 10 2, 3, 4, etc	1 or 2 or 3 1 or 2 or 3 1	5, 8, 9 12, 13, 14 2, 3, 4, 5, 9,	1 or 2 or 3. 1 or 2 or 3. 1
Sociology		2, 3, 4, 7,	1	etc. 2, 4, 5, 6, 7, 8,9, 11, 12, 14	1
DIVISION III. Botany 2 3 Chemistry {2 3	1 1, or Zool. 1.	3 4 2	1, or Zool 3	5, 7 6 2	2 2 1
Geology	2	3 2, 3 and 4	2	3 2, 3 and 4	2
Physics 3	2 (and Math. 1)	3, 4 5, 6	2 (and Math. 1)	3, 4	2 (and Math. 1)
		5, 6	3, 4 (and Math. 3).	5, 6	3, 4 (and Math. 3). 5, 6a (and Math. 6.)
Zoology 1A 2-4	1 1	2-5, 7	1	2-5, 7	1
DIVISION IV. Education				2	1

# LIST OF COURSES AND PREREQUISITES

\*Physics 3, 4 and Math. 6 may be accepted for 8a in the case of honour students in Chemistry.

Details of the work in each subject are given on pages 158 to 205. Honour lectures are open to candidates for the General degree in the Third and Fourth Years, on the recommendation of the department concerned and with the approval of the Dean.

#### GENERAL RESTRICTIONS

The selection of continuation subjects or additional courses is under the following restrictions:--

1. A course intended primarily for First Year students may be counted as a full course in the Second Year.

2. Only those courses may be chosen for which the student has fulfilled the prerequisites laid down by each department.

3. Students are responsible for seeing that courses chosen do not conflict as regards hours of lectures or laboratory periods.

## II. HONOUR COURSES FOR THE DEGREE OF B.A.

Honour courses may be elected in any two combined cognate departments or in any single department.

The arrangement of combined honour courses shall be left to the departments interested, and in cases of doubt or disagreement shall be referred to the Faculty for final decision.

In the honour courses in combined departments, when the departments are divided into two sections (as Classics into Greek and Latin, Economics and Political Science into Economics and Political Science), the graduate's certificate shall designate by name the sections in which Honours have been taken (e.g., First Class Honours in Greek and Second Class Honours in Latin); but in honour courses in combined departments, where the departments are not divided into sections (as English, History, Sociology, etc.), the graduate's certificate shall indicate that the work done in each of the departments amounts to only half of a full honour course in that department—e.g., First Class Honours in English (one-half) and History (one-half), or First Class Honours in English (one-half) and Second Class Honours in History (one-half).

Subject to the qualifications hereinafter referred to, honour courses may begin in the Second Year. Departments, however, should, whenever possible, have advanced classes or sections for the better students of the First Year.

A Second Year General student who shows exceptional merit in any subject in his Second Year examinations may, if he so wishes and the head of the department is satisfied that his knowledge of the subject is sufficient to enable him to reach the standard of honours

#### HONOUR COURSES FOR B.A. DEGREE

by two more years' study, be allowed to take up the honour course in that subject at the beginning of his, Third Year.

The conditions for entering honour courses in the Second Year are as follows:---

(a) A student must not have failed in more than one subject at the final spring examinations in the First Year.

(b) The sanction of the Dean and of the head or heads of the departments in which honours are elected must be obtained.

(c) No student shall take honours in a subject in which he has failed to attain at least second class standing in his First Year.

Honour students who fail to attain second rank honour standing at the end of the Second Year shall revert to the General course in their next and following years, unless they obtain special leave to continue their honour work from the department or departments interested.

Honour courses in the Second Year shall consist of 15 hours and in each of the remaining two years 12 hours, covering lectures, conferences and tutorial classes. The work shall also involve wide reading and study in the subject, apart from the actual subjects of lectures, in accordance with a definitely prescribed programme.

Attention is drawn to the fact that lectures will not be given on all parts of the work.

In the Second Year a student registering for honours in one subject only will fulfil the requirement of fifteen hours by taking a minimum of two courses or six hours in his honour subject, and, in addition, such other courses (bringing the total to fifteen hours) as the department under which he is studying may direct. A student registering for combined honours in two subjects will fulfil the requirement of fifteen hours by taking two full courses in each honour subject, or twelve hours altogether, and, in addition, one other course, making a total of fifteen hours, as the two departments concerned may direct. A student who has failed in any such subject in the Third Year examinations shall not be allowed to continue his honour course except with the consent of the Faculty.

Departments shall be at full liberty to recommend their honour students to take one or more courses in cognate departments as the equivalent of courses in their own departments.

A student's whole record during his Second, Third and Fourth Years may be considered in awarding honours at graduation.

Students in honour courses who fail to attain second rank honours at graduation, or who only succeed in attaining second rank honours in one of two combined courses, shall revert to the list of General students.

Honours shall be awarded by the Faculty on the recommendation of the department or departments in which honours are elected.

Honour lectures are open to candidates for the General degree in the Third and Fourth Years, on the recommendation of the department concerned and with the approval of the Dean.

The examinations for honours will not be conducted exclusively by persons who have given the courses.

## III. THE GENERAL COURSE FOR THE DEGREE OF B.Sc.

An undergraduate may proceed to the degree of B.Sc. in Arts by taking either the General course or an Honour course.

This course has been arranged to give students a training in science as a preliminary to entering a technical business or profession, or for teaching.

## First Year

English 1 and 2. French 15. Mathematics 1. Physics 1 or 2. Chemistry 1.

Details of the work in each subject are given on pages 158 to 205.

## Second Year

In addition to English, four subjects must be taken, of which three must be selected from Group I below. The fourth subject is either German 3 or 4.

## Third and Fourth Years

Two subjects selected from Group I must be continued in the Third and Fourth Years and two other subjects must be taken.

#### GROUP I

SUBJECTS Biology.	SECOND YEAR Zoology 1B.	THIRD YEAR Zoology 2 or 4;	FOURTH YEAR Botany 5 and 7
and the second second	Botany 1.	or Botany 5 and 7.	or Zoology 2 or 4.
Chemistry.	2 or 3, and 4.	2 or 3, and 9.	5 or 6 and 8.
Geology.	1.	5 and 6.	2 and 3.
Mathematics.	3.	2 and 4.	6.
Physics.	2 (or 3A, if 2	3A (or 3B	3B and 4 (or 5A
	has been taken).	and 4, if 3A has been taken).	and 8A; or 8A and 9).

#### COURSES FOR B.SC. DEGREE IN ARTS

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SUBJECTS Economics and	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Political Science	al or 2.	Any one of:—4 and 5, 6 and 7, 8 and 9.	Any one of:4 and 5, 6 and 7, 8 and 9 (if not cho- sen in the Third Year), 12 and 13, 14 or 15.
Education.		1. ningd 9 about anit	2. added/ in achel
English.	4, 6, 7 or 8.	Any one of:4 to 11. 15, 18.	Any one not taken in the Third Year, of 4 to 11, 15, 18.
French.	2.	4 or 5.	4 or 5.
German.	3 or 4.	7 or 8.	7 or 8.
History.	2.	Applied Scimos	4. ataA ni etuohuta
Philosophy.	1. Joint T and	Any one of: 2, 3, 4, 6.	2 or 3 or 4 or 6, whichever has not been taken in the Third Year.
Psychology.	1.	Any full course of 2-14.	Any full course of 2-14, not taken in the Third Year.
Sociology.	1.	2, or 3 and 4, or 5 and 6.	2, or 3 and 4, or 5 and 6, any course not taken in the Third Year.

Students selecting Physics, as one of the three subjects of the general B.Sc. course, must also select Mathematics.

A student in the Fourth Year may be allowed to drop one of the two compulsory subjects and to take an equivalent amount of work in the other compulsory subject.

## IV. HONOUR COURSE FOR THE DEGREE OF B.Sc.

Students proposing to take an honour course must select one principal subject from Group 1 (Page 148), in which subject they must have obtained at least high second class standing in the First Year. If the subject chosen for honours is not offered in the First Year, an aggregate standing of high second class must be obtained in all subjects of the First Year.

Students who fail to retain their honour standing will be required either (1) to repeat the year in Honours or (2) to repeat the year in the General course or (3) to proceed to the following year, reverting to the General course at the discretion of the B.Sc. Advisory Committee.

The exact courses of study will be specified by the department concerned. All students will be required to take a course in German 4.

## V. COURSE IN ENGINEERING PHYSICS

There is an increasing demand for men with an advanced knowledge of Mathematics and Physics, who are capable of conducting investigations of a research character. With a suitable training, openings in this field of work may be found in research laboratories of the Government and of industrial corporations, in consulting work, and in University appointments.

In view of these facts, a course in Engineering Physics leading to the degree of B.Sc. in Arts has been arranged. It is open to capable students in Arts or Applied Science:—

1. To students in Arts entering their Third or Fourth Year, provided they have satisfactorily passed in the following prerequisites:--

Mathematics 2, 3, 4. Physics 3, 4. Chemistry 1.

2. To students in Applied Science who have completed the Second Year and have received first or second class rank in Mathematics and Physics, subject to the approval of the heads of the departments of Electrical Engineering and Physics.

During their summer vacation at the end of the Second Year, students are advised to spend three months at an approved shop or radio station.

Mathematics 5, 6. Physics 5A 5B 6B (or 8B).

Physics 5A, 5B, 6B (or 8B). Electrical Engineering 113, 114.

## Fourth Year

Mathematics 10 or 11. Physics 6A, 7A, 7B, 8A and 8B (or 6B). Summer Thesis or Shop Work.

The student may now receive the degree of B.Sc. in Arts, with honours in Mathematics and Physics. In the Fifth Year the student should take a selection of the Fourth Year course for Electrical Engineering in Applied Science, and also Physics 9 and 10, and one of 11, 12, 13, 14, 17, and proceed with research work and a thesis with a view to an M.Sc. degree.

#### COURSE FOR B.SC. DEGREE IN BIOLOGICAL SCIENCES

The course must therefore cover five years and may cover six. During the last year (the sixth), opportunity may sometimes be afforded to act as demonstrator with a salary or to apply for Research Council Bursaries, etc.

#### VI. COURSE FOR B.Sc. IN THE BIOLOGICAL SCIENCES

The University offers the following special course for students especially interested in biological studies.

Students may enter these special courses upon completing the first year of the B.A. or B.Sc. course comprising the following subjects:-

English 1 and 2, French or German (German is recommended). Mathematics 1, Chemistry 1,

and one of the following:--Physics 1, 2 or 2P. Biology (Botany 1 and Zoology 1). Latin 1.

## Second Year

Five of the following subjects are to be selected :--

English, German, Mathematics 3.

Chemistry 2, 3, 4 (not more than two of these courses may be taken during the year).

Physics 1 or 2 or 2P or 3A.

Biology (Botany 1 and Zoology 1)—compulsory if it has not been already taken.

Botany.

Zoology.

Physiology 1. (See page 152.)

Note.--1. At least one of the three first-mentioned courses must be taken.

2. Students are recommended to take Mathematics.

# Third Year

Four courses are to be selected. Of these at least two and a half must be of a biological character:---

Chemistry 2, 3, 4.
Physics 2 or 2P or 3A.
General Physiology (Botany 5 and/or 7).
Botany (one or two courses).
Physiology 1. (See page 152.)
Histology and Embryology (Histology 1—half course—or 1 and 2—whole course. (See page 152.)

#### Fourth Year

Three courses are to be selected, special attention being devoted to one of the four first-mentioned subjects :--

Botany.

Zoology.

Physiology 2 and 3 (count as one course). (See below.)

Biochemistry 1 and 2 (count as one course). (See below.)

Histology and Embryology 1 or 2 (if 1 has already been taken) or 1 and 2 (which form a whole course). (See below.)

Bacteriology. (See below.)

Comparative Anatomy of Primates (Anatomy 11). (See below.)

During this year the student's ability to read scientific books and papers in German and French will be tested by the Department in which he is taking his major work.

**Prerequisites**.—Information as to prerequisite courses will be found in the Announcements of the various courses. Before selecting the subjects for the Third and Fourth Years of their course, students must consult with the heads of the departments concerned.

In addition to those in Botany and Zoology, the following courses are offered:---

#### Physiology

1. Introductory Course (lectures and demonstrations). 6 hrs. a week, Spring semester.

2. Systematic Physiology.

3 hrs. a week, Autumn and Winter semesters.

3. General Laboratory.

6 hrs. a week, Autumn semester.

#### Biochemistry

1. Lectures.

5 hrs. a week, Autumn and Winter semesters.

2. Laboratory. 12 hrs. a week, Autumn and Winter semesters.

## Histology and Embryology

A special course in this subject will be offered by Dr. J. C. Simpson.

#### Bacteriology

A special course in this subject will be offered by Dr. F. C. Harrison.

#### Anatomy

A special course offered by Dr. Beattie (prerequisite: **Zoology 4**) in the Anatomy of the Primates.

#### COURSES FOR B.H.S. AND B.SC. (IN AGR.) DEGREES

# VII. COURSE FOR THE DEGREE OF BACHELOR OF HOUSEHOLD SCIENCE (B.H.S.)

The first two years are to be taken in the Faculty of Arts of McGill University or of any other University where similar courses are studied, following the requirements for the degree of B.A. or of B.Sc., with Chemistry compulsory in each year (see pp. 142-150). The last two are to be taken in the School of Household Science of Macdonald College, but the Dean of the Faculty of Arts of McGill University must pronounce on the qualifications of a candidate before he or she can be admitted to the Third Year of this course.

For subjects to be taken in the Third and Fourth Years, see Macdonald College Announcement.

# VIII. COURSE FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE (B.Sc. IN AGR.)

# (1) Courses for students who wish to qualify as Teachers.

In this course the first two years are taken in the Faculty of Arts and the last two in the Faculty of Agriculture. In order that students taking this course may have their degree accepted as the academic requirement for the High School Diploma in the Province of Quebec, the courses in the first two years must be those laid down by the Protestant Committee of the Department of Education, as stated on page 171.

In the Third and Fourth years, taken in the Faculty of Agriculture at Macdonald College, the continuation subjects for the High School Diploma are:—Chemistry, Physics, and Botany, in which three full courses must be taken each year. At least one other full course must be taken each year, such course to be chosen with the approval of the Faculty from the following: Entomology, English, Economics, Zoology, Bacteriology, Horticulture.

In Chemistry, Physics and Botany the courses will be selected from the following, which appear in the Macdonald College Announcement:

Chemistry—Course 2-	-Organ	ic Cl	nemistry.
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3—Analytical

5-Biochemistry.

6-Chemistry of Soils and Fertilizers.

66

12-Physical Chemistry.

Physics- Course

66

66

66

## 3—Light.

4—Electricity.

5-Soil Physics.

6-Physical Measurements.

Botany- Course B-2-Plant Physiology.

" B-3-Histology and Cytology.

" B-4-Plant Morphology.

" B-5-Systematic Botany.

" P-2-Diseases of Plants.

## (2) Course for all Others.

Those who do not desire to qualify for the High School Diploma may proceed to the Degree of B.Sc. in Agr. by taking the first two years of the general course for the B.Sc. in Arts and the Third and Fourth Years in the Faculty of Agriculture at Macdonald College.

Two subjects must be taken for continuation courses throughout the Third and Fourth Years. Additional subjects to complete the minimum requirement of five full courses (15 hours of class work per week) each year shall be chosen with the approval of the Faculty, from the courses offered in Agriculture.

## PARTIAL STUDENTS

A limited number of partial students may be admitted to study each year in the Faculty of Arts. Partial students before registration must satisfy the Dean and the head of the department or departments which they propose to enter of their ability to follow the course or courses they select, and they must fulfil all the requirements of classroom work and tests prescribed for regular students in these courses. Candidates will not be permitted to enter as partial students who have unsuccessfully attempted the matriculation examinations unless they have made an exceptionally high mark in the subject or subjects which they intend to select. Subject to the above limitations, lectures are open to partial students in both honour and general classes, but no course or courses taken by any such students can count for a degree except by virtue of a special vote of the Faculty. Medals, scholarships, exhibitions and prizes shall not be awarded to partial students.

## LIMITED UNDERGRADUATES

Students who have matriculated, but who for special reasons are not able to follow the regular curriculum of four years, may, if those reasons appear satisfactory to the Dean, be accorded the status of Limited Undergraduates. Such Limited Undergraduates may distribute their work for the degree over five, but not over more than eight years, on the understanding that the sequence and arrangement of courses shall follow the requirements laid down in the regular undergraduate curriculum, and shall conform to the time-table.

Limited Undergraduates will not be eligible for honour courses, scholarships, exhibitions, bursaries or prizes of any description. For fees, see page 127.

#### EXAMINATIONS

# MID-SESSIONAL EXAMINATIONS

Except as hereinafter provided by this rule, all University midsessional examinations in courses of study conducted throughout the whole academic year are discontinued, but members of the teaching staff are at full liberty to give such interim tests or examinations as they may think requisite from time to time.

The final examinations in all half courses ending at mid-session may be held at mid-session as at present or during the final examination period in the Spring, at the option of each department interested. Any department desiring University accommodation for mid-sessional examinations in courses completed at the end of the first half term must apply in writing to the Dean not later than the first day of January.

## SUPPLEMENTAL EXAMINATIONS

The following are the regulations governing supplemental examinations :---

A student conditioned in a course may remove the condition during the next Calendar session by passing—

- (1) the supplemental examination in September following, or,
- (2) a special supplemental examination in February following, or
- (3) upon application to the Dean and on payment of the fee prescribed for a special supplemental (always on the understanding that there is no conflict in the time-table) at the sessional examination in May. If by the close of that session the condition has not been removed, the student may take, within the Calendar session next following, but not thereafter, one of the three separate examinations as enumerated above, but on the understanding that the fee payable in September or in May shall be the same as that prescribed for a special supplemental.

Any student who fails in more than one-half of his subjects in the First Year shall be refused leave to return to the College. These students are not precluded, however, from entering the Second Year if they pass the full set of examinations required for senior matriculation.

The fee for supplemental papers is \$5.00 and for special supplementals \$10.00 for each paper. A second supplemental examination in any subject is always ranked as a special supplemental.

## DISTINCTION IN THE GENERAL COURSE

Students of exceptional merit in the General course will be awarded distinction at graduation in two classes, viz., Great Distinction and Dis-

tinction, and these awards will be made upon the student's record during his Second, Third and Fourth Years. At least an average first class standing will be required for Great Distinction and an average second class standing for Distinction.

## ADVANCEMENT FROM YEAR TO YEAR

Advancement to the Second Year.—A student may proceed to the Second Year with any one full course, or its equivalent, unpassed.

Advancement to the Third Year.—A student may proceed to the Third Year with any one full course, or its equivalent, unpassed, unless that full course, or any part of it, belongs to the First Year.

Students of good standing, however, who have succeeded in passing all subjects required in the Second Year may be allowed by special permission of the Dean to proceed into the Third Year carrying one condition from the First Year.

Advancement to the Fourth Year.—A student may proceed to the Fourth Year with any one full course, or its equivalent, unpassed, unless that full course, or its equivalent, belongs to the First or Second Year of his course.

Repeating a Year.—By special permission of the Dean, a student who is permitted to repeat a Year may, on application:—

(a) Be exempted from attending lectures and passing examinations in the subjects in which he has already passed;

(b) Be permitted to take, in addition to the subjects in which he has failed, one of the subjects of the following year in his course.

N.B.—The choice of subjects must involve no conflict of hours as printed in the time-table.

# CONCERNING STUDENTS WHO INTEND TO PROCEED INTO THE PROFESSIONAL FACULTIES

The Faculty of Arts assumes no responsibility for arranging or directing courses of study for students intending, at the end of their First, Second or Third Year in Arts, to enter one of the other Faculties of the University.

Such students are advised, before registering for the first time under the Faculty of Arts, to acquaint themselves with the entrance requirements laid down by these other Faculties. They must consider the fulfilment of these requirements as only incidental to a course in Arts; and they must follow the regulations of the curriculum in Arts as though they were proceeding to an Arts degree.

## REGULATIONS RE STUDENTS FOR PROFESSIONAL FACULTIES

All undergraduate students in the Faculty must register for one of the Bachelor's degrees offered viz.: B.A., B.Sc., or B.Com. Students who have successfully completed the First Year leading to the degree of B.A. or B.Sc. may apply for admission into the Faculty of Applied Science, provided they have completed the course in English, Mathematics and Physics and two other subjects. Students who have successfully completed the first two years of the B.Sc. course or the first three years of either the B.A. or the B.Sc. course may apply for admission into the Faculty of Medicine or of Dentistry, provided they have successfully followed for one year the regular course in each of the following subjects:—viz., Physics, Inorganic Chemistry, Organic Chemistry and Biology. A minimum of two years is required for admission into the Faculty of Law.

Students completing three years in Arts and two years in Medicine are entitled to apply to the Faculty of Arts for the degree of B.Sc.

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# COURSES OF LECTURES IN ARTS

The hours of all General lectures and most of the Honour lectures are indicated. In the case of the other Honour lectures the hours will be arranged by the several departments at the opening of the session.

# DEPARTMENT OF BOTANY

PROFESSOR :- FRANCIS ERNEST LLOYD.

ASSOCIATE PROFESSOR :- GEORGE W. SCARTH.

INSTRUCTOR IN BOTANY :- JANE D. SPIER, M.Sc.

Demonstrators:  $-\begin{cases} R. D. Gibbs. \\ C. W. Argue. \end{cases}$ 

## RESEARCH ASSOCIATE :--

VLADIMIR MORAVEK, Ph.D., Privatdocent, Institute for Plant Physiology, Masaryk University.

- General Botany. Introductory Course. First Year.
   2 hrs., 2nd term; Mon., Wed., at 2; 2 hrs. lab., Tues. or Friday, 2-4. Professor Lloyd, Mr. Scarth and \_\_\_\_\_\_. (Taken with Zoology 1 as 1st year Biology.)
- 1M. General Biology (Plants). Parts I, Microscopy (October) and III, Plant Biology (March to April).
  2 hrs., Tu., Th., at 2; 6 hrs. lab., Mon., Wed., Fri., 9 to 11. Professors Lloyd and Scarth.

See Zoology 1A for Part II.

- Plant Morphology and Taxonomy. Second Year.
   3 hrs.; Tu., Th., Sat., at 9; 4 hrs. lab.
- Evolution and Genetics. Second or Third Year.
   2 hrs.; Mon., Wed., Fri., at 9; 2 hrs. lab. (May be taken without laboratory work as a half course.)
- Histology: Microtechnic. Second or Third Year.
   3 hrs.; Mon., Wed., Fri., at 2; 4 hrs. lab.

Professor Lloyd.

#### BOTANY

5. Introductory General Physiology. Third or Fourth Year Arts, optional in Medicine, 3 hrs. 1st Torme, Mar. West Friendon to the

3 hrs, 1st Term; Mon., Wed., Fri., at 9; 4 hrs. lab.

Professors Lloyd and Scarth.

- Plant Pathology. Fourth Year.
   3 hrs., Mon., Wed., Fri., at 2; 4 hrs. lab.
- Plant Physiology: Problems. Third or Fourth Year Arts, 2nd term.
   3 hrs. reading; 4 hrs. lab.....Professors Lloyd and Scarth. Note:—Courses 5 and 7 constitute plant physiology for one session.
- 8. Pharmaceutical Botany. 2 hrs......Mr. Argue.
- 9. Taxonomy: Method. A short course in April on request.

## HONOUR COURSE IN BIOLOGY

Prerequisite: Botany 1 and Zoology 1; or Botany 1M and Zoology 1M, together with Chemistry 1 or Physics 1.
Second Year: Botany 2 and 3 (with laboratory work); Zoology 2; Physics 1, or Chemistry 1.
Third Year: Botany 4 and 5; Zoology 3 and 6.
Fourth Year: Botany 6 and 7; Zoology 4 and 5.

Honour students should acquire a reading knowledge of scientific French and German. For Genetics and Physiology an elementary knowledge of statistical methods is advised.

GRADUATE COURSES

See page 444.

Note:-Courses 5 and 7 constitute plant physiology for one session.

# DEPARTMENT OF CHEMISTRY

K. S. BUXTON.
M. KATZ.
A. L. PEIKER.
L. M. PIDGEON.
W. R. SAWYER.
N. O. STEIN.
M. G. STURROCK.
H. S. SUTHERLAND.
F. J. TOOLE.
R. H. WRIGHT.

(Unless otherwise arranged, all lectures and laboratory courses are given in the Chemistry Building.)

#### 1. General Chemistry.

- 3 hrs.; Mon., Wed., Fri.
  - Section A-Professor Hatcher at 12.
- Section B-Professor Evans at 2.

Laboratory, 4 hrs., Tu. and Th., 2-4.

(Wed. and Fri., 3-5, by arrangement.)

Prof. Hatcher and Dr. Steacie and Demonstrators.

Text-books:—Alex. Smith, General Chemistry for Colleges, new edition; Newell's College Chemistry; Macpherson and Henderson, General Chemistry.

# 2. Organic Chemistry. (No. 56 Fac. App. Sci.).

Professor Hatcher.

- 3 hrs., 1st term; Tu., Th., Sat., at 12.
- 2 hrs., 2nd term; Tu. and Th., at 12.
- 6 hrs. lab., 2nd term.

Wed. and Fri., 2-5.

(Tu. and Wed., 9-12, by arrangement.).

Professors Whitby and Hatcher and Demonstrators.

Text-books:-Clarke, Introduction to the Study of Organic Chemistry; Price and Twiss, Practical Organic Chemistry.

#### CHEMISTRY

# 3. Analytical Chemistry.

(a) QUALITATIVE ANALYSIS.

2 hrs., 1st term; 6 hrs. lab.

Students who can do so, are recommended to take this course, with the students in Applied Science during the month of September, instead of the regular term course.

Professor Evans and Demonstrators.

Text-books:-Stieglitz, Qualitative Analysis; W. A. Noyes, Qualitative Analysis.

QUANTITATIVE ANALYSIS.

(b1) 1 hr., 1st term; 9 hrs. lab., 1st term; 12 hrs. lab. 2nd term.

(b2) 1 hr., 2nd term; 12 hrs. lab.

Professor Johnson and Demonstrators. Text-book:-Fales, Inorganic Quantitative Analysis.

- Elementary Physical Chemistry (No. 58 Fac. App. Sci.).
   2 hrs., sess.; Mon., Fri., at 12... Professor Maass and Dr. Steacie. *Text-book:*—Taylor, Theoretical and Physical Chemistry.
- \*5. Organic Chemistry (Advanced) (Nos. 64 and 65 Fac. App. Sci.).
  2 hrs.; Wed., Fri., at 10.....

12 hrs. lab., 1st term.

Professor Whitby and Demonstrators. Text-book:-Holleman's Organic Chemistry.

- \*6. Inorganic Chemistry (Advanced) (No. 72 Fac. App. Sci.). 2 hrs.; Tu., Th., at 11......Professor Johnson. Text-book:—Caven and Lander, Systematic Inorganic Chemistry.
- \*7. Physical Chemistry (Advanced) (No. 66 Fac. App. Sci.).
   3 hrs.; Wed., Fri., at 9, and Thur. at 10......Professor Maass. *Text-book:*—Taylor, Treatise on Physical Chemistry.

 \*7A. Physical and Colloid Chemistry Laboratory (No. 66A Fac. App. Sci.) Tues., 10-1, 2-5. Text-book:—Findlay's Practical Physical Chemistry. Professor Maass, Dr. Steacie and Demonstrators.

\* Courses for Graduates and Honour Students.

- 9. Historical Chemistry (No. 74 Fac. App. Sci.).
   1 hr., 2nd term......Professor Hatcher. Text-book:—Venable, 1922 ed., History of Chemistry.
- Electro-Chemistry (No. 70 Fac. App. Sci.).
   2 hrs., 1st term; Mon., at 9, Fri., at 12. Professor Maass and Dr. Steacie. *Text-book:*—Creighton and Fink, Electro Chemistry.
- Quantitative Organic Chemistry (No. 73 Fac. App. Sci.).
   1 hr., 2nd term; Th., at 10.
   12 hrs. lab., 2nd term.

Professor Whitby and Demonstrators. Text-book:---Woodman's Food Analysis.

- Industrial Inorganic Chemistry (No. 68 Fac. App. Sci.).
   2 hrs., 1st term; Wed., Fri., at 11. Prerequisite Chem. 1 and 2. Professor Hibbert.
- Industrial Organic Chemistry (No. 69 Fac. App. Sci.).
   2 hrs., 2nd term; Wed., Fri., at 11. Prerequisite Chem. 1 and 2. Professor Hibbert and Associated Experts.

\*15. Colloid Chemistry (No. 75 Fac. App. Sci.).

2 hrs. .....Professor Johnson

# HONOUR COURSES IN CHEMISTRY

Each student must have his course approved by the Department of Chemistry and the Dean of the Faculty at the beginning of each session.

#### B.A. HONOUR COURSE

This course begins with the Third Year.

Prerequisites:-At least second class standing in Chemistry 1; Physics 1; Mathematics 1.

Third Year: Chemistry 2, 3, 4; Physics 2; German 1 or 3 (if already taken, Chemistry 11).

\* Courses for Graduates and Honour Students.

#### CLASSICS-GREEK

## Fourth Year: Chemistry 5, 6, 7, 7a, 9 (optional), 12; Mathematics 3; Physics 3a, or Chemistry 6, 7, 7a, 8, 9 (optional); Mathematics 3; Physics 3a.

## B.Sc. HONOUR COURSE

This course begins with the Second Year.

Prerequisites: At least second class standing in Chemistry 1; Mathematics 1; Physics 1 or 2.

Second Year: Chemistry 3a, 3b1, 4; German 1 or 3; Mathematics 3; Physics 3a.

Third Year: Chemistry 2, 6, 7, 7a, 8, 9 (optional).

Fourth Year: Chemistry 5, 11, 12, 13, 14, 15, and research.

The above courses may be altered with the consent of the Department of Chemistry and approval of the Dean of the Faculty.

#### HONOUR COURSE IN CHEMISTRY AND BIOLOGY

Prerequisites: French 15; German 3; Physics 1.

Second Year: Chemistry 1; Botany 1; Zoology 1; French 2 and German 4.

Third Year: Either Physics 2 or French 4 or German 7 and Chemistry 2 (first term only), 3 (a) and 10; Zoology 2; Botany 2 or 5 and 7.

Fourth Year: A full course in Physics or Biology or advanced Chemistry and Chemistry 3 (b), 15; Zoology 4; Botany 4.

#### DEPARTMENT OF CLASSICS

PROFESSOR :--- W. D. WOODHEAD.

PROFESSOR OF GREEK :- CARLETON W. STANLEY.

PROFESSOR OF CLASSICAL PHILOLOGY :--- CLIVE H. CARRUTHERS.

Associate Professor of Classics :- Alexander M. Thompson.

SPECIAL LECTURER IN HELLENISTIC GREEK :- PRINCIPAL J. SMYTH.

Sessional Lecturer and Tutor (Royal Victoria College) :--Elizabeth A. Seferovitch.

ELIZABETH A. SEFEROVIICH.

LECTURER IN CLASSICS :- PAUL F. MCCULLAGH.

#### Greek

All students taking Honours in Greek are expected to provide themselves with a grammar, a Greek-English dictionary, a classical dictionary, and an atlas of ancient geography. The following are recommended: Goodwin's Greek Grammar (Ginn & Co.); Liddell and Scott's Greek Lexicon (abridged or intermediate); Kiepert's Atlas Antiquus (Williams and Norgate); Smith's Smaller Classical Dictionary (Everyman Series, Dent).

## 1. Beginners' Greek.

3 hrs.; Tu., Th., Sat., at 10......Mr. McCullagh. *Text-books:*—Benner and Smyth, Beginner's Greek Book (American Book Company); Colson's Greek Reader (Macmillan).

## 2. Greek. First and Second Years.

3 hrs.; Mon., Wed., Fri., at 11......Professor Stanley. Xenophon, Anabasis 1 and II (Goodwin and White, Ginn & Co.); Homer, Iliad VI (Leaf and Bayfield, Macmillan's Elementary Classics); Translation at sight.

#### 3. Greek. Second Year.

The Gospels in the Greek World......Principal Smyth. A study of cultural and religious conditions in the first two centuries of our era, with reading of select Greek texts and literature dealing with the period.

#### 4. Greek. Second Year.

3 hrs.; Tu., Th., Sat., at 11..... Associate Professor Thompson. Plato, Apology (Adam, Cambridge University Press); Homer, Odyssey IX (Edwards, Cambridge University Press); Euripides, Alcestis (Blakeney, Bell's Illustrated Classics); Translation at sight (Jerram, Anglice Reddenda, Second Series, Oxford University Press).

#### 5. Greek. Third and Fourth Years. Prerequisite: 2 or 4.

 3 hrs.; Tu., Th., Sat., at 12......Professor Stanley. Thucydides I (Marchant, Macmillan); Demosthenes, On the Peace,
 Philippic II, Chersonese, Philippic III (Sandys, Macmillan); Euripides,
 Bacchæ (Tyrrell, Macmillan); Translation at sight (Fowler, Sportella).

## 6. Greek. Third and Fourth Years.

3 hrs. (To be given 1930-1931).

Ilerodotus IX (Abbott, Clarendon Press); Xenophon, Oeconomicus (Sewell, Pitt Press); Aristophanes, Clouds (Forman, American Book Company); Translation at sight (Fowler, Sportella).

## HONOUR COURSE IN GREEK

This will consist of 2 or 4, and 5, and the following :--

## 11. Greek. Second Year.

3 hrs.; Tu., Th., Sat., at 9.....Professor Carruthers. Homer, Iliad XXII and XXIV (Edwards, Cambridge University Press); Aeschylus, Prometheus Vinctus (Sikes and Willson, Macmillan); Lucian, Menippus (Mackie, Cambridge University Press); Greek Prose Composition and Sight Translation.

#### CLASSICS-LATIN

## 12. Greek. Third and Fourth Years.

3 hrs.; Tu., Th., Sat., at 10.....Professor Woodhead. Plato, Republic I (Warren, Republic I-V, Macmillan); Aristophanes, Knights (Merry, Clarendon Press); Sophocles, Œdipus Rex (Cambridge University Press, 6/-); Iranslation at sight; Greek Prose Composition.

## 13. Greek. Third and Fourth Years.

3 hrs. (To be given 1930-1931).

Plato, Gorgias (Lodge, Ginn & Co.); Sophocles, Antigone (Jebb); Theocritus (Kynaston, Clarendon Press); Greek Prose Composition and Translation at sight.

## Latin

All students taking Honours in Latin are expected to provide themselves with a grammar, a Latin-English dictionary, a classical dictionary, and an atlas of ancient geography. The following are recommended:— New Latin Grammar (Allen and Greenough (Ginn & Co.); Lewis, School Dictionary, or White, Junior Students' Latin-English Dictionary; Smith. Smaller Classical Dictionary (Everyman's Series, Dent).

The following book is also recommended: Kiepert, Atlas Antiquus (Williams and Norgate).

#### 1. Latin. First Year.

3 hrs.; Mon., Wed., Fri., at 10.

Petrie, Latin Reader, with Introduction to Roman History (Oxford, Clarendon Press); Latin Prose Composition (Pilsbury, Clarendon Press); Translation at sight.

#### 2. Latin. Second Year.

3 hrs.; Tu., Th., Sat., at 12......Professor Woodhead. Selections from Pliny's Letters (Westcott, Allyn and Bacon);
Horace, Odes 1 (Page, Macmillan); Virgil, Aeneid IV (Stephenson, Macmillan's Elementary Classics); Translation at sight (Jerram, Anglice Reddenda, Second Series, Clarendon Press).

## 3. Latin. Third and Fourth Years.

3 hrs.; Mon., Wed., Fri., at 12.....Professor Carruthers. Cicero, Selected Letters (Abbot, Ginn & Co.); Virgil, Eclogues (Papillon and Haigh, Clarendon Press); Plautus, Captivi (Lindsay, Clarendon Press); Translation at sight (Pope and Bradshaw, Longmans).

### 4. Latin.

3 hrs. (To be given in 1930-1931).

Sallust, Catiline (Summers, Cambridge University Press); Horace, Epistles (A. S. Wilkins, Macmillan); Translation at sight (Pope and Bradshaw, Longmans).

## 5. Latin.

At the beginning of the second term, if not before, an advanced class will be formed to prepare for Second and Third Year Scholarships. This class will be open to qualified students of the first two years.

## HONOUR COURSE IN LATIN

This will consist of 2 and 3 and the following :-

## 11. Latin. Second Year.

3 hrs.; Mon., Wed., Fri., at 9..... Mr. P. F. McCullagh.

Cicero, Philippic II (Peskett, Cambridge University Press); Catullus (Simpson, Macmillan); Lectures on Roman Literature; The Writers of Rome (J. Wight Duff, Oxford Clarendon Press); Latin Prose Composition.

# 12. Latin. Third and Fourth Years.

3 hrs.; Mon., Wed., Fri., at 9.....Associate Professor Thompson. Juvenal, Selections (Duff, Cambridge University Press); Seneca, Select Letters (Summers, Macmillan).

## 13. Latin. Third and Fourth Years.

3 hrs. (To be given in 1930-1931.)

Tacitus, Histories I-II (Godley, Macmillan); Virgil, Georgics I, II, IV (Papillon and Haigh, Clarendon Press); Latin Prose Composition and Sight Translation.

HONOUR COURSE IN CLASSICS

Greek: 2 or 4, 5, 11, 12. Latin: 2, 3, 11, 12.

## Ancient History

Greek and Roman History and Institutions: a lecture and reading course open to students of the Second, Third and Fourth Years. May be taken as a half-course in the first or second term.

3 hrs.; Mon., Wed., Fri., at 11..... The Staff in Classics.

GRADUATE COURSE IN CLASSICS

See page 452.

#### ECONOMICS AND POLITICAL SCIENCE

# DEPARTMENT OF ECONOMICS AND POLITICAL SCIENCE

PROFESSORS :-- STEPHEN LEACOCK. J. C. HEMMEON.

Associate Professor :-- J. P. Day.

Assistant Professors :-- { John C. Farthing. John Culliton.

SESSIONAL LECTURER :- EUGÈNE FORSEY.

GRADUATE FELLOWS :-- 1928-29. H. C. GOLDENBERG. A. KIRSCHBERG. M. M. MENDELS.

1. Elements of Political Economy (General Economics). Second Year. This course is open to Arts students.

3 hrs.; Mon., Wed., Fri., at 11. Professor Leacock, Professor Hemmeon and Mr. Culliton.

2. Elements of Political Economy (Social Economics). This course is open to Theological students proceeding to a degree in Arts, to students in the School for Social Workers, to partial students, and, by permission, to General students.

3 hrs.; Mon., Wed., Fri., at 11.

Professor Leacock, Professor Hemmeon and Assistant Professor Farthing.

- Elements of Political Science. Second Year.
   3 hrs.; Mon., Wed., Fri., at 12. Professor Leacock and Professor Hemmeon.
- History of Economic and Political Theory. Third Year.
   3 hrs., 1st term; Mon., Wed., Fri., at 2......Professor Leacock.
- Economic Aspects of the British Empire. Third Year.
   3 hrs., 2nd term; Mon., Wed., Fri., at 2..... Professor Leacock.
- Labour Problems. Third Year.
   3 hrs., 1st term; Tu., Th., Sat., at 12......Professor Hemmeon.
- Money and Banking and Statistics. Third Year.
   3 hrs., 2nd term; Mon., Wed., Fri., at 10.

Associate Professor Day.

- Canada: Industrial and Economic Problems. Third Year.
   3 hrs., 1st term; Tu., Th., Sat., at 11. Professor Hemmeon and Mr. Culliton.
- The Government of Canada. Third Year.
   3 hrs., 2nd term; Mon., Wed., Fri., at 3. Professor Leacock and Mr. Culliton.
- Contemporary Economic Theory. Fourth Year.
   3 hrs., 1st term; Tu., Th., Sat., at 11...... Professor Hemmeon.
- Contemporary Political Theory. Fourth Year.
   3 hrs., 2nd term; Mon., Wed., Fri., at 3..... Professor Leacock.
- International Trade and Trade Policy. Fourth Year.
   3 hrs., 1st term; Mon., Wed., Fri., at 10. Associate Professor Day.
- Public Finance. Fourth Year.
   3 hrs., 2nd term; Tu., Th., Sat., at 12......Professor Hemmeon.
- 14. Transportation. Fourth Year and Graduate Students. 3 hrs., 2nd term; Mon., Wed., Fri., at 9.

MR. FORSEY.

- Social and Industrial Legislation. Fourth Year and Graduate Students.
   3 hrs., 1st term, in alternate years. Given in 1929-30. Mon., Wed., Fri., at 12.....Assistant Professor Farthing.
- Great Britain: Economic and Fiscal Problems. Fourth Year and Graduate Students.
   3 hrs., 2nd term, in alternate years. Given in 1929-30. Mon., Wed., Fri., at 12.....Associate Professor Day.
- Economic Factors in the Evolution of Society (till 1800). Fourth Year and Graduate Students.
   3 hrs., 1st term, in alternate years. Given in 1930-31. Mon., Wed., Fri., at 12.....Assistant Professor Farthing.
- Economic Factors in the Evolution of Society (after 1800). Fourth Year and Graduate Students.
   3 hrs., 2nd term, in alternate years. Given in 1930-31. Mon., Wed., Fri., at 12......Associate Professor Day.

#### ECONOMICS AND POLITICAL SCIENCE

- Development of Public Policy in Canada, 1867-1897. Parliamentary Debates and Contemporary Documents. Seminar course for Graduate Students in Arts and Commerce.
   3 hrs., 2nd term.

Mon., Wed., Fri., at 3.....Professor Hemmeon.

31. Financial and Monetary Systems of India, China, and Japan. Third and Fourth Years.

3 hrs., Tu., Th., Sat., at 12.....Associate Professor Day.

For the courses in Economics and Political Science given in the School of Commerce, see pages 222 and 232.

## HONOUR COURSES

Students taking the full Honour course in Economics and Political Science take in their Second Year courses 1 and 3, together with three other courses as approved by the Department; in their Third Year the courses indicated above, together with one approved course from another department, and in their Fourth Year the courses indicated above, together with one approved half course from another department.

Students taking Honour courses in the whole or in half of another department (see page 146) may be granted honors in Economics (without Political Science) by taking courses 1, 3, 6, 7, 12, 14 or 15 or 16 and either 8 and 9 or 10 and 11; similarly, students taking Honour courses in the whole or in half of another department may be granted honours in Political Science (without Economics) by taking courses 1, 3, 4, 5, 13, 16 or 18 and either 8 and 9 or 10 and 11.

Course 31 may be substituted for any of the above options, but may not be counted in competition for scholarships or fellowships. Students in the Department of Economics and Political Science are expected to spend a considerable proportion of their time in the preparation of class reports, essays, etc., in addition to the lectures and ordinary reading.

GRADUATE COURSES

See page 485.

#### DEPARTMENT OF EDUCATION

PROFESSORS :-- F. CLARK. SINCLAIR LAIRD.

As a full time professor of Education has been appointed in this department new courses will probably be offered at the beginning of the next session.

- 1. Principles of Education; Psychology of Education; History of Education. Third Year.
  - 3 hrs., 1st term; Mon., Wed., Fri., at 5.

This course is a prerequisite for Course 2, and for the Course in Practice Teaching.

# 2. (a) Methods of Teaching. Fourth Year.

A. Principles of general method.

- B. Special methods in elementary subjects.
- C. Special methods in High School subjects.
- (b) School and Class Management.
  - A. School administration, and school law and regulations of the Province of Quebec.
  - B. Class management and discipline.
    - 3 hrs., 2nd term; Mon., Wed., Fri. at 5.

Courses 1 and 2 are required for the High School Diploma of the Province of Quebec, together with (a) fifty half-days of practice teaching and criticism lessons under expert supervision; and (b) special courses in methods of teaching French, music and drawing.

## THE TRAINING OF TEACHERS

#### THE HIGH SCHOOL DIPLOMA

This diploma is valid only in the Protestant Schools of the Province of Quebec. Only those students who may legally teach in Protestant schools should attempt to qualify for this diploma. General regulations applying to candidates for any grade of diploma apply also to candidates for high school diplomas.

Each candidate must (a) make application upon the authorized forms, (b) be a British subject or satisfy the Central Board that he has begun the necessary proceedings to become such, (c) submit a physician's certificate to show that he is in good health and free from physical and mental defects that would seriously interfere with his usefulness as a teacher.

#### EDUCATION

In addition, the Protestant Committee of the Department of Education of the Province of Quebec have laid down the following requirements for the High School Diploma :---

Graduation from some Canadian or other British University, with degree courses as follows :---

(a) Academic.

## First Year

Latin. English.

Mathematics. History, or a Sci-French. ence subject, or Greek.

## Second Year

Latin.	Mathematics.	A Science subject or
English.	French or History.	Greek.

It is provided, however, that a candidate may omit in the Second Year any three of these subjects, except English, in which he has taken at least 60% in the First Year.

Special High School Certificates qualifying to teach special subjects in which honour courses have been taken in the University may be issued by the Central Board of Examiners, but they shall not be valid for the headship of high schools unless endorsed for this purpose by the Director of Protestant Education, on the recommendation of the Central Board.

(b) Professional.

Candidates for High School Diplomas must also take at least two full University courses in the Theory and Practice of Education; all in accordance with a syllabus of studies submitted by the University authorities and approved by the Protestant Committee of the Department of Education.

Graduates in Arts, with the academic standing in the First and Second Years prescribed above, may also qualify for High School Diplomas by taking a year of post graduate studies in the University, with the major part of the candidate's work taken in the Department of Education; all in accordance with the syllabus of studies approved by the Protestant Committee.

In the meantime, however, the following will be accepted as meeting the professional requirements :---

(1) The successful completion of courses 1 and 2 in the Department of Education, during the last two years of their undergraduate course, Course 1 in the Third Year and Course 2 in the Fourth.

(2) Successful completion of special courses in methods of teaching French, music and drawing. These courses are held in the Montreal High School on Tuesday afternoons throughout the session. Fee, \$16.00, payable to the Bursar, McGill University.

(3) Successful completion of at least fifty half-days of practice teaching and criticism lessons under expert supervision (unless the candidate holds an intermediate diploma or shows an equivalent in successful teaching experience which would be accepted by the Central Board of Examiners).

The course in Practice Teaching is at present divided into two parts. The first part is taken in September preceding the Fourth Year. Education Course 1 is a prerequisite. The second part of the course in Practice Teaching is taken in May and June after the Fourth Year examinations.

# ELEMENTARY, INTERMEDIATE AND KINDERGARTEN DIPLOMAS

The training for these diplomas is given at Macdonald College. (See Macdonald College Announcement.)

## COURSES FOR TEACHERS OF SPECIAL SUBJECTS

French. A summer school for teachers of French leading to a Specialist Diploma recognized by the Provincial Department of Education.

Kindergarten Assistants. A two-session course held in Montreal and leading to a Kindergarten Assistant's Diploma, according to the regulations of the Protestant Committee of the Department of Education. This diploma is accepted for entrance to the Kindergarten class at Macdonald College.

Physical Education. A two-years' course leading to a diploma for Teachers in Physical Education recognized by the Provincial Department of Education. (This course is given under the Department of Physical Education.)

#### ENGLISH

#### DEPARTMENT OF ENGLISH

PROFESSOR :- CYRUS MACMILLAN.

Associate Professors :- {George W. Latham. Harold G. Files.

Assistant Professor:—A. S. Noad. Lecturer:—Mary Mackenzie.

> A. R. McBain. Esther England. Dorothy Haines.

ASSISTANTS :--

LECTURER AND DIRECTOR IN PLAY PRODUCTION :- LEONA GRAY.

Argumantation Debasing and the Forms of Public Address

## 1. English Composition.

Sat., at 12....

Assistant Professor Noad, Miss Mackenzie and Assistants. Assistant Professor Files will have the general direction of this course. Section and weekly conference hours to be arranged.

## 2. English Literature.

General Course from Anglo-Saxon times to the present day. Tu., Th., and, at the pleasure of the instructor, Sat. at 12.... Professor Macmillan and Assistants.

Weekly conference hours to be arranged. Mr. McBain will have the general direction of the tutorial conferences.

## 1A. English Composition.

1 hr. per week for 1st term in Second Year. All students who fail in English 1 are required to take this course. Assistant Professor Noad and Assistants.

### 3. English Composition.

Half course. An advanced course open to a limited number of students who desire more practice in writing after having completed English 1. Application for permission to take this course must be made at the beginning of the session.

Hours to be arranged......Associate Professor Files.

- English Literature in the Nineteenth Century. Mon., Wed., Fri., at 3.....Associate Professor Latham.
- 5. Spenser and Milton. Half course, 2nd term. Tu., Th., Sat., at 12..... Associate Professor Latham Omitted in 1929-1930, given in 1930-1931.

6. Shakespeare (Six Plays).

- Mon., Wed., Fri., at 10.....Professor Macmillan. May be taken in two successive years.
- English Literature in the Eighteenth Century. Mon., Wed., Fri., at 12.....Associate Professor Files. Omitted in 1929-1930. Given in 1930-1931.
- 8. Argumentation, Debating, and the Forms of Public Address. Tu., 3 to 5; conference hours to be arranged.....

Associate Professor Latham, Assistant Professor Noad and Assistants.

The attendance in this course is limited to 40 men. Omitted in 1929-1930.

- English Poetry in the Nineteenth Century. Mon., Wed., Fri., at 11.....Professor Macmillan and Assistants. Omitted in 1929-1930. Given in 1930-1931.
- 10. The English Novel, from Richardson to the Present Time. Tu., Th., Sat., at 11.....Associate Professor Files.
- English Literature, exclusive of Drama, from Tottel's Miscellany to the Restoration. Half course, 2nd term. Mon., Wed. and Friday, at 12 Assistant Professor Noad.
- 12. Anglo-Saxon; English Literature up to the Norman Conquest. Mon., Wed., Fri., at 2.....Associate Professor Latham.

13. The Technique of the Drama.

Theory and practice. Play structure; characterization; dialogue; an examination of specimen plays of various periods. Lectures, conferences and practical work in play production on the stage in the Moyse Hall, designing, lighting and scenic effects, etc.

Tu. and Th. at 10 a.m.; laboratory periods to be arranged.

Miss Gray, Professor Macmillan, Associate Professor Files and Assistants.

#### ENGLISH

The attendance in this course is limited. Application must be made at the beginning of the session. Courses 3, 6 and 11 are recommended to students taking this course.

### 14. Chaucer.

Half course, 1st term; Tu., Th., Sat. at 12.....

Associate Professor Latham. Omitted in 1929-1930. Given in 1930-1931.

### 15. American and Canadian Literature.

Half course, 2nd term.

Mon., Wed., Fri., at 11.....

Professor Macmillan and Associate Professor Latham. Given in 1929-1930. Omitted in 1930-1931.

### 16. Comparative Literature.

The influence of English Literature upon the continent of Europe in the 18th and 19th centuries.

Tu., Th., Sat., at 9.....Assistant Professor Noad. Omitted in 1929-1930. Given in 1930-1931.

### 17. Comparative Literature.

The literary influence of the Continent upon England since 1600; a study of typical forms. Tu., Th., Sat., at 9.....Assistant Professor Noad. Given in 1929-1930. Omitted in 1930-1931.

### 18. The English Bible.

Half course, 1st term; Tu., Th., Sat., at 9.....

Professor — and Assistants. Omitted in 1929-1930.

 English Literature from the Restoration to the Death of Dryden. Half course, 1st term; Mon., Wed., Fri., at 12..... Associate Professor Files.

Given in 1929-1930. Omitted in 1930-1931.

20. Early English: English Literature from 1200 to 1450. Tu., Th., Sat., at 12.....Associate Professor Latham. Given in 1929-1930. Omitted in 1930-1931. Open only to students who have taken Course 12, or its equivalent.

### 21. Political Satire Since the Renaissance.

Half course, 1st term; Mon., Wed., Fri., at 11.. Professor Macmillan. Given in 1929-1930. Omitted in 1930-1931.

#### Second Year Courses

Courses 4, 6, 7, 15, and in special cases 8, 9, 10, 13 and 19 are open to Second Year students.

### HONOUR COURSE

Second Year:-Two courses selected from 3, 4, 6, 7, 8, 15, 18, 19. Third Year:-Four courses.

Fourth Year:-Four courses not taken in the Third Year; Course 11 in the Graduate School may be taken, with the permission of the Department.

Courses 5, 6, 12, 14 and 20 are compulsory for Honours.

### ENGLISH REQUIREMENTS FOR THE HONOUR COURSES IN ENGLISH AND LATIN, ENGLISH AND FRENCH, AND ENGLISH AND GERMAN.

Second Year :- Consult the Head of the Department.

Third Year:—Any courses aggregating six hours a week, including 12, chosen from 4 to 21, not previously taken.

Fourth Year:—Any courses aggregating six hours a week, including 12, chosen from 4 to 20, not previously taken. (Course 12 and one course selected from 5, 14, and 21 are compulsory.)

### ENGLISH REQUIREMENTS FOR THE HONOUR COURSE IN ENGLISH AND OTHER SUBJECTS

Second Year :- Consult the Head of the Department.

Third Year:-Courses aggregating six hours, chosen from 4 to 21, not previously taken.

Fourth Year:—Any courses aggregating six hours, chosen from 4 to 21, not previously taken.

One course selected from 5, 12, 14 and 20 is compulsory in either the Third or the Fourth Year.

GRADUATE COURSES

See page 457.

#### GEOLOGY AND MINERALOGY

DEPARTMENT OF GEOLOGY AND MINERALOGY

PROFESSOR :- JOHN J. O'NEILL.

PROFESSOR OF MINERALOGY :- R. P. D. GRAHAM.

ASSOCIATE PROFESSOR OF PALÆONTOLOGY :- T. H. CLARK.

LEROY FELLOW IN GEOLOGY :- -

- General Geology (App. Sci. 141). A general survey of the 1. whole field of geology.
  - (a) Mineralogy and Petrology .- The common rock-forming and economic minerals and more important rocks.
  - (b) Dynamical and Structural Geology .- The processes of vulcanism; volcanoes, geysers, etc.; disintegration of the rocks to form soils; denudation of the earth's surface under atmospheric agencies, rain, running water, glaciers, etc., and the deposition of the materials as sediments; mountain building, earthquake, folding, faulting, etc.
  - (c) Historical Geology, including a description of the fauna and flora of the earth during the successive periods of its history, as well as the economic aspects of the subject.

The lectures will be illustrated by the extensive collections in the Peter Redpath Museum, as well as by models, maps, sections and lantern slides.

In addition to the lectures there will be excursions on Saturday mornings for five or six weeks after term opens; students taking this course will be excused from any classes which conflict with the excursions. On the discontinuance of the excursions one hour lab. per week.

3 hrs.; Mon., Wed., and Fri., at 9.... Associate Professor Clark. Text-book .- To be announced.

- 2. Physiography and Natural Resources of Canada. 2 hrs.; Tu., Th., at 12..... Professor O'Neill. Prerequisite :-- 1.
- 3. Historical Geology (Advanced) (App. Sci. 152). This is a continuation of course 1, and will consist of lectures. colloquia and museum work extending throughout the session. 1 hr.; Mon., at 12, and 1 lab. period in 2nd term on Mon., 2 to 5. Prerequisite :-- 1......Associate Professor Clark.
- 4. Geology of Canada (App. Sci. 149). A general description of the geology and mineral resources of the Dominion.

1 hr., 1st term; Wed., at 11 ..... Professor O'Neill.

### 5. Mineralogy (App. Sci. 142).

The lectures and demonstrations, illustrated by specimens and models, deal mainly with the description and means of identification of species, special attention being paid to the ores and economic minerals and to those which are important as rock constituents. The earlier lectures are devoted to a brief discussion of the geometrical and physical properties of minerals; their chemical composition; calculation of formulæ, etc., and the principles of classification.

2 hrs.; Tu. and Th., at 9.....Professor Graham.

### 6. Determinative Mineralogy (App. Sci. 143).

Laboratory practice in blow-pipe analysis and its application to the determination of mineral species.

2 lab. periods during the first term; Th., Fri., 2 to 5.....

Professor Graham.

## Economic Geology (App. Sci. 148, in part). The application of the knowledge and data of Pure Geology to commercial uses. 1 hr., 1st term; Th., at 11......Professor O'Neill.

### 8. Ore Deposits (App. Sci. 148, in part).

The nature, mode of occurrence and classification of ore deposits will first be taken up. A series of typical occurrences will then be described and their origin discussed. The more important nonmetallic materials, *e.g.*, fuels, clays, building stones, etc., will be similarly treated, as well as questions of water supply, artesian wells, etc.

4 hrs., 2nd term.....Tu., at 10-12; Wed., Th., at 11..... Prerequisite:--7. Professor O'Neill.

## 9. Optical Mineralogy and Crystallography (App. Sci. 151).

Methods of determining the various optical properties of minerals. Optical chapters in Miers' "Mineralogy" and Dana's "Text-Book of Mineralogy"; Tutton's "Crystallography and Practical Crystal Measurement."

1 hr. and 3 hrs. lab. period, 1st or 2nd term.

Hours to be arranged ......Professor Graham.

### 10. Petrography (App. Sci. 146).

The modern methods of study employed in petrography are first described, and the classification and description of rocks is then taken up.

#### GERMAN

In addition to the lectures, one afternoon a week will be devoted to practical work in the petrographical laboratory.

1 hr., 1st term, Tu., at 10; 1 lab. period (3 hrs.), sess.....

### Professors Graham and O'Neill.

### 12. Palæontology.

2 hrs.; 3 hrs. lab. All hours to be arranged.....

Associate Professor Clark.

#### 13. Geological Colloquium.

Papers on a great variety of geological topics are assigned to students for review and concise presentation as a preface to general discussion. Each year, this course must be taken by all graduate students in Geology.

One hour per week (to be arranged).

### HONOUR COURSE

Second Year:-Geology 1, 5 and 6; Zoology 1; Botany 1; Chemistry 1; English 4.

Third Year:-Geology 2, 3, 4, 9, 10; Chemistry 3.

Fourth Year:-Geology 7, 8, 12, 13; Botany 3 and Zoology 7.

#### GRADUATE COURSE

See page 463.

### DEPARTMENT OF GERMANIC LANGUAGES

PROFESSOR:-H. WALTER. Assistant Professor:-W. L. Graff. Lecturer:-Miss B. Meyer.

### 1. German Language. (Beginner's B.A. Course.)

3 hrs.; Tu., Th., Sat., at 9.....

Texts:—Van der Smissen and Fraser, High School German Grammar (Copp, Clark Co.); Guerber, Märchen and Erzählungen, Vol. I (Heath); Nichols, Easy German Reader (Holt).

Students intending to proceed to Course 7 are required to study during the summer the following texts:—Hauff, Der Zwerg Nase (Heath); Moser, Der Bibliothekar (Heath); Schrakamp, Ernstes und Heiteres (A.B. Co.); Carrington & Holzwarth, German Composition (Heath).

### 2. German Language.

3 hrs.; Tu., Th., Sat., at 10......Miss Meyer. *Texts:*—Van der Smissen and Fraser, High School German Grammar (Copp, Clark Co.); Hauff, Die Karavane (Holt), Keller, Kleider-

machen Leute (Heath); Fulda, Talisman (Holt); Collmann, Easy German Poetry (Ginn, Ed. 1913); Horning, German Composition (Copp, Clark Co.).

Private Readings :---

Baumbach, Waldnovellen (Heath); Riehl, Burg Neideck (Am. B. Co.).

## 3. German. (Beginners' B.Sc. Course.)

3 hrs.; Tu., Th., Sat., at 10......Assistant Professor Graff. Texts:—Vos, Essentials of German (Holt); Guerber's Märchen und Erzählungen, Vol. I (Heath); Gore's German Science Reader (Heath).

### 4. German Science Reading Course. Second Year.

3 hrs.; Mon., Wed., Fri., at 5.....Assistant Professor Graff.

A course in reading Science German is given for students who have matriculated in this language or have taken it in the First Year.

Texts:-Greenfield's Technical and Scientific German (Heath); Ihrig's Word Formation and Syntax (Heath).

### 5. German Language. Second Year.

Section A; 3 hrs.; Mon., Wed., Fri., at 11.....

Professor Walter and Miss Meyer.

Texts:—Van der Smissen, German Grammar; Jagemann, Materials for German Prose Composition (Holt); Storm, Immense (Ginn); Porterfield, Modern German Stories (Heath); Schiller, Wilhelm Tell (Holt).

Private Readings :--

Riehl, Der Fluch Schönheit (Heath) Mörike,, Mozart auf der Reise nach Prag (Heath).

Section B; 3 hrs.; Mon., Wed., Fri., at 10.....

Professor Walter and Miss Meyer

Texts:--Van der Smissen, German Grammar Jagemann, Materials for German Prose Composition (Holt); Fiedler, German Short Stories (Clarendon Press); Freytag, Die Journalisten (Ginn); Schiller, Maria Stuart.

 German Language, Commerce Course. (Will not be offered in 1929-30.) Students will receive one hour's instruction in Commercial German and will take two hours in course 5.

Longman's German Commercial Correspondence (Longmans, Green & Co.).

#### GERMAN

7. German Language. Second Year. Honour Course.

3 hrs.; Mon., Wed., Fri., at 12.....Assistant Professor Graff. Texts:—Jagemann, Materials for German Prose Composition (Holt); Goethe, Egmont (Holt); Schiller, Piccolomini; Meyer, Jürg Jenatsch (Heath); Nichols, Modern German Prose (Holt).

Private Readings :---

Heine, Harzreise (Ginn); Goethe, Sesenheim (Holt).

No student who in his First Year took German 1 can take course 7 unless he has completed the summer work as given under course 1.

Students may begin Honours in German in their Third Year, provided they have obtained a First Class in either 5A or 5B.

Honour students in German are strongly recommended to take, in their Second or Third Year, as one of their general courses, course 1 of the Department of Philosophy (Logic and Introduction to Philosophy).

N.B.—In order to be admitted to the following courses of the Third and Fourth Years a student must know German well enough to understand lectures delivered in German and express himself in German with some degree of fluency and correctness.

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### 8. German Literature (Nineteenth Century).

3 hrs.; Mon., Wed., Fri., at 9 (given in 1930-31). Professor Walter.

Texts:—Kleist, Prinz Friedrich von Homburg (Ginn); Grillparzer, Sappho (Ginn); Hebbel, Agnes Bernauer; Heine, Prose (Oxford Univ. Press); Heine, Verse; Hauptmann, Die versunkene Glocke; Keller, Sieben Legenden; Stroebe and Whitney, Geschichte des deutschen Literatur (Holt); Mueller, German Composition (Copp, Clark Co.); Selections from German philosophers.

### 9. German Literature (Eighteenth Century).

3 hrs.; Mon., Wed., Fri, at 9 (given in 1929-30). Professor Walter.

Texts:—Lessing, Emilia Galotti (Ginn); Goethe, Iphigenie (Pitt Press); Schiller, Wallenstein; Lessing, Hamburgische Dramaturgie; Stroebe and Whitney, Geschichte der deutschen Literatur (Holt); Whitney and Stroebe, Exercises in German Syntax and Composition (Holt Co.); Selections from German philosophers.

### HONOUR COURSES

### 10. Mediæval German Literature and Philology.

(Given in 1930-31.)

1 hr.; Mon., at 4..... Assistant Professor Graff.

Texts:-Bachmann, Mittelhochdeutsches Lesebuch (Fæsi und Beer, Züruch); Behaghel, Die Deutsche Sprache (Freytag, Leipsig).

- 11. Entwicklung der deutschen Lyrik.....Professor Walter. 1 hr. (Given in 1930-31.)
- 12. Geschichte des deutschen Trauerspiels.....Professor Walter. 2 hrs. (Given in 1929-30.)
- Der deutsche Roman in seinen Hauptvertretern.
   1 hr. (Given in 1930-31)....Assistant Professor Graff.

### 14. Composition.

1 hr.....Professor Walter. Mutschmann, Passages for translation into German (Oxford Univ. Press).

## 15. Gothic and Introduction to Germanic Philology.

 hr. .....Professor Latham. The German language alone is used in class instruction in courses
 5-13, and, in order to obtain honours, candidates must be able to speak German fluently.

### GRADUATE COURSES

See page 464.

### DEPARTMENT OF HISTORY

Professors:  $-\begin{cases} W. T. Waugh. \\ C. E. Fryer. \end{cases}$ 

Associate Professor:-E. R. Adair. Reader:-T. W. L. MacDermot. A. D. P. Heeney. Assistants:- Beatrice M. T. Lyman.

JOAN M. V. FOSTER.

### COURSES FOR GENERAL STUDENTS

- General History of Europe, from the Break-up of the Roman Empire to 1914. First Year.
   hrs.; Tu., Th., Sat., at 11.....Professor Waugh.
- General History of North and South America. Second Year. 3 hrs.; Mon., Wed., Fri., at 9.....Associate Professor Adair.
- 3. History of Canada. Third Year. 3 hrs.; Tu., Th., Sat., at 9.....Professor Fryer.

#### HISTORY

4. History of Europe, 1789-1914. Fourth Year. 3 hrs.; Tu., Th., Sat., at 10......Professor Fryer.

- Mediæval History and Institutions. Second Year.
   3 hrs.; Tu., Th., Sat., at 10.....Professor Waugh.
- History of Modern Europe to 1789. Third Year.
   3 hrs.; Mon., Wed., Fri., at 12.....Associate Professor Adair.
- English Constitutional History. Fourth Year.
   3 hrs.; Tu., Th., Sat., at 9......Professor Waugh.
- History of Economic and Social Conditions, with special reference to England. Fourth Year.
   3 hrs.; at times to be arranged.....Associate Professor Adair.

Special Subjects:-

Joan of Arc and her Times. The Reign of Charles I. William Pitt and the Conquest of Canada. A selected period of the History of Canada since 1760. Roman Law. A Period or Aspect of Ancient History.

Note.—A choice of one of these special subjects for continuous study by Honour students during their Third and Fourth Years will be made in consultation with the Chairman of the Department.

Students taking Honours in History will take the following courses in 1929-30:---

Second Year: History 2 and 5.

Economics 3.

Approved courses in French or German and in Latin or German.

Third Year: History 3 and 6.

An approved course in Economics, Latin, French or German. One of the special subjects in History.

Fourth Year: History 4, 7 and 8. Continuation of special subject begun in 1928-29.

Students taking Honours in History and another subject will take the following courses in History in 1929-30:---

History Courses :--

Second Year: History 2 and 5.

Third Year: History 3 and 6.

Fourth Year: History 7 and either 4 or 8.

Note.—In addition to the examination on the subjects taken up in the last year, Fourth Year honour students will have a general examination paper on the history studied by them in their four years.

### GRADUATE COURSE

See page 464.

### DEPARTMENT OF MATHEMATICS

PROFESSORS :- {D. A. MURRAY (Chairman). C. T. Sullivan. Associate Professors :-- {A. H. S. Gillson. W. L. G. Williams. Assistant Professor :-- H. Tate. Lecturer :-- David Howat, M.A.

1. Mathematics. (For First Year students.)

Geometry and Trigonometry, 3 hrs., 1st term. Algebra, 3 hrs., 2nd term.

Five Sections: Messrs. Gillson (two sections), Howat (two sections), Murray (one section).

Shortly after the beginning of the session a section will be formed of the more advanced students in Mathematics. About mid-year the sections will be rearranged and a section formed of the students who have obtained good class standing in the Mathematics of the first part of the session. The Advanced section will be in charge of Associate Professor Gillson.

Text-books:—Hall and Knight, Elementary Trigonometry; Carslaw, Plane Trigonometry; Hall and Stevens, School Geometry, Parts I-VI; Hall's School Algebra, Parts I, II; Bottomley, Logarithmic Tables.

### 1A. Solid Geometry and Trigonometry.

1 hr., 2nd term.....

This is a special class for students qualifying for entrance into Applied Science and for others interested.

#### MATHEMATICS

### 1B. Practical Mathematics.

This is an elementary course giving simple methods of dealing with numerical data arising in Biology, Economics, Sociology and allied subjects, and including such topics as the use of graphical methods, tables, averages, approximations and elementary statistics.

1 hr. weekly (time to be arranged).....

First or Second class standing in course 1 is necessary for course 2 or 3.

2. Algebra and Analytical Geometry. (For Second Year and other qualified students.)

3 hrs.; Mon., Wed., Fri., at 10.....

Text-books:-S. L. Loney, Co-ordinate Geometry; C. E. Love, Analytic Geometry.

### 2A. Mathematics. (For Second Year students.)

This course deals with topics in Algebra, Geometry and Trigonometry of a more difficult character than those comprised in ordinary Mathematics 1. It is designed to meet the continuation requirements of students who have passed ordinary Mathematics 1, but whose standing does not permit them to take Mathematics 2 or 3.

3 hrs. session. .....

3. Calculus. (An elementary course for Second Year and other qualified students.)

3 hrs.; Tu., Th., Sat., at 12......Professor Murray. *Text-book:—*Murray, Differential and Integral Calculus.

A knowledge of courses 2 and 3 is a prerequisite for courses 5, 6, 7.

Students who do not intend to enter an Honour course in Mathematics or in Mathematics and Physics and who wish to take classes in Mathematics after the First Year are advised as follows:—Mathematics 2, 3 may be taken in the same year or in different years in any order. After Mathematics 2, 3 shall have been passed, any of Mathematics 5, 6, 7 may be taken and in any order.

Students in Arts who wish to prepare themselves for advanced courses in Mathematics or for advanced courses in Physics or for work in actuarial science (see courses 7, 9, below), are strongly advised to take both courses 2 and 3 in their Second Year.

Students who enter the Honour course in Mathematics in their Third Year are required to have taken in their Second Year Mathematics 2, 3, and either Mathematics 4 and Physics 4, or Mathematics 2 of Commerce.

Students who enter the Honour course in Mathematics and Physics in the Third Year are required to have taken in their Second Year Mathematics 2, 3, 4 and Physics 3, 4.

4. Spherical Trigonometry and Astronomy. (For Second Year and other qualified students.)

Spherical Trigonometry; 1 hr., 1st term.....

Astronomy; 2 hrs., 2nd term ..... Associate Professor Gillson.

Text-books:-Murray, Spherical Trigonometry; Barlow and Bryan, Astronomy (London University Tutorial Press); Moulton's Astronomy.

Spherical Trigonometry may be taken separately from Astronomy by students taking the double course in Arts and Applied Science.

This course can be combined with Physics 4 to form a three-hour course for the year.

5. Analytical Geometry of Three Dimensions; Curve Tracing. (For Third Year and other qualified students.)

3 hrs. sess. ......Mr. Matthews.

Text-books:--C. Smith's Solid Geometry; R. T. J. Bell, Geometry of Three Dimensions.

6. Infinitesimal Calculus and Differential Equations. (For Third Year and other qualified students.)

3 hrs. sess. .....Associate Professor Gillson. *Text-book*:—Lamb, Infinitesimal Calculus; Forsyth, Differential Equations (Macmillan); Piaggio, Differential Equations (Bell).

7. Theory of Equations and Finite Differences. (For Third Year and other qualified students.)

3 hrs. sess. .....Professor Sullivan.

*Text-books:*—Burnside and Panton, Theory of Equations; A. Henry, Calculus and Probabilities; Whittaker and Robinson, Calculus of Observations.

9. Theory of Interest and Life Contingencies. (For Fourth Year and other qualified students.)

3 hrs. sess. .....Assistant Professor Tate. Course 7 is a prerequisite to course 9.

*Text-books:*—Spurgeon, Institute of Actuaries' Text-book; Borel, Probability; King's Theory of Interest.

Courses 7 and 9 are mainly planned for students who intend to enter on actuarial work, and are designed as an aid to those who may proceed later to the examinations of the Institute of Actuaries.

#### MATHEMATICS

10. Introduction to the Theory of Functions of a Real Variable. (For Fourth Year and other qualified students.)
3 hrs. sess. ......

Assistant Professor Tate or Associate Professor Williams. Text-books:-Hardy, Course in Pure Mathematics (Camb. Univ. Press); de la Vallée Poussin, Cours d'Analyse Infinitésimale.

*Text-books:*—MacRobert, Functions of a Complex Variable; Whittaker and Watson, Modern Analysis; Appell and Lacour, Fonctions Elliptiques (Gauthier-Villars).

12. Modern Higher Algebra. (For Fourth Year and other qualified students.)

3 hrs. sess. .....Associate Professor Williams. Properties of polynomials; determinants and matrices; theory of forms.

Text-book:-Bôcher, Introduction to Modern Higher Algebra.

Each year courses 5, 6, 7, 10, 11 and either 9 or 12 will be given. For COURSES IN COMMERCE open to students in Arts, see Announcement of the School of Commerce.

### HONOUR COURSE IN MATHEMATICS

Prerequisites:—High standing in Mathematics 1; Physics 1 or 2; Mathematics 2, 3, and either Mathematics 4 and Physics 4, or Mathematics 2 of Commerce.

Third Year:—Courses 5, 6, 7, and a fourth full course (in any subject) approved by the department.

Fourth Year:—Course 10 and at least two of courses 9, 11, 12, and a fourth full course (in any subject) approved by the department.

#### HONOUR COURSE IN MATHEMATICS AND PHYSICS

Prerequisite:-High standing in Mathematics 1; Physics 1 or 2.

Second Year:—Mathematics 2, 3, 4; Physics 3, 4. (Chemistry and English recommended as other subjects to be chosen.)

Third Year:-Mathematics 5, 6; Physics 5, 6.

Fourth Year :- Mathematics 10, 11; Physics 7, 8.

GRADUATE COURSES IN MATHEMATICS

See page 465.

## DEPARTMENT OF ORIENTAL (Semitic) LANGUAGES

PROFESSORS :-- C. A. BRODIE BROCKWELL. A. K. GORDON. G. ABBOTT-SMITH. LECTURER :-- JULIUS BERGER.

1.	Hebrew Grammar and Syntax. 3 hrs.; Mon., Wed., Fri., at 12Professor Brockwell.
2.	Hebrew Grammar and Syntax. 1 hr.; Th., at 12Professor Brockwell.
3.	Arabic and Aramaic. 3 hrs.; Mon., Wed., Fri., at 10Professor Brockwell.
4.	Semitic Social Anthropology and Epigraphy.
	3 hrs.; Mon., Wed., Fri., at 11Professor Brockwell.
	Habasen Tanta
5.	
	3 hrs.; Mon., Wed., Iri., at 9 Professor A. R. Gordon.
6	Outlines of Hebrew History to Herod the Great.
	1 hr.; Tu., at 2Professor A. R. Gordon.
7.	History of Jewish Thought.
	3 hrs.; Mon., Wed., Fri., at 12Mr. Berger.
8.	Talmudic Texts.
0.	2 hrs.; Tu., Th., at 10Mr. Berger.
	2 nrs.; 1u., 1n., at 10
1005	
9.	
	3 hrs.; Mon., Wed., Fri., at 2 Professor Abbott-Smith.
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10.	Grammar and Syntax of Jewish Hellenistic Texts.
20.	11 The 12
	1 hr.; Tu., at 12 Professor Abbott-Smith.

### HONOUR COURSE

Prerequisite:—Hebrew 1 or an equivalent. Second Year:—Consult the Head of the Department. Third Year:—3, 4, 5, 7 (or 9). Fourth Year:—3, 4, 5, 8 and 6 (or 9).

COURSE FOR THE M.A. DEGREE

. See page 473.

#### PHILOSOPHY

### DEPARTMENT OF PHILOSOPHY

 $P_{ROFESSORS:- \begin{cases} W. Caldwell (on leave of absence). \\ IRA A. MACKAY. \end{cases}$ 

ASSISTANT:-----

- 1. Logic and Introduction to Philosophy. 3 hrs., Tu., Th., Sat., at 10.....Professor MacKay.
- 2. Moral Philosophy. 3 hrs.; Mon., Wed., Fri., at 12.....Professor Caldwell.
- 3. Greek Philosophy. 3 hrs. .....Professor Caldwell.
- 4. History of Modern Philosophy. 3 hrs.; Mon., Wed., Fri., at 4.....Professor Caldwell.
- Theory of Knowledge and Metaphysics.
   2 hrs. ..... Professor MacKay.

## The Critical Philosophy of Kant. Lectures, Reading and Papers. 2 hrs.....Professor Caldwell or Professor MacKay.

### HONOUR COURSE

Second Year :- Course 1 and Psychology 1.

Third Year:—Any four full courses from 2 to 8, of which course 2 must be one. Another course in Psychology may also be prescribed either in this year or the next.

Fourth Year:—Four full courses from 2 to 8, other than those selected in the Third Year. In addition, a full course in any of the following subjects:—Education, History, Psychology, Sociology or English Literature.

The Philosophy requirements for Honours in Philosophy and English, Philosophy and German, and Philosophy and Psychology are six hours selected from 2 to 8 in each of the Third and Fourth Years.

GRADUATE COURSE FOR M.A. DEGREE

See page 477.

#### DEPARTMENT OF PHYSICS

DIRECTOR :--A. S. EVE. H. T. BABNES. PROFESSORS :-- {H. T. BABNES. L. V. KING. A. N. SHAW. A. N. SHAW. A. H. S. GILLSON. D. A. KEYS. H. E. REILLEY.

Assistant Professors:-{E. S. Bieler (on leave). J. S. Foster.

LECTURER IN ASTRO-PHYSICS :- A. V. DOUGLAS.

SESSIONAL LECTURERS :- {H. G. I. WATSON. W. H. BARNES.

H. W. HARKNESS. N. CAM. F. T. DAVIES (on leave). T. N. WHITE. E. E. WATSON. J. F. HEARD. R. J. HUNTER.

INSTRUCTOR IN LABORATORY TECHNIQUE :--- H. T. PYE.

### 1. General Course.

(Applied Science 44, Lab. 45.)

2 hrs.; Wed. and Fri., at 2; lab., Mon., 2-4, or Tu., 4-6, or 4-6 Wed. Associate Professor Keys. *Text-books:*—Kimbali's College Physics (Holt); Laboratory

Manuscripts (Renouf Publishing Co.).

2P. General Course (Advanced). Open to Second Year premedical and pre-dental students; also available for other Arts students. (Physics 1 or equivalent, prerequisite.)

2 hrs.; Tu., Th., at 3; 2 hrs. lab., Tu., 4-6.

Associate Professor Reilley.

Text-books:-Duff's Text-book on Physics (Blakiston); Laboratory Manuscripts (Renouf Publishing Co.). Reference books:-Daniel's Text-book on Medical Physics (Macmillan); Jones, Electricity and Magnetism (Lewis).

#### PHYSICS

 Heat, Sound and Light. (Applied Science 311, Lab. 312.)
 3 hrs.; Tu., Th., Sat., at 11; 2 hrs. lab., Mon. or Fri., 11-1, or Wed., 2-4.....Professor Shaw.

Text-books:-Duncan and Starling's Heat, Light and Sound (Macmillan); Laboratory Manuscripts (Renouf Publishing Co.).

**3A.** Electricity and Magnetism. (Applied Science 315, Lab. 316.) 2 hrs.; Mon., Fri., at 11; 2 hrs. lab., Fri., 2-4, or Sat., 10-12.

Professor Eve. Text-books:—Hadley's Magnetism and Electricity for Students (1926 ed. Macmillan).

### 3B. Statics and Hydrostatics.

1 hr.; Wed., at 11.....Assistant Professor Foster. *Text-book:*—Loney's Statics and Dynamics (C.U.P.).

4. Dynamics.

2 hrs., 1st term; 1 hr., 2nd term. (A half course combined with Mathematics 4 to form a three-hour unit.); Tu., Th., Sat., at 9. *Text-book:*—Loney's Statics and Dynamics (C.U.P.).

Assistant Professor Foster.

### 5A. Properties of Matter.

1 hr.; Sat., at 10 (3 hrs. lab.).....Assistant Professor Foster. *Text-book:* —Poynting and Thomson's Properties of Matter (Griffin).

### 5B. Statics, Dynamics of a Particle and Rigid Dynamics.

2 hrs.; Tu., Th., at 10.....Assistant Professor Bieler. *Text-books:*—Lamb's Statics and Lamb's Dynamics (C.U.P.).

#### 6A. Electrical Measurements.

2 hrs.; Wed., Fri., at 9; 4 hrs. lab., Wed., 2-6.

Assistant Professor Bieler. *Text-books:*—Terry's Advanced Laboratory Practice in Electricity and Magnetism (McGraw-Hill); Starling's Electricity and Magnetism (Longmans).

6B. Light. (Replaced by 8B in alternate sessions.\*)

1 hr.; Mon., at 9 (lab. Monday, 2-5).

Associate Professor Keys and Dr. A. V. Douglas. *Text-books:*—Edser's Light (Macmillan); Wood's Physical Optics (Macmillan).

\* Courses 6B and 8B will be given in alternate sessions as follows :-6B in '30-'31, '32-'33, etc., and 8B in '29-'30, '31-'32, etc.

### 6C. Electricity. (Applied Science 318.)

Mainly for Electrical Engineering Students in Applied Science and students in the course in Engineering Physics.

2 hrs., 2nd term; Tu., Th., at 9..... Assistant Professor Bieler.

### 7A. Electromagnetic Theory.

1 hr.; Th., at 11.....Associate Professor Keys. *Text-books*.—Pierce's Electric Oscillation and Electric Waves (McGraw-Hill); and Elements of Electricity and Magnetism, by J. J. Thomson (C.U.P.).

### 7B. Mathematical Physics.†

2 hrs.; Tu., Sat., at 11.....Assistant Professor Foster. *Text-books:*—Houston's Introduction to Mathematical Physics (Longmans), and Page's Introduction to Theoretical Physics (Von Nostrand).

### 8A. Molecular Physics.

2 hrs.; Wed., Fri., at 10.....Professor Shaw. *Text-book*:—Crowther's Ions, Electrons and Ionizing Radiation (E. Arnold).

**8B.** Theory of Heat. (Replaced by 6B in alternate sessions.\*) 1 hr.; Mon. at 9 (lab., 1 Monday, 2-5).

Professor Shaw and Dr. A. V. Douglas

Text-book:-Robert's Heat and Thermodynamics (Blackie).

#### 9. Radioactivity.

2 hrs., 2nd term (3 hrs. lab.).....Assistant Professor Bieler. Text-book:-Rutherford's Radioactive Transformation (C.U.P.).

### 10. Vector Analysis.

2 hrs., 1st term.....Professor Eve. Text-book:—Coffin's Vector Analysis (Wiley).

### 11. Advanced Statics, Dynamics, Hydrodynamics and Sound.

2 hrs. ......Professor King. *Text-books:*—Lamb's Higher Mechanics (C.U.P.); Basset's Hydrodynamics and Sound (Deighton Bell).

\* Courses 6B and 8B will be given in alternate sessions as follows:-6B in '30-'31, '32-'33, etc., and 8B in '29-'30, '31-'32, etc.

+ Competent students may substitute 14.

<sup>‡</sup>The Department of Metallurgy kindly permits students to do additional practical tests in the Metallurgical Laboratory.

#### PHYSICS

### 12. Kinetic Theory of Matter.

2 hrs. .....Professor King. *Text-books:*—Jean's Dynamical Theory of Gases (C.U.P.); Bloch's The Kinetic Theory of Gases.

### 13. (a) Quantum Theory.

1 hr.; Th., at 12......Professor Eve. *Text-book:*—Summerield's "Atomic Structure" (Methuen).

(b) Relativity.

1 hr., 2nd term...... Associate Professor Gillson.

### 14. Advanced Electricity and Magnetism.

2 hrs. .....Professor King. *Text-book:—*Jeans' Electricity and Magnetism (C.U.P.).

### 15. Laboratory Practice and Physical Manipulation.

A course of practical instruction on the use of tools (including the lathe), glass-blowing, photography and the construction of simple apparatus. This course is designed as an aid and introduction to original research.

1 hr. (also 2 hrs. lab.).

Associate Professor Keys and Mr. H. T. Pye.

### 16. Thermodynamics.

1 hr. .....Professor Shaw. (Alternate sessions, 1930-31, 1932-33, etc.).

### 17. Electron Theory.

2 hrs. .....Professor King *Text-books:*—Richardson's Electron Theory of Matter (C.U.P.), Lorentz, Theory of Electrons (Teubner).

### 18. Spherical Astronomy and Combination of Observation.

3 hrs. .....Associate Professor Gillson. Text-books:-Ball's Spherical Astronomy; Newcomb's Spherical

Astronomy (Math. 3 and 4 prerequisite).

### 19. Astrophysics.

3 hrs.....Dr. A. V. Douglas. (Mathematics 4 and 6, and Physics 5B prerequisite).

Students who have received instruction in Astronomy may apply to proceed to the Dominion Observatory at Ottawa for work in the summer months.

#### HONOUR COURSE IN MATHEMATICS AND PHYSICS

Prerequisites:—High standing in Mathematics 1; Physics 1 or 2. First Year students intending to take these Honour courses are advised to take Physics 2 and the advanced section of Mathematics 1.

Third Year :- Mathematics 5, 6; Physics 5, 6.

Fourth Year :- Mathematics 10, 11; Physics 7, 8.

Third and Fourth Year Honour students are invited to attend the Journal Club, Colloquium and Physical Society.

### GRADUATE COURSE IN PHYSICS

See page 478.

#### DEPARTMENT OF PSYCHOLOGY

Associate Professors :--  $\begin{cases} Chester E. Kellogg. \\ J. W. Bridges. \end{cases}$ 

DEMONSTRATOR :- KENNETH W. SPENCE.

#### FOR UNDERGRADUATES

 Introduction to Psychology. Second Year. Lectures and experiments.
 3 hrs.; Mon., Wed., at 10, and one laboratory period to be arranged. Professor Tait and Mr. Spence.

## General Psychology. Third and Fourth Years. Lectures, readings and experiments. 3 hrs.; Mon., Wed., Fri., at 12.....Associate Professor Kellogg.

#### 3. Experimental Psychology and Statistical Methods.

Laboratory course; readings, experiments and discussions. 3 hrs.; Mon., Wed., Fri., at 2; 2 hrs. laboratory and one lecture Associate Professor Kellogg and Mr. Spence. or conference per week.

#### FOR UNDERGRADUATES AND GRADUATES

4. Physiological Psychology. Third and Fourth Years. Lectures and reports. Lectures, readings, and reports.
3 hrs. (to be arranged).....Associate Professor Kellogg.

#### PSYCHOLOGY

- 5. Comparative Psychology. Third and Fourth Years. Lectures, readings and reports (half course).
  3 hrs., 1st term; Mon., Wed. and Fri., at 10. (Given in 1929-30.).....Associate Professor Kellogg.
- 6. Child Psychology. Third and Fourth Years. Lectures, readings and reports (half course).
  3 hrs., 2nd term; Tu., Th., Sat., at 10.....Professor Tait. (Given in 1929-30.)
- Social Psychology. Third and Fourth Years. Lectures, readings and reports.
   3 hrs.; Tu., Th., Sat., at 10.....Professor Tait. (Given in 1930-31.)
- 8. Aesthetics. Third and Fourth Years. Lectures, readings and reports.
  3 hrs.; Tu., Th., Sat., at 9.....Associate Professor Kellogg. (Given m 1929-30.)
- 9. Educational Psychology. Third and Fourth Years. Lectures, readings and reports.
  3 hrs.; Tu., Th., Sat., at 11.....Associate Professor Kellogg. (Given in 1930-31.)
- 10. Experimental Education. (Half Course.) Third and Fourth Years.

Lectures, reports, experiments.

3 hrs., 2nd term; Tu., Th., Sat., at 11.....Professor Tait. (Given in 1930-31.)

 Mental Measurements. Third and Fourth Years. Lectures, practical testing, reports (half course).
 3 hrs., 1st term; Tu., Th., Sat., at 10.....Professor Tait. (Given in 1929-30.)

12. Theory of Aptitude and Achievement Tests. Third and Fourth Years.

Lectures, readings and reports. 3 hrs., 2nd term; Mon., Wed. and Fri., at 10. (Given in 1929-30.) Associate Professor Kellogg.

13.	Psychology of Elementary School Subjects.
	3 hrs., 1st term; Mon., Wed., Fri., at 10.
	(Given in 1930-31.)Associate Professor Kellog.
14.	Psychology of Secondary Education.
	3 hrs., 2nd term; Mon., Wed., Fri., at 10.
	(Given in 1930-31.)Associate Professor Kellogg.

15. Vocational and Industrial Psychology. Third and Fourth Years. Lectures, readings and reports (half course).
3 hrs., 1st term; Tu., Th., Sat., at 11......Professor Tait. (Given in 1929-30.)

16. History of Modern Psychology. Third and Fourth Years. Lectures, readings and reports (half course).
3 hrs., 1st term; hours to be arranged. Associate Professor Kellogg. (Given in 1930-31.)

17. Abnormal Psychology. Lectures, readings and reports. 3 hrs.....Associate Professor Bridges.

### HONOUR COURSE

Second Year :- 1 and Philosophy 1.

Third Year:-Any four full courses 2-14.

Fourth Year:—Any four full courses 2-14 other than those selected in the Third Year. Students taking Honours in Psychology must also take History of Philosophy in the Third or Fourth Year in place of one of courses 2-14. In consultation with the department, allied courses in other departments may be taken instead of certain courses in Psychology. Students are advised to take Greek Philosophy. A knowledge of German is advantageous.

The requirements for honours in Psychology and other subjects are two courses in Psychology and two in the other subject selected.

#### GRADUATE COURSE

See page 485.

#### SCHOOL SERVICE BUREAU

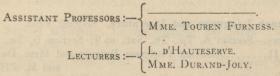
The Department of Psychology maintains a School Service Bureau. Its purpose is to furnish aid and advice with regard to intelligence tests, classification of pupils, vocational guidance, remedial treatment, standarized tests and measurements and other psychological aspects of education.

As far as time and equipment permit, this service is at the disposal of superintendents, principals, teachers, parents and others interested in education.

#### FRENCH

#### DEPARTMENT OF ROMANCE LANGUAGES

PROFESSOR:-R. DU ROURE. Associate Professor:-P. Villard,



#### FRENCH

Owing to the position which the University occupies in the midst of a very large French-speaking population, the Department enjoys the opportunities afforded by French church services, French newspapers, French theatres, French literary clubs and public lecture courses in the French language. It maintains in consequence a particularly high standard in the study of French. Every lecture, even in the First Year, is given in French, and the complete course of studies is so combined as to give the students not only a theoretical knowledge of French grammar and literature, but a practical ability to talk, read and write French correctly and fluently.

Both oral and written examinations are held on each year's work.

The oral examination (in both General and Honour courses) counts for 50%.

As there is no oral matriculation examination in this subject, a considerable number of students undertake the work without any knowledge of spoken French. A special section in the First Year is therefore provided for such students, but it is not possible to acquire fluency in the language without extra work. Students who are deficient in this respect, and especially those taking French as a continuation subject are therefore urgently advised to follow the French Summer School course either before or after their First Year.

### 1. French Language. First Year.

3 hrs.—Section A, Mon., Wed., Fri., at 9; Section B, Mon., Wed., Fri., at 11.....Professor du Roure, Associate Professor Villard, Assistant Professor Furness and Mme. Durand-Joly and M. d'Hauteserve.

Texis:—(a) General Course.—Green and Fort, French Composition (Oxford); Lavusse, Histoire de France, Cours moyen; Labiche, Le Voyage de M. Perrichon (Holt); Manley, Eight French Stories (Allyn and Bacon); A. Dumas, Les Trois Mousquetaires (Heath); Hugo, Gavroche (Oxford). (b) Advanced Course.—Daudet, Morceaux choisis

(Ginn); Racine, Andromaque (Ginn); Mérimée, Contes et Nouvelles (Oxford); Molière, Le Bourgeois Gentilhomme (Holt); Cameron, French Composition (Holt).

### 2. French Language and Literature. Second Year.

3 hrs.—Section A, Tu., Th., Sat., at 9; Section B, Tu., Th., Sat., at 11.....Assistant Professor Furness and Mme. Durand-Joly, and M. d'Hauteserve.

Texts.—Des Granges, Morceaux choisis, Classes de Lettres (Hatier); Molière, Les précieuses ridicules (Heath); Augier, Le Gendre de M. Poirier (Heath); Des Granges: Précis de Littérature Française (Hatier); Mérimée, Colomba (Heath); Spiers, Graduated Course of Translation (Simpkin, Marshall and Co.).

### 3. French Language. Second Year. (Honour Course.)

3 hrs.; Tu., Th., Sat., at 11.

Professor du Roure, Mme. Durand-Joly. Texts:—Corneille, Le Cid (Holt); Racine, Britannicus; La Bruyère, Caractères; Molière, Les Femmes savantes (Macmillan); Musset, Trois Comédies (Heath); Hugo, Ruy Blas (Holt); P. Hervieu, La Course du Flambeau (Heath); Pailleron, Le Monde où l'on s'ennuie (Heath); Bowler, Stories by Contemporary French Novelists (Ginn); Louis Hémon, Maria Chapdelaine.

### 4. French Literature of the XVIIth and XVIIIth Centuries. Third Year.

3 hrs.; Mon., Wed., Fri., at 10......Mme. Durand-Joly.

Texts:—Des Granges, Morceau choisis, Classes de Lettres (Hatier); Corneille, Polyeucte; Racine, Phèdre; Molière, Le Misanthrope; Daniel Mornet, Histoire de la litérature et de la pensée françaises ou, Des Granges, Précis de Littérature Française (Heath); Lesage, Gil Blas (Heath); Marivaux, Le Jeu de l'Amour et du Hasard (Macmillan); Voltaire, Selections (The Century Co.); Beaumarchais, Le Barbier de Séville (Ginn).

In addition to the above texts, a certain number of Home Readings will be assigned.

Prose Composition:--(a) General Course.--Spiers, Graduated Course of Translation into French Prose (Simpkin, Marshall & Co., London); (b) Honour Course.--Stephen Leacock, My Discovery of England.

#### FRENCH

- 5A. La France Moderne: Institutions politiques et sociales; politique intérieure et extérieure. Third and Fourth Years.
  3 hrs., 1st term; Mon., Wed., Fri., at 12....Professor du Roure. Texts:—Lanson et Desseignet, La France et sa civilization (Holt).
- 5B. La France Moderne: Le mouvement des idées. Third and Fourth Years.

3 hrs., 2nd term; Mon., Wed., Fri., at 12.... Professor du Roure. Texts:—Lanson et Desseignet, La France et sa civilization (Holt).

6. French Literature of the XIXth and XXth Centuries. Fourth Year.

3 hrs., Mon., Wed., Fri., at 10.....Assistant Professor Furness.

Texts:—Chateaubriand, René (Nelson); Hugo, Hernani; Balzac, Le Père Goriot; French Lyrics of the Nineteenth Century (Ginn); Daniel Mornet, Histoire de la litérature et de la pensée françaises (Larousse) ou, Des Granges, Précis de Littérature Française (Heath); Des Granges, Morceaux choisis, Classes de Lettres (Hazier); Flaubert, Trois Contes; Guy de Maupassant, Contes choisis; A. Daudet, Le Petit Chose; Anatole France, Le livre de mon ami; Paul Bourget, Un disciple; E. Rostrand, Cyrano de Bergerac.

Prose Composition:—(a) General Course.—Spiers, Graduated Course of Translation into French Prose (Simpkin, Marshall & Co., London); (b) Honour Course.—Stephen Leacock, My Discovery of England.

7. Histoire de la langue française. Third and Fourth Years. (Honour Course.)

1 hr.; Sat., at 10.

Texts:-Darmstetter, Cours de Grammaire Historique, Parts I and II.

8. History of the French Novel.

Third and Fourth Years (Honour Course). (Given in 1930-31.) 3 hrs.; Tu., Th., Sat., at 12.....Professor du Roure.

9. History of the French Theatre of the XIXth Century. Third and Fourth Years (Honour Course). (Given in 1929-30.)
2 hrs.; Tu., Th., at 10.

- 10. Evolution of the French Lyric. Third and Fourth Years '(Honour Course). (Given in 1929-30.)
  2 hrs.; Tu., Th., at 10......Professor du Roure. Texts:—French Lyrics of the Nineteenth Century (Heath).
- 11. Balzac. Third and Fourth Years (Honour Course). (Given in 1930-31.)

2 hrs.; Tu., Th., at 10.

### 12. French Commercial Course. Second Year.

3 hrs.; Mon., Wed., Fri., at 12.....Associate Professor Villard. *Texts:*—Mansion, Histoire de la littérature française; Richards, Manuel de lecture expliquée, XIXème siècle (Cambridge); Sand, La mare au diable (Ginn); Molière, Les Précieuse ridicules (Heath); Carroué, Manuei de correspondance commerciale.

Home Reading:--Vigny, Le Cachet rouge; Augier, Le Gendre de M. Poirier.

### 13. French Commercial Course. Third Year.

3 hrs.; Mon., Wed., Fri., at 10.....Associate Professor Villard. *Texts:*—Mansion, Histoire de la littérature française; Montesquieu, Lettres Persanes (Macmillan); Rudmore-Brown, French Short Stories (Oxford); Chateaubriand, Atala (Heath); Janau, Commercial Correspondence (Longmans); Renault, Lectures commerciales (Oxford); Daniel Massé, Initiation économique (Hachette).

Home Reading:-Beaumarchais, Le Barbier de Séville; Mérimée, Colomba.

### 14. French Commercial Course. Fourth Year.

3 hrs.; Mon., Wed., Fri., at 9.....Associate Professor Villard. *Texts:*—Clerget, Manuel d'économie commerciale; Lanson et Desseignet, La France et sa civilization (Holt); Gide, Principes d'économie politique; Lucas, A Book of French Verse (Oxford).

*Home Reading:*—Chateaubriand, Selections (Oxford); Thiers, Bonaparte en Egypte (Holt).

### 15. French Science Readings. First Year, B.Sc. Course.

3 hrs.; Tu., Th., Sat., at 9......M. d'Hauteserve.

Texts:-Greenfield and Babson, Industrial and Scientific French (Ginn); J. Verne, Vingt mille lieues sous les mers (Heath); J. Verne, Cinq semaines en ballon.

#### SOCIOLOGY

HONOUR COURSE IN FRENCH

Pretequisite :--1.

Second Year :-- 2 and 3.

Third Year :---4, or 5A and 5B, and 7, 9, 10 and a full course in another subject approved by the Head of the Department.

Fourth Year :-- 6, or 5A and 5B, and 7, 9, 10 and a full course in another subject approved by the Head of the Department.

FRENCH REQUIREMENTS FOR THE HONOUR COURSE IN FRENCH AND OTHER SUBJECTS

Second Year :- 2 and 3.

Third Year :-- 4, or 5A and 5B, and 7 and 9 or 7 and 10. 

M.A. COURSE

See page 487.

#### DEPARTMENT OF SOCIOLOGY

ASSOCIATE PROFESSOR AND DIRECTOR OF THE SCHOOL FOR SOCIAL WORKERS :- CARL ADDINGTON DAWSON.

ASSISTANT PROFESSOR :- EVERETT CHERRINGTON HUGHES.

Assistants:-- { Helen MacGill Hughes. Margaret L. Smyth.

1. Introduction to the Study of Society. Second Year.

(a) Tu., Th., Sat., at 10.....Dr. Dawson and Dr. Hughes.

(b) Tu., Th., Sat., at 11.....Dr. Dawson and Dr. Hughes.

An environmental approach to the study of human nature and behaviour; an objective and scientific analysis of human relations; ecological and social forces; the great society and the growth of communication; conflict as a social function; the social order and social change; definition and use of the main sociological concepts.

### 2. The Community. Third and Fourth Years.

Tu., Th., Sat., at 9.....DR. DAWSON. A study of Greater Montreal in comparison with the small town and open country communities; analysis of the basic forces that con-

dition the social life and social institution of the great community; the trend of urbanization and its effects on human behaviour; cities as centres of dominance and of culture; student research under direction.

### 3. Immigration. Third and Fourth Years. (Not given in 1929-30.)

## 4. Social Pathology. Third and Fourth Years.

Mon., Wed., Fri., at 10, 2nd term.....Dr. Hughes. The processes of social disorganization; the basic causes of poverty, unemployment, irregular work, industrial fatigue and the consequent demoralization of the individual and disorganization of the social group; social unrest and disorder; critical analysis of the attempts to control and reorganize society in the light of pathological social conditions; modern methods of research in the study of social change as it is related to social pathology.

Texts:-Parmelee, Poverty and Social Progress (Macmillan).

- 5. Social Origins. Third and Fourth Years. (Not given in 1929-30.)
- 6. Social Movements. Third and Fourth Years. (Not given in 1929-30.)

### 7. The Family. Third and Fourth Years.

Mon., Wed., Fri., at 10, 1st term.....Dr. Dawson. The study of the family as the fundamental institution, its early forms, attitudes, and natural history, sociological interpretation of family relations in rural and urban life; biological, economic, religious, educational and legal aspects of family life; present-day disorganization and reorganization of family life.

Text:-Mowrer, Family Disorganization (University of Chicago Press).

- 8. Social Progress. Fourth Year and Graduate Students. (Not given in 1929-30.)
- 9. Social Research. Graduate Seminar. Research problems, theory and methods.

Hours to be arranged.....Dr. Dawson and Dr. Hughes.

#### SOCIOLOGY

### 10. The Sociology of the Child. Third and Fourth Years.

Mon., Wed., Fri., at 12, 1st term.....Dr. Hughes. The child as a developing personality; the normal cycle of social growth in the family; modern supplementary institutions for the normal child, such as the school, the playground and the social agency; the dependent child and the delinquent child, and the institutions which treat them.

### 11. Social Institutions. Third and Fourth Years.

Mon., Wed., Fri., at 9.....Dr. Hughes. The institution as a unit of social structure and as a bearer of culture; the processes by which institutions arise, develop and die; the life-cycle of such institutions as the sects, the church, the school, the newspaper, etc.; crises and the re-organization of institutions.

# 12. Social Attitudes and Personality. Fourth Year and Graduate Students.

(Not given in 1929-30.)

 Culture Areas in Canada. Fourth Year and Graduate Students. Mon., Wed., Fri., at 2, 2nd term.....Dr. Dawson.

The application of anthropological and sociological methods to the study of culture areas in Canada. These areas are separated from each other by the main physiographic regional divisions. Each region breaks up into the older areas of settlement and pioneer belts. The basic structure and related social and cultural organization of each area will be studied. The course will also cover: A comparison of the main culture traits and their diffusion in each area; research projects to discover the indices of culture organization and social change in the various areas; the conflict of British, American and Canadian culture patterns in Canada.

#### HONOUR COURSE

Second Year :- Course 1 Psychology 1, and Economics 1.

Third Year:-Four full courses from 2 to 13.

Fourth Year:—Any three full courses from 2 to 13 other than those selected in the Third Year.

At the discretion of the Department certain courses in other departments may be substituted for some courses in Sociology.

Students taking honours in Sociology and one other subject are required to take two courses in each department.

GRADUATE COURSES

See page 488.

### DEPARTMENT OF ZOOLOGY

PROFESSOR :- ARTHUR WILLEY.

Assistant Professor :--- N. J. Berrill.

ASSISTANT PROFESSOR OF MEDICAL ZOOLOGY :-- M. NOTKIN.

DEMONSTRATORS :- {J. K. BREITENBECHER. B. W. TAYLOR.

1A. General Zoology.

2 hrs., 1st term; Tu., Th., at 2.. Professor Willey and Dr. Notkin. 6 hrs. lab., Mon., Wed., Fri., at 9.

### 1B. Elementary Zoology.

2 hrs., 1st term; Mon., Wed., at 2....Assistant Professor Berrill. 2 hrs. lab., Fri., at 2.

Zoology of Invertebrata.
 2 hrs.....Assistant Professor Berrill.
 4 hrs. lab. (Periods to be arranged.)

3. Colloquium.

1 hr., Fri., at 5.....Professor Willey.

- 4. Comparative Anatomy of Vertebrata.
  2 hrs.; Mon., Fri., at 10.....Professor Willey.
  3 hrs. lab., Th., at 9.
- Comparative Embryology.
   2 hrs., 2nd term.....Assistant Professor Berrill.
   2 hrs. lab. (Periods to be arranged.)
- Experimental Zoology. By arrangement, 2nd term.....Assistant Professor Berrill.
- 7. Ethnology. 1 hr.; Tu., at 10.....Professor Willey.

### HONOUR COURSE IN BIOLOGY

Prerequisites;—Botany 1; /Chemistry 1; Zoology 1. Second Year:—Botany 2 and 3 (with laboratory work); Zoology 2, with at least Physics 1 or Chemistry 2 or their equivalent. Third Year:—Botany 4 and 5; Zoology 3 and 4.

Fourth Year :- Botany 6 and 7; Zoology 5 and 6.

#### PHYSICAL EDUCATION

### DEPARTMENT OF PHYSICAL EDUCATION

DIRECTOR, DEPARTMENT OF PHYSICAL EDUCATION :- ARTHUR S. LAMB.

UNIVERSITY MEDICAL OFFICER :- F. W. HARVEY.

### ATHLETICS MANAGER :- D. S. FORBES.

RUGBY COACH AND ASSISTANT PHYSICAL DIRECTOR :- A. A. BURRIDGE.

TRACK COACH AND ASSISTANT PHYSICAL DIRECTOR :-

### F. M. VAN WAGNER.

ASSISTANT PHYSICAL DIRECTOR :- HAY FINLAY.

PHYSICAL DIRECTOR FOR WOMEN:-JESSE S. HERRIOTT.

Assistant Physical Directors for Women :-- { Zerada Slack. Ethel Wain.

### FOR MEN

In order to promote as far as possible the physical welfare of the student body, all First and Second Year students and all students coming to the University for the first time, will be required to pass a physical examination. Students of all years who wish to engage in athletic activities are also required to be physically examined. The hours for this examination will be announced at registration.

At the same time each student will be asked to fill in a card indicating his choice of physical activity, which he will be allowed to follow, unless debarred for medical reasons, under which circumstances he will be given a further choice among other recognized but less strenuous forms of exercise or will do gymnasium work, as the case may require.

Physical education is compulsory for all students of the first two years. Two periods per week will be devoted to it.\*

Any student participating in competitive athletics may be excused from other forms of exercise during the season of training, provided that this is performed to the satisfaction of the Director.

Unexcused absences up to one-eighth of the required number of periods shall be allowed. Unexcused absences exceeding one-eighth, but not exceeding one-fourth, may be allowed if at the end of the session the student passes a special examination and satisfies the Director that he has made sufficient progress. Unexcused absences exceeding onefourth shall disqualify a student. Such students shall be required to take extra gymnasium class work to the satisfaction of the Director, a supplemental course being given in the month of September for this purpose.

\* Owing to lack of accommodation, this requirement is suspended for the session 1929-30.

No student in default shall be allowed to proceed to the next year of his course unless for special reasons exemption should be granted on the recommendation of the Faculty and approved by the Committee on Physical Education.

Not less than one month before the conferring of degrees in each session, the Director shall furnish to the Registrar of the University, for transmission to Corporation and the Faculty, a list of all students, being candidates for degrees at the forthcoming Convocation, who have failed to satisfy the requirements of the Committee on Physical Education, and no Diploma for a degree shall be issued to any such candidate unless by the express direction of Corporation.

All students in good standing who are taking a course of study held to be sufficient by a special committee of the Faculty in which they are enrolled will be allowed to take part in athletics, subject, however, to the general regulation regarding medical examination.

Suspension from lectures for any cause, or absence from more than one-eighth of the total number of lectures given in any course, shall be considered as sufficient ground to disqualify a student from engaging in athletic contests.

Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, and for this time only, when requisitioned for by the Department. A leaflet and handbook concerning this service and the general work of the Department, together with the regulations governing athletics, will be distributed at the opening of the session.

### FOR WOMEN (Royal Victoria College)

In order to safeguard the health of the women undergraduate students, all entrants will be required to satisfactorily pass a health examination. An effort will be made to furnish adequate health service to all women students during their University career.

Work in the Department, amounting to a total of 126 hours during the four-years' course, is required of all undergraduate students. The requirement for students in the Faculty of Music is a total of 86 hours —two hours per week for the first two years. Partial students may register for work in the Department on payment of \$5.00 for a class of two periods a week. Students repeating a year are not exempt from work in the Department for that year, but are required to repeat their work in Physical Education.

Students entering with advanced standing are advised to consult the Physical Director for Women regarding their requirements in Physical Education.

#### PHYSICAL EDUCATION

The results of the health examination will determine the programme, and every effort will be made to suit the activities to the needs of the student.

Any student failing to meet the above requirement will be reported to the Dean as conditioned in the subject of Physical Education. Such condition may be removed only by repeating the work of a term. Not less than one month before the conferring of degrees in each session, the Director shall furnish the Registrar of the University for transmission to Corporation and the Faculty, a list of all students being candidates for degrees at the forthcoming convocation who have failed to satisfy the requirements of the Committee on Physical Education.

Strathcona Prizes are offered in this Department, open to students of all years. Regulations governing the awarding of these prizes will be announced in the Spring of each year.

Every student is required to wear the costume recommended by the Department.

A leaflet containing full information concerning the University Health Service will be given to all students at the opening of the session.

Intramural and extramural activities are organized by the McGill Women Students' Athletic Association, Group II R.V.C., under the supervision of the Department.

To meet the requirements in the Department of Physical Education for Women, all undergraduate students should enroll for any two of the following courses:—

### 1. Intermediate Formal Gymnastics. Entire Session.

Wednesday, at 12.

This course includes lessons in formal and rhythmical gymnastics, elementary apparatus work and participation in organized indoor games.

#### 2. Advanced Formal Gymnastics. Entire Session.

Monday, at 12.

This comprises formal and rhythmical gymnastics, with advanced work on apparatus and organized games.

### 3. Intermediate Informal Gymnastics. Entire Session.

Monday, at 11.

The material of this course will include game skills, stunts, tumbling activities.

#### 4. Clog and Folk Dancing. Entire Session.

Monday, at 3.

This course includes various types of folk and clog dances.

5. Intermediate Natural Dancing. Entire Session. Thursday, at 11.

This material is a rhythmic interpretation of free and natural movements and play activities.

6. Intermediate Character and Interpretative Dancing. Entire Session. Wednesday, at 2.

The course includes bar work, dancing technique, character and interpretative dances.

7. Advanced Character and Interpretative Dancing. Entire Session. Friday, at 12.

Advanced material of course No. 6.

 Badminton. Entire Session. Sections: Monday, at 11. Wednesday, at 11. Thursday, at 2. Friday, at 11. Monday, at 2. Wednesday, at 3.
 Friday, at 12. Friday, at 2. Friday, at 3.

The course includes practice in playing badminton and participa-

tion in tournaments. Rackets must be furnished by the student.

### 9. Elementary Fencing. Entire Session.

Monday, at 12.

Fundamentals of fencing taught in this class, with practice in fencing plays.

10. Intermediate Fencing. Entire Session. Thursday, at 2.

Fencing plays and participation in bouts.

11. Elementary Swimming and Badminton. Entire Session.

Swimming Class: Mon., Thurs., at 3-3.30 (Y.W.C.A.), Fall and Spring Terms.

Badminton class: See sections of Course No. 8.

The Swimming course comprises class instruction in strokes and elementary diving. (An extra fee of \$3.00 per year is charged for swimming.)

### 12. Advanced Swimming and Badminton. Entire Session.

Swimming class: Mon., Thurs., at 3.30-4 (Y.W.C.A.), Fall and Spring Terms.

Badminton class: See sections of Course No. 8.

#### PHYSICAL EDUCATION

- Elementary Swimming and Ice Hockey. Entire Session. Swimming class: See Course No. 11. Ice Hockey: Tuesday, at 4. First and Second Year. Winter Term. Saturday, at 10. Third and Fourth Year. Winter Term.
- Advanced Swimming and Ice Hockey. Entire Session. Swimming class: See Course No. 12. Ice Hockey: See Course No. 14.
- 15. Intermediate Basketball and Baseball. Entire Session. Tuesday, at 2.

This combined course consists of basketball in the Fall and Winter Terms and baseball in the Spring, and includes the practice of the games and matches.

- Advanced Basketball and Baseball. Entire Session. Sections: Thursday, at 5; Saturday, at 12. Advanced material of Course No. 15.
- Elementary Tennis. Entire Session. Sections: Monday, at 3; Tuesday, at 3. Racquets must be furnished by the student.
- Horse Back Riding. Entire Session. Sections: Wednesday, 4.30; Friday, 4.30. This class is conducted by the Westmount Riding Academy. An additional amount of \$2.00 per class period will be charged.

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19. Field Hockey. Fall term only.

20. Archery. Fall term only.

## THE ROYAL VICTORIA COLLEGE

### Founded and Endowed by the late Rt. Hon. Baron Strathcona and Mount Royal

### FOUNDATION AND HISTORY

The College was opened September 4th, 1899.

It is the outgrowth of plans conceived during the early years of his principalship by the late Sir William Dawson, which resulted in the establishment of the Ladies' Educational Association. Under the auspices of the Association, courses of lectures, delivered chiefly by Professors of McGill University, were offered to women from 1870 until 1884, thus placing within their reach, to some extent at least, the advantages of a Collegiate and University education.

In 1884, during the principalship of the late Sir William Dawson, the late Lord Strathcona, then Mr. Donald A. Smith, gave a sum of \$50,000, and, in 1887, a further sum of \$70,000, to found the Donalda Endowment for the higher education of women, such education to be conducted in the buildings of McGill College, as a distinct course in the Faculty of Arts, with the understanding that as soon as practicable the classes were to be created into a separate college of McGill University, with a building separate from that of McGill College. Under the terms of the Donalda Endowment it was provided that degrees in the Faculty of Arts should be granted to women practically on the same conditions as to men, and that the examinations for such degrees for classing, honours, prizes and medals should be identical with those for men.

As a result of this generous gift, and in accordance with the conditions attached, courses of instruction, identical in subject and in standard with those of the Faculty of Arts, were established for women in 1884. These courses were given in the Arts Building, some of the work of the Third and Fourth Years and of the Honour Courses being conducted in joint classes.

The first graduating class of eight women was presented for the degree of Bachelor of Arts in 1888.

The ultimate object of Lord Strathcona had been the provision of a residential college, and this was realized when the Royal Victoria College was opened in 1899, and formally inaugurated by their Majesties the King and Queen (then Duke and Duchess of York) in 1901.

A Warden and Resident Staff were appointed. With these new and great advantages the instruction provided by the original endowment has been maintained as hitherto, except that the separate classes are held mainly in the College building. Women have continued to prepare for degrees in Arts, including pure science. Through the wisdom of

## THE ROYAL VICTORIA COLLEGE

Lord Strathcona, provision was also made for the study of music. Since, however, the establishment of music as a separate department of the University in the Conservatorium of Music, independent instruction in music in the College has ceased, but it still maintains a resident lecturer in this subject, who is also Vice-Director of the Conservatorium. The interest of College students in music is thereby served and provided for. Women students resident in the Royal Victoria College may take degree courses in music at the Conservatorium.

Resident students of music have the use of pianos in two practising rooms and at certain hours in other parts of the building.

Facilities for lawn tennis and for skating are provided. Subject to regulations, the students have the privilege of using the University grounds.

#### THE COLLEGE BUILDING

The College building, surrounded by garden and tennis courts, was erected at a cost of about \$400,000 at the head of Union Avenue, upon land adjacent to the University Campus. Its beautiful and dignified exterior was designed in consistency with a careful and generous internal provision for a comfortable and gracious place of study and dwelling for students and for staff.

The building provides an academic, administrative and recreational centre for resident and non-resident students. It is situated on Sherbrooke Street, in close proximity to the University buildings, and within easy reach of Mount Royal Park. The building is fire-proof, and much thought and artistic care have been given to furnishing and decoration.

On the ground floor are the offices of the Administration, including the rooms of the Warden and Secretary, the faculty room, the students' common room, a spacious dining hall, and three lecture rooms. On the first floor are other lecture rooms, the library, reading room, and a handsome assembly hall, which is used for Conservatorium concerts and other University purposes. This hall is sometimes lent for purposes that are in harmony with the objects of the College. The gallery, which is reserved exclusively for the use of College students on such occasions, affords the latter many opportunities of educational value. The second and third floors and a small part of the first floor are occupied by the rooms of the Resident Staff and students. Each student has a separate study-bedroom. The rooms are completely furnished, and no article of furniture need be brought by the students. An Annex in charge of a College Tutor and adjacent to the College was opened in 1925-26. It provides study-bedrooms for students who in all other respects share the life of the students in the College building.

A large gymnasium is provided, fully equipped with modern requirements. In connection with the gymnasium are bath-rooms and dressingrooms.

## THE ROYAL VICTORIA COLLEGE

#### ADMISSION AND INSTRUCTION

The College, being a college of McGill University, and its students being registered in the Faculty of Arts, they are required to comply with the regulations concerning discipline and instruction made by the University and Faculty, and, in addition, with such regulations as may be made by the Royal Victoria College.

Undergraduates are required to pass the Matriculation Examination of the University, or an equivalent examination (see page 75) and can proceed to the degrees of B.A. and B.Sc. under the regulations of the Faculty of Arts as stated on pages 142 to 150. They are required to wear academic dress. Partial students, in order to obtain admission, must pass the Matriculation Examination in the subject or subjects which they wish to take, or, failing this, must be able to satisfy the Head of the Department concerned that they are qualified to proceed with the course.

Students are required to enter on the roll book of the College their names, home addresses, and addresses in Montreal. Students not residing with their parents or guardians in Montreal and who do not apply for residence in the College are required to submit their plans for residence to the Warden and to obtain written approval. All students entering the University for the first time are required, according to municipal regulations, to present a certificate or other satisfactory evidence of successful vaccination. No student who has an infectious illness or who comes from a house in which there has been an infectious illness within a month, shall enter or return to the College without giving notice and obtaining the consent of the Warden. The health of the resident students is in charge of two physicians (Dr. W. F. Hamilton and Dr. C. F. Martin), who may be consulted, free of charge, by arrangement with the Warden. Every student applying for admission to residence is required to fill in an entrance form and to forward a medical certificate on a form provided by the College.

Instruction is given by professors and lecturers of the University and lecturers and tutors of the Royal Victoria College, who are also members of the various teaching departments of the Faculty of Arts. Graduate students can proceed to the degrees of M.A., M.Sc. and Ph.D.

Lectures are given in the College or in the University buildings, practical instruction in science being given in the University laboratories. Students are assisted in their studies by the resident staff.

Students of the College have the use of the University Library. There is also a College Library comprising works of general literature and the chief stated books required for the University curricula, the Department of Romance Languages being especially well represented. The College Library and Reading Room are open to resident students from 9 a.m. to 11 p.m. and to non-resident students from 9 a.m. to 6 p.m. (on Saturdays from 9 a.m. to 1 p.m.).

The Peter Redpath Museum, containing large collections in mineralogy, palæontology, zoology, botany, archæology, and ethnology, is open to students of the College.

The Warden's business hours are 10 a.m. to 1 p.m.; at other times, by special appointment. She will be glad to meet all students before the opening of the session and to discuss their plan of work then or at any other time during the session.

Applications for admission should be addressed to the Warden, Royal Victoria College, Montreal.

#### EXHIBITIONS AND SCHOLARSHIPS

For a statement of the exhibitions and scholarships open to women students of the University, see pages 96 to 109.

In addition to these, and further to encourage residence within the College walls of students who might otherwise arrange to board in the City, the Warden and Staff are empowered to make nominations in any of the four college years to not more than three additional exhibitions of the value of \$100 cach.

#### TUITION FEES

Students (graduate, undergraduate or partial, resident and nonresident) pay the same fees as are charged in the Faculty of Arts. For undergraduate students the fee is \$125\* (this includes fees for library, gymnasium and graduation). For further information, see pages 126 to 129. Every undergraduate pays an Athletics or Grounds fee of \$6.00, the McGill Women Students' Society fee of \$2.50, and \$1.50 for the McGill Daily. All fees are payable to the Bursar', McGill University, on October 7th and 8th, but they may also be paid on October 2nd, 3rd, 4th or 5th.

#### BOARD AND RESIDENCE

Residence in the College is open to graduate students, undergraduates, and, in exceptional circumstances, to partial students. Application for residence should be made early, as accommodation in the college is limited. No room is assigned for a shorter period than the University session. Students of the First Year who, under regulations of the Faculty of Arts, are dropped from the University (see page 143) will be required to withdraw from residence. The charge for board and residence, in addition to the sessional fee for tuition, is \$500 (\$200 for room, \$300 for board). This may be paid in two equal instalments of \$250 each, in October and February. Room rent includes all expenses of heat and light (not other electrical attachments, for which fees will

\* For students who entered prior to 1926-27 this fee is \$100.00.

#### THE ROYAL VICTORIA COLLEGE

be charged). These charges cover the University session from the first day of registration (September 26th) to the close of the examination (for members of the graduating class, to the day after Convocation, May 30th). A deposit fee of \$10.00 is required when a room is reserved, and is deducted from the charges for the first term.

Students entering earlier or remaining later for purposes of instruction, practice teaching, or examination, and students arriving in September for practice teaching, supplemental or matriculation examinations, are charged an additional fee of \$1.50 a day. No additional fee is charged to students returning earlier than September 26th, for scholarship examinations. With the permission of the Warden, students may remain in residence during the Christmas vacation. They will be required to pay a fee of \$1.50 a day for board and residence.

The charges for tuition and room rent are not subject to remission or reduction under any circumstances. Rooms cannot be reserved for a shorter period than the University session. In case of prolonged illness and absence from College for a period of six weeks or more a proportionate reduction is made in the charge for board. Information concerning Bursary and Loan Funds can be obtained from the Warden.

Notice of withdrawal should be given at the close of the session, or not later than September 1st. Rooms are not reserved for students whose standing at the end of the Session does not entitle them to proceed to the next year (see page 156).

#### PHYSICAL EDUCATION

See pages 206 to 209.

#### MUSIC

Students taking courses in music leading to the degree or diploma are eligible for residence in the College.

Instruction in music is offered at the McGill Conservatorium of Music. Students may prepare for the degree examination in music of the University, or for the Diploma of Licentiate in Music.

For information regarding courses in Music, see the Announcement of the Conservatorium of Music.

#### COLLEGE SOCIETIES

The students maintain the following societies:—The Royal Victoria College Undergraduates' Society, and also the Athletic Association, Group II, R.V.C.; the Delta Sigma Literary and Debating Society; La Société Française; the Women Students' Christian Association (R.V.C.); the Music Club of the R.V.C.; all organized under the McGill Women's Students' Society.

## SCHOOL OF COMMERCE

## COURSE FOR THE DEGREE OF BACHELOR OF COMMERCE

The course extends over four years, and students who successfully complete it will be granted the Degree of Bachelor of Commerce (B.Com.).

The curriculum is as follows :---

## FIRST YEAR

Obligatory Subjects

English 1 and 2. Mathematics 1. French, or Spanish, or German. Accountancy.

Optional Subjects (two to be chosen) Latin, or Greek. German, or Spanish, or French. Physics, or Biology, or Chemistry. History 1.

N.B.-(a) High School Physics is a prerequisite to Chemistry.

(b) Students intending to take up Mathematics 9 in the Fourth Year must obtain 65 per cent in the Mathematics of the First Year.

## SECOND YEAR

## Obligatory Subjects

French, or Spanish, or German (continued). Accountancy.

Optional Subjects (three to be chosen) Economics 21. English. Mathematics 42. Mathematics 2 or 3. Psychology. German, or Spanish, or French (continued). Chemistry.

- N.B.—(a) Students proceeding to Mathematics 9 in the Fourth Year must pass in Mathematics 42, and in Mathematics 2 or 3, with high marks in the first class.
  - (b) Mathematics 42 is a prerequisite to Third and Fourth Year Accountancy.

#### THIRD YEAR

#### **Obligatory** Subjects

French, or Spanish (continued for students who have taken one of these subjects during their First and Second Years).

Optional Subjects (four 3-hour courses, or their equivalent, to be chosen).

Accountancy.

Business Organization and Scientific Management (half course).

Business and Industrial Psychology (half course). Commercial Law. Economics 22. Economics 26 and 27, or 28 and 29. Economics 23. Economics 31, 32, 33. English. Mathematics 2 or 3. Mathematics 43 (half course). Mathematics 7. Spanish, or French (continued).

N.B.—(a) Only half credit will be given to a second modern foreign language begun after the Second Year. Students should further note that time-table complications may make it impossible to begin a second language in any Year except the First.

- (b) Mathematics 2, 3, 7 and 42 must be taken by students proceeding to Mathematics 9 in the Fourth Year. High first class standing is required.
- (c) First and Second Year Accountancy are prerequisites to Accountancy in this Year.
- (d) Economics 1 is a prerequisite to all the other courses in this Department.
- (e) Second Year Psychology is a prerequisite to Business and Industrial Psychology.

# FOURTH YEAR

(Five 3-hour courses, or their equivalent, to be taken.)

French (continued).

Spanish (continued).

Accountancy.

Mathematics 9 or any other approved Mathematical course not previously taken.

Commercial Law. Transportation and Marine Insurance (half course). Mathematics 43 (half course). Economics 24. Economics 25. Economics 26 and 27, or 28 and 29. Economics 31, 32, 33. English.

- N.B.—(a) Third Year Accountancy, Mathematics 42, Business Organization and Scientific Management and Commercial Law are all prerequisites to Fourth Year Accountancy.
  - (b) Economics 21 is prerequisite to all the courses in Economics in the Fourth Year.
  - (c) The Mathematical courses prescribed in the first three years are all prerequisites to Mathematics 9 in the Fourth Year.
  - (d) Mathematics 43, Economics 26 and 27, or 28 and 29, and English can be taken in either the Third or the Fourth Year
- (e) Candidates proceeding to the diploma of C.A. must take the Commercial Law course in both Third and Fourth Years. and must obtain a minimum of 60% of the marks assigned to these two courses.

Graduates in Commerce may obtain a B.A. degree by one additional year of residential study in Arts; provided that during the five years of their course they have satisfied all the requirements for this degree.

Graduates in Commerce, who during their course have taken the requisite programme in Economics, and who have obtained in Latin a standing equivalent to entrance to the Second Year Arts, may enter the Graduate School as candidates for the M.A. degree in Economics and Political Science. The requisite programme in Economics consists of courses 21, 22 and 24 with either 23 and 25 or 26 and 27, 28 and 29.

Mellill Colorestive has entered into an agreement with the Society

## DIPLOMA OF LICENTIATE IN ACCOUNTANCY

To obtain the Diploma of Licentiate in Accountancy, which carries with it right of entrance into the Society of Chartered Accountants of the Province of Quebec, or into the Institute of Accountants and Auditors of the Province of Quebec, or into the Corporation of Public Accountants of the Province of Quebec, the student must satisfy the following conditions:—

- (a) He must pass all the examinations required for, and leading up to, the Degree of Bachelor of Commerce.
- (b) He must pursue the course of studies prescribed in this programme for Accountancy students.
- (c) He must comply with all ordinances regulating practical work to be done by students during the vacation.
- (d) He must spend at least one year, subsequent to his obtaining the Degree of Bachelor of Commerce, in the office of a practising accountant.
- (e) He must have attended as an undergraduate, the course in Mathematics 43 given in the Third and Fourth Years, and have obtained at least 60 per cent of the marks obtainable at the examination in this subject. Failing this, he will be required to take the course in Elementary Actuarial Science described at the end of this Announcement, in the description of "Fouryear course for students of the Accountancy Associations of the Province of Quebec."
- (f) He must attend the post-graduate course in Accountancy and Auditing, given by Mr. H. D. Clapperton, C.A.
- (g) He must then pass successfully the final examination in Accounting and Auditing before a board of six examiners composed as follows: the Director-Secretary of the School of Commerce, two Professors of McGill University, a member of the Society of Chartered Accountants of the Province of Quebec, a member of the Institute of Accountants and Auditors of the Province of Quebec, and a member of the Corporation of Public Accountants of the Province of Quebec; or before a board of five examiners should one of the Associations mentioned fail to nominate its delegate, or of four examiners should two do so, or of three, if all.

McGill University has entered into an agreement with the Society of Chartered Accountants of the Province of Quebec, with the Institute of Accountants and Auditors of the Province of Quebec, and with the Corporation of Public Accountants of the Province of Quebec, whereby the candidates of these Association (non-graduates) will take the final examinations conjointly with the University candidates. The papers set

will be the same for both classes of candidates, but the University will retain its own Board of Examiners according to the provisions laid down in Bill No. 21. (See pages 229 to 233 for description of "Four-Year Course" for students of the Accountancy Associations of the Province of Quebec.)

The Society of Chartered Accountants of the Province of Quebec has agreed to accept apprenticeship in an Accountant's Office anywhere in Canada.

Graduates must exert themselves to find an Accountant's Office willing to accept them during their period of apprenticeship. The University has no obligation in the matter.

The examination in Auditing and Accounting will be held in the month of May each year.

The fee for the examination in Auditing and Accounting is \$25.00. Previous examination papers may be obtained at the Bursar's Office for \$1.00 per set.

N.B.—For the benefit of graduates located in the West of Canada, centres for the final examination in Accounting and Auditing may be established in Winnipeg and Vancouver. Those wishing to sit at either of these centres should give early notice (before April 1st) to the Registrar of McGill University. Such notice should be accompanied by the special fee of \$50.00.

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## COURSES OF LECTURES

#### ACCOUNTANCY

The accountancy work has been carefully graduated and correlated and is intended not merely to fulfil its part in a general scientific business training, but also to prepare and assist those who purpose taking up accountancy as a profession.

No previous knowledge of bookkeeping is assumed or required; the subject is developed rapidly along the lines that prevail in practice.

#### FIRST YEAR

The following plan will give a good indication of the ground covered in this year:---

The principle of debit and credit; books of original record, how they should be kept, and how utilized; documents employed in connection with them; sales, purchases, consignments, and how to handle them; returns inwards and returns outwards; subsidiary ledgers, and controlling accounts to represent them in the general ledger; special forms of eash-book required to facilitate such control; notes and drafts, discounting and renewal of notes, and the proper methods of treating these operations in the accounts; single entry, how to change to double entry, and vice versa; distinction between revenue and capital expenditure; trading, and profit and loss statements and balance sheet; single proprietorships.

The student will be required to sift and classify his detail, write up all the books of record and account mentioned, and focus results of the various transactions or operations into the final statements.

#### SECOND YEAR

Special problems that occur in connection with partnerships: The deed of partnership; rights of partners; effects of dissolution; methods of distributing profits; the bringing in of other partners; goodwill; transformation of a firm into a corporation; departmental accounts; organization and records required; sectional balancing of ledgers and systems of internal check; analysis of expenses; distribution of expenses over departments; results in each department; comparison of these results with those shown in other periods; manufacturing accounts; the elements of cost accounting; records to take care of purchases; the voucher system; depreciation and methods of providing for it; allowances and reserves.

#### THIRD YEAR

tion of these elements; comparative balance sheets and deductions to be drawn from them; double account system; the income statement.

(b) Corporation Finance: Development of the corporation; status and interior organization of the corporation; how to incorporate; different classes of incorporation; promotion and underwriting; stock and bond issues; temporary loans; initial operations; earnings and their disposition; secret reserves; betterments; surplus; control exercised by directors and majority stock-holders; its abuse; consolidations; insolvency; re-organizations; different bases of capitalization; problems connected with stock and bond issues; bonus stock; treasury stock; watered stock; discount and premium on bond issues; sinking funds.

(c) Export Houses: Records and accounting system required.

(d) Cost Accounting: General considerations; advantages of cost systems.

#### FOURTH YEAR

(Intended especially for students proceeding to a Diploma in Accountancy, although this course may be taken by all students who have reached the required standard.)

Cost Accounting: Control of stores, purchasing and issuing, the running inventory; quality, remuneration and control of labour, different methods of distributing overhead expenses or "burden" and their limitations; calculation of machine-rates; waste and leakage in factories; idle time; forms used in different "job and process" costing systems; how selling price is computed; connection of cost records with general accounts.

Branches, Consolidations, Mergers: Accounts of head office and of branches; consolidated statements and balance-sheets: holding corporations; control of stock and bond issues; minority holdings; advances to subsidiaries; inter-company profit and liabilities; capital assets and capital liabilities; initial surplus and goodwill.

Insolvency Accounts: Various schedules adopted; statements of affairs; deficiency statement; realization and liquidation account.

Auditing: Considerations applicable to all undertakings, and special considerations applicable to particular concerns.

Trustees' Accounts: Executorships and administratorships; accrued claims; accrued expenses; corpus and income.

Accounting in Insurance Companies: General considerations; systems used.

Bank Accounts: General considerations.

Municipal Accounts: General considerations.

Peculiarities in the form of accounts required in other undertakings. Professor R. R. Thompson.

## BUSINESS ORGANIZATION AND SCIENTIFIC MANAGEMENT

Commercial Organization: Origin, growth and classification of business organization; tests of efficiency in business organization; social and economic and legal aspects in the following types of organization: single proprietorship; partnership; joint stock company; corporation; agreements, pools, kartells, simple business trusts; combination trusts; community of interest organizations; securities-holding organization; amalgamation, and mergers; launching of an industrial enterprise; planning of a factory; purchase and control of raw materials; labour and its control; wage systems, welfare work; reorganization of a factory; the committee system; the location of industries; principles of management; types of management; departmental relations; standardization and equipment; standardized operations; written standard-practice instructions; adequate records; efficiency rewards.

Professor R. R. Thompson.

#### CHEMISTRY

The course includes a study of the more important elements and compounds, the general laws and principles and the fundamental theories of the science; with as many industrial applications as time will allow. The lectures are illustrated with specimens, experiments, diagrams, lantern-slides, etc. The general intention of the course is to give a thorough training in the basic principles of the science and their applications, so that chemical problems arising in connection with future work and study may be intelligently considered.

Text-book:--McPherson and Henderson, "A Course in General Chemistry."

#### ECONOMICS AND POLITICAL SCIENCE

SECOND YEAR

21. Elements of Political Economy.

3 hrs., Tues., Thurs., Sat., at 9.....Assistant Professor Goforth.

#### THIRD YEAR

## 22. Economic Distribution.

This course deals with rent, wages, interest, profits, population, socialism and social reforms.

3 hrs., Mon., Wed., Fri., at 11.....Associate Professor Day.

## 23. Canada-Geographic Factors of Economic Development.

Geological and climatic factors as determining the natural resources of Canada; analysis of distribution of population; natural resources.

3 hrs., Tues., Thurs., Sat., at 11......Mr. Culliton.

## 24. Economic Theory of Exchange.

Money, banking, prices, index numbers, trade tariffs. 3 hrs per week throughout the session...Asst. Professor Farthing.

## 25. Canada—Progress and Present Position of Economic Development.

Manufacturers, transportation, foreign trade, tariff, immigration, land settlement and organized labour.

3 hrs., Mon., Wed., Fri., at 10.....Assistant Professor Goforth.

## THIRD AND FOURTH YEARS

## 26. Elements of Political Science and Comparative National Government and Taxation.

General principles of government, and national government and taxation in Great Britain and the United States. (Given in 1930-31.)

3 hrs. per week, first term. Mon., Wed., Fri., at 12....

Associate Professor Day.

## 27. Government and Taxation in Canada.

Federal, provincial and municipal government and systems of taxation. (Given in 1930-31.)

3 hrs. per week, second term ..... Assistant Professor Farthing.

## 28. International Trade and Trade Policy.

3 hrs. per week, first term ..... Associate Professor Day.

## 29. Social and Industrial Legislation.

A study of legislation to include factory acts, labour legislation, pensions, insurance, etc.

3 hrs. per week, second term ..... Assistant Professor Farthing.

## 31. Economic Geography of the Pacific.

3 hrs. per week, first term. Mon., Wed., Fri., at 2.... Assistant Professor Goforth.

## 32. Political Relations of Pacific Countries.

3 hrs. per week, second term. Mon., Wed., Fri., at 2.... Assistant Professor Goforth.

# 33. Financial and Monetary Systems of Pacific Countries. 3 hrs. per week, second term. Tues., Thurs., Sat., at 12....

Associate Professor Day.

#### ENGLISH

The fundamental purpose of the course in English is to train students to deal with such problems of expression as arise in commercial life. Considerable attention will be given to business correspondence and other forms of commercial writing. The interests of students, however, are best served, even for these special purposes, by a more general training in English. These courses will, therefore, include practice in various kinds of writing, as well as a study of English literature, in which a large amount of reading is required. As far as possible, the writing prescribed for students will be related to the work they are doing in other classes.

The following is a brief outline of the work :--

#### FIRST YEAR

English 1. English composition, one hour a week. Weekly individual conferences with the instructor are required.

English 2. English Literature, as prescribed for students in the Faculty of Arts—a general outline course from Chaucer to Kipling. Readings and fortnightly individual conferences. Two hours a week. Professor Macmillan and an assistant.

#### SECOND YEAR

English Literature: Choice of Second Year Arts course.

#### THIRD OR FOURTH YEAR

A choice of any General Arts courses in English in these Years.

#### FRENCH

The study of French will be first approached from the literary side, both in order to increase its value to the student as an element of culture and in order to afford a sufficient background for the commercial studies which are to come later. These commercial studies will begin in the Second Year, and will comprise about half of the work done in that Year. In the Third Year work will be almost entirely of a commercial character.

The following is a synopsis of the work :--

#### FIRST YEAR

The student will have a choice between :--

(a) The Advanced Arts course in French and (b) the General Arts course in French, strengthened by tutorial class work.

#### SECOND YEAR

In this Year the work will be divided into two sections:-I. A selected Arts course.

## II. Work of a commercial nature, embracing:-

Commercial Correspondence: Letters of introduction, offers of service, inquiries, acceptance of offers, execution of orders, circulars, invoices and account sales; study of trade reports and commercial documents; study of contracts—bills of sale, mortgage deeds, bills of lading, charter-party, insurance contracts.

#### THIRD AND FOURTH YEARS

During these Years one hour a week will be devoted to a study of modern French literature. The remaining hours will be taken up with commercial work, which may be conveniently divided into:—

- (a) Commercial correspondence, study of trade reports, etc., in continuation of work begun in the Second Year; and (b) colloquial French.
- (The text-book to be used for this part will be P. Clerget, Manuel d'économie commerciale.)

#### GERMAN

The study of German will extend through the First and Second Years.

The Arts courses in German are available to Commercial students.

Provision will also be made for instruction in commercial correspondence.

#### LAW

## THIRD YEAR Descent to Troad T

- (1) Law of Contracts.
  - (2) Agency, Partnership and Company Formation.
  - (3) Negotiable Instruments and Banking Law.

#### FOURTH YEAR

- (1) Company Law.
  - (2) Sale of Goods.
- (3) Insurance Law.
  - (4) Trustees and Executors.
  - (5) Bankruptcy and Winding-up Acts.

#### MATHEMATICS

1. Mathematics (For First Year students)..Assistant Prof. Tate. Geometry and Trigonometry. Three hours, first term. Algebra. Three hours, second term.

Text-books: Hall, H.S., School Algebra, Parts I and II; Carslaw, H.S., Plane Trigonometry; Hall and Stevens, School Geometry, Parts I to VI.

- 42.—Mathematics (For Second Year students)...Asst. Prof. Tate. Interest and Bond Values. Elementary Statistics.
  - *Text-books:*—Lovitt and Holtzclaw, Mathematics of Business; M. A. Mackenzie, Interest and Bond Values.

43. Mathematics (For Third and Fourth Year students) ....

- Half course of 24 lectures delivered during the second term on Tues., Sat., at 11.
- Text-books:-Lovitt and Holtzclaw, Mathematics of Business; MacLean, Life Insurance; Knight, Life Insurance.

The following courses in Mathematics are also open to qualified students in the School of Commerce during the Second, Third and Fourth Years:--

- 2. Algebra and Analytical Geometry. Asst. Professor Matthews. Three hours during the session, Mon., Wed., and Fri., at 10.
- 3. Calculus ......Professor Murray. Three hours during the session, Tues., Thurs., and Sat., at 12.
- 7.-Theory of Equations and Finite Differences.

Three hours during the session ...... Professor C. T. Sullivan.

Text-books:-Henry, Calculus and Probability; Burnside and Panton, Theory of Equations; Whittaker and Robinson, Calculus of Observations.

## 9. Theory of Interest and of Life Contingencies.

Three hours during session.....Assistant Professor Tate. Text-books: Spurgeon, Institute of Actuaries Text-Books, II; Borel, Probability; King, Theory of Interest.

- (a) Courses 2, 3, 7, 9 are mainly intended for students who wish to enter the Actuarial profession.
- (b) Course 42 is a prerequisite for those who wish to take Third and Fourth Year Accountancy.
- (c) Courses 2, 3, 7 and 42 are prerequisites for 9. High first class standing in these is required before proceeding to Course 9.

#### PHYSICS

The course in Commercial Physics consists of two lectures and a two-hour laboratory period each week. The object of the course is to introduce the students to the various scientific laws, so as to make them familiar with the principles underlying the appliances and phenomena of every-day life. In the laboratory the students are required to make measurements and observations under the guidance of instructors. The following headings are indicative of the nature of the course given:—

Simple machines; mechanics of liquids and gases; elasticity and strength of materials; accelerated motion; force; energy; momentum; effects of heat; heat engines; a history of the developments in magnetism and electricity; battery currents; induced currents; electric power; alternating current machines; sound production and transmission; sound phenomena; sound as related to music; lamps and reflectors; lenses and optical instruments; spectra and colour phenomena; Roentgen rays and electric waves in general.

The lectures are given by Associate Professor H. E. Reilley and the laboratory work is under the guidance of Dr. D. A. Keys, with the aid of several demonstrators.

Text-book :--- Whitman's Household Physics.

## SPANISH

#### FIRST YEAR

The work in the First Year will consist of :--

Grammar, reading and dictation, oral exercises and composition.

*Text-books:*—Coester's Spanish Grammar; W. S. Hendrix, "Elementary Spanish"; Jiménez's "Platero y yo"; Cool's Spanish Composition.

#### SECOND YEAR

The work will, as before, consist of grammar, practice in reading and speaking, dictation and composition. At the same time the student will get a further introduction to Spanish literature.

*Text-books:*—España Pintoresca (Dorado); La Familia de Alvareda; Historia de España (Romera-Novarro); Nociones de Literatura Castellana (Romera de Terreros); Cool's Spanish Composition; Spanish Free Composition (Peers).

#### THIRD YEAR

More extensive work in literature. Lectures on Spanish literature in the Third and Fourth Years will be given in Spanish.

Text-books :--

(a) Moratin, El sí de las niñas (Ginn & Co.); Selections from "El Quijote" (Heath & Co.); Galdos' Zaragoza; Historia de la lengua and literatura españolas (Rogerio Sánchez); Spanish Free Composition (Peers); Spanish Composition (J. R. Elder).

(b) Advanced work :--

In addition to the above, Study of Spanish verse and of the following texts: Garcilaso de la Vega, First and Second Eclogues (Oxford Press); Alarcón, La Verdad Sospechosa (Heath & Co.); Selected "romances" and sonnets.

## FOURTH YEAR

A study of the modern Spanish novel :--

source Control on Spanish liberatore

*Text-books:*—Pereda, Pedro Sánchez (Ginn & Co.); Valdés, José (Heath & Co.); Azorin, España; Blasco Ibanez, La Barraca; Historia de la lengua and literatura españolas (Rogerio Sanchez); Spanish Composition, Castillo & Montgomery.

Advanced work :--In addition to work prescribed above :---Marquina, En Flandes se ha puesto el Sol (Heath & Co.); Don Quijote; Spanish lyric poetry in "Siglo de oro."

#### TRANSPORTATION AND MARINE INSURANCE

Administration and organization of inland and ocean transportation, including the early history of transportation; meaning and importance of railroad statistics; transport and storage of commodities of a perishable and special character; transportation law, marine insurance.

Thurs., at 11......Mr. J. L. McCulloch.

More extensive work in 7

## FOUR-YEAR COURSE

(For Students of the Accountancy Associations of the Province of Ouebec)

## INTERMEDIATE ACCOUNTING AND AUDITING

Twenty-eight lectures, of 2 hours each, to be given on Wednesdays, from 5.30 to 7.30 p.m., commencing October 2nd, 1929.

The work will cover the matter outlined for the first two years of the regular Commerce Course, with the addition of elementary auditing and company finance. Lecturer. Professor R. R. Thompson.

## MATHEMATICS

Twenty-five lectures, of 1½ hours each, to be given on Fridays, from 5.30 to 7 p.m., beginning October 4th, 1929.

The course will cover the following subject matter:—Arithmetic and geometric progressions; indices; logarithms; permutations and combinations; binomial theorem; approximations; graphs; simple and compound interest; annuities and sinking funds

Text-books:—Hall, H. S., School Algebra, Parts I and II; Lovitt and Holtzclaw, Mathematics of Business; Chambers, Introduction to Statistics. Lecturer..Assistant Professor Herbert Tate.

## INTERMEDIATE COMMERCIAL LAW

Forty-eight lectures, of  $1\frac{1}{2}$  hours each, to be given on Tuesdays and Thursdays, from 5.30 to 7 p.m., commencing October 1st, 1929. Of these lectures, 16 will be devoted to the Law of Contracts, 16 to Negotiable Instruments, and 16 to Agency and Partnerships.

#### Law of Contracts.

Sphere of Dominion and Provincial laws; persons (minors, interdicts, married women); distribution of property; essentials of contract (consent, capacity, object, consideration); interpretation; effects; breach.

#### Negotiable Instruments and Banking.

Characteristics of negotiability; Bills of Exchange Act; form, acceptance; delivery; capacity and authority of parties; consideration; negotiation; endorsements; presentment; dishonour; protest; liabilities of parties; discharge; lost instruments; forgeries or unauthorized signatures; alterations; bills in a set; cheques; promissory notes.

Bank Act.—Organization of a bank; rights and duties of directors and shareholders; auditors; powers of a bank re loans; security; deposits and note issue.

#### Agency and Partnership.

General provisions covering mandate; obligation of mandatory towards mandator, and towards third parties; obligations of the mandator

towards the mandatory and towards third person; résumé of law covering advocates, attorneys, notaries, brokers, factors, etc.; termination of mandate.

General provisions relating to partnership; obligations and rights of partners amongst themselves and towards third parties; different kinds of partnership, particular partnerships, general partnerships, anonymous partnerships, and limited partnerships; dissolution of a partnership, and the effects of such dissolution.

Lecturers......Mr. E. P. Dale Harris and Mr. W. C. Nicholson.

#### FINAL ACCOUNTING AND AUDITING (advanced)

## Accounting.

(a) Partnership.

The formation, continuance and dissolution of partnership, including joint adventures.

(b) Companies.

The formation, reconstruction, amalgamation and liquidation of companies, and the various problems affecting corporation finance.

- (c) Branches, consolidations, mergers, accounts of head office and of branches.
- (d) The accounts of trustees and executors, including apportionment between capital and revenue, legacies, advances to beneficiaries and other special points.
- (e) Bankruptcy and Insolvency Accounts, with special reference to the Bankruptcy Act of 1920.
- (f) Cost Accounting.
- (g) Income Tax and the like.
- (h) Other companies whose accounts require special treatment, such as land companies.

#### Auditing.

(a) Principles of Auditing.

Statutory and non-statutory audits; objects of an audit; considerations on the commencement of an audit.

(b) Audit of Cash Transactions.

Internal checks; vouching payments and receipts and various considerations arising therefrom; missing vouchers; verification of cash in hand and at bank.

(c) Audit of Trading Transactions.

Internal checks; the vouching of purchases and sales, allowances and returns, and the examination of the accounts receivable and accounts payable ledgers.

(d) Audit of the General Ledger.

Deferred charges; accrued assets and charges; valuation of assets, depreciation, reserves, etc.

- (e) The Verification of various classes of Assets.
- (f) The Audit of a Limited Company. Powers, share capital, bonds, directors, divisible profits, form of accounts and the powers and duties of auditors.
- (g) Special Points in different classes of Audits. Insurance and trust companies, banks, etc.
- (h) Investigations.

Special questions, to be worked out by the students, will be set on each of the subjects outlined above, and the general accounting principles involved will be further illustrated by problems given recently at the final examinations of the Society of Chartered Accountants of Quebec.

Lecturer......Mr. H. D. Clapperton, C.A.

#### MATHEMATICS

#### Elements of Actuarial Science.

Twenty-five lectures, of 1½ hours each, on Wednesdays, from 5.30 to 7 p.m., beginning October 2nd, 1929.

The course will embrace :---

The amortization schedule; straight-term, serial and annuity bonds; depreciation; building and loan associations; the mortality table; calculation of net and gross premiums; the reserve; valuation, with allowance for initial expense; surrender value and policy loans; surplus and dividends; industrial and group insurance.

*Text-books:*—Lovitt and Holtzclaw, Mathematics of Business; Mac-Lean, Life Insurance; Knight, Life Insurance.

Lecturer.....Assistant Professor Herbert Tate.

#### FINAL COMMERCIAL LAW

Forty-four lectures, of 1½ hours each, to be given on Tuesdays and Thursdays, from 5.30 to 7.00 p.m., beginning October 1st, 1929. Of these lectures, 14 will be devoted to the Sale of Goods; 14 to Company Law; 8 to Trustees and Executors, and 8 to Bankruptcy and Winding-up.

The following outline will indicate the subject matter covered :-

Sale of Goods: General provisions regarding sales; capacity to buy and sell; things which may be sold; obligations of the seller; delivery; warranty against eviction and latent defects; obliga-

tions of the buyer; dissolution and annulment of contract of sale; right of redemption; annulment on account of lesion; sales by licitation; sales by auction; bulk sales; forced sales and giving in payment.

- Company Law: The Companies' Act (Dominion) and its amendments; the Quebec Companies' Act, 1920, and its amendments. (In these Acts, Part 1 is principally dealt with. The statutory provisions are explained and illustrated by citation and discussion of jurisprudence.)
- *Trustees and Executors:* Provisions of the Civil Code dealing with persons administrating funds belonging to others; status of married women; law applying to tutors and curators; law relating to succession.
- Bankruptcy and Winding-up: Provisions of the Bankruptcy Act; the Dominion Winding-up Act; law of the Province of Quebec relating to the voluntary winding-up of companies. (The statutory provisions are explained and illustrated by citation and discussion of jurisprudence.)

Lecturers...... Messrs. J. A. Mathewson and W. C. Nicholson.

#### ECONOMICS

Course of 20 lectures, of 1 hour each, on Elementary Economics. On Fridays, from 5.30 to 6.30 p.m., beginning October 4th.

Lecturer.....Dr. J. P. Day.

The examinations in the above-mentioned subjects will be held at the end of the course, in the month of May. In order to pass, a student must obtain 60 per cent of the marks assigned to each portion of the examinations in Commercial Law and Mathematics, and an average of 60 per cent in Accountancy and Auditing, with not less than 55 per cent in either of them. A student who fails may repeat the course and the examination in the following May on payment of the full fee. This is necessary in the case of any student who has obtained less than 40 per cent of the marks assigned. A student, however, who has obtained 40 per cent or more, but less than 60 per cent of the marks assigned, need only repeat the examination, paying therefor half of the fee.

## FINAL EXAMINATION IN ACCOUNTING AND AUDITING

With regard to the Final examination in Accounting and Auditing, this will be held in the month of May of each year, before a joint board of examiners, consisting of the six mentioned on page 12 and of two members named by each of the three Associations of the Province.

The fee for this Final examination in Accountancy and Auditing is quite apart from the fee paid for the course. In the case of McGill Commerce graduates the fee for this Final examination will be \$25, to be paid to the University. In the case of students of the various Associations, the fee will also be \$25, to be paid into a common fund for examination expenses. This fund will belong to the Associations. and be administered by them.

In order to pass in this Final examination a student must obtain 60 per cent or more of the marks assigned, with not less than 55 per cent in either of the subjects.

A student who fails may, on repayment of the examination fee, present himself again for examination in the following year. If he has obtained less than 40 per cent he must also repeat the final course in Accountancy and Auditing, paying therefor the full fee.

Candidates are permitted to proceed from the Intermediate to the Final stage, if conditioned in not more than one subject, which must not be Accountancy and Auditing. For the purposes of this regulation, Law constitutes one subject and Mathematics one subject. But no student can sit for the Final examination in Accountancy and Auditing who has not passed all his Intermediate and Final examinations in Commercial Law and Mathematics, and his examination in Political Economy.

A candidate who fails in one or more of the divisions into which the Law curriculum is divided, should bear in mind that he has only to be re-examined in the portion or portions in which he may have failed. If he obtains less than 40 per cent in any portion or portions he must repeat the lectures in those portions, paying therefor the full fee of \$30.

No student will get any credit for any course, or be allowed to sit for any examination, unless he has complied with all the regulations of his Association affecting such course and examinations. Every student should, therefore, acquaint himself with the rules and by-laws of his Association.

All students taking either the Intermediate or the Final examinations must make formal application to Professor R. M. Sugars on or before April 1st. In making such application he should state when he took the lectures given in connection with each examination. His application should be accompanied by the corresponding fee, except in the case of Final Accountancy and Auditing. The fee for any Association candidate who wishes to present himself for the Final Accountancy and Auditing examination must be paid to the Association with which the candidate is connected.

No examination will be given to non-Association students in Final Accounting and Auditing.

For all further information, apply to Professor R. M. Sugars, Director of the Course.

Hour	Year	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9–10	1 2 3 4	Mathematics French Accountancy Spanish French	Economics Spanish	Mathematics Accountancy Spanish French	Economics Spanish	Mathematics Accountancy Spanish French	Economics Spanish
10-11	1 2 3 4	Economics Psychology Mathematics, 2 French Economics (conf.)	Spanish Mathematics Accountancy Economics	{ Psychology { Mathematics, 2 French Economics	Spanish Mathematics Accountancy Economics	Economics Psychology Mathematics, 2 French Economics	Spanish Mathematics Accountancy Economics
11-12	1 2 3 4	{ French Mathematics Economics Accountancy	History Spanish Business Organi- zation (1st term) Economics ~ Statistics (3 & 4 1st term Mathematics, 43	{ French Mathematics Economics Accountancy	History Spanish Business Organi- zation (1st term) Economics Statistics (3 & 4) 1st term Mathematics, 43 Transportation, &c	{ French Mathematics Economics Accountancy	History Spanish Business Organi- zation (1st term) Economics Statistics (3 & 4) 1st term Mathematics, 3
12-1	1 2 3 4	Accountancy French	English Economics, 33 Mathematics, 3	Accountancy French Mathematics, 3 Economics	English Economics, 33	Accountancy French Economics	Mathematics, 3 Economics, 33
2-3	1 2 3 4	Chemistry	Biology	Chemistry	Biology	Chemistry	Biology
3-4	1 2 3	Physics	Biology	Physics	Biology	Physics	Biology
4-5	1 2 3 4	A line of the lin	anity of the second	Physics	L basiques		the tree
5.30-7	Candida Candida Candida	Accountancy (Final) 7.30 to 9 p.m.	3 and 4 Commercial Law	Accountancy (Inter) Mathematics (Final) Actuarial Science	3 and 4 Commercial Law; (Inter); Account- ancy (Final) 7.30 to 9.00 p.m.	Mathematics (Inter.) Economics (Final)	per ban per ban danse

## SCHOOL OF COMMERCE Lecture Time Table, 1929–1930

#### DEGREES AND EXAMINATIONS IN APPLIED SCIENCE

# FACULTY OF APPLIED SCIENCE DEGREES, EXAMINATIONS AND SOCIETIES

## 1. DEGREES

The degrees conferred by the University upon such undergraduates of the Faculty as fulfil the conditions and pass the examinations hereinafter stated are "Bachelor of Architecture" (B.Arch.) and "Bachelor of Science" (B.Sc.), mention being made in the diplomas of the latter of the particular course of study pursued.

Students who take the Bachelor of Science degree in one of the courses provided by the Faculty may graduate in any of the remaining courses by attending one or more subsequent sessions and passing the prescribed additional examinations.

#### PRIVILEGES OF THE HOLDERS OF THESE DEGREES

Among the privileges enjoyed by graduates in Applied Science, the following may be specially mentioned:—

(1) By a resolution of the Institution of Civil Engineers (England) the holders of the degree of B.Sc., in the courses of civil, electrical, mechanical and mining engineering, who are desirous of becoming Associate Members of the Institution, may under certain conditions be exempted from the examination prescribed for admission to the Institution.

(2) By the Dominion Lands Surveys Act, any graduate in civil or mining engineering may have his term of apprenticeship for the Dominion Land Surveyors' certificate shortened from three years to one.

(3) The McGill School of Architecture is one of the schools recognized by the Royal Institute of British Architects, and the instruction given meets the requirements of the Board of Architectural Education of that body. Students who obtain the degree of B.Arch. are exempted from the final examination for the associateship of the Royal Institute excepting in the subject of Professional Practice, in which they are required to take a paper set by the Institute's examiners. On passing this they are eligible for candidature as Associate R.I.B.A.

The Province of Quebec Association of Architects admits holders of the degree of B.Arch. to membership and thereby to practice in the Province, on passing an examination in design after spending one year in the office of a member of the Association. This office experience may be gained by work during the summer vacations.

#### 2. EXAMINATIONS

1. Final examinations are held in all lecture subjects. Class examinations, for which credit may be given in the sessional standing, are held from time to time, at the option of the professor.

#### FACULTY OF APPLIED SCIENCE

2. Students who have failed in one or more subjects of the curriculum shall (except in cases where they are called upon to repeat their year) be required to make good their standing by passing :--

- (a) the regular supplemental examinations held immediately before the opening of the session, or
- (b) the final examinations in a subsequent session, or
- (c) special examinations, which shall be given only under exceptional circumstances and by authority of the Faculty.

3. The pass standard in examinations in subjects in which the candidate has already failed twice is sixty per cent, and an unexcused absence from a sessional examination will be regarded as a failure in this connection.

4. Failures in drafting and laboratory subjects may under certain conditions be made good by attending special classes during the late afternoons of the first two months of the following session. These classes must be completed and the results reported to the Faculty on or before December 1st.

5. No undergraduate will be allowed to take instruction in any subject until he has passed the examinations in the necessary prerequisite subjects, for particulars regarding which see page 309.

## 3. ENGINEERING SOCIETIES

1. Students in all departments of engineering are strongly recommended to become student members of the Engineering Institute of Canada, which they can do on payment of a fee of \$3.00. They are then entitled to the monthly journal of the Institute, and to the use of the Institute's rooms, 2050 Mansfield Street, and have a right to attend the weekly meetings.

Students are invited to compete for the prizes, which are offered by the Institute.

2. Students in Mining and Metallurgy are strongly recommended to become members of the McGill Mining and Metallurgical Society, which, although a student body (see page 301), is affiliated with the Canadian Institute of Mining and Metallurgy, the headquarters of which are in Montreal. Members of this Society receive the Monthly Bulletin of the Transactions of the Institute without extra expense, and are entitled to attend all meetings and to compete for the prizes offered.

#### ADVANCED STANDING FOR GRADUATES IN ARTS

## ADVANCED STANDING FOR GRADUATES IN ARTS

## (1) Graduates in Arts proceeding to the Degree of Bachelor of Architecture,

Students who have received the degree of B.A. from McGill University may enter the Second Year in Architecture under the following conditions:—

- (a) They must have passed in the following subjects in the Faculty of Arts:-Mathematics 1, 2; Physics 1, 2; History 1.
- (b) Not later than October 10th of the Third Year in Arts (two years before entering Applied Science) they must consult the Head of the School of Architecture and arrange for tuition in Architectural Drawing, Freehand Drawing and Architectural Geometry. They must report to him from time to time and give evidence of, or pass tests in, the work they are doing. These subjects will be taken either as private tuition or in the regular classes, as may be arranged.
- (c) The regular school in Surveying Fieldwork must be taken for two weeks immediately following the Fourth Year in Arts, and two additional weeks of Fieldwork in the following September.
- (2) Graduates in Arts proceeding to the Degree of B.Sc. (Applied Science).

Students who have received the degree of B.A. from McGill University may enter the Second Year of the Engineering Course in the Faculty of Applied Science under the following conditions:—

- (a) They must have passed in the following subjects in the Faculty of Arts:—Chemistry 1; Mathematics 1, 2 and 4A; Physics 1, 2 and 4.
- (b) Not later than October 10th of the Third Year in Arts (two years before entering Applied Science) they must consult the Professor of Drawing and arrange for tuition in Descriptive Geometry, Freehand Drawing and Mechanical Drawing. They must report to him from time to time and pass the prescribed tests in these subjects.
  - (c) Similar arrangements must be made with respect to Engineering Problems, or else the regular class must be taken.
  - (d) The regular school in Surveying Fieldwork must be taken for two weeks immediately following the Fourth Year in Arts, and two additional weeks of Fieldwork in the following September.

#### FACULTY OF APPLIED SCIENCE

## COURSES OF INSTRUCTION

The instruction in this Faculty is designed to afford a thorough training of a practical as well as theoretical nature, in the following branches of Applied Science:—

I.—ARCHITECTURE.

II.—CHEMICAL ENGINEERING.

III.—CIVIL ENGINEERING.

IV.-ELECTRICAL ENGINEERING.

V.—MECHANICAL ENGINEERING.

VI.-METALLURGICAL ENGINEERING.

VII.-MINING ENGINEERING.

Details of graduate courses are stated, following the lists of subjects given by the different departments. See also the announcement of the Faculty of Graduate Studies and Research. A course is also offered in Engineering Physics, particulars of which are given on page 256.

#### CURRICULUM

The curriculum as laid down in the following pages may be changed from time to time, as deemed advisable by the Faculty, and in no case shall it be binding beyond the session covered by this calendar announcement.

Four years of study are required for a degree in any branch of Engineering, and five years for the degree in Architecture.

The degree in Engineering will not be conferred upon any candidate until he has passed the prescribed examinations of his course, and has submitted satisfactory evidence to the Faculty of having had at least six or eight months of experience in practical engineering work. Similar regulations apply to the degree in Architecture. The conditions regarding practical work in the School of Architecture are set forth under the heading of Summer Work, Course 50, on page 267. Forms, obtainable from the Dean's Office, must be signed by the employer and returned at the opening of the session.

The work prescribed for the first two years is the same in all courses, except in that leading to the degree of Bachelor of Architecture (Course I).

The first two years of the Engineering courses (II to VII) are mainly devoted to mathematics, mechanics, physics, chemistry and drawing, as it is deemed necessary that students in these courses should master the general principles underlying scientific work before commencing the professional subjects.

In certain courses, students are required to attend Summer Schools following the completion of the work of the session in the First, Second, and Third Years. For details see page 257.

The regular work of the session 1929-30 will begin on September 30th, 1929, and will end on May 29th, 1930.

#### COURSE IN ARCHITECTURE

#### I. ARCHITECTURE

The course for the degree of Bachelor of Architecture extends over five years. Full information is given in the Announcement of the School, which will be sent to interested persons upon request to the Registrar of the University.

An essay on an historical or theoretical subject is required in each term from all students following the historical or theoretical courses.

In all courses studio work goes hand in hand with oral teaching, with a view to the practical application of the theory, while at the same time affording opportunity for the acquisition of power in draughtsmanship and practice in design.

FIRST YEAR.

SUBJECT	Subject Number	Lectures per week		Drau Roor other per	For details see	
		First Term	Second Term	First Term	Second Term	page
Algebra Geometry Trigonometry. Mechanics. Physical Education. Physics Lab Elements of Architecture. Architectural Geometry I. Building Construction I. Architectural Drawing. Freehand Drawing. *Surveying Fieldwork.	Arts, 1 Arts, 1 194 Arts, 44 Arts, 45 5 18 23A 33 38 347	···· ··· ··· ··· ···	···· ··· ··· ··· ··· ···	··· ··· ··· ··· ··· ··· ··· ··· ··· ··	··· ··· ··· ··· ··· ··· ··· ··· ··· ··	265 265 265 288 303 305 305 262 267 265 266 267 306

\*This subject is counted as part of the Second Year Curriculum, but the work is done in the four weeks immediately following the close of the First Year examinations. (See pages 257 and 306.

Any undergraduate student of the First Year in the course of Architecture who at the close of the first term has failed to obtain an average of 33 per cent in the following five subjects, viz.: mechanics, geometry, trigonometry, physics and architectural drawing, may be required to withdraw from the Faculty.

Any other student of the First or any subsequent year, whose record is found to be unsatisfactory, may at any time be required to withdraw from the Faculty.

All students of the First Year in the School of Architecture who have passed their course of study without serious interference due to personal illness, domestic affliction or urgent affairs, and who fail in more than three subjects of the First Year, in which standing is determined by sessional examinations or in three such subjects aggregating over 300 possible marks, shall be required to repeat the work of the First Year, and while so doing shall be debarred from taking any more advanced work.

#### FACULTY OF APPLIED SCIENCE

SECOND YEAR.

SUBJECT	Subject Number		ures week	Draug Room other p	For details see	
request to the Registrat	rumber	First Term	Second Term	First Term	Second Term	page
Design A. Elements of Composition. Building Construction II. Building Details. Arch. Engineering I. Arch. Eng. (Draughting) I. History of Classic Arch. Arch. Geometry II. Surveying. Mapping. Freehand Drawing. Physical Education. Summer Work. Surveying Field Work. Architectural Essay.	$ \begin{array}{r} 1\\ 6\\ 24\\ 25\\ 26\\ 27\\ 14\\ 19\\ 346\\ 348\\ 39\\ \vdots\\ 50\\ 347\\ 46\\ \end{array} $	··· i 1 ··· ··· ··· ···	··· 1 1 ··· 2 ··· 2 ··· ··· ···	3  2  1  1  3 8 	3  2  1  1 3 3 8  	262 265 265 265 265 265 264 267 306 267 303 267 306 267 306 267

\*Surveying Field Work is done in the four weeks immediately following the close of the First Year examinations in April. In the case of students entering from other Universities, this work should be done before entering the Second Year in Summer Schools, as shown on page 257.

All students of the Second Year in the School of Architecture who have pursued their course of study without serious interference due to personal illness, domestic affliction or urgent affairs, and who fail in subjects aggregating not less than 350 possible marks, shall be required to repeat the Second Year.

THIRD YEAR.

SUBJECT	Subject Number		week	Draug Room other per	For details see	
SUBJECT	Iquinper	First Term	Second Term	First Term	Second Term	page
Design B	2	•;		4	4	262
heory of Design <sup>®</sup> rch. Engineering, II A	28	1	1			263 265
rch. Eng. (Draughting), IIA. istory of Mediaeval or Re-				1	1	265
naissance Arch.†	15 or 16	2	2	Patting		264
	11 and 12	1	1	1	1	263
uilding Materials	34	1	1	• • •		266
reehand Drawing	40 35			10.04000	1	267 266
chitectural Essay	47	10.000	1 tool	STATIST.		267
ummer Work and School					and a second the	267

\*The courses on Theory of Design and Theory of Planning, numbers 7 and 8, will be given in alternate years. †The courses on Mediaeval and Renaissance Architectural History, numbers 15 and

16, are given in alternate years. During the Session 1929-30, the History of Renaissance Architecture will be given. ‡Ornament and Decoration, courses numbers 9 and 10, and 11 and 12, are given in alternate years. During the Session 1929-30, numbers 9 and 10 will be given.

NOTE.—In the School of Architecture after two failures in any subject a third examination will only be granted after the student concerned has taken special tuition of an approved character.

For summer reading, see pages 259 and 267.

#### COURSE IN ARCHITECTURE

FOURTH YEAR

	FOURI	H IEAK		11.1.1.1		
SUBJECT	Subject Number	Lectures per week		Drau Ron other per	For details see	
	rumber	First Term	Second Term	First Term	Second Term	page
Design C	3			4	4	262
Theory of Planning*	3 8	1	1 1			263
Arch. Engineering, II. B	30	1	1			266
Arch. Eng. (Draughting), II B.	31			1	1	266
History of Mediaeval or Re-		Price and			14.	
naissance Architecturet	15 or 16	2	2			264
Ornament and Decoration <sup>‡</sup>	9 and 10 or		1.514		TANTAL	12
A Lin I D	11 and 12	1	1	1	1	263
Architectural Drawing	36			1	1	266
Freehand Drawing	41	1		1	1	267
Modelling	42 22			1	1	267
Architectural Essay	48	1				265 267
Summer Work and School	50	5	10.418			267
Summer Work and Schoor			1 1		1 1	207
	FIFT	H YEAR	010	and shink		
Design D	4	14 36 37	1.013	7	7	262

Design D	4			7	7	262
Modern Architecture	17	2	2			264
Professional Practice	32	2	2			266
Engineering Law	175	1 1	101			287
Architectural Drawing	37		1	1	1	266
Modelling	43	2	1.6.1.	i	Ĩ	267
Heating and Ventilation	23		1		1	265
Architectural Essay	49		Sec.			267
Summer Work	50		1.012		. writes	267

\*The courses on Theory of Design and Theory of Planning, numbers 7 and 8, will be given in alternate years.

<sup>+</sup>The courses on Mediaeval and Renaissance Architectural History, numbers 15 and 16, are given in alternate years. During the Session 1929-30, the History of Renaissance Architecture will be given.

<sup>‡</sup>Ornament and Decoration, courses numbers 9 and 10, and 11 and 12, are given in alternate years. During the Session 1929-30, numbers 9 and 10 will be given.

NOTE.—In the School of Architecture after two failures in any subject a third examination will only be granted after the student concerned has taken special tuition of a character approved by the Department.

For summer reading, see pages 259 and 267.

#### FACULTY OF APPLIED SCIENCE

#### **II. ENGINEERING COURSES**

The subjects of instruction in the first two years of the Engineering Courses (II to VII), and the number of hours per week devoted to each, are as follows:—

FIRST YEAR

SUBJECT	No.	Lectures	per week	Laborat Hours	For details	
		First Term	Second Term	First Term	Second Term	see" pages
Chemistry Descriptive Geometry	51&52 341	2	2	32	32	268 280 ·
Drawing—Freehand and Lettering	(342)	1	1	2	2	280
Drawing—Mechanical	340 80	931. RIS		3	3	280 273
History of Science	170 (191)	i	1			286
Algebra Aensuration Aechanics	192 193 194	6	6	3	3	287
hysics and Laboratory	311	2	2	2	2	305
hysical Education Surveying Fieldwork	347			3 00	23	303 306
Summer Reading	132					259

\*This subject is counted as part of the Second Year Curriculum, but the work is done in the four weeks immediately following the close of the First Year examinations. (See pages 257 and 306).

Any undergraduate student of the First Year, who at the close of the first term has failed to obtain an average of 33 per cent in the following six subjects:—chemistry, mechanics, plane trigonometry, algebra, physics, and descriptive geometry, may be required to withdraw from the Faculty.

Any other student of the First, or any subsequent Year, whose record is found to be unsatisfactory, may at any time be required to withdraw from the Faculty.

All students of the First Year who have pursued their course of study without serious interference due to personal illness, domestic offliction or urgent affairs, and who fail in more than three subjects of the First Year, in which standing is determined by sessional examinations, or in three such subjects aggregating over 350 possible marks, shall be required to repeat the work of the First Year, and while so doing shall be debarred from taking any more advanced work.

#### ENGINEERING COURSES FOR FIRST TWO YEARS

SUBJECT	Subject Number		tures week	Labor etc., per	For details see	
en of machinery, etc. considerable-amount, al-		First Term	Second Term	First Term	Second Term	page
Chemistry. Descriptive Geometry. Engineering Reports Materials of Construction Mathematics. Mechanical Drawing. Mechanics of Machines. Physics and Lab. Physical Education. Surveying. Surveying Fieldwork* Summer Essay or Reading	53 345 131 348 81 197-198 344 83 218 315-316 346 347 133	2 1  5  2  2  2 	2 1 1  4  2 1 2  2  	··· 2 2 3 ··· 3 2 ··· 2 3 ··· 2 3 ···	··· 2 2 3 ··· 3 2 2 2 2 2 2 2 	$\begin{array}{c} 269\\ 280\\ 286\\ 306\\ 273\\ 288\\ 280\\ 273\\ 288\\ 306\\ 303\\ 306\\ 306\\ 306\\ 260\\ \end{array}$

#### SECOND YEAR

\*Surveying Field Work is done in the four weeks immediately following the close of the First Year examination in April (about April 30th, 1930) (see pages 257 and 306). In the case of students entering from other Universities this work should be done in a special Summer School before entering the Second Year (see page 257).

All students of the Second Year who have pursued their course of study without serious interference due to personal illness, domestic afficition or urgent affairs, and who fail in more than four subjects of the Second Year, in which standing is determined by sessional examinations, or in such subjects aggregating over 400 possible marks, shall be required to repeat the Second Year.

#### FACULTY OF APPLIED SCIENCE

#### II. CHEMICAL ENGINEERING

The aim of this course is to prepare students for positions demanding a knowledge of both chemistry and engineering. The duties of a chemical engineer require him to be conversant with chemical processes and the installation of chemical units, and to understand the construction of buildings, the installation and operation of machinery, etc. Accordingly the course of study combines a considerable amount of engineering with the maximum of chemical training that can be attained without over-pressure.

Between the Second and Third Years, students taking this course must attend a Summer School of four weeks in the chemical laboratories.

In the Third Year specialization commences, the time being divided about equally between chemical and engineering studies, and in the vacation between the Third and Fourth Years all students must give at least six weeks to work in some chemical or engineering industry or to equivalent laboratory work satisfactory to the Professor of Chemistry.

In the Fourth Year the engineering studies are completed and the chemical studies which predominate are arranged in two alternative courses, as students cannot possibly study more than a few of the very varied chemical industries. These alternative courses fall broadly under one of two headings:—(a) inorganic, (b) organic, as indicated in the table below, one or other of which the student shall select. Should a student desire to prepare for an industry which requires more engineering knowledge than is provided in the regular course he may substitute additional engineering subjects for some of the chemical work. Details will be arranged on application to the Faculty through the Professor of Chemistry.

While every effort will be made to supply detailed information as to methods and plan of many of the important industries, and to provide facilities for experimentally carrying out the processes involved, the main aim will be to study the principles that underlie the application of chemistry to economical production.

#### FIRST AND SECOND YEARS

As in other Engineering Courses (see pages 242 and 243), with additional Summer School for students entering Third Year. (See page 257.)

## COURSE IN CHEMICAL ENGINEERING

SUBJECT	Subject Number		week	Labor etc., j per	For details	
		First Term	Second Term	First Term	Second Term	see page
Crushing and Grinding Mach Economics. General Elem. Metall. Inorg. Quant. Anal. & Lab Mech. Eng. and Lab. Mineralogy. Mineral. Deter. Organic Chemistry and Lab. Physical Chemistry.	171 262 61	2  1 2 2  3 2	··· ··· ··· ··· ··· ··· ··· ··· ··· ··	··· ·· ·· ·· ·· ·· ··	··· ··· ··· ··· ··· ··· ···	299 286 294 269 289 285 285 285 269 269
Strength of Materials and Lab Structural Engineering Summer School, Inorg. Qual. Anal. and Lab. Summer Essay or Reading.	87-88 90 54 and 55 133	2	2 1 	bing isong c er b	1 1	274 275 269 260

# THIRD YEAR.

‡See page 257.

FOURTH YEAR.

Adv. Inor. Chem	111-112	2(a) 2(b) 2 2 2	2(a) 2(b) 2† 2	4(b)  1 1	··· ·· ·i	27 270 272 272 272 281
Engineering Economics Engineering Law Fire Assaying and Lab Quantitative Organic Chem History of Chemistry	172 175 273 73 74	2 1 1(a) 	'i i(b) 1	 1(a) 	 4(b)	287 287 295 270 272
Hydraulics Industrial Inorg. Chemistry. Industrial Organic Chem Inorganic Laboratory	69 67	1 2 i(a)	··· ·2 ··	i/2  2(a)	  3(a)	277 272 272 272 271
Metallography and Lab Phys. Chem. and Lab Summer Essay	282 66 134	<sup>1</sup> / <sub>2</sub> (a) 3	·:3 	1/2(a) 1 	·: 2	297 271 261

\*The hours required for laboratory work in this course will be taken from time assigned to subjects 65 or 67.

(a) Inorganic alternative. (b) Organic alternative.

† Optional.

#### FACULTY OF APPLIED SCIENCE

#### III. CIVIL ENGINEERING

The courses of study are designed to emphasize the fundamental principles embodied in the study of mechanics, strength of materials, and hydraulics, while at the same time affording an opportunity of applying these principles to practical problems ranging over as wide a portion as possible of the field covered by the practice of civil engineers. A broad and sound foundation is thus laid for future specialization, either in graduate courses or in actual practice. The outlook of the student is further broadened by courses in Mechanical and Electrical Engineering. In the Fourth Year an alternative course is provided for students looking forward to municipal engineering or city management. In the designing courses special attention is given to the interpretation and critical discussion of specifications as well as to the economical principles involved. Students are recommended to obtain as much practical experience as possible during the summer vacation, and are specially recommended to spend at least one season in a drafting office before the final year.

#### FIRST AND SECOND YEARS

As in other Engineering Courses (see pages 242 and 243), with additional Summer School for students entering Third Year. (See page 257.)

### COURSE IN CIVIL ENGINEERING

SUBJECT	Subject		ures week	Labor etc., per	For details see	
	Number	First Term	Second Term	First Term	Second Term	page
Economics Foundations. Geology, General. Highway Engineering. Hydraulics and Lab tMap Projections (alt.). Mech. Eng. and Lab Mechanics Railway Eng. tSanitary Science (alt.) Strength of Mats, and Lab Structural Eng. Surveying Surveying field Work Summer Reading or Essay.	$\begin{array}{c} 171\\ 89\\ 141\\ 85\\ 97-98\\ 351\\ 226, 228\\ 86\\ 92-93\\ 82\\ 87-88\\ 90\\ 353\\ 354\\ 133\\ \end{array}$	··· 1 3 ··· 2 2 2 2 1 2 ··· 2 2 2 1 2 ··· 2 2 2 2 1 2 ··· 2 ··· 2 ···	2 1 3 2  2  2 1 2  2 1 2 	··· ··· ··· ··· ···	··· ··· ··· ··· ··· ··· ··· ···	286 274 284 275 275 307 289 274 275 274 275 274 275 307 307 260

THIRD YEAR

†Map Projections (351) is alternative with Sanitary Science (82).

Elements of Elec. Eng. & Lab	111-112	2	2	1	110	281
Engineering Economics	172	2			1	287
Engineering Law	175	1	1			287
Geodesy and Lab	359. 360	2		1		307
†Geodetic Fieldwork	361					307
Strength of Materials	95	2	1		1	276
Theory of Structures	94	1	2	1	2	276
and either				120100		
( Bridge Design	96	2	2	2	2	276
Hydraulic Machines	99		2			277
Municipal Engineering	101	2	2		1	277
					1	1
/ Bridge Design	96a	2	2	2	1	277
Civic Administration	104	1 1		1.6. 7.5.8	-	278
Waste Disposal	103	1 1				278
Water Sup. and Sewerage	102		3		2	277
Summer Essay	134			1		261

## FOURTH YEAR

†See page 257.

### IV. ELECTRICAL ENGINEERING

The electrical courses of the Third Year cover a consideration of current flow, the principles of electro-magnetism and electrical measurements.

A course in the design and performance of electrical machinery is followed by the study of alternating currents.

The Fourth Year is devoted almost entirely to Electrical Engineering studies.

Technical courses cover the generation, transmission and distribution of electric power, and include lectures and laboratory work on direct and alternating current phenomena, the performance and design of electrical machinery, electric lighting and the various systems of power distribution and transmission. Courses are given on central station design, electrical traction systems, hydro-electric power development, electro-chemistry, electrical measurements and communication engineering.

Visits are made to electrical works and power plants.

### FIRST AND SECOND YEARS

As in other Engineering Courses. (See pages 242 and 243.)

### COURSE IN ELECTRICAL ENGINEERING

SUBJECT	Subject		tures week	Labor etc., p per	Fo details	
	Number	First Term	Second Term	First Term	Second Term	see page
Mathematics Economics Electrical Engineering Electrical Engin. Lab Machine Design Mech. Eng. and Lab Mechanics Thermodynamics. Strength of Mats. and Lab Physics Summer Reading or Essay	201 171 113 114 225 223,226 86 229 87, 88 318 133	2  2 2 2 2 2 2 	··· 2 4 ·· 2 2 2 2 2 2 2	··· ·· ·· ··	··· ··· ··· ···	288 286 281 289 289 274 290 274 306 260

### THIRD YEAR.

### FOURTH YEAR.

NUMBER OF STREET, STRE		In the Party				
Applied Electro-Chem	70	2	-15.6.1	10-201-8	13(72)	272
Electric Traction	121	4			A LAND MAN	272
Electric Hachon		**	4			282
Electrical Design & Problems	122	1	and I and	1 1	2	282
Electrical Engineering	117	4	4		P	282
Electrical Engineering Lab	118	-	di	3	3	282
Electrical Measurements & Lab.	124	2		1	1	283
Engineering Economics	172	2	a marila	Darren In	i anita	287
Engineering Law	175	1	1			287
Summer Essay	134	ni toprete t	and a start	10 23 -24	10 10 221	261
and either						201
Applications of Electricity	123	and and	3	interne i	T-STY MARK	283
Elec. Light & Power Distr	120		5			
Hydraulics & Lab		4	1 1 1 1 1 1 1 1 1 1 1	0 2:30		282
Aydiaulics & Lab	97, 98	2		1		275
Machine Design	243		2	123823111	170-1-121	291
or	The second	a la companya da si				
Applications of Electricity	123	122000	3	brit. m	1 2 2 2 2 2 2	283
Electric Light & Power Distr	120	2				282
Communication Engineering.	125	2	2	1	512313	283
or				1201		200
Hydraulics & Lab	97.98	2	18.00	A TAY	CONTRACTOR OF	275
Machine Design	243		2			291
Communication Engineering.	125		2	0.12 2	STORE OF	283
( communication Engineering	125	2	4			20.3
		Contraction of the second	and the second second		Property March 1999	

#### V. MECHANICAL ENGINEERING

Undergraduates entering the Third Year Mechanical Engineering course may elect one of three courses; that embracing Mechanics of Machines and advanced Thermodynamics, or Calculus and advanced Strength of Materials, or Accounting and Industrial Engineering.

The subjects of instruction in this Department are of interest to students who are likely to take up work connected with:--

(a) The constructive or manufacturing side of mechanical engineering, including industrial or production engineering; (b) steam engineering; (c) gas engine and producer work; (d) power plant engineering; (e) heating and ventilation of buildings and factories; (f) æronautics and ærodynamics.

Courses are given during the Third and Fourth Years in mechanical engineering as applied to questions connected with power installations and prime movers. The earlier portion of this work is supplementary to the instruction given in thermodynamics, mechanics of machines and machine design, and leads up to the more advanced or technical subjects of power plant design, industrial plant design and works organization.

Students in the Department of Mechanical Engineering take work in electrical engineering during the Third Year.

Instruction in workshop practice is given in the Third and Fourth Years. This work is of a systematic nature, and is intended to prepare for, but by no means to replace, that practical experience of manufacturing operations on a commercial basis which every mechanical engineer must obtain for himself.

The course in thermodynamics deals more particularly with the theory of heat engines, and time is assigned for additional graphical and experimental work in connection with the subject.

Arrangements are made for occasional visits to power plants and manufactories of importance.

#### FIRST AND SECOND YEARS

As in other Engineering Courses (see pages 242 and 243), with additional Summer School for students entering Third Year. (See page 257.)

#### COURSE IN MECHANICAL ENGINEERING

SUBJECT	Subject		ures week	Labor etc., p per	For details	
	Number	First Term	Second Term	First Term	Second Term	see page
*Accounting (alt.). Economics. Elements of Elect. Eng. and Lab. Industrial Engineering. Machine Design. Mechanical Drawing. Mechanical Drawing. Mechanics. *Mechanics. *Mechanics. *Mechanics. *Mechanics. *Mechanics. *Thermodynamics. Structural Engineering. Thermodynamics. ‡Summer School. *Calculus Alt. Summer Reading or Essay	238 171 111-112 237 225 231 227, 228 86 224 236 87, 88 90 92 233 233 201 133	2  2 2 2 2  2  2  2  2 	2 2 2  2  2  2  2  2  2 	1/3  1  2 1 1/3 1   	1 1 1 1 1 1 1 1 1 1  	291 286 281 290 289 290 289 274 289 290 274 275 290 290 290 288 260

#### THIRD YEAR

\*Alternative with Mechanics of Machines (224); one or other of these subjects must be taken.

‡See page 257.

Students wishing to take Industrial Engineering IV (253) must take Accounting (238). Students taking Aero-dynamics option take Calculus 201.

Designing. Engineering Economics. Engineering Law. Experimental Eng. Heat. and Vent. of Buildings. Hydraulics and Lab. Hydraulic Mach. **Industrial Angineering. *Industrial Engineering. *Industrial Relations. Machine Design. Power Plant Design. *Mech. Eng. Lab. **Mech of Mach. Shopwork. *Thermodynamics.	172 175 257 247 97, 98 99 254 253 258 242 244 249 2499 2499 2499 240 252 251	······································	··· i i i i ··· i i ··· ·· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ··· ···· ···· ···· ···· ···· ···· ···· ···· ···· ···· ···· ···· ···· ···· ····· ····· ····· ····· ······	1   1  1  1  1  1  1    1   1                                                                                                                                                                                                                                                                                                                                                                                                       	1   1 1  1  1  1  1   1   1   1                                                                                                                                                                                                                                                                                                                                                                                                       	291 287 287 292 291 275 277 293 293 293 293 293 291 291 292 292 292 292 292
Summer Essay ***Strength of Materials	134	· . 2	•••			261 276

#### FOURTH YEAR

\* Either courses (253) and (249a) or (251) and (249) must be taken.

\*\* Either courses (240) or (254) and (258) must be taken.

\*\*\* Students taking Calculus (201) take Strength of Materials (95).

### VI. METALLURGICAL ENGINEERING

This course is designed for students intending to enter metallurgical works, such as steel works, smelting or refining plants, foundries, rolling mills, etc., or the metallurgical inspection, testing or research departments of large engineering works.

The course of instruction provides: 1st, a general scientific and engineering education; 2nd, more advanced work in inorganic, physical and electro-chemistry and chemical analysis, which subjects are essential for a metallurgist; 3rd, as much mechanical, electrical and hydraulic engineering as time will permit; 4th, a course in the allied subjects of geology, ore deposits and mining; 5th, a full course of instruction in the various branches of metallurgical engineering and the closely related subjects, mineralogy, ore-dressing and fire-assaying.

Between the Second and Third Years there is a four-weeks' Summer School in qualitative analysis in the Chemical Laboratory, beginning about the 1st of September.

In the Third Year instruction is given in economics, chemistry, physical chemistry, assaying, geology, mineralogy, mining, ore-dressing, metallurgy, and mechanical and structural engineering.

A Metallurgical Field School is held after the April examinations of the Third Year. In this school the students pay visits to a number of metallurgical plants under the guidance of the department and officials of the plants visited, and make a careful study of the design and operation of each.

Students are expected to obtain employment in some metallurgical works during the summer before entering the Fourth Year, and must have had experience in metallurgical work before graduation. Suitable employment can usually be obtained at the end of the Field School.

In the Fourth Year instruction is given in chemistry, electrochemistry, electrical engineering, law, economics, hydraulics, metallurgy, electro-metallurgy, metallography, ore deposits and ore-dressing. Metallurgical designing and laboratory work form important parts of the course.

Laboratory accommodation is provided for graduate students who wish to do advanced work in some branch of metallurgy in preparation for the M.Sc. degree, and a Research Fellowship is available each year for some graduate student who shows marked ability for such work.

#### FIRST AND SECOND YEARS

As in other Engineering Courses (see pages 242 and 243). A Summer School in Chemistry must be taken before the beginning of the Third Year. (See page 257.)

## COURSE IN METALLURGICAL ENGINEERING

SUBJECT	Subject	Lectures per week		Labo etc., p per	For details	
	Number	First Term	Second Term	First Term	Second Term	see page
Economics Fire Assaying and Lab Geology, General Gen. Elem. Metail. & Lab. Inorg. Quant. Anal. and Lab. Meth. Eng. and Lab. Mineralogy. Mineralogy, Determinative. Mining Engineering. Ore Dressing and Lab Physical Chemistry. Strength of Mats. and Lab Structural Engineering. Summer School, Inorg. Qual. Anal. and Lab.	$\begin{array}{c} 171\\ 263, 264\\ 141\\ 261\\ 62\\ 226, 228\\ 265\\ 142\\ 143\\ 291\\ 292, 295\\ 58\\ 87, 88\\ 90\\ 54, 55\\ 133\\ \end{array}$	··· ··· ··· ···	2 1 3  2 1 2  2 1 2  1	··· ·· ·· ·· ·· ·· ·· ·· ·· ··	··· **********************************	286 294 284 209 269 285 285 285 285 299 209 269 274 275 269 260

THIRD YEAR

\$See page 257. And and and and and any second the ball the ball the second second

And Flat Flat Of State			1		1	1
Applied Electro-Chemistry	70	2				272
Elem. Elec. Eng. and Lab	111, 112	2	2	1	1	281
Electro-Metal. and Lab	275		2	/	1	295
Engineering Economics	172	2				287
†Engineering Law	175	1	1			287
General Metallurgy	271	2	2			295
Hydraulics and Lab	100	1		1/2		277
Industrial Chemistry, Inorg	68	2		A PROPERTY AND		272
Inorganic Lab	67	1	No. of the second se	3		271
Metallurgy, Advanced	272	2	2	P. more	Rec. 2	295
Metallurgical Lab. and Thesis	274				3	296
Metallurgy Colloquium	277	1	1			296
Metal Calcs. and Design	278	1				296
†Metallurgical Analysis	279	2.11	1		1	297
Metallography and Lab	280, 281	1	100			297
Ore-Dressing and Lab	300, 305	2		1		
Ore Deposits (alt.)	148	1	1	1		300
*Metallurgical Field School	267		*		••	295
Summer Essay	134	• • •				295
Summer Essay	134					261

FOURTH YEAR

fStudents taking Ore Deposits omit Engineering Law (175) and Metallurgical Analysis (279).

\*Metallurgical Field School (267) is taken at the end of the Third Year. See page 295. For Summer Schools, see pages 257 and 295.

#### VII. MINING ENGINEERING

The work of the Third Year is largely in general engineering subjects such as applied mechanics, electrical engineering, mechanical engineering, geology, mineralogy and surveying, but courses of special interest to Mining Engineers are introduced in ore-dressing and elementary mining and metallurgy.

The Fourth Year, on the other hand, is very largely given up to technical work in mining, ore-dressing, economic geology and metallurgy, and includes the equivalent of nearly three full days per week in the laboratories and drafting room of the Mining Department. In the second term each student is required to prepare a thesis giving the result of an extended individual experimental investigation.

A Field School in mining, ore-dressing and geology is held between the Third and Fourth Years, the work ordinarily beginning immediately after the close of the April examination. The students spend at least three months in actual mining work and during this time are visited by members of the staff and given instruction in the geology, mining, ore-dressing and metallurgy of the district. Local mines and plants are critically studied and, whenever possible, the students are taken on trips to nearby districts. As far as conditions permit, Second Year students who intend to enter the mining course will be given the benefit of participation in this summer school.

Facilities are also afforded to graduate students who wish to do advanced work in mining or ore-dressing, and the Department possesses three endowed research fellowships open to graduates who show exceptional ability. (See page 301.)

#### FIRST AND SECOND YEARS

As in other Engineering Courses (see pages 242 and 243), with additional Summer School for students entering Third Year. (See page 257.)

### COURSE IN MINING ENGINEERING

THIRD YEAR.

SUBJECT	Subject		tures week	Labor etc., j per	For details	
the and no Development	Number	First Term	Second Term	First Term		see page
Economics Fire Assaying and Lab. Geology, General. Inorg. Qual. Anal. and Lab. Mech. Eng. and Lab. Sen. Element. Metall. Mineralogy. Mineralogy, Determinative. Mining Engineering. Dre Dressing. Strength of Mats. and Lab. Structural Engineering. Surveying Surveying Field Work. Elect. Engineering. Jummer Reading or Essay.	171 263, 264 141 59, 60 226, 228 262 142 143 291 292, 295 87, 88 90 352 354 111, 112 133	··· ··· ··· ··· ··· ··· ··· ···	2 ··· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·	··· <sup>1</sup> / <sub>2</sub> <sup>2</sup> 1 ··· <sup>2</sup> ··· ··· ··· ··· ··· ···	··· 2 2 2 5 ··· ··· ··· ··· ···	286 294 284 269 289 285 285 285 299 299 274 275 307 307 281 260

\*The lecture hour assigned to this subject is taken from the afternoon laboratory periods.

† See page 257

Mine Design. Engineering Law Geology of Canada. Hydraulics. Ilnorg. Quantitative Anal. Metallurgy, General Mining Engineering Mining Colloquium. Ore Dep. and Econ. Geol. Ore-Dressing and Milling. Ore-Dress, Lab. and Thesis Petrography and Lab. Mining Field School. Mine Mapping. Summer Essay. Mine Design..... 298 2 300 172 175 ż 287 287 ï 1 175 149 100 71 271, 284 283 297 301 286 1/2 4 277 272 295 297 1 1 ·i 2 21 3 3 300 300 i 148 4 285 300 2 1 :3 305, 306 146, 147 294 293 11/2 300 · i 1 1 285 302 ii 200 .. .. 134 261

FOURTH YEAR.

<sup>‡</sup>The lecture hour assigned to this subject is taken from one of the afternoon laboratory periods.

Norg.—Surveying Field work, between the Second and Third Years. See pages 257 and 307.

Mining Field School at end of Third Year. See page 302.

## COURSE IN ENGINEERING PHYSICS

There is an increasing demand for men with an advanced knowledge of mathematics and physics who are capable of conducting investigations of a research character. With a suitable training, openings in this field of work may be found in research laboratories of the Government and of electric corporations, in consulting work, and in University appointments. A course in Engineering Physics leading to the Degree of B.Sc. in Arts has therefore been arranged, and is open to capable students in Arts or Applied Science. A student who has completed his Second Year in the Faculty of Applied Science and has received first or second class rank in mathematics and physics may join the course in Engineering Physics, as outlined below, subject to the approval of the Heads of the Departments of Electrical Engineering and Physics.

Third Year.—Mathematics 5, 6; Physics 5A, 5B, 6B (or 8B); Electrical Engineering 113, 114.

During the summer at the end of the Second Year, students are advised to spend three months at an approved shop, radio or research station.

Fourth Year.—Mathematics 10 or 11; Physics 6A, 7A, 7B, 8A and 8B (or 6B); Summer Thesis or Shop Work.

The student may now receive the degree of B.Sc. (Arts), with honours in Mathematics and Physics. In the Fifth Year the student should take selected subjects from the Fourth Year course in Electrical Engineering, as shown on page 281 and also Physics 9 and 10 and one of 11, 12, 13, 14, 17, as shown in the Arts Announcement, and proceed with research work and a thesis with a view to an M.Sc. degree.

The course therefore requires five years and may require six. During the last year (the sixth), opportunity may sometimes be afforded to act as demonstrator with a salary.

Students who have passed the courses of the first two years of the Faculty of Applied Science as stated above and have obtained the degree of B.Sc. (Arts) in Engineering Physics as outlined, may proceed in a fifth year to the degree of B.Sc. in Electrical Engineering in the Faculty of Applied Science, provided that they have completed the following courses in that Faculty:—Communication Engineering (125), [or, as alternative, Electric Light and Power Distribution (120) and Applications of Electricity (123)], together with Nos. (87), (88), (97), (98), (117), (118), (122), (223), (225), (226).

These courses may be spread over more than one session, and application to proceed to the degree in the Faculty of Applied Science should be made to the Dean not later than the end of the Third Year course in Engineering Physics so that suitable arrangements may be made.

#### SUMMER SCHOOLS

### SUMMER SCHOOLS

Undergraduates are required to attend Summer Schools as specified below. These are usually held immediately after the regular April sessional examinations, and the work is set forth in detail under the subject numbers referred to.

Except as noted, classes are expected to begin on or about April 30th and close about May 26th.

COURSE	Stud enter Second	ring	Students entering Third Year		Students entering Fourth Year	
	Subject No.	Page	Subject No.	Page	Subject No.	Page
rchitecture. hemical Engineering. lvil Engineering. lect. Engineering. Aechanical Engineering Atallurgical Engineering	347 347 347	306 306 306 306 306 306 306 306	†50 *54, 55 354 *233 *54, 55 354	267 269 307 293 269 307	†50 361  267 294	269 307  295 302

This school will be held in September, 1929, and will last a little over two weeks. Particulars as to dates, etc., must be obtained from the Head of the Department.

\*These Schools commence on Sept. 3rd, extend over a period of four weeks, and are held with the Special Summer Schools. See pars. (b) and (c) below.

#### NOTE.-SPECIAL SUMMER SCHOOLS.

As it is seldom practicable for students admitted to advanced standing in McGill University from other colleges to attend the May Summer School preceding the work of the year to which they are admitted, the following arrangements have been made for such students, but it must be understood that, except as noted in the table above, they apply only to students who have not previously been in attendance in the Faculty of Applied Science.

(a) Students entering the Second Year are required to attend a special Summer School in Surveying which extends from September 16th to 28th, inclusive, preceding the work of the Session. Additional work may be required in the following year, if necessary to cover the course.

(b) Students entering the Third Year of the courses in Chemical Engineering and Metallurgical Engineering are required to attend a Special Summer School in Chemistry which extends over a period of four weeks commencing Sept. 3rd.

(c) Students entering the Third Year of the course in Mechanical Engineering will be required to attend a Summer School in Mechanical Drawing and Machine Shopwork extending over a period of four weeks, commencing Sept. 3rd.

(d) Students entering the Third Year in the courses in Civil and Mining Engineering are required to attend a Special Summer School in Surveying from September 16th to 28th, inclusive, and in these courses further work in Surveying, to be specified by the Head of the Department, is required for a portion of the month of May following.

(e) Students entering the Third Year in the course in Electrical Engineering are required to submit evidence satisfactory to the Head of the Department, that they have been employed for a time, at least equivalent to one month of steady employment, in a first-class electrical shop during the vacation preceding their entrance into the Third Year.

(f) Students entering the Third Year or any subsequent year in the course in Architecture must submit evidence satisfactory to the Head of the Department that they have done work fully equivalent to that of the regular scheduled Summer Schools.

(g) Students entering the Fourth Year in the courses in Mining and Metallurgical Engineering are required to submit evidence that they have had practical experience in mining and metallurgical work at least equivalent in extent to the work done in the regular Summer Schools in these courses and should by correspondence in the preceding spring secure the approval of the Head of the Department concerned of the work which they propose to offer in place of the regular summer work.

## SUMMER WORK, SUMMER ESSAYS AND SUMMER READING

Students in Engineering are required to submit to the Faculty evidence of having had at least six to eight months of experience in practical engineering work before receiving their degree. Evidence of such employment must be submitted on forms obtainable at the Dean's Office, to be signed by the employer and handed in at the office not later than October 10th.

A similar regulation applies to students in Architecture, who must have had from eight to ten months of practical experience before receiving their degree. This experience must include work in an architect's office.

The requirements regarding summer essays, summer reading, or other prescribed work are given below.

### GENERAL REQUIREMENTS

Essays are regarded by the Faculty as a very important part of the curriculum and a high standard will be exacted. They will be judged by their subject matter, literary style and the evidence which they show of thoughtful and careful preparation.

The most acceptable subject for an essay is a critical description of the work on which the student is engaged during the summer, but a description of any engineering, scientific or industrial work with which he is familiar will be accepted. Students who secure summer engagements in engineering work should take advantage of every opportunity to gather material suitable for an essay.

No essay compiled from books alone will be accepted unless the student has obtained in advance the written approval of the Head of his Department as to the subject to be treated. Information obtained from books and other sources may, however, be used or even quoted verbatim, provided full acknowledgment be made and all quotations enclosed in quotation marks. Similarly, drawings, blue prints, etc., may be included in the essay, provided full acknowledgment is made.

The student should make acknowledgment of information or drawings regarding matters which have not come within his personal experience, by means of a letter attached to the essay.

Essays should be from 2,000 to 5,000 words in length in ordinary cases. They should be illustrated by drawings, sketches and, when desirable, by photographs, specimens, etc., and must be written on paper of substantial quality and of a size approximately  $8\frac{1}{2} \times 11$  inches.

#### SUMMER WORK AND ESSAYS

All essays will become the property of the department concerned and will be filed for reference. Students are, however, permitted to submit duplicate copies of their essays to the Engineering Institute of Canada or to the Canadian Institute of Mining and Metallurgy, in competition for students' prizes offered by these Institutes.

### STUDENTS IN ARCHITECTURE

During each summer vacation all students are required either to work for five weeks in the office of an architect or contractor, or prepare thirty-five reasonably large freehand sketches in any desired medium.

In addition, students entering the various years are required to fulfil the following requirements:—

### Second Year

Read and pass an examination on "Ancient Times"—J. H. Breasted (Ginn and Co., New York).

## Third and Fourth Years

Read and pass an examination on the following books, or submit an essay on a subject approved by the Head of the Department:—"A History of Everyday Things in England," Part II—Quennell (B. T. Batsford, London); "The Autobiography of Benvenuto Cellini" (Everyman's Library, Dent, London).

### Fifth Year

Read and pass an examination on the following books, or submit an essay on a subject approved by the Head of the Department:---

"Seven Lamps of Architecture," Ruskin (Everyman's Library, No. 207); "William Morris—His Work and Influence," A. Clutton Brock, No. 89, Home University Series (Williams & Norgate, London).

Examinations in Summer Reading will be held on or about the opening day of the session. Essays must be handed in at the Dean's Office not later than 5 p.m. on Thursday, October 10th. Details regarding the length and form of essays are given above. The number of marks assigned to the reading course and to the essay is the same.

#### STUDENTS IN ENGINEERING

### Second Year

132. Students entering the Second Year must either read and pass an examination on not less than four of the following books, or submit an essay on engineering work in which they have been engaged:—

Macaulay-Essays on Hampden, Walpole, Pitt, Chatham and Hastings,

No. 225, Everyman's Library (55c).

Strachey-"Eminent Victorians."

Chatto & Windus (\$2.25).

Farrand—"The Development of the United States." Houghton Mifflin Company (\$2.00).

Parkman—" LaSalle and the Discovery of the Great West." Little, Brown & Co. (1 Vol. \$2.00).

Kipling-" Captains Courageous."

Doubleday, Page & Co. (\$2.00).

George Eliot-"The Mill on the Floss."

No. 325, Everyman's Library (55c).

Bennett-" Old Wives' Tales."

Hodder & Stoughton, or Doran (\$2.00).

Conrad—" Typhoon," Heinemann (60c).

The essay, which should be approximately 2,000 words in length, must be illustrated and conform to the requirements for essays stated above.

## Third Year

133. Students entering the Third Year must either read and pass an examination on one of the following books, or submit an essay preferably on engineering work in which they have been engaged:— "Economic Development of Modern Europe"—Ogg (\$3.50, Macmillan) or "The Nature of the World and of Man"—chapters 1-7 inclusive and 12-14 inclusive (\$5.00, Macmillan).

Essays must conform to the requirements stated above except that they may be somewhat shorter, but not less than 2,000 words in length.

Students in Electrical or Mechanical Engineering who elect to write an essay, but are not engaged during the summer on engineering, scientific or industrial work which would be a suitable subject for an essay may write on one of the following subjects :---

*Electrical Engineering students.*—" The application of electric power to industrial establishments."

Mechanical Engineering students.—(1) Powdered fuel for power production. (2) Pulp and paper manufacture. (3) Heavy oil engines.

Students in Mining Engineering or Metallurgical Engineering who are unable to write on engineering work of which they have personal knowledge must take the summer reading.

#### SUMMER WORK AND ESSAYS

### Fourth Year

134. Students entering the Fourth Year are required to submit an essay, preferably on engineering work in which they have been engaged. Students in Electrical or Mechanical Engineering who are not engaged in work affording material suitable for an essay, may write on one of the following subjects:--

Electrical Engineering students.—(1) Generation of electric power; (2) long distance power transmission; (3) distribution of electric power; (4) electrification of railways.

Mechanical Engineering students.—(1) Power costs; (2) central station heating; (3) methods of increasing production in manufacturing; (4) exhaust steam turbines using steam at pressures below atmospheric.

Essays must conform in all respects to the requirements stated on page 258.

Examinations in Summer Reading will be held on or about the opening day of the session. Essays must be handed in at the Dean's Office not later than 5 p.m. on Thursday, October 10th. The number of marks assigned to the reading course and to the essay is the same.

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## SUBJECTS OF INSTRUCTION

The following courses are subject to such modification during the year as the Faculty may deem advisable.

## SCHOOL OF ARCHITECTURE

(RAMSAY TRAQUAIR (in charge of Department). PROFESSORS :-

PERCY E. NOBBS (in charge of Design).

ASSISTANT PROFESSOR :- F. P. CHAMBERS.

Special Instructor :--- E. Dyonnet.

SPECIAL LECTURERS :--- {LESSLIE R. THOMSON. P. J. TURNER.

## A.-Design

The course in Design is divided into four classes (A, B, C and D), intended to be taken in the Second, Third, Fourth and Fifth Years respectively. Advanced or backward students may be allotted to design classes to suit their individual requirements, irrespective of their standing in other subjects, but good standing in Class D must be obtained prior to receiving the degree.

1. CLASS A. Simple problems in composition of a monumental nature, not involving difficulties of plan.

2. CLASS B. The design of domestic and small public buildings.

3. CLASS C. The design of public buildings.

4. CLASS D. Problems involving the plan, structure and lay-out of complex buildings and groups of buildings. The diploma design for graduation is done in the second term.-Professor Nobbs.

### **B.**—Aesthetic

The theoretical courses are intended to develop a sense of critical judgment in the student, emphasizing the fundamental principles of composition and design.

5. THE ELEMENTS OF ARCHITECTURE (24 lectures).

The five orders of Vignola, pedestals, pediments, intercolumniation and superposition of orders, arches, vaults, domes, roofs, openings, etc. -Mr. Chambers.

6. THE ELEMENTS OF COMPOSITION (24 lectures).

Analogies in the arts; principles of composition, mass unity, balance, character, scale, proportion; symmetric and asymmetric grouping; ver-

#### ARCHITECTURE

tical and horizontal treatments; composition in plan, natural and axial; appreciation of intrinsic qualities of materials, value of textures, etc.— Mr. Chambers.

7. THEORY OF DESIGN (24 lectures).

(a) Principles of Aesthetic:—The history of æsthetic enquiry, perception, emotion, pleasure, pain and expression; the art impulse; beauty defined; the work of art; subject, emotional content and medium; the criteria.

(b) Application of Aesthetic:—Pure design; the function of ornament, "motif," the material treatment, the placing and classifications of ornament; the evolution of functional forms, analysis of conventional forms; the use of scale and proportion; corrections and refinements.

Students will read selected passages from the works of Santayana, Yrjö Hirn, Croce, Marshall, Geoffrey Scott, Baldwin Brown and Blomfield, etc.—Professor Nobbs.

8. THEORY OF PLANNING (24 lectures).

(a) Elements of Planning:-Dimensions, arrangements, scales, aspect, prospect, light, the structural bay, unit planning, axial planning.

(b) Domestic Planning:-Stables, cottages, housing, residences; country houses and gardens; apartment houses.

(c) Public Buildings:-Churches, halls, theatres, schools, libraries, hospitals, baths, fire stations, municipal buildings, etc.

Note:-The examples studied are selected from current architecture. -Prof. Nobbs.

Courses 7 and 8 will be taken in alternate years until further notice.

9, 10, 11 and 12.—ORNAMENT AND DECORATION (48 lectures and 48 drafting periods extending through two years).

9. DECORATIVE HERALDRY. The place of heraldry in the arts; the laws of heraldry, heraldic art of different periods; modern practice and tendencies; symbolism and significant ornament.—Professor Traquair.

*Text-book:*—Decorative Heraldry, Eve. *Reference:*—The Art of Heraldry, Fox Davies.

10. ORNAMENT IN FORM. The design of plaster work, terra cotta, stone carving, architectural sculpture, wood carving and furniture is dealt with as the evolution of form in distinctive materials, influenced incidentally by the prevailing taste of different periods.—Prof. Traquair.

Reference Books:--Plastering, Plain and Decorative, Millar; The Art of the Plaster, Bankart; Mediæval Figure Sculpture in England, Prior.

11. METAL WORK. The design of wrought and cast iron, bronze, copper, brass, pewter, silver, gold and jewellery is dealt with historically and as the result of the methods of workmanship.—Professor Traquair.

Reference Books:-English and Scottish Wrought Iron Work, Murphy; Ironwork, Starkie Gardner; Leadwork, Lethaby.

12. COLOR DECORATION. Stained glass, mosaic of various kinds, inlays, the use of colored materials in external and internal design, mural decoration, and the analysis and construction of pattern.—Professor Traquair.

Reference Books :-- Vitraux, Merson; Windows, Day.

Courses 9 and 10 and 11 and 12 will be taken in alternate years.

### C.—History

14. ANCIENT AND CLASSICAL ARCHITECTURE (48 lectures).

The architecture of the ancient Egyptians, Chaldæans, Assyrians and Persians; the Minoan civilization; architecture of the Dorian and Ionian Greeks, with special attention to the refinement of form in Hellenic art; the architecture of Rome and Byzantium to the fall of the Byzantine Empire.—Professor Traquair.

*Text-books:*—Banister Fletcher's History of Architecture; Anderson and Spiers' Architecture of Ancient Greece; Anderson and Spiers' Architecture of Ancient Rome.

15. MEDIÆVAL ARCHITECTURE (48 lectures).

The rise of the Romanesque schools, from the decline of the Western Roman Empire to the XI century; the evolution of ecclesiastical architecture in France and England to 1500 A.D.; the Gothic schools of Europe and the evolution of military and civil architecture.—Professor Traquair.

### Text-book:-Power's Mediæval Architecture.

16. RENAISSANCE ARCHITECTURE (48 lectures).

The beginning of the Renaissance in Italy and its influence on architecture from 1400 A.D. to 1600 A.D.; the Renaissance in France from Francis I. to the Revolution; the earlier and later phases of the Renaissance in England and English architecture during the XVIII century.— Professor Traquair.

Text-books:—Anderson's Italian Renaissance Architecture; W. H. Ward's French Renaissance Architecture; R. Blomfield's Short History of Renaissance Architecture in England.

17. MODERN ARCHITECTURE (48 lectures).

The end of the Renaissance and the classic revival in England; scholarly architecture; the "Gothic Revival"; the influence of Pugin, Ruskin and Morris; the "Arts and Crafts" movement; the eclectic schools; Shaw and the free classicists; the progress of art in Europe during the XIX century; the classic schools and "official" architecture; the neo-gree movement in France; the national revivals, the secession

#### ARCHITECTURE

and art nouveau; the colonial architecture of North America, Spanish, French and English; the colonial architecture of Canada; the modern schools and the present position.—Professor Traquair.

### D.-Science

MATHEMATICS—Geometry and Trigonometry, first term; Algebra, second term; to be taken in First Year Arts. For full particulars, see Arts Announcement. Mechanics (194). (See page 288.)

44 and 45. PHYSICS AND LABORATORY (48 lectures and 24 laboratory periods).

The instruction includes a fully illustrated course of experimental lectures on the general principles of physics, embracing the laws of energy, heat, light, electricity and sound.—Dr. Eve.

346, 347 and 348. SURVEYING. (Full course: 4 weeks field school, 48 lectures and 24 draughting periods, see page 306.)

22 and 23. HYGIENE OF BUILDINGS (24 lectures in first term, 12 lectures and working out of one graphical problem in second term).

22. Light and air, water, sanitary plumbing, sewage disposal. First term.-Dr. Starkey.

23. The heating and ventilation of buildings. Second term.-Professor McKergow.

## E.—Construction

23a. A short course in elementary building construction and drawing is given in the First Year (24 periods with occasional lectures).— Mr. Turner.

The Second Year work covers the ordinary building trades and detailing where calculations of a complicated kind are not involved. The Third Year work deals with structural problems involving calculation, while in the Fourth Year problems in structural design are worked out.

24 and 25.—BUILDING CONSTRUCTION AND BUILDING DETAIL (24 lectures, 48 draughting periods).

Building materials, brickwork, masonry, carpentry, roofing, etc.; joinery of doors, windows, etc., and the finishing trades, such as plastering, painting and plumbing; underpinning, shoring, centering and forms. General working drawings are prepared, and building works in progress are visited.—Mr. Turner.

26 and 27. ARCHITECTURAL ENGINEERING I AND ARCHITECTURAL ENGINEERING (Draughting) I (24 lectures and 48 draughting periods). Graphical methods of calculating and the strength of materials employed in construction.—Professor Thomson.

28 and 29.—ARCHITECTURAL ENGINEERING II A AND ARCHITECTURAL ENGINEERING (Draughting) II A (24 lectures and 48 draughting periods).

Theory and practice of reinforced concrete; foundations and retaining walls.-Professor Thomson.

30 and 31.—ARCHITECTURAL ENGINEERING II B AND ARCHITECTURAL ENGINEERING (Draughting) II B (24 lectures and 48 draughting periods).

Rivets and riveting, symmetrical and eccentric connections; the design of structural steel, with examples of floors, columns, beams, office buildings and plate girders; the theory of arch action with especial reference to examples in masonry.—Professor Thomson.

Architectural Engineering II A, with Architectural Engineering II B, with the draughting periods allotted to each, will be taken until further notice by the Third and Fourth Years together, and are given in alternate years.

34. A course on Building Materials is given in the Third Year (24 lectures).-Mr. Turner.

## F.-Architectural Practice

131. ENGLISH COMPOSITION (24 lectures with exercises).

32. PROFESSIONAL PRACTICE (24 lectures with exercises).

Structure of specifications and general clauses; specifications for all trades; conditions of contract; agreement; building by-laws; estimates; reports; professional ethics.—Mr. Turner.

175. Engineering Law (24 lectures).

Instruction is provided with the Applied Science Fourth Year classes. (See page 287.)

### G.-Drawing

33, 35 and 36. ARCHITECTURAL DRAWING (100 periods of three and four hours).

The work in this course is in direct connection with the lectures in History and Architecture.

33. Drawings of the Classic orders, showing their application to other elements in architectural design, are prepared from the large models in the museum and from documents.—Mr. Chambers.

35. In connection with the lectures on Mediæval Architecture, sketch plans, elevations and details of important mediæval buildings are set up from documents.—Professor Traquair.

36.—In connection with the lectures on the Architecture of the Renaissance, important buildings are studied by drawing and sketching.— Professor Traquair.

37. ARCHITECTURAL DRAWING. The advance study of one or more historical buildings by means of large scale drawings.-Prof. Traquair.

#### ARCHITECTURE

38, 39, 40, 41. FREEHAND DRAWING (100 periods).

Drawing in pencil or charcoal from casts of architectural ornament, architectural fragments and parts of the figure.—Mr. Dyonnet.

18. ARCHITECTURAL GEOMETRY I (24 lectures and 24 periods).

Descriptive geometry; isometric and axometric projection; shades and shadows; developed surfaces and intersection of solids.—Mr. Chambers.

19. ARCHITECTURAL GEOMETRY II (24 lectures and 24 periods).

The practical application of descriptive geometry to masonry and joinery; perspective; the rendering of perspective drawings.—Mr. Chambers.

42 and 43. MODELLING (one period a week of two hours, extended over the Fourth and Fifth Years).

The student first studies form directly from nature, and later on conventionalizes the forms with which he has become familiar for decorative purposes. The Architectural museum affords many examples from different periods of the adaptation and abstraction of natural motifs in ornament. They are used to show the spirit in which to work out ornament, and are not copied directly. Models of design on which the students are engaged are also prepared, and casting is taught.— Mr. Dyonnet.

46, 47, 48, 49. An essay on an historical or theoretical subject is required each year from all students excepting those of the First Year. This essay is to be prepared during the session.

50. SUMMER WORK.

A, B & C. During the vacation following the close of the First, Second, Third and Fourth Years, the students in Architecture are required to read and be prepared to pass an examination on a selected theoretical, æsthetical, or historical architectural work. Every student must, before he receives his degree, have had at least eight to ten months' experience in an architect's or contractor's office satisfactory to the Faculty. The regulations of the Royal Institute of British architects require that a candidate for the special examination shall have had at least twelve months' experience in an architect's office and graduates in Architecture will not be admitted to this examination until they have fulfilled the requirement.

A summer school in surveying is taken in the four weeks following the final examinations of the First Year.

D. & E. A summer school in sketching and measuring is attended by all students between the Second and Third and between the Third and Fourth Years, in the latter part of September, for the study of buildings in Canada and in the United States.

For summer reading, see page 259.

DEPARTMENT OF CHEMISTRY

Acting Director:-F. M. G. Johnson, Professor of Inorganic Chemistry:-F. M. G. Johnson, Professor of Physical Chemistry:-Otto Maass, Professor of Organic Chemistry:-G. S. Whitey,

PROFESSOR OF INDUSTRIAL AND CELLULOSE CHEMISTRY :- HAROLD HIBBERT.

PROFESSOR :--- NEVIL NORTON EVANS.

ASSISTANT PROFESSOR :--- W. H. HATCHER.

LECTURER :- E. W. R. STEACIE.

Demonstrators :---

en directiv from noture, and later on

K. S. BUXTON. M. KATZ. A. L. PEIKER. L. M. PIDGEON. W. R. SAWYER. N. O. STEIN. M: G. STURROCK. H. S. SUTHERLAND. F. J. TOOLE. R. H. WRIGHT.

### First Year Lectures.

51. GENERAL CHEMISTRY. The course includes the history, occurrence, methods of preparation and the properties of the non-metallic elements and their important compounds, with their domestic and industrial applications; classification; general laws and principles and the fundamental theories of the science; with a brief discussion of the scientific method. Two lectures a week for all Engineering students.— Professor Evans.

*Text-book*:—McPherson and Henderson, Introductory College Course.

## First Year Laboratory.

52. GENERAL CHEMISTRY LABORATORY. Practical work designed to accompany and illustrate the lectures of course 51. The course includes the construction and use of ordinary apparatus, the preparation and study of important elements and compounds, qualitative analysis, and simple quantitative determinations, both gravimetric and volumetric, including combining weights, standardization of solutions, hardness of water, etc. One period a week for all students of Engineering.— Professor Evans and Demonstrators.

#### CHEMISTRY

## Second Year Lectures.

53. GENERAL CHEMISTRY. The course is a continuation of that given in the First Year (51). It is based on the Periodic Classification of the elements and includes a study of the more important metals and their compounds, brief outlines of metallurgical processes and other industrial chemical processes, with special reference to the application of chemistry in the various branches of engineering. Two hours a week for all students in Engineering.—Professor Evans.

Text-book:-McPherson & Henderson, Introductory College Course.

### Third Year Lectures.

54. INORGANIC QUALITATIVE ANALYSIS. A course dealing with the principles of analytical chemistry—nature of solutions, precipitations, etc., explanatory of the work done in the laboratory (course 55). Ten lectures a week for the first three weeks of the Summer School. (See page 257.)—Professor Evans.

*Text-book:*—N. N. Evans, Notes on the Theory of Qualitative Analysis. *Reference:*—Stieglitz, Qualitative Chemical Analysis.

56.—ORGANIC CHEMISTRY. (Arts 2.) A course in general elementary organic chemistry. Three lectures a week during the first term and two during the second term.

*Text-book*:—Clarke, Introduction to the Study of Organic Chemistry.

58. PHYSICAL CHEMISTRY. (Arts 4.) An introductory course following the development of chemical theory.

Two lectures a week during the first term and one per week in second term.—Drs. Maass and Steacie.

Text-book:-Taylor, Theoretical and Physical Chemistry.

59. INORGANIC QUALITATIVE ANALYSIS. A course explanatory of the work done in the laboratory. One lecture a week in the first term for Mining Engineers only.—Professor Evans.

Text-book:-N. N. Evans, Notes on the Theory of Qualitative Analysis.

61. INORGANIC QUANTITATIVE ANALYSIS AND LABORATORY. A course on the general principles involved in quantitative analysis. One lecture a week during the first term and three laboratory periods a week throughout the year for Chemical Engineering students.—Dr. Johnson and Demonstrators.

Text-book :- Fales, Inorganic Quantitative Analysis.

62. INORGANIC QUANTITATIVE ANALYSIS AND LABORATORY. A course on the general principles involved in quantitative analysis. One lecture and

three laboratory periods during the first term for Metallurgical Engineering students.—Dr. Johnson and Demonstrators.

Text-book:-Lord and Demorest, Metallurgical Analysis.

### Third Year Laboratory.

55. INORGANIC QUALITATIVE ANALYSIS LABORATORY.

A course of laboratory work, including preliminary experiments on known substances, the examination of unknown mixtures for base and acid radicals, methods of bringing substances into solution, and a study of the chemical reactions involved in these processes. Four weeks in the Summer School for students of the Chemical and Metallurgical Engineering courses. (See page 51.)—Professor Evans and Demonstrators.

Text-book:-W. A. Noyes, Qualitative Analysis.

57. ORGANIC CHEMISTRY. (Arts 2.) A course on the preparation, detection and analysis of the commoner organic compounds. Two periods a week, in the second term.—Dr. Whitby and Demonstrators.

Text-book :- Price and Twiss, Practical Organic Chemistry.

60. INORGANIC QUALITATIVE ANALYSIS. A course adapted to the requirements of Mining Engineers. Two periods a week in the first term.—Professor Evans and Demonstrators.

Text-book :- W. A. Noyes, Qualitative Analysis.

### Fourth Year Lectures and Laboratory.

73. QUANTITATIVE ORGANIC CHEMISTRY. (Arts 12.) A course on the constitution and analysis of proteins, carbohydrates, fats and allied substances. The course also includes the estimation of food values, enzyme action. A course of one lecture per week and four laboratory periods during the second term. The laboratory work comprises the study of typical foodstuffs, enzyme action and includes the use of the calorimeter, polariscope and refractometer in organic analysis.—Dr. Whitby and Demonstrators.

Text-book:-Woodman's Food Analysis.

\*64. ADVANCED ORGANIC CHEMISTRY. (Arts 5.) The lectures will deal with the more complicated classes of carbon compounds, such as the carbohydrates, terpenes and alkaloids; the more complicated types of reaction, such as the Grignard reaction, the Claisen reaction, the reaction of aliphatic and hydroaromatic diketones, various theoretical

\* Courses marked with a star are open to graduates as well as undergraduates.

#### CHEMISTRY

conceptions, such as geometrical isomerism, partial valency, the strain theory; the main classes of aromatic compounds and dye stuffs. Two lectures per week.—Dr. Whitby.

Text-books:—Holleman's Organic and Bernthen's Organic Chemistry. For reference:—Recent Advances in Organic Chemistry, Stewart; Advanced Organic Chemistry, Cohen; Organic Chemistry of Nitrogen, Sidgewick.

\*65. ADVANCED ORGANIC LABORATORY. (Arts 5.) The course will comprise the preparation of a number of representative organic compounds of a more complicated nature than those prepared in the Third Year, including dyes, nitro derivatives and examples of reaction, such as Perkin's, Fridel and Craft's, Skraup's and Grignard's. It will also comprise the quantitative determination of the elements and of typical groups in organic compounds; and also the identification of unknown organic substances. Four periods a week in the first term and two in the second.—Dr. Whitby and Demonstrators.

The student is required during this course to take a complete course in gas analysis under Dr. Steacie.

\*66. PHYSICAL CHEMISTRY. (Arts 7.) Three lectures a week on general physical chemistry, including the kinetic theory, thermochemistry, electron theory in chemistry, chemistry of radioactive substances, etc.

Students will be required to work problems dealing with the subject matter of the lectures.—Dr. Maass.

Text-book:-Taylor, Treatise on Physical Chemistry.

\*66A. PHYSICAL AND COLLOID CHEMISTRY LABORATORY. (Arts 7A.) Two laboratory periods a week throughout the year are devoted to typical measurements in physical and colloid chemistry.—Drs. Maass and Steacie and Demonstrators.

Text-book :- Findlay's Practical Physical Chemistry.

\*67. INORGANIC LABORATORY. (Arts 8.) The lectures deal with the special methods of analysis of iron and steel, alloys and water. One lecture and three periods a week in the first term and four periods in the second.—Dr. Johnson and Demonstrators.

The laboratory work is a continuation of courses 61 and 62. A course in gas analysis is given in the second term, as well as studies in colloid chemistry and some advanced inorganic preparations.

For reference:--Lord and Demorest, Quantitative Analysis; Treadwell's Quantitative Analysis; Blair, Chemical Analysis of Iron; Ibbotson, Analysis of Steel Works Materials.

\* Subjects marked with a star are open to graduates as well as undergraduates.

68. INDUSTRIAL CHEMISTRY, INORGANIC. (Arts 13.) A course, both theoretical and descriptive, on the more important inorganic chemical industries. Two lectures per week in the first term. Special lectures are given in this course by chemical engineers from outside the University. —Dr. Hibbert.

69. INDUSTRIAL CHEMISTRY, ORGANIC. (Arts 14.) This course is given during the second half of the session, and includes the chemistry of paper and pulp, sugar, starch and glucose, soap and fats, distillation of wood and the purification of the products, etc. Two lectures per week in the second term. This course consists of special lectures by chemical engineers from the city and district who are experts in one or other of the industries, together with members of the staff.—Dr. Hibbert.

70. APPLIED ELECTRO-CHEMISTRY. (Arts 11.) The laws of electrolysis and of solutions are studied from the standpoint of the osmotic theory. Primary and secondary batteries, electro-plating, polarization and the preparation and electro-chemical behaviour of the rarer elements used in incandescent lamps are discussed. The more important technical processes are studied and typical substances prepared in the laboratory. Two lectures in the first term.—Drs. Maass and Steacie.

For reference:-Creighton and Fink, Electrochemistry.

71. INORGANIC QUANTITATIVE ANALYSIS. A laboratory course specially designed for Mining Engineers. Four periods a week in the first term.—Dr. Johnson and Demonstrators.

Text-book:-Lord and Demorest, Metallurgical Analysis.

\*72. ADVANCED INORGANIC CHEMISTRY. (Arts 6.) A course of lectures on inorganic chemistry, discussing the elements and their compounds in accordance with the general principles of physical chemistry.

Two lectures a week throughout the session .- Dr. Johnson.

74. HISTORY OF CHEMISTRY. (Arts 9.) (Optional for Applied Science students.) A short course dealing with the development of chemistry from the historical standpoint. One lecture a week in the second term.—Dr. Hatcher.

\*75. COLLOID CHEMISTRY. (Arts 15.) Two lectures per week in the first term. Two lectures a week in the second term optional. (Laboratory work, see 66A.)—Dr. Johnson.

Text-book :- Holmes, Laboratory Manual of Colloid Chemistry.

\* Courses marked with a star are open to graduates as well as undergraduates.

### CIVIL ENGINEERING AND APPLIED MECHANICS

## DEPARTMENT OF CIVIL ENGINEERING AND APPLIED MECHANICS

### RESEARCH FELLOW :--- C. M. MORSSEN.

# Assistant in Charge of Testing Laboratory :-- S. D. MacNab.

DEMONSTRATOR :-----

### First Year.

80. ENGINEERING PROBLEMS. Application of mathematics to scientific and engineering problems of a simple nature, with special attention to the formulation of scientific ideas in mathematical and graphical form.

Required of all engineering students. Three hours per week.— Professor Brown, Messrs. Dodd, Wood and Weir.

## Second Year.

81. MATERIALS OF CONSTRUCTION. Manufacture and properties of cast iron, wrought iron, crucible, Bessemer and open hearth steel. Course of prescribed reading with occasional conferences.

Required of all engineering students .- Mr. Sproule.

Text-book :- Spring, Non-Technical Chats on Iron and Steel.

83. MECHANICS. The general principles of statics and of the dynamics of a particle are developed in the lectures, and numerous examples illustrating the application of mechanics to engineering problems are worked out.

The course includes equilibrium of forces; friction; force and funicular polygons; bending moment and shear; forces in framed structures; relative velocity; variable motion (straight line and curvilinear); simple harmonic motion; pendulums, springs; inertia forces in machines; crank effort curves; flywheels, etc.

The mathematical courses in calculus are taken concurrently and calculus methods are used freely. Two lectures and two hours problems per week.—Professor Brown, Mr. Jamieson and Mr. Dodd.

Reference-books:-Poorman, Applied Mechanics; MacInnes, Elements of Practical Mechanics.

## Third Year.

86. MECHANICS. The work of the Second Year course in mechanics is extended, and the dynamical equations for the motion of a rigid body in two dimensions are deduced. Numerous examples are worked in detail, including problems on flywheels, kinetic energy of bodies having translation and rotation, oscillation of a rigid body about a fixed axis, impulse, etc. The elementary principles of the gyroscope are considered. Two lectures per week, first term.—Professor Brown.

Reference-book :- Worthington, Dynamics of Rotation.

87. STRENGTH OF MATERIALS. This course deals with the fundamental principles of the strength of materials. It includes the following:-Stress, strain, resilience, and the elastic properties of materials used in construction; bending moment and shearing force diagrams; strength, curvature, and deflection of beams; continuous beams; cantilever beams and the like; reinforced concrete beams; the strength of shafting; spiral springs; columns; bending combined with tension or compression; elementary consideration of compound stresses; distribution of shearing stress on various sections, etc.

Required of all Engineering students. Two lectures per week during the session.—Professor Brown and Mr. Jamieson.

Text-book:-Resistance of Materials, Seely.

88. STRENGTH OF MATERIALS LABORATORY. The work illustrates the principles of the lecture course in strength of materials (87), and includes the following:—Tension tests of various materials; stress-strain diagrams by automatic recorders and by extensometers and scales; deflection of beams; torsion of shafts; experiments on spiral springs and torsional oscillations of wires; the moment of inertia of flywheels; determination of Young's modulus; test of Portland cement; demonstrations on the large testing machines, on the breaking of timber and reinforced concrete beams and small columns, the compressive strength of concrete, bricks, mortars, etc. Three hours per week, second term.—Professor Brown, Mr. Jamieson, Mr. Dodd, Mr. Wood and Mr. MacNab.

89. FOUNDATIONS AND MASONRY. Borings; bearing power of soils; piles and pile driving; concrete piles; footings; grillages; underpinning; foundations under water, cofferdam, open dredging, pneumatic and freezing processes; estimation of quantities from drawings; estimates of costs.

Required of Civil Engineering students. One lecture per week, session; three hours problems per week, second term.—Professor Mac-Kay, Mr. Dodd.

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

### CIVIL ENGINEERING AND APPLIED MECHANICS

90. STRUCTURAL ENGINEERING. Problems in the design of beams, plate girders, columns, roof trusses, knee bracing, etc.; working drawings; estimates of quantities. Required of students in courses II, III, V, VI and VII. One lecture and three hours problems per week, second term.—Professor MacKay and Mr. Dodd.

Reference books:--Ketchum's Structural Engineer's Handbook; Ketchum's Mill Buildings; Bishop's Structural Drafting and Design of Details; Carnegie, Pocket Companion.

92. RAILWAY ENGINEERING. The locomotive and its work; locomotive and grade problems; effect of distance, rise and fall and curvature on train mile costs; estimate of probable receipts and expenditures; economics of location, reconnaissance, preliminary, and location surveys; turnouts. Required of Civil Engineering students. Two hours per week, first term.—Mr. Wood.

93. RAILWAY ENGINEERING. The proper location of a railway map, profile, earthwork, mass diagram, overhaul, velocity profile, bill of material and cost estimate of same; detailing of switches and complicated lay-outs and bill of track material. Required of Civil Engineering students. Six hours per week, first term.—Mr. Wood.

97. HYDRAULICS. The fundamental principles of hydraulics are considered and applied to problems on the discharge of orifices, notches, weirs, pipes and open channels under varying conditions. The theory of impact of jets and its application to turbines is also dealt with. Required of Civil Engineering students in the Third Year and of Mechanical and Electrical Engineering students of the Fourth Year. Two hours per week, first term.—Professor Brown.

Text-books:-Hydraulics, Schoder and Dawson (McGraw Hill).

98. HYDRAULIC LABORATORY. The course is illustrative of the principles considered in course 97, and is taken concurrently. The work includes the following experiments:—Measurement of discharge from orifices, notches and pipes, both straight and bent, to determine hydraulic coefficients; pressure of jets impinging on vanes; tests of Venturi meter, hydraulic ram, Pelton wheel, Francis and propeller turbines, centrifugal pumps, etc. Three hours per week, first term.— Professor Brown and Staff.

82. SANITARY SCIENCE. Basic principles of sanitation underlying the design of works for water supply, sewerage, the heating, lighting and ventilation of buildings, etc. Alternative with Map Projections 351. Four hours per week, first term.—Dr. Starkey.

85. HIGHWAY ENGINEERING. Vehicular traffic and its requirements; methods of financing; economics of location; surveys; distance, grade and curvature; drainage; earthwork; paving materials, manufacture and

use; maintenance; bridges, culverts, sidewalks and other accessories; designs and estimates. Two lectures and six hours laboratory per week, second term.—Professor French.

Text-book:-Agg's Construction of Roads and Pavements.

## Fourth Year.

94. THEORY OF STRUCTURES. The analysis of statically determinate framed structures under fixed and moving loads; distortion of framed structures; swing spans; braced arches and arched ribs with two and three hinges; hingeless arches in concrete and reinforced concrete; frames with redundant members.

Required of Civil Engineering students. One lecture and three hours problems per week, first term; two lectures and six hours problems per week, second term.—Professor MacKay, Mr. Jamieson.

Reference books:-Johnson Bryan and Turneaure's Modern Framed Structures.

95. STRENGTH OF MATERIALS. The course includes the following:— The bending and deflection of beams loaded and supported in any manner; deflection due to shear; principle of work applied to deflection of beams, and statically indeterminate problems; bending of curved bars, and of unsymmetrical sections; elastic strains; relation between elastic constants; strength of thick shells; earthwork theories; the design of floor and column systems for reinforced concrete buildings (including a critical study of standard specifications); retaining walls, etc.

Required of Civil Engineering students. Two lectures per week during the first term, and one per week during second term, with the equivalent of one-half laboratory period per week throughout the session at times appropriate to the progress of the course.—Professor Brown.

Reference books:--Strength of Materials, Morley; Strength of Materials, Case; Applied Elasticity, Timoshenko and Lessels; Concrete, Plain and Reinforced, Vol. II, Taylor, Thompson and Smulski, or Reinforced Concrete Construction, Vols. II and III, Hool, or Reinforced Concrete Handbook, Hool and Johnson.

96. BRIDGE DESIGN. The reason governing the selection of a particular type of bridge, discussion of the loads to which the bridge will be subjected, calculation of the stress in the several members; determination of the section areas and forms of the members; design of the connections; preparation of complete drawings.

Required of students in Civil Engineering. Two lectures and six hours drafting per week.—Professor MacKay and Mr. Dodd.

Reference books:-Kirkham's Structural Engineering; Ketchum's Structural Engineer's Handbook; Waddell's Bridge Engineering.

#### CIVIL ENGINEERING AND APPLIED MECHANICS

96A. BRIDGE DESIGN. A slightly briefer course than 96. Required of students taking the Municipal alternative.—Professor MacKay and Mr. Dodd.

99. HYDRAULIC MACHINES. The course deals mainly with the development of the modern turbine and centrifugal pump and includes the following general topics:—Application of the principles of hydraulics in explanation of the functions of the various parts of the machines; development and classification of turbines; specific speed; characteristics of different types and method of interpreting results of tests on small models; essential features and mechanical details of typical turbines and pumps; principal hydraulic formulæ underlying design, etc. Two hours per week, second term.—Professor Brown.

Reference books:-Hydro-Electric Handbook, Creager and Justin; Proceedings of Engineering Societies, etc.

100. HYDRAULICS AND LABORATORY. A short course embodying the hydraulic principles outlined under courses 97 and 98 will be given in the first term. There will be one lecture per week, and six or more laboratory periods at hours to be arranged. Required of Mining, Metallurgical and Chemical Engineering students of the Fourth Year.

Text-book:-Hydraulics, King and Wisler, Wiley.

101. MUNICIPAL ENGINEERING. Fundamental principles of water supply, sewerage, sewage disposal, highway engineering and the treatment of garbage and rubbish. Required of Civil Engineering students not taking Municipal alternative. Two lectures per week, session; three hours problems per week, second term.—Professor French.

*Text-books:*—Turneaure and Russell's Public Water Supplies; Metcalf and Eddy's Sewerage and Sewage Disposal.

102. WATER SUPPLY AND SEWERAGE.

(a) Water Supply. Quantity, quality and pressure; rainfall and evaporation; run-off, pumping machinery; storage; dams, aqueduct, distribution systems, etc.; appurtenances; purification systems; fire service; construction materials and methods; designs and estimates.

(b) Sewerage. Quantity of sanitary sewage and of storm water; sewerage mains and appurtenances; construction methods and materials; design and estimates.

(c) Sewage Disposal. Characteristics of sewage; disposal by dilution; screening and sedimentation; sludge; bacterial methods; costs and results; designs and estimates. Required of students taking Municipal alternative. Three lectures and six hours problems per week.—Professor French.

Text-books:-Turneaure and Russell's Public Water Supplies; Metcalf and Eddy's Sewerage and Sewage Disposal.

103. WASTE DISPOSAL. Characteristics of civic wastes; garbage, rubbish and ashes; disposal methods, dumping, land treatment, incineration, reduction; economic aspects; designs and estimates. Required of students taking Municipal alternative. One hour per week, first term.— Professor French.

Text-book:-Herring and Greeley's Collection and Disposal of Municipal Refuse.

104. CIVIC ADMINISTRATION. This course is designed to emphasize the connection between the work of the municipal engineer and other civic activities. Such subjects as civic government and finance, education, reaction and charities and correction are discussed, as well as town planning and other engineering work of minor importance not covered in other courses. Required of students taking Municipal alternative. One hour per week, first term.—Professor French.

*Text-book*:—No regular text-books are prescribed, but free use is made of various Government bulletins and of current periodical literature.

# Courses for the Degree of Master of Science

1. STATICALLY INDETERMINATE STRESSES. General methods of stress analysis, influence lines, applications to braced arches, rectangular frameworks, etc.; theory of riveted joints; columns with lateral and intermediate loads, etc.

One term, 2 hrs. tutorial, and 6 hrs. computation and reports.

Mr. Jamieson.

2. TECHNICAL ELASTICITY. The general equations of elasticity with various applications (special attention being paid to approximate numerical solutions); strength of flat plates, etc.; torsion of thin tubes and prisms of non-circular section; the determination of stress distribution by means of polarized light; elastic stability; vibration of structures.

One term, 2 hrs. tutorial, and 6 hrs. computation and reports.

3. SECONDARY STRESSES. Secondary stresses due to rigidity of joints, deflection of floor beams, eccentric connections, latticing, etc.; critical discussion of specifications for structural members in the light of tests.

One term, 2 hrs. tutorial, and 6 hrs. computation and reports.

Professor MacKay.

4. REINFORCED CONCRETE ARCHES (ADVANCED). Preliminary design, development of influence lines, unsymmetrical arches, elastic piers, economics of concrete arches, etc.

One term, 1 hr. tutorial, and 6 hrs. computation and reports.

Professor MacKay.

5. HYDRAULICS. General principles of hydrology in relation to power development; stream gauging and use of records; flow in streams and in open channels; back-water computations; dams and spillways; the principles of hydraulics as applied to modern turbines; general trend of turbine development; turbine testing and characteristics; special problems such as pressure surges in conduits; general consideration of water-power plants, including the study of plants in operation; turbine testing and experimental work in hydraulic laboratory.

One hr. tutorial, and 6 hrs. computation and reports throughout the session......Professor Brown.

6. HIGHWAY ENGINEERING. (a) Highways; history of development; finance, legislation and administration; traffic; economics of design, construction and maintenance; safety provisions. (b) Highway transportation; history; relation to other forms of transportation; economics of motor transportation; regulation; traffic control.

Session. 4 hrs. tutorial, and 12 hrs. computation and reports.

Professors French and McKergow and Staff. Special lectures from time to time.

## DEPARTMENT OF DRAWING AND DESCRIPTIVE GEOMETRY

## PROFESSOR :- HENRY F. ARMSTRONG.

Demonstrators :-- J. C. Elder. O. A. Noble.

This Department provides a general course in drafting office methods and a training in the groundwork necessary to prepare the student for the work required in the Engineering courses of the Third and Fourth Years. The accurate use of drawing instruments is practised and study is made of the various projection methods commonly employed. The problems in Descriptive Geometry are especially designed to develop the power of mentally picturing unseen objects and realizing details and conditions such as engineers are called upon to consider in preparing designs.

### First Year.

340. MECHANICAL DRAWING. Instruction in the use of drawing instruments and materials, dimensioning, conventions and standards; preparation of working drawings and tracings of machine details and the detailing of assembly drawings; the making of drawings from dimensioned sketches. Three hours per week.—Professor Armstrong and Staff.

Text-book:-Book of Plates, obtainable at Bursar's Office.

341. DESCRIPTIVE GEOMETRY. Geometrical methods; plane figures; areas; paths of points moving in planes, etc.; orthographic projections of points, lines, plane figures and solid objects; shadows, etc.

Three hours per week .-- Professor Armstrong.

*Text-books:*—Geometrical Drawing, by H. F. Armstrong; Descriptive Geometry, by H. F. Armstrong.

342. FREEHAND DRAWING. The object of this course is to train the eye to observe and the hand to record the essential characteristics and proportions of objects by means of sketches and diagrams of machines, etc., and to prepare dimensioned sketches from which to make scale drawings.

One hour and a half per week .- Professor Armstrong.

343. LETTERING. Types and titles such as are chiefly in use in drafting offices, including single-line block and Roman lettering, and stencils.

One hour and a half per week .- Professor Armstrong.

### Second Year.

344. MECHANICAL DRAWING. Continuation of Subject 340. Three hours per week.—Professor Armstrong and Staff.

345. DESCRIPTIVE GEOMETRY AND PERSPECTIVE. Sections of solids; intersections and developments of surfaces; intersecting planes; tangent planes; axometric, including isometric, projections; perspective projection.

Three hours per week .- Professor Armstrong.

Text-book :--- Descriptive Geometry, Henry F. Armstrong.

#### ELECTRICAL ENGINEERING

## DEPARTMENT OF ELECTRICAL ENGINEERING

111. ELEMENTS OF ELECTRICAL ENGINEERING. For Third Year students in Mechanical and Mining Engineering and Fourth Year students in Chemical, Civil and Metallurgical Engineering.

A general course in electrical engineering, treating of the laws of electro-magnetism; continuous and alternating current flow in various circuits; characteristics of direct and alternating current machinery; the fundamental principles of electric lighting, power distribution and electric traction. Two hours per week.—Mr. Wallace.

Text-book:-Gray's Principles and Practice of Electrical Engineering.

112. ELECTRICAL ENGINEERING LABORATORY. For Third Year students in Mechanical and Mining Engineering and Fourth Year students in Chemical, Civil and Metallurgical Engineering.

Includes tests of direct current metering and controlling devices, dynamos. motors, boosters, motor generators and constant current machines; experiments of variable current flow in circuits; tests of alternators, synchronous motors and converters, induction motors and transformers, etc. Three hours per week.

### Third Year.

113. ELECTRICAL ENGINEERING. The theoretical consideration of current flow in circuits; the laws of electro-magnetism and of the magnetic circuit; the theory and operating characteristics of direct current machinery; the principles of alternating current machinery. Required of students in Electrical Engineering. Four hours per week.—Professor Christie.

Text-book:-Christie's Electrical Engineering.

114. ELECTRICAL ENGINEERING LABORATORY. Preparation of reports; construction, handling and protection of electrical apparatus; use of instruments; predetermination of the characteristics of electrical machinery; special and shop testing.

Tests are made in the Laboratory on:-Current flow in circuits; metering and controlling devices, generators, motors, boosters, balancers

and motor generator sets. These tests are intended to illustrate the principles of action and the limits of the proper use of the apparatus. Students are furnished with special laboratory notes. Required of students in Electrical Engineering. Laboratory, six hours per week. Problems, six hours per week.

### Fourth Year.

117. ELECTRICAL ENGINEERING. The treatment of alternating current circuits by vector diagrams and vector equations; the theory and operating characteristics of alternating current machinery. Required of students in Electrical Engineering. Four hours per week.—Professor Christie.

Text-book:-Christie's Electrical Engineering.

118. ELECTRICAL ENGINEERING LABORATORY. Tests are made in the laboratory on alternators, synchronous motors and converters, compensators, induction motors, transformers, frequency and phase changing apparatus, potential regulators, rectifiers, etc. Students are furnished with special laboratory notes. Required of students in Electrical Engineering. Laboratory, nine hours per week.

120. ELECTRIC LIGHTING AND POWER DISTRIBUTION. Transmission and distribution systems are taken up under the following heads:— Selection of generators, transformers, switches and auxiliary apparatus with a study of their characteristics and limitations; wiring diagrams and switchboard design; line design and construction, selection of towers, insulators and conductors, calculation of sags and spans, high voltage and transient phenomena; the protection of overhead lines, cable systems and station apparatus; industrial applications of electrical apparatus; financial considerations. This subject is required of students in Electrical Engineering. Two hours per week, first term.—Mr. Burr.

Text-book:-Standard Handbook for Electrical Engineers.

121. ELECTRIC TRACTION. Urban, interurban and main line electrification is taken up under the following heads:—Choice of system and apparatus; calculation of motor rating and car equipment; overhead and track construction; methods of control, braking and regeneration; storage batteries and boosters; generating stations and substations, distribution systems, power supply; electrolysis mitigation for electric railways.

This subject is required of students in Electrical Engineering. Two hours per week, second term.—Mr. Wallace.

Text-book:-Standard Handbook for Electrical Engineers.

122. ELECTRICAL DESIGN AND PROBLEMS. The electrical design of direct and alternating current machinery. Special attention is paid to

#### ELECTRICAL ENGINEERING

the limitations of the different types of machines and to the preparation of specifications. Required of students in Electrical Engineering. Lectures, one hour per week. Problem work, three hours per week, first term, six hours per week, second term.—Professor Christie.

Text-book :- Gray's Electrical Machine Design.

123. APPLICATIONS OF ELECTRICITY. Lectures on industrial and general applications of electric power, the electrical supply systems for industrial power and lighting; special problems of plant design; special problems of lighting in electrical systems; special problems of electrical transmission. Lectures, three hours per week, second term.--Mr. Burr.

125. COMMUNICATION ENGINEERING. The fundamentals of telephony and telegraphy and of radio telephony and radio telegraphy. Two hours per week, session. One laboratory period per week, second term.— Mr. Wallace.

124. ELECTRICAL MEASUREMENTS AND LABORATORY. Measurements of resistance, inductance, capacity, current, electro motive force, etc. Testing of meters, conductivity tests; iron testing, ratio and phase angle of current transformers; photometry; thermionic valve testing and other physical tests of an engineering nature. Two lectures per week, first term. One laboratory period per week, session.—Mr. Wallace.

# Courses for the Degree of Master of Science

1. ADVANCED MATHEMATICS. Lectures and study under the direction of the Department of Mathematics.

Lectures, 2 hrs.....Dr. Sullivan.

2. ELECTRICAL PHYSICS. Lectures and study under the direction of the Department of Physics.

Lectures, 2 hours.

3. Electrotechnics.

Colloquium, 2 hrs.

The thesis will be in one of the following fields of investigation :--

(a) Design, characteristics and testing of electrical machinery; investigation of special machinery; special problems of design.

(b) Properties of dielectrics and electric insulators; laboratory instruction and experimental investigation, with facilities for high voltage testing.

(c) Design, characteristics and testing of electrical engineering measuring instruments and devices. Facilities are available for precision measurements of most of the electrical quantities. Laboratory investigation of new types of measuring instruments and development of special devices.

(d) Investigation of devices for protection of electrical power systems; laboratory testing of relays and other devices; development of special types.

(e) Stability of electric power systems; stability under normal and transient conditions; determination of short-circuit currents; design of generators and excitation systems for maximum stability.

(f) Inductive co-ordination of power and signal systems.

A workshop is available for the construction of special apparatus for research work.

## DEPARTMENT OF ENGLISH

#### PROFESSOR :- CYRUS MACMILLAN.

132. SUMMER READING OR ESSAY. Second Year. (See page 259.)

133. SUMMER READING OR ESSAY. Third Year. (See page 260.)

134. SUMMER READING. Fourth Year. (See page 261.)

## DEPARTMENT OF GEOLOGY AND MINERALOGY

PROFESSOR OF GEOLOGY :- JOHN J. O'NEILL.

PROFESSOR OF MINERALOGY:-R. P. D. GRAHAM.

Associate Professor of Palæontology :- T. H. Clark.

LEROY FELLOW IN GEOLOGY :------

## Third Year.

141. GENERAL GEOLOGY. (Arts 1.) The lectures will make a general survey of the whole field of geology.

(a) Mineralogy and Petrology.—The common rock-forming and economic minerals and more important rocks.

(b) Dynamical and Structural Geology.—The processes of vulcanism; volcanoes, geysers, etc.; disintegration of the rocks to form soils; denudation of the earth's surface under atmospheric agencies, rain, running water, glaciers, etc., and the deposition of the materials as sediments; mountain building, earthquakes, folding, faulting, etc.

(c) Historical Geology, including a description of the fauna and flora of the earth during the successive periods of its history, as well as the economic aspects of the subject.

The lectures will be illustrated by the extensive collections in the Peter Redpath Museum, as well as by models, maps, sections and lantern slides.

In addition to the lectures there will be excursions on Saturday mornings for five or six weeks after term opens; students taking this

course will be excused from any classes which conflict with the excursions. On the discontinuance of the excursions, one hour lab. per week.

3 hrs., Mon., Wed., and Fri., at 9.

Text-book:-To be announced.

#### Professor Clark.

142. MINERALOGY. (Arts 5.) The lectures and demonstrations, illustrated by specimens and models, deal mainly with the description and means of identification of species, special attention being paid to the ores and economic minerals and to those which are important as rock constituents. The earlier lectures are devoted to a brief discussion of the geometrical and physical properties of minerals; their chemical composition; calculation of formulæ, etc., and the principles of classification. 2 hrs., Tu. & Th., at 9.—Professor Graham.

143. DETERMINATIVE MINERALOGY. (Arts 6.) Laboratory practice in blow-pipe analysis and its application to the determination of mineral species. 2 labs., 1st term, Th. & Fri., 2 to 5.—Professor Graham.

#### Fourth Year.

146. PETROGRAPHY. (Arts 10.) The modern methods of study employed in petrography are first described, and the classification and description of rocks is then taken up.

One lecture, first term, Tu., at 10, and one laboratory period per week during the session.—Professors Graham and O'Neill.

148. ORE DEPOSITS AND ECONOMIC GEOLOGY. (Arts 7 and 8.) The first part of the course is a discussion of the application of the knowledge and data of Pure Geology to commercial uses; the structure of the earth's crust, more especially with reference to folding, faulting and igneous intrusion in their bearing upon the occurrence of valuable mineral deposits; discussion of the methods employed in carrying out geological surveys, and in the construction and interpretation of geological maps and sections.

The second part of the course considers the nature, mode of occurrence and classification of ore deposits; typical occurrences will be described and their origin discussed. The more important non-metallic minerals, e.g., fuels, clays, building stones, etc., will be similarly treated, as well as the questions of water supply, artesian wells, etc.

The course will be supplemented by laboratory work on problems. 1st term, Th., at 11; 2nd term, Tu., 10 to 12, Wed. & Th., at 11.— Professor O'Neill.

Books of reference:—Geikie, Outlines of Field Geology; Kemp, Ore Deposits of the United States and Canada; Lindgren, Mineral Deposits; Leith, Economic Aspects of Geology; the Reports of the Geological Survey of Canada, and the Publications of the U.S. Geological Survey.

149. GEOLOGY OF CANADA. (Arts 4.) A general description of the geology and mineral resources of the Dominion. One hour, 1st term, Wed., at 11.—Professor O'Neill.

151. OPTICAL MINERALOGY AND CRYSTALLOGRAPHY. (Arts 9.) A short course of lectures for students in chemistry, with laboratory practice in the measurement and drawing of crystals; calculation of axial ratios, etc.; use of the polarizing microscope, axial angle apparatus, etc.—Professor Graham.

152. HISTORICAL GEOLOGY. (Arts 3.) This is a continuation of course 141, and will consist of lectures, colloquia and museum work extending throughout the session.—Professor Clark.

153. FIELD WORK. The students in mining will receive a course of instruction in geological mapping and field work, extending over one week—in connection with the summer school of mining.—Professors O'Neill and Clark.

## ENGINEERING REPORTS, HISTORY OF SCIENCE, ENGINEERING LAW AND ECONOMICS

Associate Professor of Economics:--J. P. Day. Assistant Professor of Economics:--J. C. Farthing. Lecturer in Economics:--John Thomas Culliton. Professor of Accountancy:--R. R. Thompson. Lecturer on Law:--J. W. Weldon.

131. ENGINEERING REPORTS. One lecture and two hours' conference per week in the Second Year.—Professor French.

170. HISTORY OF SCIENCE. A course of lectures on the History of Science and the History of Engineering by various lecturers, supplemented by reading and written exercises. One hour per week in the First Year.

171. ELEMENTS OF POLITICAL ECONOMY. The lectures will deal with the production and distribution of wealth; the means by which these processes are effected; the means by which they are controlled and regulated by the state or the community; the various theories concerning their operation and regulation; their effect on society, labor and capital; theories of money and credit; prices; public finance and taxation. Two hours per week in the second term of the Third Year.— Mr. Farthing.

Book of reference:-McGibbon, Economics for Canadian Readers.

#### MATHEMATICS

172. (a) CORPORATION FINANCE. A course of instruction in the fundamental principles of accounting and corporation finance. The following will be dealt with:—Capital and revenue receipts and expenditure; corporations; shares and bonds; fixed and current assets and liabilities; valuations; depreciation; reserves; manufacturing, construction, trading and profit and loss statements; overhead rates; estimates.— Professor R. R. Thompson.

(b) CANADIAN ECONOMIC PROBLEMS. This course is intended to familiarize engineering students with the most important economic problems of the day; the currency and banking systems; taxation; trade policy; the history of the tariff; transportation; its development and policy.—Professor Day and Mr. Culliton.

Two hours per week for the first term of the Fourth Year.

175. ENGINEERING LAW. This course is intended to present such an outline of the law as will be useful to engineers and business men. One hour per week in the Fourth Year.—Mr. Weldon.

#### DEPARTMENT OF MATHEMATICS

Professors :-- {D. A. Murray. C. T. Sullivan.

Associate Professor :--- W. L. G. Williams.

(R. E. JAMIESON.

Assistant Professors :-- { G. J. Dodd.

F. M. WOOD.

## First Year.

191. PLANE TRIGONOMETRY. Solid geometry and plane trigonometry. First term.-Messrs. Dodd and Jamieson.

*Text-books:*—Hall and Stevens' School Geometry, Part VI (Macmillan); Murray's Plane and Spherical Trigonometry (Longmans).

192. ALGEBRA. Interest and annuities, theory of equations, partial fractions, graphical algebra with an introduction to analytic geometry, functions and limits. First and second terms.—Messrs. Williams and Wood.

Text-book:-Tanner and mimeographed notes.

193. MENSURATION. Solid mensuration and spherical trigonometry. Second term.-Messrs. Dodd and Jamieson.

Text-books :- As in Course 191.

194. MECHANICS. An elementary course in dynamics, statics, and hydrostatics. First and second terms.—Messrs. Dodd and Jamieson.

Text-book :- Mimeographed notes by Mr. Jamieson.

#### Second Year.

197. ANALYTICAL GEOMETRY. The point, straight line, circle, parabola, ellipse and hyperbola, elements of geometry of three dimensions. First Year (latter part of second term), and Second Year (first term). The Second Year work begins with the circle.—Messrs. Murray and Williams.

Text-book:--Tanner and Allen, A Brief Course in Analytic Geometry (American Book Co.).

198. CALCULUS. Differentiation of functions of one or more variables, successive differentiation, tangents, etc., curvature, maxima and minima, integration, with application to areas volumes, moments of inertia, etc. First and second terms.—Messrs. Murray and Williams.

Text-book:--Murray's Differential and Integral Calculus (Longmans).

# Third Year.

201. CALCULUS. Elementary differential equations. Prescribed for Electrical Engineering students of 'the Third Year; optional for all others. First term, 2 hours.—Dr. Sullivan.

Text-book :- Murray's Differential Equations (Longmans).

# DEPARTMENT OF MECHANICAL ENGINEERING

C. M. McKergow.

PROFESSORS :- { A. R. ROBERTS.

L. R. THOMSON.

ASSISTANT PROFESSOR :- J. A. COOTE.

Lecturers :-- { R. H. Patten. L. R. McCurdy.

# Second Year.

218. MECHANICS OF MACHINES. (Second term.) .Kinematics of Machines.—Constrained motion; kinematic pairing; velocity and acceleration in mechanism; centrodes; analysis and classification of simple

#### MECHANICAL ENGINEERING

mechanisms, including the quadric crank chain, the slider crank chain and various wheel trains; design of involute and of cycloidal wheelteeth.—Mr. Patten.

Text-book:-Durley's Kinematics of Machines (Wiley).

## Third Year.

224. MECHANICS OF MACHINES. Alternative with course (238), Accounting. Relative motion and displacement; crank effort diagrams, flywheels and inertia forces; the mechanism of the simple slide valve and of expansion valves; solution of valve setting problems; the function and dynamics of governors; elements of engine balancing; friction and lubrication. Required of students in Mechanical Engineering. Three hours per week.—Mr. McCurdy.

Text-book:-Ewing's Steam Engine (Camb. Univ. Press).

225. MACHINE DESIGN. Principles of the strength of materials as applied to the design of the parts of machines; fastenings used in machine construction, bolts, screws, keys, cotters, rivets, and riveted joints; journals and bearings; shafts and couplings. Required of students in Mechanical and Electrical Engineering. Two hours per week.—Professor Roberts.

Text-book:—Unwin's Machine Design, Part I (Longmans). Book of reference:—Spooner's Machine Design (Longmans).

226. MECHANICAL ENGINEERING. General course in Mechanical Engineering of Power Plants and Prime Movers.

Fuel and combustion, steam, and steam production; corrosion and defects of boilers; boiler accessories, principles of selection and arrangement; the steam engine; estimation of power developed and economy; condensers, pumps and accessories; steam turbines; principles of design in steam plants; gas engines and gas producer plants. Required of all Engineering students, except those in Mechanical Engineering. Two hours per week.—Professor McKergow.

Text-book:-MacNaughton, Steam Engines.

227. MECHANICAL ENGINEERING. Same course as 226, but more time is given to working out practical problems. Required of students in Mechanical Engineering. Three hours per week.—Prof. McKergow.

Text-book :- As for 226.

228. MECHANICAL ENGINEERING LABORATORY. Testing and calibration of indicators, brakes and other measuring instruments; tests to determine the efficiency of belt and other transmission gearing; the properties of lubricants; the economy and performance of a steam engine and boiler, of a gas engine, of an air compressor, and of a pump.

Required of all Engineering students, except those taking the Electrical Engineering course. Three hours per week.—Mr. Patten.

Reference book:-Carpenter, Experimental Engineering.

223. MECHANICAL ENGINEERING LABORATORY. First term, course same as 228; second term, experimental work on the relative value of throttling and expansion governors; effect on the economy of steam engine of changing from simple to compound, triple, or quadruple expansion; the testing of steam boilers, producer gas engines, air compressors, steam turbines, and a complete steam power plant test. Required of students in Electrical Engineering. Six hours per week in first term and three hours per week in second term.—Mr. Patten.

Reference book:-Carpenter, Experimental Engineering.

229.—THERMODYNAMICS. Fundamental laws and equations of thermodynamics; their application to gases and to saturated super-heated vapours; efficiency of ideal heat engines; properties of steam, and elementary theory of the steam engine; elementary theory of gas and hot-air engines. Required of Third Year students in Mechanical and Electrical Engineering. Two hours per week.—Professor Roberts.

Text-books:---Marks and Davis, Steam Tables; Elements of Engineering Thermodynamics, Moyer, Calderwood and Potter.

Reference book:-Ewing, The Steam Engine and Other Heat Engines (Camb. Univ. Press).

231. MECHANICAL DRAWING. This course is supplementary to the course in machine design and consists of exercises in design and draughting of fastenings, machine parts and simple machines. Required of Mechanical Engineering students. Six hours per week for the first term and three hours per week for second term.—Mr. McCurdy.

233. Introduction to courses Nos. 236 and 231. These courses are for four weeks in September, preceding the work of the Third Year.— Messrs. McCurdy and Gatehouse.

236. MACHINE SHOP. Lathe work; marking off; centering; turning and boring; radial facing; filing; grinding and polishing; internal and external screw cutting; change gear calculations; taper turning and bench work. Required of students in Mechanical Engineering. Three hours per week for one term.—Mr. Gatehouse.

237.—INDUSTRIAL ENGINEERING. Fundamental principles, modern tendencies and problems arising therefrom, scientific management, routing, etc., personnel and collective bargaining.

Text-book :- Industrial Organization (Kimball), third edition.

Two lectures per week during the first term.-Mr. Coote.

#### MECHANICAL ENGINEERING

238. ACCOUNTING. Alternative with Mechanics of Machines (224). This course is designed to give students the fundamental principles of bookkeeping and accounting so that they will be in a position to deal intelligently with the books of account and the financial statements met with in engineering work, particularly in manufacturing. One hour lecture and one problem period per week.—Mr. Coote.

## Fourth Year.

240. MECHANICS OF MACHINES. (a) Valve gears and governors. Gyrostatic action in machines; further treatment of engine governors; knocking and shocks in reciprocating machinery; valve gears.—Prof. McKergow.

(b) Aerodynamics. The construction of an æroplane; methods of experiment in æronautics; prediction of performance from experimental data; stability and control; the theory of air screws. Three hours per week.—Professor McKergow.

Reference books:-Dalby's Balancing of Engines; Spangler's Valve Gears.

241. DESIGNING. The complete design of an engine, a pump, or a machine tool, is worked out, and the requisite working drawings and tracings are prepared. Required of students in Mechanical Engineering. Three hours per week.—Professor Roberts.

242. MACHINE DESIGN. (a) Designs of power transmission, gearing, including belts, ropes, friction, chain and toothed gearing, fits and fitting; (b) Engine details, including cylinders, piston rods, connecting rods, shafts, fly-wheels and machine frames. Required of Mechanical Engineering students. Two hours per week.—Professor Roberts.

Text-book:—Unwin's Machine Design, Parts I and II (Longmans). Reference book:—Spooner's Machine Design (Longmans).

243. MACHINE DESIGN. Course same as 242 (a). Two hours per week during the second term. Optional for Electrical Engineering students.—Professor Roberts.

244. POWER PLANT DESIGN. The arrangement, design and operation of power plants worked by steam and gas engine; effects of requirements for lighting, heating and power distribution. One lecture hour and one drafting room period per week. Required of students in Mechanical Engineering.—Professor McKergow.

Text-book:-Gebhardt, Steam Power Plant Engineering.

247. HEATING AND VENTILATION OF BUILDINGS. Loss of heat from buildings; radiation surfaces; design and operation of heating systems;

principles of ventilation; fans and blowers; design and duct systems; temperature and humidity control. One hour per week.—Professor McKergow.

Text-book :- Allen and Walker, Heating and Ventilating.

249. MECHANICAL ENGINEERING LABORATORY. Experimental investigation of :—action of governors; performance of fans and blowers; performance of steam boilers, steam engines, steam turbines, refrigeration machines, condensers, gas engines and producers, efficiency of air compressing and pumping machinery; tests of a complete steam power plant, gas power plant and a heating and ventilating system. Ten hours per week. Required of students in Mechanical Engineering.— Professor McKergow, Mr. Patten.

Reference book:-Carpenter, Experimental Engineering.

249A. MECHANICAL ENGINEERING LABORATORY. Similar to course 249. Taken by students in Fourth Year Mechanical Engineering who take the Industrial Administration option. Two periods per week.

257. EXPERIMENTAL ENGINEERING. Theory of errors; calibration and use of instruments; measurement of power methods of testing power-plant apparatus and the tabulation of results. Required of students in Mechanical Engineering. One hour per week.—Professor Roberts.

# Text-book:-Carpenter, Experimental Engineering.

251. THERMODYNAMICS. Efficiency of the piston steam engine, behaviour of steam in the cylinder, influence of size, speed rate of expansion, compounding, superheating and steam-jacketing; flow of gases and vapours through orifices and nozzles and applications to the design of steam-turbines; theory and analysis of performance of internal-combustion engines; refrigerating-machine cycles. Required of students in Mechanical Engineering. Two hours per week.—Prof. Roberts.

Text-books:—Ewing's Steam Engine (Cambridge Univ. Press); Moyer, Steam Turbines (Wiley); Marks and Davis, Steam Tables and Diagrams (Longmans).

Books of reference:-Stodola, The Steam Turbine (trans. Lowenstein) (Van Nostrand); Clerk, The Gas Petrol and Oil Engine, Part I.

252. MACHINE SHOP. Experimental work and studies for the minimum times required for production, involving a consideration of the best available machine tool speeds, necessary power of belting, most efficient tool angles, quality of metal and the kind of tool steel used. The course includes work in connection with the lathe, the planer, slotter, shaper and miller; instruction in gear cutting and cutter grind-

ing. Required of students in Mechanical Engineering. Three hours per week .- Mr. Gatehouse.

253. INDUSTRIAL ENGINEERING. A consideration of the economic factors that influence the location of industrial plants, such as the capacity of the marke, the location of raw materials and the source of power, transportation facilities and costs, etc.; selection of local site and design of the plant; organizing and financing the company; organizing for operation and forecasting results. Two lectures and one drafting room period per week throughout the year.—Mr. Coote.

Text-book:-Walker, Management Engineering (McGraw-Hill).

254. INDUSTRIAL ADMINISTRATION. The control of industry—production, finance and saes by means of planning systems, control boards, charts, budgets, standard costs, etc. The lectures will be largely descriptive of the different control devices and the problem periods will be devoted to their practical working out and use. One lecture and one drafting room period per week in the second term.—Mr. Coote.

258. INDUSTRIAL RELATIONS. A study of the problems arising out of the administration of industrial enterprises on the human side; the recruiting of the labour force; introducing the worker to the factory; health and safety; job analysis and job specifications; education; wages and hours; profit-shaing, shop committees and collective bargaining. Two lectures per week in the first term.—Mr. Coote.

Text-book:—Personnel Administration by Tead and Metcalfe (Mc-Graw-Hill).

Summer Schools-see note (c), page 257.

# Courses for the Degree of Master of Science

1. ENGINEERING THERMODYNAMICS. Prerequisite, Course 251 (see page -).

3 hrs. colloquia......Professor McKergow.

2. MACHINE DESIGN. Prerequisites, Courses 225 and 242 (see pages 83 and 85).

3 hrs. colloquia......Professor Roberts.

3. FUEL ENGINEERING. As in the Announcement of the Faculty of Graduate Studies.

## DEPARTMENT OF METALLURGICAL ENGINEERING

PROFESSOR :- ALFRED STANSFIELD. ASSISTANT PROFESSOR :- GORDON SPROULE. LECTURER :- HAROLD J. ROAST. SPECIAL LECTURER :- CHARLES F. PASCOE. RESEARCH FELLOW :- .

## Third Year.

261. ELEMENTARY METALLURGY AND LABORATORY. An introductory course in general metallurgy, including metals and alloys, fuels, furnaces, refractory materials, pyrometry and calorimetry, metallography, heat treatment and testing of metals, smelting and refining operations and a short account of the metallurgy of copper, lead, iron and steel.

The instruction consists of lectures during the first term and a short laboratory course in which the following exercises are carried out as far as time permits:—(a) Roasting a sulphide or arsenical ore; (b) formation and properties of copper or lead mattes and slags; (c) smelting a copper or lead ore in crucible; (d) melting and casting certain metals and alloys; (e) the use of the electric furnace; (f) leaching a copper or silver ore; (g) elementary exercises in some of the following:—pyrometry, calorimetry, tests of refractory materials, microscopic examination of metals, heat-treatment of iron or steel, and some simple mechanical testing methods.

Two lectures a week during the first term and one laboratory period during the second term.—Mr. Sproule.

A short laboratory course in practical pyrometry is given to students taking course 8B, Theory of Heat, in the Department of Physics.

262. ELEMENTARY METALLURGY. The course of lectures as in 261, but without laboratory work, for Chemical and Mining Engineering students.

263. FIRE-ASSAVING. The lectures and instruction sheets give an account of the furnaces, balances and other appliances used in assaying, the sampling and preparation of ores, the fluxes and reagents employed, and the methods used in assaying gold, silver and lead ores, copper and copper ores and mattes, gold and silver bullion and base bullion, cyanide precipitates and solutions.

One lecture a week during the second term for Metallurgical and Mining students.—Mr. Sproule.

264. FIRE-ASSAVING LABORATORY. The students learn as many of the above-mentioned methods as possible in the time allowed to this course. Care is taken that a student shall be able to make such assays

as would be required at a mine, and with a fair degree of accuracy. Students usually have an opportunity of doing additional fire-assaying in their Fourth Year.

Two laboratory periods a week during the second term, for Metallurgical and Mining students.—Mr. Sproule.

Reference books:-E. A. Smith, Sampling and Assay of the Precious Metals; E. E. Bugbee, Fire-Assaying.

265. METALLURGICAL CALCULATIONS. This is an introductory course on the application of exact chemical and physical laws to metallurgical operations, such as the combustion of fuel, the smelting of ores and the construction and heating of furnaces. One lecture a week during the session for Metallurgical students.—Dr. Stansfield.

Text-book:-J. W. Richards, Metallurgical Calculations, Vol. I.

267. METALLURGICAL FIELD SCHOOL. This is held at the end of the Third Year. The first part consists of visits to metallurgical works in Montreal and the vicinity, supplemented by reading and lectures. The second part consists of visits to smelters, steel-works and metallurgical refineries throughout Canada. Students are required to keep notes during the school and to submit a written account of their observations at the beginning of the next term.

The Field School has been held in Pennsylvania, Nova Scotia, British Columbia and other parts of Canada, but it is usually conducted in Ontario, as this offers the greatest variety at the least cost. The only charge made is for board, lodging and railway fares, and care is taken to keep these as low as possible.

At the close of the School it is usually possible for each student to obtain suitable employment for the summer at one of the works visited, and students are strongly advised to take this means of obtaining metallurgical experience.

## Fourth Year.

271. METALLURGY (General).

(a) The metallurgy of iron and steel.

(b) The metallurgy of copper, lead, gold, silver, zinc and nickel. Two lectures a week during the session and a few laboratory demonstrations, for Metallurgical and Mining students.—Dr. Stansfield.

*Text-books:*—H. M. Boylston, an introduction to the Metallurgy of Iron and Steel; W. Gowland, The Metallurgy of the Non-ferrous Metals.

272. METALLURGY (Advanced).

(a) General advanced metallurgy.

Text-books:-Fulton, Principles of Metallurgy; Jeffries and Archer, "The Science of Metals."

(b) A more detailed account of the metals mentioned in 271, and of aluminum, antimony, arsenic, bismuth, cadmium, cobalt, mercury, platinum and tin.

Required of Metallurgical students. Two hours a week during the session.—Dr. Stansfield.

Reference books:—Hofman and Hayward, Metallurgy of Copper; Hofman, Metallurgy of Lead; Hofman, Metallurgy of Zinc and Cadmium; Addicks, Copper Refining; Liddell, "Handbook of Non-Ferrous Metallurgy"; Johnson, The Principles, Operation and Products of the Blast Furnace; Forsythe, The Blast Furnace and the Manufacture of Pig Iron.

273. FIRE-ASSAYING AND LABORATORY. A short course for Chemical Engineering students. For particulars, see 263 and 264. One laboratory period and one lecture per week in the first term.—Mr. Sproule.

274. METALLURGICAL LABORATORY AND THESIS. Three periods per week in the second term are devoted to the serious study of some metallurgical problem. The students work singly or in pairs and prepare a thesis containing an account of important published work bearing on the subject, as well as the result of their own experimental researches. Required of Metallurgical students.—Dr. Stansfield.

275. ELECTRO-METALLURGY AND LABORATORY. The course of lectures is devoted mainly to a consideration of the principles and construction of electric furnaces, and their uses for smelting and refining metals. The refining of metals and the recovery of metals from their ores by electrolysis of aqueous solutions is also considered. The laboratory work is arranged to illustrate the lectures. Groups of students operate each of the main types of electric furnace and become familiar with some of the principles of electric furnace construction and design. Two lectures a week and one laboratory period during the second term for Metallurgical students.—Dr. Stansfield.

Text-book:-Stansfield, The Electric Furnace.

277. METALLURGICAL COLLOQUIUM. One hour a week during the second term is given to informal discussions of research and other work being done in the department, and to other topics of metallurgical interest.—Dr. Stansfield.

278. METALLURGICAL CALCULATIONS AND DESIGN. The calculation of furnace charges and efficiencies, and the designing of metallurgical furnaces and plants. One lecture a week during the first term and

two periods per week in the library and drafting room during the second term.-Dr. Stansfield.

279. METALLURGICAL ANALYSIS. In this course the student is enabled to acquire dexterity in the modern commercial methods of analyzing ores and ferrous and non-ferrous alloys, taking into consideration the need of speed and reasonable accuracy. Instruction is given in the essential features of the methods employed and in fitting up a works' laboratory. One lecture and one laboratory period per week during the second term.—Mr. Roast.

230. METALLOGRAPHY. A course of lectures on the fundamentals of metallography, including the heat-treatment of steel and the standardization of the common non-ferrous alloys. One lecture a week during the first term, for Metallurgical students.—Mr. Roast.

281. METALLOGRAPHIC LABORATORY. Laboratory instruction and practice in preparing and studying specimens of iron, steel, bronze, brass and babbitt metal for microscopic examination, and in the heat treatment of steel and the methods of thermal analysis. One laboratory period per week during the first term, for Metallurgical students. --Mr. Roast.

282. METALLOGRAPHY AND LABORATORY. A short course of lecture and laboratory instruction, covering the essential features of theoretical and practical metallography. One lecture and one laboratory period per week during one-half of the first term, for Chemical Engineering students.—Mr. Roast.

283. METALLURGICAL CALCULATIONS. A course resembling number 265 but adapted to the requirements of the Fourth Year Mining students. One lecture a week during the session.—Dr. Stansfield.

284. METALLURGICAL LABORATORY for Mining students. One period per week during the second term, arranged to illustrate lecture courses 262 and 271.—Dr. Stansfield and Mr. Sproule.

### EXTENSION COURSES

A course of lectures and laboratory instruction in Metallography is given in the evening by Mr. Roast and Mr. Pascoe.

A course of lectures and laboratory instruction in Commercial Metallurgical Analysis is given in the evening by Mr. Roast.

Courses of lectures and laboratory instruction in General Metallurgy and in Fire-Assaying are given in the evening by Mr. Sproule.

For particulars, see Announcement of Extension Courses.

MINING AND METALLURGICAL SOCIETY See page 301.

# RESEARCH FELLOWSHIPS AND GRADUATE COURSES

One or more research fellowships are usually offered to graduate students in Metallurgical Engineering.

## Courses for the Degree of Master of Science

Each student is required to follow a course of reading with lecture or tutorial instruction and laboratory work, as outlined below (Nos. 1 to 3). He must also take certain undergraduate courses, usually in the Department of Chemistry. About one-half of his time is devoted to the investigation of some particular metallurgical problem by directed reading, discussion with the Head of the Department and experimental work in the laboratory. The result of this investigation is presented in the form of a thesis.

1. GENERAL ADVANCED METALLURGY. A series of advanced studies of the theory and practice of metallurgy, taken from the following list:---

Physical properties and allotropic changes of metals.

Constitution and properties of metallic alloys.

Constitution and properties of slags and mattes.

Chemical equilibria, thermo-chemistry and speed of chemical reactions in metallurgical practice.

Design and efficiency of fuel-fired and electrical furnaces. Properties, cleaning and utilization of furnace gases.

Electrolysis as applied to the refining and recovery of metals.

Instruction is given by directed reading supplemented by two hours per week of colloquium and three hours per week of laboratory work.

Dr. Stansfield, Mr. Sproule and Mr. Roast.

2. The same as No. 1, but including a special study of one or more selected metals, or of some special branch of metallurgy such as electro-metallurgy or hydro-metallurgy. (Alternative with No. 1.)

#### Dr. Stansfield.

3. The same as No. 1, but including a course of instruction and laboratory work on the properties of metals and refractory materials and the use of metallurgical testing instruments. (Alternative with No. 1.).....Dr. Stansfield and Mr. Sproule.

#### MINING ENGINEERING

Undergraduate subjects, Nos. 272, 275, 279, 280 and 281 (see above), are offered to students who did not take them in their undergraduate course.

Graduates in Chemical Engineering in the Inorganic Option will be allowed to specialize in Metallurgy—including two summers' work and a year of metallurgical study in the Graduate Faculty—and if successful will be given the degree of M.Sc. in Chemistry.

# DEPARTMENT OF MINING ENGINEERING

## LECTURER :- WILLI ERLENBORN.

# Third Year.

291. MINING ENGINEERING. The principles and practice of mining. —Introductory, simple mining methods, excavation, explosives and blasting, rock drills, coal cutters, gold washing and dredging, hydraulic mining, quarrying, etc. One lecture per week. This course is continued in the Fourth Year. (See 297.)—Professor McBride and Mr. Erlenborn.

292. ORE DRESSING. The theory and practice of ore dressing.— The forms in which ores occur and the effect of mixture, impurity, etc.; the theoretical considerations affecting mineral separations; the mechanical operations involved; crushing, sizing and dressing machinery breakers, stamps, rolls, screens, jigs, vanners, tables, flotation apparatus, washers, magnetic separators, etc. Two lectures per week and laboratory. This course is continued in the Fourth Year. (See 300.)— Professor Bell.

295. CRUSHING MACHINERY. This is the first half of course 292 and is taken by students in Chemical Engineering as well as by Mining and Metallurgical students. Two lectures per week in first term.—Professor Bell.

*Text-books:*—H. C. Hoover's Principles of Mining; Taggart's Handbook of Ore Dressing; and Peele's Mining Engineer's Handbook.

## Fourth Year.

293. MINE MAPPING. The calculations and plotting of mine surveys. One afternoon per week in the first term.—Mr. Erlenborn.

297. MINING ENGINEERING. The principles and practice of mining. —Prospecting, artesian and oil wells, diamond drilling, open cut mining, shaft sinking, underground development and methods of mining, timbering, hauling, hoisting, pumping, lighting, ventilating, etc.; mine accidents and their prevention; general arrangement of plant, stores and dwellings; administration and industrial relations; examination and valuation of mines and mine reports. Three lectures a week.—Professor McBride and Mr. Erlenborn.

298. MINING DESIGN. Practical problems in calculation of the grade and tonnage of ore bodies, methods of mining, hoisting, draining, ventilation, surface plant and equipment, metallurgical treatment and organization. Two drafting-room periods in the second term.—Professor McBride, Professor Bell and Mr. Erlenborn.

300. ORE-DRESSING AND MILLING. Gold and silver milling, amalgamation, cyaniding, flotation, etc., concentration plants, coal breakers and washers, general conclusions regarding plant design and lay-out. Two lectures a week in the first term.—Professor Bell and Mr. Erlenborn.

301. MINING COLLOQUIUM. One hour a week is given to the presentation and discussion of papers on the work being done in the department and to other matters relating to mining and ore-dressing. Students are required to take the leading part in these exercises.

305. ORE-DRESSING LABORATORY. One morning per week in the first term is given to the ore-dressing and hydraulic laboratories. This time is chiefly assigned to ore-dressing, and certain typical operations are carried out.

306. ORE-DRESSING LABORATORY AND THESIS WORK. In the second term one whole day and one additional morning per week are given to individual work in the laboratory and to the preparation of a thesis to be filed in the departmental library, and, when suitable, published.

The subjects available for thesis work are very numerous, and range from purely theoretical investigation in crushing, screening, classification, concentration, flotation, etc., to the experimental determination of the best methods for the treatment of particular ores. Numerous different lots of ore are available in sufficient quantities for work on a comparatively large scale. New ores are constantly being secured.

Text-books:—In addition to the text-books already specified for the Third Year, students are required to provide themselves with Hamilton's Manual of Cyanidation. In addition to using these formal text-books, students are required to make frequent use of the works named below:— Hager's Oil Field Practice; Donaldson's Practical Shaft Sinking;

#### MINING ENGINEERING

Brinsmade's Mining Without Timber; Timbering of Metalliferous Mines, by J. F. Downey; Ketchum's Design of Mine Structures; Peele's Compressed Air Plant; Richards and Locke's Text-book of Ore-Dressing; Rickard's Sampling and Estimation of Ore in a Mine; Julian and Smart's Cyaniding Gold and Silver Ores; Megraw's Details of Cyanide Practice; Hoover's Concentrating Ores by Flotation; Prochaska's Coal Washing; The Coal and Metal Miners' Pocket-book.

# RESEARCH FELLOWSHIPS AND GRADUATE COURSES

Special courses of instruction are offered to graduate students in mining and ore-dressing. (See below.) There are three endowed Research Fellowships in the gift of the Mining Department. These are assigned to graduates of the Department who show particular aptitude for advanced work.

#### LABORATORIES

The specific laboratory instruction in mining subjects proper begins in the Third Year, with courses in assaying, elementary metallurgy and ore-dressing. In the Fourth Year this work is elaborated, the general method of instruction being first to conduct a limited number of typical operations, and then to assign to each student certain methods which he must study out in detail, and upon which he must experiment and make written reports. In this work he is guided by the professors and fellows, and assisted by the other students, whom he must in turn assist when practicable. In this way every student acquires detailed knowledge of certain typical operations and makes at least one original investigation and at the same time gains a fair general experience of many of the important methods in use.

#### ILLUSTRATIONS, MUSEUMS, SOCIETIES, ETC.

In addition to the usual projection apparatus and a collection of over two thousand lantern slides, the Department has a standard motion picture projector and has made arrangements with the U.S. Bureau of Mines and other sources whereby several large series of mining films are available for class use. There is also a good departmental library, including selected trade catalogues, etc.

The McGill University Mining and Metallurgical Society meets at stated periods to hear and discuss papers on mining and correlated subjects given by men prominent in the industry. The Society has been made a students' section of the Canadian Institute of Mining and Metallurgy and its undergraduate members are therefore student members of the Institute, and receive its publications. Papers read before the Mining Society or submitted as Summer Essays may be entered in

competition for all students' prizes offered by the Canadian Institute of Mining and Metallurgy, or the Engineering Institute of Canada. They will not be published unless the consent of all interested persons is first secured.

# FIELD SCHOOL IN MINING

294. The summer vacation field class, instituted in 1898, is now a fixed part of the course. All students in Mining in regular course are required to attend this class at the end of the Third Year.

The work will be confined to an intensive study of one or more districts with, if conditions permit, visits to nearby districts. The student will be guided by members of the staff and will be required to work in a mine or ore-dressing plant for at least two months. He will also be required to submit his notes at the beginning of the Fourth Year and an essay on some phase of the work.

# Courses for the Degree of Master of Science

# A. Undergraduate Course open to Graduate Students who have not already taken it as Undergraduates

1. MINING ENGINEERING. Course 297. (See page 300.) The whole of this course of three lectures per week for two terms, or selected portions of it (methods of mining), is suitable as part of the requirements for the M.Sc. degree for students who have not taken this course while undergraduates......Professor McBride.

# B. Advanced courses open to Graduate Students only

4. CLASSIFICATION LABORATORY. Advanced students who wish to supplement course No. 5 will be given one or two laboratory periods per week for one term......Professor Bell and Mr. Erlenborn.

5. FILTRATION IN ORE-DRESSING AND CYANIDATION. Theoretical and practical conditions governing the removal of finely divided and semi-colloidal minerals from water and dilute solutions by means of mechanical filtration apparatus. One lecture and one laboratory period per week for one term......Professor Bell and Mr. Erlenborn.

#### PHYSICAL EDUCATION

6. FILTRATION LABORATORY. Advanced students who wish to supplement course No. 7 will be given one or two laboratory periods per week for one term......Professor Bell and Mr. Erlenborn.

9. THE THEORY AND PRACTICE OF FLOTATION. Advanced studies in flotation, surface tension, etc. Two lectures per week, for one term. Professor Bell or Mr. Erlenborn.

10. FLOTATION LABORATORY. Advanced students who wish to supplement course No. 11 will be given one or two laboratory periods per week for one term......Professor Bell and Mr. Erlenborn.

Note.—The Department reserves the right to substitute tutorial instruction in place of set lectures when the classes are small enough to warrant the change. It is also prepared to increase the amount of work in certain of the courses when desirable.

## DEPARTMENT OF PHYSICAL EDUCATION

Director, Department of Physical Education :--Arthur S. Lamb. University Medical Officer :-- F. W. Harvey. Athletics Manager :-- D. S. Forbes.

RUGBY COACH AND ASSISTANT PHYSICAL DIRECTOR:—A. A. BURRIDGE. TRACK COACH AND ASS'T PHYSICAL DIRECTOR:—F. M. VAN WAGNER. ASSISTANT PHYSICAL DIRECTOR:—HAY FINLAY.

In order to promote as far as possible the physical welfare of the student body, all First and Second Year students, and all students of other Years, coming to the University for the first time, will be required to pass a physical examination. Students of all Years who wish to engage in athletic activities are also required to be physically examined. The hours for this examination will be announced at registration.

At the time of examination each student will be asked to fill in a card indicating his choice of physical activity, which he will be allowed to follow, unless debarred for medical reasons, in which case he will be given a further choice among other recognized but less strenuous forms of exercise or will do gymnasium work as the case may require.

Physical education is compulsory for all students of the first two years. Two hours per week will be devoted to it.\*

Any student participating in competitive athletics may be excused from other forms of exercise during the season of training, providing that this is performed to the satisfaction of the Director.

Unexcused absences up to one-eighth of the required number of periods shall be allowed. Unexcused absences exceeding one-eighth, but not exceeding one-fourth, may be allowed if at the end of the session the student passes a special examination and satisfies the Director that he has made sufficient progress. Unexcused absences exceeding onefourth shall disqualify a student. Such students shall be required to take extra gymnasium class work to the satisfaction of the Director, either by taking a supplemental school in September or by repeating the course in full.

No student in default shall be allowed to proceed to the next year of his course unless for special reasons exemption should be granted on the recommendation of the Faculty and approved by the Committee on Physical Education.

Not less than one month before the conferring of degrees in each session, the Director shall furnish to the Registrar of the University, for transmission to Corporation and the Faculty, a list of all students, being candidates for degrees at the forthcoming Convocation, who have failed to satisfy the requirements of the Committee on Physical Education, and no Diploma for a degree shall be issued to any such candidate unless by the express direction of Corporation.

All students in good standing who are taking a course of study held to be sufficient by a special committee of the Faculty in which they are enrolled will be allowed to take part in athletics, subject, however, to the general regulation regarding medical examination.

Suspension from lectures for any cause, or absence from more than one-eighth of the total number of lectures given in any course, shall be considered as sufficient ground to disqualify a student from engaging in athletic contests.

Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, and for this time only when requisitioned for by the Department. A leaflet and handbook concerning this service and the general work of the Department, together with the regulations governing athletics, will be distributed at the opening of the session.

<sup>\*</sup> Note.—Owing to lack of accommodation this requirement is suspended for the session 1929-30.

#### PHYSICS

## DEPARTMENT OF PHYSICS

DIRECTOR :- A. S. EVE.

Associate Professors :-- {D. A. Keys. H. E. Reilley.

Assistant Professor:-J. S. Foster. Lecturer in Astro-Physics:-A. V. Douglas.

SESSIONAL LECTURERS :- H. G. I. WATSON. W. H. BARNES.

	H. W. HARKNESS.
	N. CAM.
se (11 Non esures	F. T. DAVIES (on leave).
DEMONSTRATORS :	T. N. WHITE.
ses the maint field of	E. E. WATSON.
the second on the second	J. F. HEARD.
and the starts the second	R. I. HUNTER.

# First Year (Architecture).

44. GENERAL COURSE. (Arts No. 1.) Two hours Wednesday and Friday at 2 p.m.-Dr. Keys.

Text-book :- Kimball's College Physics (Holt).

45. LABORATORY COURSE. (Arts No. 1.) Two hours per week-2-4 Tuesday or 4-6 Wednesday.-Dr. Keys and demonstrators.

Text-book :- Laboratory Manuscripts (Renouf Pub. Co.).

## First Year.

311. HEAT, SOUND AND LIGHT. (Arts No. 2.) Two hours per week.—Dr. Shaw.

Text-book:-Duncan & Starling's Heat, Light and Sound (Macmillan).

312. LABORATORY COURSE. (Arts No. 2.) Two hours per week. See time-table of sections.—Dr. Keys and demonstrators.

*Text-book:*—Laboratory Manuscripts, Barnes & Wheeler (Renouf Pub. Co.).

# Second Year.

315. ELECTRICITY AND MAGNETISM. (Arts 3A.) Two hours per week.—Dr. Eve.

316. LABORATORY COURSE. (Arts 3A.) Two hours per week.— Dr. Keys and demonstrators.

Text-books:-Hadley's Magnetism and Electricity for Students (1926 edn. Macmillan). Laboratory Manuscripts (Renouf Publishing Co.).

## Third Year.

318. ELECTRICITY. (Arts 6C.) Elementary electron theory, molecular physics and applications. Two hours per week; second term. For students in Third Year Electrical Engineering.—Dr. Bieler.

See also course in Engineering Physics, page 256; and Physics, Faculty of Arts, page 190.

## DEPARTMENT OF SURVEYING AND GEODESY

Assistant Professors :-- {A. J. Kelly. James Weir.

DEMONSTRATOR :--

This course is designed to give the student a theoretical and practical training in the methods of plane and geodetic surveying, in the field work of engineering operations, and in practical astronomy in its application to geodesy. The course is divided as follows:—

### Second Year.

346. SURVEYING. Chain and angular surveying; the construction, adjustment, use and limitations of the transit, level, micrometer, compass and minor field and office instruments; railway circular and transition curves; planimeter and pantograph; general topography; levelling; contour surveying; stadia surveying; photographic surveying; land systems of the Dominion and provinces.—Mr. Kelly.

*Text-book:*—Surveying, Theory and Practice, by Davis, Foote and Rayner.

347. FIELD WORK. (1) Compass and chain, compass and micrometer, and chain surveying.

(2) Differential, profile, topographic and quantity levelling.

(3) Azimuth and deflection angle traversing, accurate methods of angle measurement, and stadia surveying.

348. MAPPING. Drafting from field notes of chain and stadia surveys; plotting topographical features; tinting maps with water-colours. Plotting photographic surveys.

### SURVEYING AND GEODESY

#### Third Year.

351. MAP PROJECTIONS. Graphical determination of spherical triangles; spherical projections, and the construction of maps.—Mr. Weir.

Text-books:-Hinks' Map Projections.

352. SURVEYING. Theory and use of instruments; hydrographic surveying; the use of the plane table; mine surveying; barometric and trigonometric levelling; elements of practical astronomy.—Mr. Kelly.

*Text-book:*—Surveying, Theory and Practice, by Davis, Foote and Rayner.

#### Reference book :- Durham's Mine Surveying.

353. SURVEYING. Theory and use of instruments; the use of the plane table; surveying; magnetic surveying; hydrographic surveying; barometric and trigonometric levelling; elements of geodetic surveying; elements of practical astronomy.—Mr. Weir.

Text-books:-Breed and Hosmer's Principles and Practice of Surveying, Vol. II; Hosmer's Practical Astronomy.

354. FIELD WORK. (1) The adjustments of the instruments; (2) the preliminary, topographic and location surveys for a railway, including simple, compound, transition and vertical curves, profile levelling, cross-sectioning for construction, and plotting of field notes; (3) a topographic survey with the stadia transit and plane table; (4) a hydrographic survey of a river channel, including measurement of discharge; (5) a survey at night illustrating underground methods; (6) astronomical observations with engineer's transit.

## Fourth Year.

359. GEODESY. The determination of time, latitude, longitude and azimuth; figure of the earth, measurements of base lines and triangulation systems; adjustment and reduction of observations.—Mr. Weir.

Text-book:-Hosmer's Geodesy.

361. FIELD WORK. (1) Determination of latitude, (a) by transit and sextant observations of Polaris, (b) by zenith telescope, (c) by noon observations with transit and sextant; (2) determination of azimuth, (a) by equal altitude observations of the sun, (b) by observations of elongation of Polaris, (c) by observation of a circumpolar star with engineer's transit, (d) by means of solar attachments and solar compass; (3) determination of time, (a) by equal altitude observations of the sun with sextant and transit, (b) by observations of the meridian passage of stars with astronomical transit; (4) determination of longitude by clock comparison; (5) base line measurements; (6) precision levelling; (7) measurement of angles by geodetic methods; (8) plane table surveys.

360. GEODETIC LABORATORY. The following determinations of the constants and errors of surveying instruments are made in the geodetic laboratory by the Fourth Year students in the Civil Engineering course: —Measurement of (1) magnifying power, (2) eccentricity of circles, (3) inclination error in astronomical transits by nadir observations; determinations of (1) gravity by means of the reversible pendulum, (2) errors of run of theodolite microscopes, (3) constants of steel tapes, (4) scale value of level vials, (5) collimation error of astronomical transits by fixed collimators and by nadir method; investigation of the error of graduation of (1) steel bars, (2) steel tapes, (3) transit circles, (4) the testing of the aneroid barometers.

See also page 626.

#### FIELD WORK

Field work is required of all students entering the Second Year, of students entering the Third Year in the courses of Civil and Mining Engineering, and the Fourth Year in Civil Engineering. The work will begin in 1930 on April 29th and will continue for four weeks.

Students entering Second and higher Years from other Universities or from other Faculties and who cannot attend the above course in Field Work, must attend Special Summer Schools, details of which are given on page 257.

All students are required to keep complete field notes, and to prepare maps, sections and estimates for their own surveys. This office work is principally done during the regular summer school session.

#### PREREQUISITE SUBJECTS

# REGULATIONS CONCERNING PREREQUISITE SUBJECTS, STANDING AND PROMOTION

(1) Students proceeding to a degree shall be classed as Undergraduates or Conditioned Undergraduates. Undergraduates are those who, having passed all entrance requirements, have also at the close of any session passed the examinations in all the subjects of their course, or who, at the opening of the following session, have removed all conditions by passing supplemental examinations in the subjects in which they had failed. Conditional Undergraduates are those who have failed to remove all of their conditions as above.

(2) No student proceeding to a degree shall be allowed to take any subject, unless he has previously passed, or secured exemption in, all prerequisite subjects.

3. No Conditioned Undergraduates shall be permitted to take any Third or Fourth Year work until all First or Second Year subjects respectively shall have been passed. The Faculty may, however, waive this rule in special cases on recommendation of the Committee on Registration, Standing and Promotion.

(4) Conditioned Undergraduates proceeding to a degree must follow a course of study approved by the Faculty on the recommendation of the committee on Registration, Standing and Promotion. They may be required to repeat subjects in which they have passed, but in which their standing has been low.

(5) Partial students are those who are not proceeding to a degree. Such students may be admitted to classes without regard to the prerequisite rule, provided that they have obtained the permission of the head of each department concerned, and have also had their courses approved by the Committee on Registration, Standing and Promotion.

(6) If a partial student wishes to obtain undergraduate standing in order to proceed to a degree, he shall not be given credit for subjects taken in contravention of the prerequisite rule, until he has also passed examinations or secured exemptions in such prerequisites as may be demanded by the Committee on Registration, Standing and Promotion, and, on the recommendation of this Committee, has had his case approved by a unanimous vote of the Faculty.

7. No Fourth Year student shall be allowed a supplemental or special supplemental examination in any subject in the period between the opening of the second term and the date of Convocation.

# PREREQUISITE AND CONCURRENT SUBJECTS\*

See also paragraph (3), page 103

No.	Year	SUBJECT	PREREQUISITE	Con- cur- rent
1 2 3 4 5 6 7	II III IV V I II III	Arch. Design A " " B " C " D Elements of Architecture. Elements of Composition. Theory of Design.	18, 33, 38 1. 2. 3 1	6 7 8
8 9 10 11 12 14	IV III or IV III or IV III or IV III or IV III or IV II	Theory of Planning. Ornament and Decoration.	1. 34, 39. 34, 39. 34, 39. 34, 39. 34, 39. 34, 39. 34, 39.	(2). sibijeda. proroqui
15 16 17 18 19 22	III or IV III or IV V I I II IV	" (Mediaeval) " (Renaissance) " (Modern)) Architectural Geometry I. Arch. Geometry II. Hygiene of Buildings	18	
23 23A 24 25 26 27 28	IV or V I II II II II III III or IV	Heating and Ventilation. Building Construction I. Building Construction II. Building Details. Architectural Engineering I. Architectural Engineering I (Draughting). Architectural Engineering II A.	34 34 34 26	24 26
29 30 31 32 33	III or IV III or IV III or IV III or IV V	Arch. Eng. II A (Draughting). Architectural Engineering II B. Arch. Eng. II B (Draughting). Professional Practice. Architectural Drawing.	26 26 26 24	28 30 5
34 35 36 37 38	III III IV V I	Building Materials		nen la Houd streams
39 40 41 42 43	II III IV IV V	Modelling.	38 39 40 42	
44 45 Arts 1 "1	I I I	Physics (Arts) Physics Lab. (Arts) Algebra Geometry and Trigonometry	NUMBER OF	erder te ukça ta
46 47 48 49 50	II III IV V II, III, IV & V	Architectural Essay	d he the Co the months	
51 52 53 54	IV & V I II III III	Summer Work. General Chemistry. " Lab. General Chemistry. Inorg. Qual. Anal.—Summer School (Chem Erg. and Mat. Fors. School	51, 52, 311, 312	52 51
55	III	(Chem. Eng. and Met. Eng. Students), Inorg. Qual. Anal. Lab.—Summer School (Chem. Eng. and Met. Eng. Students).	51, 52	55 54

\*Prerequisite subjects are those which, in the opinion of the Faculty, must be mastered before the subjects to which they are prerequisite can be intelligently studied. Concurrent subjects are related subjects which should be studied in the same session.

# PREREQUISITE SUBJECTS

	3	EAR	SUBJECT SUBJECT	Prerequisite	CON CUR REN
6	1	III	Organic Chemistry	53	57
7		ÎÎÎ	Organic Chemistry		56
B		III		53	-
9		III	Inorg. Qual. Anal. "" Lab. Inorg. Quant. Anal. and Lab. (Chem. Eng.). "" " (Met. Eng.) Advanced Organ. Chem.	53	60
		III III	Lab.		59
2		III	Inorg. Quant. Anal. and Lab. (Chem. Eng.)	53	
4		IV	Advanced Organ Chem	53 56, 57 56, 57	65
5		ÎV	Advanced Organic Laboratory	56. 57	64
6		IV	Advanced Organic Laboratory Physical Chem. and Lab	58	
7		IV	Inorg. Lab. Industrial Chemistry, Inorganic Industrial Chemistry, Organic	61, 62	
8		IV IV	Industrial Chemistry, Inorganic	61, 62 56, 57	
0		IV	Applied Electro-Chem	53	
1		IV	Applied Electro-Chem . Inorg. Quant. Anal. (Mining Students) Adv. Inorg. Chemistry	53 59, 60	
2		ÎV	Adv. Inorg. Chemistry	58	
3		IV	Food Chemistry	56, 57	65
4 5		IV	History of Chemistry	53, 56	
		IV	Food Chemistry. History of Chemistry. Colloid Chemistry. Engineering Problems. Materials of Construction.	58. 56, 57. 53, 56. 56, 57,58,59,60	
0		II	Engineering Problems		
$\frac{1}{2}$		III	Sanitary Science		
3		II	Mechanics	194	198
5		III	Sanitary Science Mechanics Highway Engineering Mechanics Strength of Materials foundations Structural Engineering Railway Engineering	83, 198 83, 198	
6		III	Mechanics	83, 198	
7		III	Strength of Materials.	83, 198	0.0
8		III III	Lab		87 87
ő		III	Structural Engineering		87
2		III	Railway Engineering	83 346 347 348	01
3		ÎÎÎ	Theory of Structures.	83,346,347,348 83,346,347,348	92
4		IV	Theory of Structures	87	
5		IV	Strength of Materials. Bridge Design. Hydraulics	87	~
6		IV IV	Bridge Design	90	94 94
6a 7	TIT	& IV	Hydraulies	83	94
8	ÎÎÎ	& IV	Lap		97
9		IV	"Machines Hydraulics and Lab. (Short Course)	83 97, 98. 82, 97, 98.	97
0		IV	Hydraulics and Lab. (Short Course)	83	
1		IV IV	Municipal Engineering Water Supply & Sewerage	97, 98	
23	25	IV	Waste Disposal	82, 97, 98	
4	p.C.	IV	Civic Administration		
1	III	& IV	Elements of Elec. Eng.	198, 315,	
2	III	& IV	Elements of Elec. Eng Elec. Eng. Lab. (Elementary) Electrical Engineering	198, 315	111
3	0.57	III	Electrical Engineering	198, 315	4.4/2
4	20	III IV	Elec. Engineering Lab.	112 114 201	113
78	24	IV	Electrical Engineering . Elec. Eng. Lab. (Elec. Eng. Students) Elec. Light and Power Distribution	113, 114, 201 113, 114	117
ô	25	IV	Elec. Light and Power Distribution	115, 117	
1	3.0	ÎV	Electric I raction		117
2	100	IV	Electrical Designing	113	117
3		IV	Electrical Designing. Applications of Electricity Elec. Measurements and Lab	113	117
4	12	IV IV	Elec. Measurements and Lab Communication Engineering	<b>113</b> 201, 113	
1	12	II	English	201, 113	
2	1	II	Summer Reading	Seast VI	
3	1	III	Summer Reading or Essay Summer Essay. Geology, General.		
4	1	IV	Summer Essay		
1	120	III	Geology, General		
2		III	Mineralogy	53	
3	2	III IV	Mineralogy. Mineralogy, Determinative. Petrography and Lab. Petrography (Advanced)	141	
67	all and	IV	Petrography (Advanced)	141, 142, 143.	

148 149 151 152 153 170 171 172 175 191 192	IV IV IV IV IV IV IV IV IV	Ore Deposits and Economic Geol Geology of Canada. Crystallography. Geology, Historical. Geology Fieldwork (with 294). History of Science. Elements of Political Economy.	141         141         142         141, 142, 143         141, 142, 143	
151 152 153 170 171 172 175 191	IV IV IV I III IV IV	Crystallography Geology, Historical. Geology Fieldwork (with 294) History of Science.	141 142 141, 142, 143 141, 142, 143	
152 153 170 171 172 175 191	IV IV III III IV IV	Crystallography. Geology, Historical Geology Fieldwork (with 294) History of Science. Elements of Political Economy.	142 141, 142, 143 141, 142, 143	
153 170 171 172 175 191	IV I III IV IV	Geology Fieldwork (with 294) History of Science	141, 142, 143.	
170 171 172 175 191	III IV IV	History of Science		
171 172 175 191	IV IV	Elements of Political Economy		
175	IV	Dictactive of a one of a boot of a provide a p	171	
191		Canadian Economic Froblems	171	
	I	Engineering Law		
	Î	Plane Trigonometry		
193	Ī	Mensuration		
194	I	Mechanics Analytic Geometry		
197 198	II	Calculus	192	
201	IÎÎ	Mathematics	198	
218	II	Mathematics. Mechanics of Machines. Mech. Eng. Lab. (Elec. Eng. Students).	191, 192, 194	224
223	III	Mech. Eng. Lab. (Elec. Eng. Students)	83, 218	226
224 225	III	Mechanics of Machines Machine Design	03, 410	87. 231
443	***			87, 231 or 232
226	III	Mech. Eng. (General Course)		228
227		" " (Mech. Eng. Students)		228 226, 227
228	III	Lab. Thermodynamics. Mech. Drawing (Mech. Eng. Stud.) Summer School (Mech. Eng. Students)	198	220, 221
231	ÎÎÎ	Mech. Drawing (Mech. Eng. Stud.)		225
233	III	Summer School (Mech. Eng. Students)		82
236 237		Machine Shop Work. Industrial Engineering.		-1 98
238	III	Accounting		
240	ÎV IV	Accounting Mechanics of Machines	224	1.22
241	IV	Mach. Design (Mech. Students). Mach. Design (Elec. Students). Power Plant Design. Heat. and Ventilation of Buildings.	225, 231	242
242	IV IV	Mach. Design (Mech. Students)	225	93
244	ÎV	Power Plant Design	227	1.1.1.22
247	IV	Heat. and Ventilation of Buildings	227	244
249	IV	Mech. Eng. Lab	227, 228	11 1 20
249a	IV IV	Mech. Eng. Lab. (alt.) Thermodynamics	227, 228 228, 229	1.65
252	ÎV	Machine Shop Work	236	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
253	IV	Industrial Engineering	238	
254	IV IV	Industrial Administration Experimental Engineering	227, 228	252
258	IV	Industrial Relations	441, 440	217
261	III	Industrial Relations . Elem. Metallurgy and Laboratory Elem. Metal. (Chem. & Mining Eng. Students)		
262	III	Elem. Metal. (Chem. & Mining Eng.	introdist - TEL	10
263	- III	Fire Assaying		264
264	ÎII	Fire Assaving Laboratory		263
265	TTT	Fire Assaying Laboratory. Metall. Calculations. Metall. Field School		261
267	IV IV IV	Metall. Field School.		1 26
271 272		Metallurgy (General) * (Advanced) Fire Assay, & Lab. (Chem. Eng. Stud.) Metall. Lab. and Thesis.	261 or 262 261 or 262	271
273	1V	Fire Assay. & Lab. (Chem. Eng. Stud.)	262	1 24
274	IV	Metall. Lab. and Thesis	261	271
275	IV IV	Electro-Metallurgy and Lab	261 or 262 261	
278	IV	Metall. Colloquium Metall. Calculations and Design	265	272
279	IV	Metall. Analysis	265	67
280	IV	Metallography		
281 282	IV IV	Metallog & Lab (Chem Eng Students)		62 10
283	IV	Metall, Calc, Mining Students	262	271
284	IV	Metallog, & Lab. (Chem. Eng. Students). Metall. Calc. Mining Students Lab. Mining Engineering.	262	271
291 292	III III	Mining Engineering Ore Dressing		

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# PREREQUISITE SUBJECTS

NO. YEAR		SUBJECT	Prerequisite	Con- cur- rent	
293 294 295 297 298 300 301 305 306 311 312 315 316 318 340 341 342 343 344 344 345 344	IV III III IV IV IV IV IV IV IV IV IV IV	Mine Mapping. Mining Field School. Crushing and Grinding Machinery. Mining Design. Ore Dressing and Milling. Mining Colloquium. Ore Dressing Laboratory. Ore Dressing Labo. (Thesis Work). Physical Laboratory. Physical Laboratory. Physical Laboratory. Physics. Physical Laboratory. Physics. Mechanical Drawing. Descriptive Geom. and Perspective Surveying Fieldwork.	141. 226, 291. 81, 226. 292. 204, 305. 311. 311. 315. 340. 340. 341. 191, or Arts 1.	226 297, 300 297, 300 300 311 315	
348 351 352 353 354 359 360 361	II III III III IV IV IV IV	Mapping. Map Projections Surveying (Miners). Surveying (Civils) Surveying Fieldwork. Geodesy. Geodetic Laboratory. Geodetic Fieldwork.	346, 347. 346, 347. 346, 347. 353. 353, 354.	359	

No.	Year	PREREQUISITE SUBJECTS	Numbers of Subject to which subjects in 3rd column are prerequisite
1	II	Arch. Design A 	2, 7, 8
23	III IV	" " <sup>B</sup>	3
3	V	" " D	4
45	I	Elements of Architecture	
67	IÎ	Elements of Composition	
	III	Theory of Design	
8	IV	Theory of Planning Ornament and Decoration	
9	III or IV	Ornament and Decoration	
10 11	III or IV III or IV		
12	III or IV	44 44	
14	III	History of Arch. (Classic)	
15	III or IV	" (Mediaeval)	
16	III or IV	" (Renaissance)	
17	V	" " (Modern)	
18	I	Architectural Geometry I	1 10
19 22	III IV	Architectural Geometry II	1, 19
23	IV or V	Hygiene of Buildings	
23A	IVOIV	Building Construction I	
24	IÎ	Building Construction	32
25	II	Building Details	
26	II	Architectural Eng. I	28, 29, 30, 31
27	II	Architectural Eng. I Architectural Eng. I (Drafting)	
28	III or IV	Architectural Eng. II A	
29 30	III or IV III or IV	Architectural Eng. II A (Drft.) Architectural Eng. II B	
31	III or IV	Architectural Eng. II B (Drft)	
32	V	Architectural Eng. II B (Drft.) Professional Practice	
33	I .	Architectural Drawing	1
34	III	Building Materials	
35	III	** **	Service and a service of the
36	IV		
37	V	Architectural Drawing	1 20
38 39	II	Freehand Drawing	1, 39 9, 10, 11, 12, 40
40	III		41
41	IV	44 44	
42	IV	Modelling	43
43	V	**	
44	I	Physics (Arts) Physics Lab. (Arts.)	
45	I	Physics Lab. (Arts.)	
46 47	III	Arch Essay	
48	IV		
49	V	44 44	
50	II III IV &		
	V	Summer Work	
Arts	ĮĮ	Algebra	246
rts I	I	Geometry and Trigonometry General Chemistry	346
51 52	I	General Chemistry	53, 54, 55 53, 54, 55
53	IÎ	General Chemistry	56, 58, 59, 61, 62.
	1		70, 74, 142, 143,
54	III	Inorg. Qual. Anal. (Summer Sch.) (Chem.	
	TTT	Eng. and Met. Eng.) Inorg. Qual. Anal. Lab. (Summer Sch.)	
55	III		
56	III	Org. Chemistry	64, 65, 69, 73, 74, 7
57	III	" " Lab	64, 65, 69, 73, 75
58	III	Physical Chem.	66. 72, 75
59	III	Inorg. Qual. Anal "Lab	71. 75
60	III	" Lab	71, 75 67, 68, 279
61	III	" Quant. Anal	07, 08, 279

# CONVERSE OF PREREQUISITE SUBJECTS

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# CONVERSE OF PREREQUISITE SUBJECTS

No.	Year	Prerequisite Subjects	Numbers of Subjects to which subjects in 3rd column are prerequisite
62 64to 75	} III 1V	Inorg. Quant. Anal. Lab Year Subjects	67, 68, 279
80 81 82 83	, I II III III	Engineering Problems Mat. of Constrn Sanitary Science	298 102
85 86	III III III	Mechanics. Highway Engineering. Mechanics	86, 87, 92, 97, 100, 224
87 88 89	III III III	Str. of Materials "Lab Foundations	94, 95
90 92 93	III III III	Railway Engineering	96, 96A
94to 96 97	III & IV	Year Subjects	101, 102
98 99to 104	$\left. \begin{array}{c} \text{III & IV} \\ \text{IV} \end{array} \right\}$	Hydraulics. "Lab. Year Subjects.	• 101, 102
111 113	III & IV III	Elem. Elec. Eng	117 118 100 107 104
114	III	Elec. Eng. Lab.	125
117 to 125	IV	Year Subjects	
132 133 134	II III IV	English Summer Reading Summer Reading. Year Subject. Geology, General	
141 142	III III	The second s	146, 147, 148, 149, 152, 153, 294 147, 151, 152, 153
143 146 to		Mineralogy . Mineralogy (Determinative) . Vear Subjects.	147, 151, 152, 153 147, 152, 153
153 170 171		History of Science Economics	172
172 175 191		Eng. Economics. Eng. Law. Plane Trigonometry.	
192 193 194	Î I I	Algebra	218, 346 198, 218
197 198		Mechanics. Anal. Geometry. Calculus	83, 218 86, 87, 111, 113, 201,
201 218 223	III II III	Mathematics	229 117, 124, 125 224
224 225 226		Mech of Machines	240 241, 242, 243
227		Machine Design. Mech. Eng. (General Course). "" (Mech. Eng. Students)	241, 242, 243 297, 298 244, 245, 246, 247, 249 249a, 257
228 229 231	III III	Thermodynamics. Mech. Drawing Summer School (Mech. Eng. Students)	249, 249a, 251, 257 251 241
233 236 237 238	III III III III	Industrial Engineering	252 254
238 240 to 258		Accounting	253

No. Year		PREREQUISITE SUBJECTS	Numbers of Subjects to which subjects in 3rd column are prerequisite	
261 262	III	Elem. Metallurgy & Lab (Met. Eng. Stud'ts) Elem. Metall. (Chem. and Mining Eng. ")	271, 272, 274, 275, 27 271, 272, 273, 275, 28 284	
263 264 265	III III III	Fire Assaying. Fire Assaying Lab. Metal. Calculations.	306 278	
267 to 284	IV	Year Subjects		
291 292 293 294 295 297	III IV III III	Mining Eng. Ore Dressing. Mine Mapping. Mining Field School Crushing and Grinding Machinery	297 300, 305	
and 298	IV	Year Subjects	And And	
300 305 301	IV IV	Ore Dressing and Milling Ore Dressing Lab	306	
and 306	IV	Year Subjects	Jungin 1 11	
311 312 315 316		Physics Physical Lab Physics Physics Physical Lab	53, 315, 316 53, 111, 113, 318	
318 340 341 342 343 344		Physics Mechanical Drawing Desc. Geom Freehand Drawing. Lettering. Mechanical Drawing.	124. 125 344 345	
345 346 347 348 351 352		Desc. Geometry and Perspective Surveying Fieldwork. Mapping Map Projections. Surveying (Miners).	92, 352, 353, 354 92, 352, 353, 354 92	
353 354		(Civils)	359, 361 361	
359 to 399	} IV	Year Subjects		

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# **EXAMINATION TIME TABLES.**

#### I.-SUPPLEMENTAL EXAMINATIONS.

Supplemental examinations for all subjects of the First, Second and Third Years Applied Science are held in September. A schedule of these examinations may be obtained from the Dean.

#### II.-SESSIONAL EXAMINATIONS.

NOTE:-The following numbers correspond with the subjects in the prerequisite list and the departmental descriptions. Examinations begin at Nine A.M. and Two P.M., and normally last three hours.

TIME TABLE, FIRST TERM EXAMINATIONS (Subject to Revision).

DATE	19	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
*January 13th	A.M. P.M.		6 14. of 14.	62, 97, 98, 201	67, 71, 75, 97, 98, 359 273
January 14th	A.M. P.M.	Math., I (Arts)		86	104, 120, 149, 258, 280, 282
January 15th	A.M. P.M.	191	197	11, 82, 295, 351 58	11, 100
Ja uary 6th	A.M. P.M.	(Line street source in the		59, 92, 237 261, 262	22, 70, 103, 146 68

\* Subject to change in 1930.

DATE	5188 	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH AND FIFTH YEARS
April 14th	A.M. P.M.	341	345	56, 85, 224, 238, 292, 318	175
April15th	A.M. P.M.	80, 33	81	90, 113 352	23
April 16th	A.M. P.M.	5, 51 52	53, 26	28, 226, 227 223, 228	17, 28
April 17th	A.M. P.M.	193 Arts 1	346	291	32
April 22nd	A.M. P.M.	192 Arts 1	315	87, 12	12
April 23rd	A.M. P.M.	194	14, 316	15, 88 265	4, 15
April 24th	A.M. P.M.	18	198	61, 141, 225 141	4 4
April 25th	A.M. P.M.	Arts 44, 311	19, 218	171	
April 26th	A.M. P.M.	312	6, 83	142, 229, 353	4 4
April 28th	A.M. P.M.	EXTMINA	24, 131	58, 89, 111 263	4 4

SECOND TERM TIME TABLE EXAMINATIONS (Subject to Revision)

(First three years in Engineering and the whole course in Architecture)

FACULTY OF APPLIED SCIENCE

3	DATE	
132	DAIE	FOURTH YEAR
April 28th May 1st	A.M. A.M.	111 175
May 2nd	A.M. P.M.	67, 122, 152, 244, 271
May 3rd	A.M. P.M.	64, 95, 121, 247, 272. 283
May 5th	A.M. P.M.	73, 125, 251, 253, 300
May 6th	A.M. P.M.	69, 94, 123, 148, 240, 254
May 7th	A.M. P.M.	72, 101, 102, 147, 249, 249a
May 8th	A.M. P.M.	66, 96, 96a, 242, 243, 275 297-298
May 9th	A.M. P.M.	74, 117, 257, 299
May 10th	A.M. P.M.	99, 124, 278

SECOND TERM EXAMINATIONS (Subject to Revision)

# III.-THE LECTURE TIME TABLES.

Complete time tables for all lectures and laboratory work are bulletined in the Engineering Building.

# FACULTY OF MEDICINE

HISTORICAL SUMMARY

(Faculty of Medicine)

### 1821-1929

- 1744 James McGill, born October 6th (Founder's Day). Died 1813.
- 1801-02 Royal Institution for Advancement of Learning contemplated by Provincial Act of Parliament.
- 1811 Will by James McGill leaving landed estate and £10,000 to Royal Institution for Advancement of Learning for founding a University.
- 1818 Royal Institution for Advancement of Learning incorporated. Montreal General Hospital opened on original site on St. Lawrence Street.
- 1821 Royal Charter granted to the Royal Institution for the Advancement of Learning for the foundation of McGill College. Corner-stone of new Montreal General Hospital laid.
- 1822-24 Montreal Medical Institution organized as a Medical School by Officers of Montreal General Hospital At opening lecture at No. 20 St. James Street on October 28, 1824, there were four teachers and twenty-five students.
- 1829 Estate of James McGill surrendered by residuary legatee. First meeting of Governors at Burnside House. Montreal Medical Institution "engrafted upon" McGill University as its Medical Faculty. First session of Faculty of Medicine.
  1831 Medical Faculty petitioned Legislature for permission to grant degrees, and framed statutes to fulfil conditions of
- charter for same by order of Solicitor-General.
  1832 Statutes approved and permission to confer degrees granted to Medical Faculty, and Professorships granted by Crown to Drs. Holmes, Caldwell, Robertson and Stephenson.
- 1833 First University degree conferred in Medical Faculty upon W. Logie.
- 1836-37 Faculty removed to building next to present Bank of Montreal.
- 1840 Faculty removed to St. George Street.
- 1842 Arts Building erected on University grounds, where medical lectures were held 1845-51.
- 1852 Faculty removed to Côté Street.
- 1855 Sir William Dawson appointed Principal.
- 1860 Geo. W. Campbell appointed Dean, serving until 1882.
- 1872 First independent Medical Faculty building on University ground.

Graduation of William Osler.

HISTORICAL SUMMARY

1882 1885	<ul> <li>Geo. W. Campbell Memorial Fund for Medical Faculty (\$50,000); Leanchoil Endowment Fund for Medical Faculty (Lord Strathcona, \$50,000).</li> <li>R. P. Howard appointed Dean.</li> <li>New laboratories erected in Medical Building (Lord Strath- cona, \$100,000).</li> </ul>
1889	Robert Cralk appointed Dean-George Ross, Vice-Dean.
1893	Sir William Peterson appointed Principal. Pathological Laboratory erected (John H. R. Molson, \$60,000); Chairs of Hygiene and of Pathology endowed (Lord Strathcona, \$100,000). Mrs. Mary Dow Endowment Fund presented to Medical Faculty (\$10,000).
1894	Royal Victoria Hospital opened (Lord Mount-Stephen and Lord Strathcona).
1898–01	Medical Faculty Building reconstructed and enlarged with new laboratories, etc. (Lord Strathcona, \$100,000.) Joseph Morley Drake Chair of Physiology founded (\$25,000).
1901 -	Thomas G. Roddick appointed Dean.
1906	Alexandra Hospital for Infectious Diseases opened.
1907	Medical Building partly destroyed by fire.
1908	F. J. Shepherd appointed Dean.
1909–11	New Medical Building (as at present) erected. (Lord Strath- cona, \$450,000.)
1911	Robert Reford endowment of Department of Anatomy (\$100,000).
	Arthur A. Browne Memorial Fund for Research established
	(\$10,000).
	Dr. James Douglas research fellowship in Pathology founded (\$25,000).
1912	(\$25,000). Eddie Morrice Laboratory of Pharmacology opened (D.
1912	(\$25,000). Eddie Morrice Laboratory of Pharmacology opened (D. Morrice, \$14,000). James Cooper Endowment Fund established for Internal
1912 1913	(\$25,000). Eddie Morrice Laboratory of Pharmacology opened (D. Morrice, \$14,000). James Cooper Endowment Fund established for Internal Medicine (\$60,000). Graduates of the Faculty of Medicine subscribed \$12,566 to
	<ul> <li>(\$25,000).</li> <li>Eddie Morrice Laboratory of Pharmacology opened (D. Morrice, \$14,000).</li> <li>James Cooper Endowment Fund established for Internal Medicine (\$60,000).</li> <li>Graduates of the Faculty of Medicine subscribed \$12,566 to meet fire loss.</li> <li>H. S. Birkett appointed Dean.</li> <li>No. 3 (McGill) General Hospital organized for Overseas service.</li> </ul>
1913	<ul> <li>(\$25,000).</li> <li>Eddie Morrice Laboratory of Pharmacology opened (D. Morrice, \$14,000).</li> <li>James Cooper Endowment Fund established for Internal Medicine (\$60,000).</li> <li>Graduates of the Faculty of Medicine subscribed \$12,566 to meet fire loss.</li> <li>H. S. Birkett appointed Dean.</li> <li>No. 3 (McGill) General Hospital organized for Overseas</li> </ul>

1919	Sir William Macdonald bequeathed \$500,000 to Medical Faculty.
	Faculty of Dentistry established. Osler Library (of the history of medicine and science) bequeathed to the Faculty of Medicine by Sir William Osler.
1920	Sir Arthur Currie appointed Principal. Dr. J. W. Scane appointed Assistant Dean.
1921	Centenary Celebration.
	Friends and Graduates of McGill donated \$4,000,000 to University.
	Province of Quebec donated \$1,000,000 to University. Rockefeller Foundation granted \$1,000,000 to Medical Faculty.
	F. G. Finley appointed Dean.
1922	Laboratories for Biological Sciences opened.
	Geo. E. Armstrong appointed Dean.
	New Outpatient Department erected at Royal Victoria
1000	Hospital.
1923	Pathological Institute erected.
1004	C. F. Martin appointed Dean.
1924	Rockefeller Foundation gave \$500,000 to Medical Faculty to establish University Clinic in Department of Medicine at Royal
	Victoria Hospital. Amalgamation of Western Hospital with the Montreal General
1925	Hospital.
1925	Erection of Royal Victoria-Montreal Maternity Pavilion. Roddick Memorial Gates opened.
1926	Closing of old Montreal Maternity Hospital.
1927	Sub-department of Industrial Medicine formed, with Industrial Clinic at the Montreal General Hospital. (Grant of \$25,000
	from Metropolitan Life Insurance Company.) Inter-Hospital Commission formed for purposes of adminis- tration.
1929	Opening of new laboratory building for Experimental Sur-
	gery.

Rockefeller Foundation gave \$85,000 for research in Surgery.

No. 7 (NeGH) County Description was a super-Ne. 7 (NeGH) County Housed Instruments arrester.

#### PAST AND PRESENT OFFICERS AND PROFESSORS

# OFFICERS AND MEMBERS OF THE FACULTY SINCE ITS ORIGIN

### DEANS

Dr. R. Robertson, official head of the Montreal Medical Institution, 1823, was followed by Dr. John Stephenson in 1829 as Registrar and official head of the Faculty up to 1842, when he was succeeded by Dr. A. F. Holmes with title of Secretary.

A. F. Holmes, 1854.
Geo. W. Campbell, 1860.
R. P. Howard, 1882.
Robert Craik, 1889.
George Ross (Vice-Dean), 1889.
Thomas G. Roddick, 1901.
Francis J. Shepherd, 1908.
Herbert S. Birkett, 1914.
F. G. Finley, 1921.
George E. Armstrong, 1922.
C. F. Martin, 1923.
(J. W. Scane, Assistant Dean, 1920-1922.).

#### REGISTRARS

John Stephenson, 1829. Archibald Hall, 1842. William Wright, 1864. Robert Craik, 1869. William Osler, 1877. F. J. Shepherd, 1883 (Acting). James Stewart, 1884. R. F. Ruttan, 1891. E. M. Eberts, 1902. J. W. Scane, 1903.

Registrarship abolished-1923

#### SECRETARIES

J. C. SIMPSON, 1923.

#### MEDICINE

Chair of Medicine (Founded 1824) WILLIAM CALDWELL, 1824. WILLIAM ROBERTSON, 1833. ANDREW F. HOLMES, 1842. R. P. HOWARD, 1860. GEORGE ROSS, 1889. JAMES STEWART, 1893. Chair of Clinical Medicine (Founded 1845) JAMES CRAWFORD, 1845 and 1852. ROBT. L. MACDONNELL, 1849. STEPHEN C. SEWELL, 1850. R. P. HOWARD, 1856. DUNCAN C. MACCALLUM, 1860. JOSEPH M. DRAKE, 1872. GEORGE ROSS, 1872. RICHARD L. MACDONNELL, 1889. JAMES STEWART, 1891.

# Chair of Medicine and Clinical Medicine

(Founded 1907) (Chair of Medicine since 1923) F. G. FINLEY, 1907-1924. H. A. LAFLEUR, 1907-1919. C. F. MARTIN, 1907. J. C. MEAKINS, Professor and Director, 1924. C. P. HOWARD, 1924. W. F. HAMILTON, 1924.

#### SURGERY

Chair of Surgery (Founded 1824) JOHN STEPHENSON, 1824. G. W. CAMPBELL, 1835. GEO. E. FENWICK, 1875. T. G. RODDICK, 1890. Chair of Clinical Surgery (Founded 1840) JAMES CRAWFORD, 1845. WILLIAM E. SCOTT, 1852. DUNCAN C. MACCALLUM, 1856. ROBERT CRAIK, 1860. GEORGE E. FENWICK, 1867. THOMAS G. RODDICK, 1876. JAMES BELL, 1894.

# Chair of Surgery and Clinical Surgery

. (Founded 1907) (Chair of Surgery since 1923) JAMES BELL, 1907-1911. GEO. E. ARMSTRONG, 1907-1923. J. A. HUTCHISON, 1913-1923. E. W. ARCHIBALD, Professor and Director, 1923. A. T. BAZIN, 1923.

### PAST AND PRESENT OFFICERS AND PROFESSORS

# OBSTETRICS AND GYNÆCOLOGY

Chair of Obstetrics (Founded 1824) WILLIAM ROBERTSON, 1824. JOHN RACEY, 1833. GEO. W. CAMPBELL, 1835. MICHAEL MCCULLOGH, 1842. ARCHIBALD HALL, 1854. D. C. MACCALLUM, 1868. ARTHUR A. BROWNE, 1883. J. CHALMERS CAMERON, 1886.

Chair of Gynæcology (Founded 1883) WILLIAM GARDNER, 1883. W. W. CHIPMAN, 1910.

Chair of Obstetrics and Gynæcology (Founded 1913) W. W. CHIPMAN, 1913.

### ANATOMY

(Chair founded 1824)

JOHN STEPHENSON, 1824. OLIVER T. BRUNEAU, 1842. WILLIAM E. SCOTT, 1856. FRANCIS J. SHEPHERD, 1883. A. C. GEDDES, 1913. S. E. WHITNALL, 1919.

#### CHEMISTRY

Chair of Chemistry

(Founded 1824)

ANDREW F. HOLMES, 1824. ARCHIBALD HALL, 1842. WILLIAM SUTHERLAND, 1849. ROBERT CRAIK, 1867. GILBERT P. GIRDWOOD, 1879. R. F. RUTTAN, 1902.

Chair of Practical Chemistry Chair of Bio-Chemistry. (Founded 1872) GILBERT P. GIRDWOOD, 1872. R. F. RUTTAN, 1894.

A. B. MACALLUM, 1920.

J. B. Collip, 1928.

### INSTITUTES OF MEDICINE

Chair of Institutes of Medicine (Founded 1824 and included the Department of Physiology, Histology and Pathology)

> John Stephenson, 1824. Stephen C Sewell, 1842. Robert L. MacDonnell, 1845. William Fraser, 1849. Joseph M. Drake, 1868. William Osler, 1874.

### PHYSIOLOGY

(Founded 1824-endowed 1897)

WESLEY MELS, 1886. N. H. Alcock, 1911. G. R. Mines, 1914. John Tait, 1919. Boris P. Eabkin, 1928.

### PATHOLOGY

(Founded 1892-endowed 1893)

J. GEO. ADAMI, 1892. H. Oertel, 1919.

### PHARMACOLOGY

Chair of Pharmacology and Therapeutics (Founded 1824)

> ANDREW F. HOLMES, 1824. ARCHIBALD HALL, 1835. STEPHEN C. SEWELL, 1842. A. HALL, 1849. WILLIAM WRIGHT, 1854. JAMES STEWART, 1883. A. D. BLACKADER, 1891.

> > Chair of Pharmacology

H. G. BARFOUR, 1921.R. L. STEHLE, 1924.

### PAST AND PRESENT OFFICERS AND PROFESSORS

#### BOTANY

(Chair founded 1829)

ANDREW F. HO.MES, 1829. DR. PAPINEAU, 1845. J. W. DAWSON, 1855-56 and 1858-83. JAMES BARNSTON, 1857-58. D. P. PENHALLOW, 1883. F. E. LLOYD, 1912.

### MEDICAL JURISPRUDENCE

(Chair founded 1845)

WILLIAM FRASEF, 1845. FRANCIS BADGLEY, 1849. FRANCIS C. T. ARNOLDI, 1850. WILLIAM E. SCITT, 1851. WILLIAM WRIGHT, 1852. R. PALMER HOVARD, 1854. DUNCAN C. MACCALLUM, 1860. GEORGE E. FENVICK, 1867. WILLIAM GARDYER, 1875. GEORGE WILKINS, 1883. D. D. MACTAGGART, 1911-1929.

# HYGIENE AND PUBLIC HEALTH

(Chair founded 1871-endowed 1893)

GEORGE ROSS, 1871. THOMAS G. ROIDICK, 1873. ROBERT T. GOFFREY, 1875. WILLIAM GARDYER, 1879. R. L. MACDONNEL, 1886. ROBERT CRAIK, 889. WYATT JOHNSTON, 1902.

- T. A. STARKEY, 1902.
- A. G. FLEMING, Professor and Director of the Department of Public Health and Preventive Medicine, 1926.

# OPHTHALMOLOGY AND OTO-LARYNGOLOGY

Chair of Ophthalmology and Otology (Founded 1883)

FRANK BULLER, 1883.

Chair of Laryngology (Founded 1893) G. W. MAJOR, 1893. H. S. BIRKETT, 1895.

Chair of Oto-Laryngology H. S. BIRKETT, 1895.

# Chair of Ophthalmology

J. W. STIRLING, 1906. W. G. Byers, 1923.

# CHAIR OF ZOOLOGY

E. W. MACBRIDE, 1902. Arthur Willey, 1910.

# CHAIR OF HISTORY OF MEDICINE

ANDREW MACPHAIL, 1907.

### ENTRANCE REQUIREMENTS

# ENTRANCE REQUIREMENTS

A sound general education is an essential foundation for professional training and a four-year course leading to a B.A. or B.Sc. degree is considered the most desirable preparation for the study of medicine. Preference will be given, therefore, to applicants who have had a full academic course in which the humanistic studies have not been sacrificed to a narrow scientific specialization.

Candidates without a degree should have at least three years of college work. In exceptional cases applications may be received from students who have completed two years of work in a recognized college or faculty of Arts, provided they present certificates that they have scholastic standing placing them in the first third of their class.

It is distinctly to be understood that the Faculty does not undertake to accept all students who have passed the courses necessary to fulfill the requirements and reserves the right to select for admission only those candidates who, in the opinion of the Committee on Admissions, give promise of work of high quality in the medical course.

All applicants must present satisfactory evidence that their college courses include the following:--

Physics—One year of general college Physics with laboratory work.

**Biology**—One year of General Biology and Zoology with laboratory work. One half-year of Botany and one half-year of Zoology will be accepted, but not one year of Botany alone.

#### Chemistry-Two years:--

- (a) One full year of General Chemistry with laboratory work.
- (b) One full course of Organic Chemistry with laboratory work,

Students who wish to pursue their preliminary course at McGill may register as regular undergraduates in the Faculty of Arts and should apply for admission to the Faculty of Medicine at the end of their third year or preferably on graduation.

Candidates for admission to the Faculty of Medicine must also present evidence that they have satisfied the matriculation requirements of the Licensing Body of the Province to which they belong. (For further particulars see "Requirements for Licence to Practice," p. 336.)

### APPLICATION FOR ADMISSION

Application for admission to the Faculty of Medicine must be made upon the regular application form which may be obtained from the Secretary of the Faculty.

As the number of students in each class is limited, application should be made early and in any case not later than July 1st.

If the application be accepted the candidate will be expected to pledge himself to enter the Faculty of Medicine in September, otherwise his place will be given to another.

A personal interview with the Dean or Secretary of the Faculty, when possible; is advisable.

### APPLICATION FOR EQUIVALENT STANDING

A student of another Medical School who desires to be admitted to the Faculty of Medicine of this University with equivalent standing is required to submit to the Secretary of the Faculty an official statement of his preliminary education and of the course he has followed and the standing he has obtained. This should be accompanied by a Calendar of the Medical School in which he has studied, giving a full statement of the courses of study, and by a certificate of moral character and conduct.

### REGISTRATION

Students in the Faculty of Medicine will register at the Registrar's Office for the session 1929-30 on September 11th to September 17th, 1929. Those who register after September 18th will be required to pay a fee of \$5.00 if they do so during the first week of the session and \$10.00 if during the second. The fee will not be refunded except for satisfactory reasons and by authorization of the Faculty. No student will be admitted after the fifteenth day of the session except by special permission of the Faculty.

# PHYSICAL EXAMINATION, VACCINATION AND HEALTH

In order to promote as far as possible the physical welfare of the student body, every student coming to the University for the first time will be required to pass a physical examination. Students of the Second Year, as well as those of all Years who wish to engage in athletic activities, are also required to be physically examined. The hours for this examination will be announced at registration.

Students who do not present themselves for the medical examinations (or otherwise satisfy the Director) before November 1st, will not be allowed to attend the University.

Re-examinations will be held frequently throughout the session for those students who are of low category, or who are suffering from physical disabilities.

# PHYSICAL EXAMINATION

All students in good standing who are taking a course of study held to be sufficient by a special committee of the Faculty in which they are enrolled will be allowed to take part in athletics, subject, however, to the general regulation regarding medical examination.

Suspension from lectures for any cause, or absence from more than one-eighth of the total number of lectures given in any course, as shown by the monthly reports furnished to the Dean of each Faculty by the several professors and lecturers, shall be considered as sufficient ground to disqualify a student from engaging in athletic contests.

During the session and including the Christmas holidays, all teams and individual *students desiring to participate in "outside"\* athletics* must first apply to the Captain or Manager of the club concerned, who must secure the permission of the Athletic Manager, by whom all such sanctions are granted.

Should any student take part in any athletic contest not having been sanctioned as above, or who is not personally qualified under the regulations regarding eligibility, medical examination, etc., such student shall be immediately debarred from participation in all University athletics. He shall be reported to the Athletic Board, which body shall, if it sees fit, request the offender to withdraw from the University, if the consent of the Principal has been given, until Corporation shall meet to deal with the matter.

(For further regulations see handbook published by the Athletic Board.)

Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, and then only when requisitioned for by the Department. A leaflet concerning this service and the general work of the Department, together with the regulations governing athletics, will be distributed at the opening of the session.

\* Outside athletics is interpreted to mean the athletics over which the Athletic Board of the University or the Canadian Intercollegiate Athletic Union does not have control.

# COURSE FOR THE M.D. DEGREE AND EXAMINATIONS

### A. THE MEDICAL COURSE

Each session is divided into three terms of ten weeks, and the course will be completed in fifteen terms—or, if the student so desires, he may proceed more slowly prior to taking the examinations for his degree.

The curriculum is so arranged as to permit of a student taking additional or advanced work in certain terms, while in the hospital year much more latitude will be afforded for independent study.

The tenth, eleventh and twelfth terms are arranged on a rotary system.

### B. EXAMINATIONS

1. Class Examinations, oral or written, are held during the session to test the progress of the student. If the standing obtained by any student in these examinations is unsatisfactory, he shall not be permitted to take the final examination.

2. Final or University Examinations are the ultimate test in determining a student's fitness for promotion or graduation. They are held at the end of the Winter and Spring Terms and during the fortnight preceding the opening of the Autumn Term in September.

The Final or University Examinations include the following subjects arranged in three divisions :---

#### First:-

1.	Anatomy	3	terms
2.	Histology	2	66 1
3.	Bacteriology	1	term
4.	Physiology	3	terms
5.	Biochemistry	2	"

### Second :--

5.	Pharmacology			1	term
7.	Pathology and	Medical	Jurisprudence	5	terms

### Third :--

8.	Public Health and Preventive Medi-		
	cine	2	terms
9.	Obstetrics and Gynæcology	2	66
10.	Surgery (including Urology and Or-		
	thopædic Surgery)	6	""
11.	Medicine (including Pediatrics, Neu-		
	rology, Psychiatry, Dermatology		
	and Laboratory Diagnosis)	7	"

#### COURSE FOR M.D. DEGREE AND EXAMINATIONS

In order to qualify for these examinations, a candidate must have attended a course or courses of study extending over at least the number of terms specified in each case.

3. *Re-examination:*—A student who has failed in the Final Examination in any subject may apply for re-examination at the next examination period. Applications must be in the hands of the Secretary at least one week before the date set for the beginning of the examinations, and the applicant must at the same time pay to the Bursar a fee of \$5.00 for each subject.

# C. GRADING

At the conclusion of each course students will be graded in five groups, as follows:---

A = HonoursB = GoodC = FairD = DoubtfulE = Failure.

In reporting the grading, the names of those students who attain honour standing shall be arranged in order of merit; in all other grades the arrangement shall be alphabetical.

The grade assigned to a student shall be based upon the result of the Final and Class Examinations, but the instructor will also take into account the record of the work done throughout the course.

The quality of the English used by a candidate will be taken into account in determining his standing in all examinations.

### D. PROMOTION

As noted in section A, the Final or University Examinations are arranged in three divisions. Whilst a certain latitude is permitted as to the time at which these examinations are passed, the following rules will be rigidly enjoined :--

1. First Division.—A student must pass the examinations in all subjects of the First Division before he will be permitted to begin the work of the seventh term.

2. Second Division.—The examinations in Pharmacology and General Pathology must be passed before a student will be permitted to proceed to the work of the tenth term. The examination in Special Pathology must be passed before the student may proceed to the work of the thirteenth term.

3. Third Division.—A candidate may pass the Final Examinations in Public Health separately from the examinations in the other subjects of the Third Division, but not earlier than the end of the twelfth term.

To qualify for the Final Examinations in Medicine, Surgery and Obstetrics, a candidate must have :--

- (a) Attended courses extending over a period of not less than fifteen terms.
- (b) Satisfactorily completed the prescribed courses of study and practice in :-
  - i. Ophthalmology,
  - ii. Oto-laryngology,
  - iii. Abnormal Psychology and Psychiatry,
  - iv. Infectious Diseases,
  - v. Anæsthesia,
  - vi. Post-mortem Examinations,

and such other courses as the Faculty may from time to time determine.

The Final Examinations in Medicine, Surgery and Obstetrics must all be passed at one time, but a student who fails in one of these subjects only may, at the discretion of the Faculty, be allowed a re-examination in that subject at the next regular examination period, provided that he shall have satisfactorily completed such additional work as may be prescribed by the Head of the Department concerned.

4. The Faculty reserves the right to require the withdrawal of any student at any time if, in the opinion of his instructors, he is incompetent.

5. At the end of the Spring Term, the Promotion Committee will consider the cases of all students who at the conclusion of their third term are reported by their instructors as having fallen below the grade of C. and shall determine whether such students are to be allowed to continue, warned, required to repeat the course or courses, or retired from the Faculty.

# REQUIREMENTS FOR THE DEGREE OF M.D., C.M.

1. Every candidate for the degree of Doctor of Medicine and Master of Surgery in this University must be at least twenty-one years of age and of good moral character.

2. He must have fulfilled all of the requirements for entrance to the Faculty of Medicine and have attended courses of instruction for five full sessions of not less than eight months each in this University or in some other university, college or school of Medicine, approved by this University.

3. No one shall be permitted to become a candidate for the degree who shall not have attended at least one full session at this University.

4. Every candidate for the degree must have passed all of the required examinations in the subjects comprising the five years of the Medical course.

5. He must have attended during at least three sessions or nine terms the practice of the Royal Victoria Hospital or the Montreal General Hospital, or of some other hospital (with not fewer than one hundred beds) approved by this University; and must have acted as clinical clerk for six months in Medicine and six months in Surgery and have fully reported upon at least ten medical and ten surgical cases.

6. He must also have attended during one full session the practice of the Maternity Hospital or other lying-in hospital approved by the University, and have acted as assistant in at least twenty cases.

7. Every candidate must also have administered anæsthetics, under direction, at least six times, and have assisted at not less than six autopsies.

### REQUIREMENTS FOR LICENSE TO PRACTISE

Intending students are reminded that a University degree in Medicine does not in itself confer the right to practise the profession of medicine. In each Province of Canada and in each one of the United States the right of licensure is vested in a Licensing Body which has its special laws and requirements; in many cases a special standard of general education is insisted upon before beginning the study of medicine. One of the requirements in several provinces is that the entrance qualifications of the student must be registered with the provincial licensing body for five years before a license to practise can be obtained. In order that disappointment and loss of time may be avoided, the University requires students to register with the licensing body of their home province or state before beginning their medical course.

Full information as to the requirements for registration in the various provinces may be obtained from the Registrars of the Provincial Medical Boards, as follows:—

QUEBEC.-Dr. J. Gauvreau, 506 St. Catherine Street E., Montreal.

ONTARIO.-Dr. H. Wilberforce Aikens, 170 University Avenue, Toronto, Ont.

NEW BRUNSWICK .- Dr. S. H. McDonald, 56 Colborne Street, Saint John, N.B.

Nova Scotia.-Dr. W. H. Hattie, Halifax, N.S.

PRINCE EDWARD ISLAND .- Dr. S. R. Jenkins, Charlottetown, P.E.I.

MANITOBA.-Dr. J. E. Coulter, 604 Boyd Bldg., Winnipeg, Man.

ALBERTA.-Dr. George R. Johnston, Calgary, Alta.

SASKATCHEWAN.-Dr. A. MacG. Young, Saskatoon, Sask.

BRITISH COLUMBIA.-Dr. A. P. Proctor, Vancouver, B.C.

The Registrar for Newfoundland is Dr. T. Mitchell, St. John's, Nfld.

#### DOMINION REGISTRATION

In order to take the examination of the Medical Council of Canada a candidate must have the license of a Canadian province, or he must present a certificate from the Registrar of a Provincial Medical Board that he holds qualifications accepted and approved of by the Medical Board of that province.

Full information may be obtained by writing to the Registrar, Dr. R. W. Powell, 180 Cooper Street, Ottawa, Ontario.

### REQUIREMENTS FOR LICENCE TO PRACTISE

# GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION OF GREAT BRITAIN

The entrance requirements in Medicine of this University are accepted by the General Medical Council of Great Britain. Graduates of this University who desire to register in England are exempted from any examination in preliminary education on production of the McGill Matriculation certificate. Certificates of this University for attendance on lectures, practical work and clinics are also accepted by the various examining boards in Great Britain. To obtain a license from the General Council it is necessary to pass one of the examining boards of Great Britain in the final subjects.

Detailed information may be obtained from the Registrar, General Council of Medical Education and Registration, 44 Hallam Street, Portland Place, London, W.1, England.

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# COURSES OF INSTRUCTION

### ANATOMY

The Robert Reford Professor:—S. E. Whitnall. Assistant Professor:—J. Beattie. Lecturer:—H. E. MacDermot. Senior Demonstrator:—D. S. Forster.

G. C. ANDERSON; E. H. CAYFORD;
E. B. CHANDLER; H. M. ELDER;
R. R. FITZGERALD; G. A. FLEET;
G. D. LITTLE; R. BRUCE MALCOLM;
G. G. MILLER; R. M. H. POWER; A. Ross;
D. E. Ross; W. W. Ruddick;
P. G. SILVER; A. STEWART.

The required courses in Anatomy, Histology and Embryology are given in the first three terms of the Medical Course. In subsequent terms opportunity is afforded for a complete revision in Anatomy, together with optional courses of advanced work, both gross and microscopic.

## REQUIRED COURSES

1. Lecture Course in Gross Anatomy.

Three hours weekly throughout the Autumn, Winter and Spring Terms......Professors Whitnall and Beattie.

Text-books:—Gray's "Anatomy" (English Edition); Whitnall's "Study of Anatomy."

Reference books:--Quain, Cunningham, Piersol, Keith's "Human Embryology and Morphology."

Recommended for Collateral Reading:-Keith's "Menders of the Maimed"; Hilton's "Rest and Pain."

### 2. Laboratory Course in Gross Anatomy.

Fifteen hours weekly during the Autumn and Winter Terms, and fourteen hours weekly during the Spring Term.

Professor Whitnall and Staff.

Practical Manual:-Walmsley.

3. Tutorials: Devoted mainly to the study of osteology and surface anatomy.

One hour weekly throughout the session.

Drs. MacDermot and Forster.

Text-books:-Gray's "Anatomy"; Thompson's "Surface Anatomy."

4. Discussions: Informal class discussions upon problems and difficulties.

One hour a week throughout the session ...... Dr. Beattie.

5. Revision Course: An optional laboratory course covering the whole body.

Three hours weekly throughout the session for students who have completed the required work.....Professor Whitnall and Staff.

6. Elective Work: Advanced or special work by arrangement. Six hours weekly during the Spring Term.

Professor Whitnall and Staff.

7. Ophthalmological Anatomy: Mainly a laboratory course designed for graduates in Medicine who intend to specialize in Ophthalmology.

By arrangement. Details on application ..... Professor Whitnall.

- 8. Oto-laryngological Anatomy: A similar course. By arrangement. Details on application.....Professor Whitnall.
- 9. Physical Anthropology: A didactic and laboratory course. By arrangement .....Dr. Beattie.
- Neurology: A series of colloquia on recent work on the Nervous System.

By arrangement .....Dr. Beattie.

11. Comparative Anatomy of the Primates: Offered for students taking the Honours Course in the Biological Sciences. The course is based upon and continues the work of general comparative anatomy and leads on to the study of human anatomy.

Two lectures or colloquia and two hours of laboratory work per week in the Autumn Term.....Dr. Beattle.

#### HISTOLOGY AND EMBRYOLOGY

PROFESSOR:-J. C. SIMPSON. Lecturers in Histology:-{ U. J. Bowie. W. M. Fisk. C. T. Crowdy.

DEMONSTRATOR :- G. C. ANDERSON.

# REQUIRED COURSES

1. Histology and Embryology—Lecture Course. Three hours weekly during the Autumn and Winter Terms. Professor Simpson and Dr. Fisk.

Text-books:-Jordan, Bailey.

- 2. Histology and Embryology—Laboratory Work. Seven hours weekly during the Autumn and Winter Terms.
- 3. Organogenesis: The development of the organs and systems of the human body.

One hour a week throughout the Session.....Professor Simpson. Reference books:--Jordan; Arey; Keith.

### OPTIONS

# 4. Special Histology and Embryology.

Laboratory course open to students who have completed Courses 1 and 2.

Three hours weekly (Saturday mornings) throughout the Session.

5. Optional Work: Advanced work, including microscopical technique.

Six hours a week during the Spring Term. By arrangement.

### PHYSIOLOGY

The Joseph Morley Drake Professor:—John Tait. Research Professor:—Boris P. Babkin. Assistant Professor:—N. Giblin. Demonstrator:—W. H. Finney. Research Fellow:—

#### PHYSIOLOGY

In this department special provision is made not only for undergraduate but also for graduate instruction. There are full courses in Physiology proper for all undergraduates. For graduate purposes other special courses are given.

### REQUIRED COURSES

- 1. Introductory Course—Lectures and Demonstrations. In this course, which is comprehensive rather than detailed, the general principles of the subject are dealt with. Five hours a week during the Spring Term.
- 2. Intermediate Course-Lectures, Demonstrations and Laboratory.

Three lectures, one demonstration and six hours laboratory work a week. Autumn Term.

The more detailed description of the nervous system and sense organs forms a part of this course. The accompanying laboratory course consists of experiments on surviving parts of the frog and on the human subject.

Text-books:-Howell, Macleod, Starling, Stewart.

3. Senior Course. Lectures, Demonstrations and Mammalian Laboratory.

During these lectures the survey of the subject for undergraduate medical purposes is completed. The laboratory work accompanying the course involves a more advanced operative and instrumental technique.

Three lectures, one demonstration and six hours of laboratory work. Winter Term.

Text-book :- Sharpey-Schafer, "Experimental Physiology."

Laboratory Text-book :- Sherrington, "Mammalian Physiology."

4. Lectures on Autonomic Nervous Systems. . Professor Babkin

- 5. Lectures on Selected Advanced Topics..... Professor Giblin
- 6. Lectures on Structure and Function ...... Professor Tait
- 7. Advanced Laboratory.
- 8. Physiological Colloquium.

### PSYCHOLOGY

PROFESSOR OF ABNORMAL PSYCHOLOGY :--- J. W. BRIDGES. Assistant Professor of Abnormal Psychology : K. M. Banham Bridges.

### REQUIRED COURSE

1. Normal and Abnormal Psychology. Psychophysiological standpoint, the relation of abnormal to normal mental life and behaviour, the mechanism of behaviour and the physical basis of consciousness, theories of the unconscious, the motivation of behaviour, association and dissociation; imitation, suggestion, instinct, habit, emotion, memory, intelligence, character, temperament, and their abnormalities.

Two lectures a week. Seventh and Eighth Terms. Professor J. W. Bridges.

### OPTIONAL COURSES

These are one term courses open to students in the Fourth and Fifth Years and to graduates.

- Mental Measurements. Intelligence tests, ratings of character and temperament, and other mental examination methods. The course will include practice in giving tests. This course is intended for students specializing in psychiatry. By arrangement......Prof. J. W. Bridges.
- Child Psychology. Aspects of mental development, with special reference to the pre-school child. The course will include practical observations in the McGill Nursery School. This course is intended for students specializing in pediatrics. By arrangement.....Asst. Prof. K. M. B. Bridges.
- 4. Psychology in Industry. The selection of employees, the worker's efficiency, and his adjustment to his task.

This course is intended for students specializing in Industrial Medicine.

By arrangement.....Prof. J. W. Bridges.

#### BIOCHEMISTRY AND PATHOLOGICAL CHEMISTRY

BIOCHEMISTRY AND PATHOLOGICAL CHEMISTRY

PROFESSOR :- J. B. COLLIP. ASSOCIATE PROFESSOR :- S. W. BLISS. LECTURER :- D. L. THOMSON.

LECTURERS ON PATHOLOGICAL CHEMISTRY:-{E. H. MASON. I. M. RABINOWITCH. RESEARCH FELLOWS:-{R. L. KUTZ. J. S. L. BROWNE.

# 1. Biochemistry-Lecture Course.

During the first half of the course the lectures will deal with the chemical constitution, the physical and other characters and the relationships of the products of the activities of living matter, carbohydrates, fats, proteins, urea, purins, etc., and in the second half will involve an extensive discussion of (a) the origin, character and the active properties of the various ferments of the digestive tract; (b) the chemical and physical processes involved in, and the products resulting from, the digestion, absorption and assimilation of the foodstuffs in the human body; (c) the intermediate and ultimate products of metabolism, and (d) the chemistry of the tissues and of blood, bile and urine.

Four hours a week during the Autumn and Winter Terms.

#### 2. Biochemistry-Laboratory Course.

The exercises will deal with the practical side of the subjects treated in the lecture course, such as the digestion of starch, fats, and proteins, the absorption and assimilation of fats, the metabolism of the carbohydrates absorbed, and of the products of protein digestion. Especial attention will be given to the methods of the qualitative and quantitative determination of the more important metabolites, such as urea, uric acid, creatine, creatinine, etc.

Twelve hours per week during the Autumn and Winter Terms.

Towards the close of Courses 1 and 2 in the second term, special attention will be given to pathological chemistry, which will involve a course of about twenty lectures and about fifty hours of practical work on metabolism in disease.

In addition to the written and practical examination exacted of each student in this course, oral examinations will be held and the results thus obtained will, with those from the written and practical tests, serve to determine the standing of the student in the class list in Biochemistry for the year.

*Text-books*:—Cameron, "A Text-book of Biochemistry"; Folin, "Laboratory Manual of Biological Chemistry"; Lusk, "Science of Nutrition."

Reference books:—Robertson, "Principles of Biochemistry"; Bayliss, "Principles of General Physiology"; Plimmer, "Practical Organic and Bio-Chemistry"; Mathews, "Physiological Chemistry," Bodansky. "Introduction to Physiological Chemistry"; Hawk, "Practical Physiological Chemistry"; Pryde, "Recent Advances in Biochemistry"; Lovatt-Evans; "Recent Advances in Physiology"; Macleod, "Physiology and Biochemistry in Medicine"; Burns, "An Introduction to Biophysics."

#### PATHOLOGY

STRATHCONA PROFESSOR:-HORST OERTEL. Associate Professor:-L. J. Rhea.

Assistant Professor of Pathology:--T. R. Waugh. Lecturer and Douglas Fellow in Pathology:--W. H. Chase. Lecturer in Neuropathology:--A. W. Young.

CURATOR OF MUSEUMS :- E. L. JUDAH.

### REQUIRED COURSES

### 1. General Pathology and Pathological Morphology.

2. Laboratory Course in General Pathological Anatomy and Histology.

Six hours weekly-Winter and Spring Terms.

Pathological Institute......Professor Oertel and Demonstrators.

3. Special Pathology of the Circulatory, Respiratory, Digestive and Renal Systems.

One lecture a week-Autumn, Winter and Spring Terms.

Professor Oertel.

4. Laboratory Course in Special Pathological Anatomy and Histology.

One hour a week-Autumn, Winter and Spring Terms.

Pathological Institute..... Professor Waugh and Demonstrators.

#### PATHOLOGY

5.	Diseases of the Blood-forming Organs.	
	One lecture a week-Autumn Term Professor W.	augh.

- 6. Pathological Anatomy of the More Important Ductless Glands. One lecture a week-Winter Term.....Dr. Chase.
- 7. Pathological Anatomy of the Nervous System. One lecture a week—Spring Term.....Dr. Young.
- Practical Course of Pathologico-Anatomical Methods and Diagnosis.
   Once a week—Autumn, Winter and Spring Terms.

Pathological Institute ...... Professor Oertel.

- Performance of Autopsies—Group instruction. Autumn, Winter and Spring Terms. Pathological Institute.....Dr. Chase and Demonstrators. Montreal General Hospital..Professor Rhea and Demonstrators.
- Gross and Microscopic Demonstrations and Discussions of specimens Removed at Surgical Operations.
   Once a week—Autumn, Winter and Spring Terms.

Pathological Institute ...... Professor Waugh.

# 11. Clinico-Pathological Conferences.

On cases from the medical service of the Royal Victoria Hospital. Once a week—Autumn, Winter and Spring Terms. Pathological Institute......Medical and Pathological Staffs.

### 12. Clinico-Pathological Conferences.

On cases from the various medical and surgical services of the Montreal General Hospital.

Laboratories of the Montreal General Hospital.

Pathological and Hospital Staffs.

Reference books:—Oertel, "Outlines of Pathology"; Virchow, "Cellular Pathology"; Cohnheim, "Lectures on Pathology"; Ziegler, "Specielle Pathologie"; Delafield and Prudden, "Text-book of Pathology"; Wells, "Chemical Pathology."

For advanced courses leading to higher academic degrees or options see the Announcement of the Faculty of Graduate Studies and Research.

### BACTERIOLOGY

Professor:-F. C. Harrison. Assistant Professor:-A. A. Bruère. Lecturer:-W. W. Beattie.

### REQUIRED COURSES

1. General Course: Lectures and laboratory. Spring Term. First Year. Pathological Institute......Professor Harrison and Assistants.

#### 2. Special Course.

Third Year. Pathological Institute.

Professor Bruère, Dr. Beattie and Demonstrators. For advanced courses leading to higher academic degrees or options see the Announcement of the Faculty of Graduate Studies and Research.

### PUBLIC HEALTH AND PREVENTIVE MEDICINE

Assistant Professors :--- R. St. J. Macdonald. F. B. Jones.

Assistant Professor of Mental Hygiene:--W. T. B. Mitchell. Assistant Professor of Industrial Hygiene:--F. G. Pedley. Demonstrator in Industrial Hygiene:---R. Vance Wood.

The instruction in Public Health and Preventive Medicine given to the medical undergraduates is designed to meet the requirements of the practitioner in Medicine.

In order that the importance of Public Health and Preventive Medicine may be kept before the student, short courses are given in the First and Second Years. These courses are of an introductory nature and, from a historical background, develop the needs and opportunities for preventive medicine and its relation to society.

The main course is given in the Third Year, with the exception of the communicable diseases, which come in the Fourth Year.

The Department aims to correlate the teaching of the preventive aspects of medicine with that which is dealt with by other departments in their special field. In addition, those phases of the subject that are not included elsewhere are covered, such as water, milk and food supplies, public health administration, hygiene of the school child, industrial hygiene and mental hygiene.

### PUBLIC HEALTH AND PREVENTIVE MEDICINE

. The course in Mental Hygiene, included in the programme of the Department of Public Health and Preventive Medicine, attempts to give the student an understanding of what is possible and of what is being done in the way of preventing nervous and mental diseases, delinquency and crime, and social failure. This implies a knowledge of what is normal in the way of behaviour responses at the different stages of the individual's development; of how we may recognize and deal with significant deviations from the average response; the factors underlying individual success and failure; the place and the means of introducing mental health principles into home, school, social and industrial situations.

The course includes introductory lectures in the First and Second Years, in an attempt to give the student more complete insight into his own behaviour responses and an objective attitude to the behaviour responses of others. This introductory course is followed up by the formal mental hygiene presentation, covering ten hours, in the Third Year.

The hygiene of the child of school age includes, for consideration, the chief points of a school health service, its scope, and the duties of the School Medical Officer, a post so frequently undertaken by the general practitioner.

Industrial Hygiene deals with the application of the principles of preventive medicine to industry. The various factors which influence the health of work people are discussed, and the means which may be taken to supervise their health and safety are considered.

In the Third Year, visits of inspection are made to plants selected to illustrate the general principles of water purification, the modern dairy plant, including pasteurization and industrial hygiene.

A brief course in Applied Public Health Bacteriology is given to familiarize the student with the facilities available, the method of taking specimens, the methods of examination and the interpretation of laboratory reports on water, milk, sputum, nose and throat swabs.

A health study of the student's home town, or some other place acceptable to the Department, is required before the beginning of the Fifth Year. This study requires some individual field work by each student.

An optional practical course, more advanced than the above regular course, is open to students wishing to go more fully into the subject.

The laboratory is provided with all apparatus needed in every branch of public health work.

# Text-books and Reference Books:-

The General Field:-Parkes and Kenwood; Notter and Firth; Harrington and Richardson; Rosenau; Park; Fitzgerald.

Industrial Hygiene:- The Health of the Industrial Worker, Collis and Greenwood; Industrial Health, Hayhurst, Emery and Kober; Industrial Poisons in the United States, Hamilton.

Mental Hygiene:-The Mental Hygiene of Childhood, White. School Hygiene:- The Fundamentals of School Health, Kerr.

### PHARMACOLOGY

### PROFESSOR :- R. L. STEHLE.

ASSISTANT PROFESSOR OF THERAPEUTICS :- D. S. LEWIS.

ASSISTANT PROFESSOR OF PHARMACOLOGY :--- N. B. DREYER.

LECTURER IN ANÆSTHESIA:-WESLEY BOURNE.

LECTURER IN THERAPEUTICS :- D. GRANT CAMPBELL.

LECTURERS IN PHYSIO-THERAPY :-- { F. W. HARVEY. Norman Brown.

DEMONSTRATOR IN PHARMACOLOGY :--- W. DE M. SCRIVER. Assistant Demonstrator:--C. J. Tidmarsh.

### REQUIRED COURSES

### Second Year

1. Pharmacology.—The action of drugs is considered in as exact • a fashion as possible from information derived by means of experimental methods and careful clinical observation. A serious attempt is made to familiarize the student with the chemistry of the drugs studied in so far as it is known.

Three lectures a week during the Spring Term, supplemented by one conference and one demonstration a week.

Drs. Stehle and Dreyer.

2. Pharmacological Laboratory.-The experiments are chosen to illustrate the lectures of the preceding course.

Two periods (six hours) a week during the Spring Term.

Drs. Stehle, Dreyer and Staff.

### Third Year

3. Therapeutics.-The principles of therapeutics and the application of drugs in internal medicine, surgery, and the specialties are covered.

Two lectures a week during the Autumn Term and one per week during the Winter Term ...... Dr. Lewis.

# 4. Pharmacy and Prescription Writing.

Five lectures and five laboratory periods during the Winter Term. Drs. Scriver and Dreyer.

### PHARMACOLOGY AND MEDICINE

# 5. Physio-therapy.

DEMONSTRATORS :-

Three lectures and three periods of group instruction during the Winter Term ...... Drs. Lewis, Brown and Harvey.

6. Clinical Therapeutics.—One ward class per week for one term in conjunction with the Department of Medicine.

Drs. Lewis and Campbell.

### Fifth Year OPTIONS

Suitably prepared persons may undertake research at any time.

Advanced courses leading to the degrees of M.Sc. or Ph.D. will be arranged to suit individual cases. See Announcement of the Faculty of Graduate Studies.

Text-books in Pharmacology:-Cushny, Sollmann, Poulsson, Meyer and Gottlieb.

### MEDICINE

PROFESSOR AND DIRECTOR OF THE DEPARTMENT :-- JONATHAN C. MEAKINS.

PROFESSORS :-- CAMPBELL PALMER HOWARD. W. F. HAMILTON. C. F. MARTIN.

Associate Professor :- A. H. Gordon.

Assistant Professor of Medical Research :- Maude E. Abbott.

Lecturers :--- J. G. Browne, D. G. Campbell, J. Kaufmann, D. S. Lewis, A. H. MacCordick, C. F. Moffatt, C. F. Wylde.

Lecturer (Tuberculosis) :---J. R. Byers. Lecturer in Medical Research (Biochemistry) :---C. N. H. Long.

> C. C. BIRCHARD, C. R. BOURNE, KEITH GORDON, R. H. M. HARDISTY, A. T. HENDERSON, C. R. JOYCE, D. C. MACCALLUM, H. E. MACDERMOT, J. F. MACIVER, D. W. MCKECHNIE, J. L. D. MASON, D. L. MENDEL, LORNE MONTGOMERY, E. V. MURPHY, E. E. ROBBINS, COLIN SUTHERLAND, J. J. WALKER, J. C. WICKHAM, E. S. MILLS.

ASSISTANT DEMONSTRATORS:--{ W. W. ALEXANDER, H. F. EBERTS, W. C. GOWDEY, H. N. SEGALL, C. J. TIDMARSH. RESEARCH FELLOWS:--{ JESSIE BOYD SCRIVER, W. DE M. SCRIVER, G. R. BROW.

The object of this course is to impart a sound knowledge of the principles of general medicine in the diagnosis and treatment of disease; to afford a knowledge of the technique and, above all, so to train the student that he will be enabled to cultivate the faculty of critical judgment. The mere instruction, of itself, is regarded as but a part of the course, while the personal contact of students and patients throughout the final years is of prime importance.

The close correlation of physiology, anatomy and bio-chemistry with clinical medicine is emphasized—not only in the pre-clinical years but later in hospital and laboratory—thus affording students a modern scientific medical training.

Unusual facilities are afforded by the establishment of a modern medical clinic at the Royal Victoria Hospital. In this institution and at the Montreal General Hospital there are extensive laboratories for the study of disease in all its phases. Excellent clinical facilities are afforded at both these hospitals, as well as by affiliation with other institutions.

Students must have followed up at least ten cases from their inception to a conclusion and be certified therefor.

### REQUIRED COURSES

### Sixth to Ninth Terms (2nd and 3rd years).

1. A course of lectures on the general principles of medicine, emphasizing and correlating the study of Anatomy, Physiology and Biochemistry in the signs and symptoms of disease.

Three hours a week-Spring, Autumn and Winter Terms.

Professors Meakins, Rabinowitch and Mason. 2. A course of clinical lectures twice weekly is given to demonstrate the application of the principles, as set forth in the course of lectures mentioned above.

Professors Meakins, Rabinowitch and Mason. 3. A course of practical instruction on physical examination and physical diagnosis. This course is given in the Wards and Out-patient Department of the Royal Victoria Hospital.

Professor Meakins and Assistants. 4. During the eighth and ninth terms, a limited number of cases are allotted to each student in the wards for introductory instruction in case-reporting and general examination of patients. This is supplemented by bedside clinics.

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#### MEDICINE

5. A course in clinical microscopy of forty periods is given in the laboratories of the Pathological Institute.

Four hours a week-Autumn and Winter Terms.

Dr. Kaufmann and Assistants. *Text and Reference books:*—McLeod, "Physiology and Biochemistry in Modern Medicine"; Lewis, "Clinical Electrocardiography" and "Clinical Disorders of the Heart"; Meakins and Davies, "Respiratory Function in Disease"; Todd, "Clinical Methods"; Flint, "Physical Diagnosis"; Cabot, "Physical Diagnosis"; Thompson, "Elements of Surface Anatomy"; Lusk, "Science of Nutrition"; Krehl, "Basis of Clinical Symptoms."

# Tenth, Eleventh and Twelfth Terms (4th Year).

6. A course of lectures throughout the session on the "Principles and Practice of Medicine," with collateral reading assigned on various topics. Professor J. C. Meakins and Assistants.

7. A course of theatre clinics at the Montreal General Hospital at which cases of unusual interest are presented.

Professor Gordon and Staff.

8. A course of bedside clinics to small groups at the Montreal General Hospital. Professor Gordon and Assistants.

9. A course at the Out-patient Department of Medicine and Pediatrics of the Montreal General Hospital, in small groups, where the student will act as a clinical clerk, taking routine histories, making a complete physical examination and performing some of the simpler laboratory tests. At the end of each period the interesting cases will be presented to the entire group by the physician in charge.

10. A course of clinical-pathological conferences for the entire class will be held once a week at the Pathological Laboratory of the Montreal General Hospital.

Professors Rhea, Howard, Gordon and Assistants.

11. Cases in the Medical Wards of the Montreal General Hospital are assigned to each member of the class for reporting. It is obligatory that each student shall present satisfactory case reports on at least ten patients during this course.

Text and Reference books:—Osler's "Practice of Medicine"; Taylor's "Practice of Medicine"; Nelson's "Loose-Leaf System of Medicine"; Oxford, "Loose-Leaf System of Medicine"; Dieulafoy, "The Text-book of Medicine"; Strumpell, "Text-book of Medicine for Students and Practitioners"; McKenzie, "Diseases of the Heart"; Purves Stewart, "Diagnosis of Nervous Diseases"; Bassler, "Diseases of the Stomach and Intestines"; Pharneo, "Teaching Hospitals."

# Twelfth-Fifteenth Terms (5th Year).

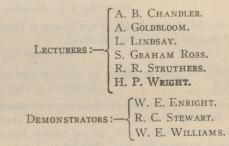
Hospital year. Each student becomes virtually a member of the externe staff.

He is allotted in turn to various services of the hospital in the capacity of clinical clerk, participating in the keeping of records, the diagnosis and treatment of patients in wards and out-patient departments and in the laboratory duties. He will accompany the physicians in their daily rounds, attend autopsies and report on them to his teachers.

Regular theatre clinics are given only in the major subjects.

With the present limitation of students it becomes possible to give the student a closer familiarity than hitherto with practical scientific medicine and its allied subjects of neurology, psychiatry and pediatrics.

### Pediatrics



Instruction is given in all the clinical years. Emphasis is laid on the relation of pediatrics to public health and community problems in medicine.

# Seventh to Ninth Terms (3rd Year).

1. A series of clinical demonstrations to groups of students on the methods of physical examination of infants and children at the Royal Victoria Hospital, extending over a period of two weeks.

Professor Cushing and Assistants.

2. A series of demonstrations to groups of students on the manifestations of disease in children.

Winter and Spring Terms.

Royal Victoria Hospital ..... Professor Cushing and Assistants.

3. During the Autumn and Winter terms of this year, a limited number of cases are allotted to each student in the Pediatric Ward for introductory instruction in case-reporting and general examination of patients.

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#### PEDIATRICS

# Tenth to Twelfth Terms (4th Year).

4. A course of lectures dealing with the peculiarities and development of children, the principles and theory of infant-feeding, the diseases peculiar to children and the differences in the manifestation and treatment of ordinary diseases of adults and children.

Thirty lectures.

Medical Building......Professor Cushing and Assistants. 5. A series of clinics throughout the year, illustrating the lectures and demonstrating the ordinary diseases of childhood.

Children's Memorial Hospital .... Doctors Lindsay and Goldbloom.

6. A series of demonstrations to groups, in Out-patient Department and Children's Ward, on the examination, diagnosis and treatment of sick children.

Montreal General Hospital.....Dr. Chandler and Assistants.

7. A series of demonstrations to groups of students each week on the ordinary acute infectious diseases.

Alexandra Hospital.

Professor Cushing, Doctors D. Grant Campbell and E. V. Murphy.

### Thirteenth to Fifteenth Terms (5th Year).

8. Students act as assistants to the internes, report cases, attend ward rounds and Out-patient pediatric clinics in the various hospitals, supervised by the attending staffs of the hospitals.

9. A series of practical clinics to groups of students on infant feeding and the care and development of young infants.

Montreal Foundling Hospital.

Doctors Lindsay, Goldbloom and H. P. Wright. 10. A series of theatre clinics on the principal diseases of infancy and childhood.

Montreal General Hospital.....Dr. Chandler. Royal Victoria Hospital.....Dr. Ross.

11. A series of clinics to groups on the acute infectious diseases.

Alexandra Hospital......Doctors Cushing, Campbell and Murphy.

12. A series of demonstrations to groups on prematurity, diseases of the newborn and the care and feeding of the newborn.

Montreal Maternity Hospital.

Doctors S. Graham Ross and R. R. Struthers.

13. A series of demonstrations in the various health centres and post-natal clinics on the care and feeding of normal children and the various phases of undevelopment—by the attending staff of these clinics.

Text-books:—Holt and Howland; Dennet; Feer; Still; Porter and Carter; Morse and Talbot; Alan Brown.

### Neurology

# CLINICAL PROFESSORS :- {C. K. RUSSEL. F. H. MACKAY.

# DEMONSTRATOR :--- N. VINER.

A course on Applied Anatomy of the Nervous System is given in the earlier years of study, and students of the First and Second Years are introduced, wherever possible, to neurological patients who illustrate the anatomy and physiology of the nervous system.

1. In the Third Year a series of demonstrations is given on clinical methods of examining the nervous system, and some of the commoner diseases are studied. Professor Russel and Assistants.

2. Clinical lectures and demonstrations on neurology are given in the Fourth and Fifth Years of the course in the wards and medical theatre of the Montreal General and the Royal Victoria Hospitals.

Professors Russel and Mackay and Assistants. A series of demonstrations on Neuro-pathology is given in the laboratory.

### Psychiatry

CLINICAL PROFESSOR :-- C. A. PORTEOUS, ASSISTANT PROFESSOR :-- DAVID SLIGHT. LECTURER IN MENTAL HYGIENE :-- C. M. HINCKS. LECTURER IN PSYCHIATRY :-- A. W. YOUNG. DEMONSTRATORS :-- {A. G. MORPHY, H. A. SIMS. J. N. PETERSEN.

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Instruction will be given in the Fourth and Fifth Year.

### REQUIRED COURSES

### Tenth and Twelfth Terms.

1. A course of didactic lectures with clinical demonstrations of the commoner psychopathic conditions.

Medical Building ..... Professor Slight.

# Thirteenth and Fourteenth Terms (5th Year).

2. Clinical instruction in groups is given at the Psychiatric Clinic at the Royal Victoria Hospital, which furnishes examples of the various psychoses, the border line cases, and enables the student to become

#### PSYCHIATRY AND DERMATOLOGY

familiar with forms of mental defect, delinquency and allied conditions. The Clinic deals, moreover, with patients sent for investigation from the charitable agencies of the city and co-operation with the work of the Canadian National Committee for Mental Hygiene.

Professor Slight and Assistants.

3. Practical instruction.

Protestant Hospital for the Insane. Professors Porteous and Slight.

In all group instruction the student is taught methods of testing psychopathic cases, and of making detailed diagnoses, while the general and occupational therapy, etc., of such cases is dealt with in detail in the hospital services.

*Text-books:—*" Outlines of Psychiatry," White; "Clinical Psychiatry," Kraeplin; "Psychiatric Neurological Examination Methods," Wimmes Hoisholt; "Diseases of the Nervous System," Jeliffe and White (1923 Ed.).

# Dermatology

Lecturers :---{P. Burnett. J. F. Burgess.

#### DEMONSTRATOR :--- C. R. BOURNE.

The course is entirely clinical, consisting of a weekly theatre clinic at the Montreal General Hospital, on specially selected cases, and outdoor clinics, weekly, by Dr. J. F. Burgess at the Montreal General Hospital, and Dr. Philip Burnett at the Royal Victoria Hospital, throughout the session. Lantern slides are used to illustrate the course; also a large series of coloured plates and photographs.

*Text-books:*—Stellwagon, Walker's Introduction to Dermatology, Hartzell, McLeod, Darier, Campbell, Shamberg, Sutton.

#### HISTORY OF MEDICINE

#### PROFESSOR :- SIR ANDREW MACPHAIL.

A course of fifteen lectures will be given upon the History of Medicine to inform undergraduates in the Faculty upon the progress of the science. It is the intention to examine the causes which produced the varying conceptions of medicine in times past, rather than burden the student with a narration of facts and a recital of biographies.

# SURGERY

PROFESSOR :- A. T. BAZIN.

Associate Professor :- E. M. Eberts.

Assistant Professors :-- W. L. Barlow, C. B. KEENAN,

C. K. P. HENRY.

LECTURERS :- F. B. GURD, F. E. MCKENTY, F. A. C. SCRIMGER, F. J. TEES.

LECTURER IN ANÆSTHESIA:-W. B. HOWELL.

DEMONSTRATORS :- JOHN ARMOUR, E. B. CHANDLER, GUY JOHNSON,

R. R. FITZGERALD, L. H. MCKIM, R. B. MALCOLM,

A. STEWART.

DEMONSTRATORS IN ANÆSTHESIA:--{J. W. ARMSTRONG, C. C. Stewart.

ASSISTANT DEMONSTRATORS :- HOWARD DAWSON, H. M. ELDER,

G. A. FLEET, MARK KAUFMANN, B. F. MACNAUGHTON,

G. GAVIN MILLER, ALBERT ROSS, DUDLEY ROSS,

P. G. SILVER.

To obtain greater uniformity and a better perspective, the department of Surgery and Clinical Surgery has been placed under one head, who has been given control of the teaching in the wards and out-patient departments of the two large hospitals.

Montreal, situated at the head of ocean navigation, and a large railroad and industrial centre, is noted for the extensive amount and varied character of its clinical material. Indeed the teaching in surgery is mainly clinical and practical. In the Montreal General and Royal Victorial Hospitals there are between five and six hundred beds and also large out-patient departments.

# REQUIRED COURSES

# Seventh to Ninth Terms (3rd Year).

- 1. Didactic Lectures Upon the General Principles of Surgery. Fifteen lectures upon the general principles of surgery are given during the Autumn and Winter Terms. Medical Building.
- 2. Clinical Instruction. All the clinical instruction is given at the Royal Victoria Hospital, except on Saturday forenoon, when a fracture clinic is given at the Montreal General Hospital.

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#### SURGERY

- (a) Out-patient Department, Royal Victoria Hospital. Students are instructed both in the Out-patient and the In-patient Department. They are brought into immediate contact with the patient, and taught to take a correct history, to differentiate the abnormal from the normal, to apply their knowledge of anatomy, to make an examination, to dress wounds, arrange and apply splints, and to reduce the simpler fractures and dislocations. In this year every effort is made to teach the principles of the art and science of surgery, and to train the student in habits of observation.
- (b) Ward Work. Eighteen beds in the wards are allotted during the second half of the session, in order to train the student in the taking of case histories, and the student is expected to assist at the operation on the patient who has been assigned to him.
- (c) Surgical Pathology. During the first few weeks of the session there will be given a short practical course in Surgical Pathology of an introductory character, which will take up the fundamentals of inflammation, wound repair, and tumours. This will be very largely a laboratory demonstration course, and is designed to give the student at the outset of his clinical education a view of the pathological basis of the commoner diseases and injuries such as he will see first in his subsequent hospital service.
- (d) Fractures. On each Saturday forenoon throughout the Winter and Spring Terms a special course of lecture demonstrations on fractures, taking up the general principles and illustrating these by cases, will be given at the Montreal General Hospital. The follow-up Out-door clinic for fractures will also be utilized to demonstrate and teach the use of ambulant apparatus and the methods of restoring function.

#### Tenth to Twelfth Terms (4th Year).

- 3. Didactic Lectures Upon Regional Surgery. During this year a series of thirty lectures will be given upon the main types of disease and injury. Medical Building.
- 4. Clinical Instruction. The clinical instruction in this year is given entirely in the Montreal General Hospital, except for alternate Wednesday forenoons, when the students are given a theatre clinic at the Royal Victoria Hospital. Students attend surgical clinics in the amphitheatre of the hospital three days in the week. They also attend the wards of the hospital in groups.
- (a) Case Reporting in the Wards. Cases are assigned to students who are required to examine the patient carefully, record the conditions found, arrive at a tentative diagnosis, outline the treatment indicated, assist at operations, and follow the case to conclusion.

- (b) Surgical Amphitheatre Clinics. These are held at the Montreal General Hospital twice a week and at the Royal Victoria Hospital once every other week (Wednesday forenoon) throughout the session.
- (c) Out-patient Department. Demonstration clinics on selected cases from the general surgical clinic are given twice weekly.
- (d) Ward Classes. A teacher of mature experience and of professorial rank teaches students in the wards and instructs them in groups.

# Thirteenth to Fifteenth Terms (5th Year).

The fifth is a purely hospital year. The student in his surgical term acts, for all practical purposes, as an externe, at whichever hospital he is attending. During the ten weeks of his term he devotes practically his entire time to the study of surgery, and at the end of the session is given a preliminary examination.

- (a) Theatre Clinics. One amphitheatre clinic is given alternately in the Royal Victoria Hospital and the Montreal General Hospital once a week throughout the session.
- (b) Ward Classes. The students, in groups of not more than ten men, are taught at the bedside four hours a week.
- (c) Case Reporting in the Wards. The student is responsible for the case reports of the patients allotted to him, which he is to write, with the help and under the control of the house surgeons, as well as of the chiefs of service. He must do his own laboratory work under the direction of a supervisor; he is to be present at the operations on his own cases, wash up, and assist; he must write the progress notes after operation, copy the pathological reports, and attend eventual autopsies, the principle being that he is to follow his case closely from beginning to end. During the term he is allotted on an average from twenty to twenty-five cases.

Students in this Year are required to do a good deal of collateral reading and to make themselves familiar with the anatomy, pathology and physiology of the injury or disease and of the region implicated.

# 5. Anæsthesia.

Didactic lectures and laboratory demonstrations on anæsthesia are given by the Department of Pharmacology and Therapeutics to the Third Year, and practical instruction in the administration

#### UROLOGY

of anæsthetics is given in the hospitals to students of the Fourth and Fifth Years. Every student is obliged to furnish a certificate of having given at least six anæsthetics under supervision. *Text-books:*—

1. General Surgery: Choyce, C. C., "A System of Surgery"; Thomson and Miles, "Manual of Surgery"; Gask and Wilson, "Surgery"; Hamilton Bailey, "Demonstrations of Physical Signs in Clinical Surgery."

2. Emergency Surgery: Sluss, John W., "Manual of Emergency Surgery."

3. Surgical Anatomy: Treves' "Surgical Applied Anatomy."

4. Fractures: Scudder, Charles L., "Treatment of Fractures"; Wilson and Cochrane, "Fractures and Dislocation."

5. Case Reporting: White, J. Renfrew, "The Clinical Examination of Surgical Cases"; Ryerson, "Process of Diagnosis."

# Urology

CLINICAL PROFESSORS :- {D. W. MACKENZIE, F. S. PATCH.

> LECTURER :---R. E. POWELL. DEMONSTRATOR :---M. SENG.

Students attend this department in the Royal Victoria and Montreal General Hospitals, for instruction in the methods of diagnosis and treatment of surgical diseases of the urinary and male genital organs and syphilis.

During the Fourth Year they are given a course of fifteen lectures on the elements of the subject in the University.

During the Final Year they receive clinical instruction on groups of cases presented for differential diagnosis, and they are required to discuss these cases and outline the treatment indicated.

Clinical clerkships are assigned in the urological wards, where cases are followed to a conclusion. Opportunity is here afforded for the complete study of a considerable number of cases.

Text-books:-Keyes' Urology.

Collateral Reading:-Thompson Walker's Genito-Urinary Surgery.

#### Orthopædic Surgery

Clinical Professors :—  $\begin{cases} W. G. Turner. \\ J. A. Nutter. \end{cases}$ 

Lecturer :---W. J. Patterson. Demonstrator :---N. T. Williamson.

Instruction in diseases and injuries of the bones, joints, muscles and the surgery of deformities, both congenital and acquired, is given to the students of the Fifth Year in groups of ten to twelve in the Children's Memorial Hospital, the Royal Victoria and the Montreal General Hospitals.

Each student attends clinics in Orthopædic Surgery at one of these hospitals for ten consecutive weeks.

The demonstrations given are essentially practical. Every student is expected to write histories of, to make the diagnosis for, and to prescribe the treatment for, a definite number of patients.

In the Montreal General and the Royal Victoria Hospitals there are large clinics for both adults and children suffering from orthopædic affections.

In the Children's Memorial Hospital there is a great wealth of clinical material consisting of children who are suffering from the surgical diseases of infancy and childhood.

*Text-books:*—Whitman's Orthopedic Surgery; Fraser on Tuberculosis of Bones and Joints of Children; Tubby and Jones on Surgery of Paralysis; Jones, Orthopedic Surgery of Injuries; Jones and Lovett, Orthopedic Surgery.

# OBSTETRICS AND GYNÆCOLOGY

PROFESSOR :	
Clinical Professors:	H. M. Little. H. C. Burgess. J. W. Duncan. J. R. Fraser. J. R. Goodall.
Lecturers:	W. A. G. BAULD.DAVID PATRICK.
Demonstrators :	A. D. CAMPBELL. DOUGLAS GURD. G. C. MELHADO. IVAN PATRICK. ELEANOR PERCIVAL

CLARA LAW FELLOW AND DEMONSTRATOR :- P. J. KEARNS.

# Ninth Term (3rd Year).

1. A course of forty lectures on the fundamental principles of the subject, illustrated by diagrams, models and fresh and preserved specimens.

Four times a week-Spring Term ... Professor -

# Obstetrics

# Tenth to Twelfth Terms (4th Year).

2. Clinical instruction will be given during the year in the Royal Victoria Montreal Maternity Pavilion, and will include ante-natal care in the Out-patient Department and the conduct of labour and the puerperium in the case-room and wards of the Hospital.

Twelve hours a week during one term.

# Fifth Year.

3. Rooms are provided in the New Pavilion, where the students may reside, in groups of six, for a period of twelve to fourteen days. During his period of "interneship" the student will be expected to attend his out-door cases, and, under supervision, to deliver these women in their own homes.

*Text-books:*—Whitridge Williams; Webster; Evans; De Lee; Berry Hart.

# Gynæcology

4. Theatre Clinics and bedside instruction in the Royal Victoria and Montreal General Hospitals. Professor Chipman and Staff.

5. Practical instruction to small groups of students in the outpatient departments of the Royal Victoria and Montreal General Hospitals.

Text-books:-Hart and Barbour; Blair Bell; Dudley Hurst; Gilliam; Anspach.

# OPHTHALMOLOGY

PROFESSOR :--- W. GORDON M. BYERS.

(G. H. MATHEWSON.

CLINICAL PROFESSORS :-- S. H. MCKEE.

F. T. TOOKE.

DEMONSTRATORS :--- {A. G. MCAULEY. J. A. MACMILLAN.

The undergraduate work in Ophthalmology, which is designed to meet the needs of a well-trained general practitioner, embraces the following courses:—

# Ninth Term (3rd Year).

## 1. Routine examination of the eye.

In this work the class in small groups is drilled in the various tests in the routine examination of the eye, every effort being made to demonstrate methods which, though simple, are adequate and call for the minimum outlay for equipment. Instruction in the use of the ophthalmoscope and familiarization with the appearance of the normal fundus of the eye are an important feature of this preliminary course.

Five hours.

Professor Byers, with Drs. Tooke and McKee and members of the Staff.

# Tenth to Twelfth Terms (4th Year).

#### 2. Lecture demonstrations.

This course, variously illustrated, covers the general principles and the systematic side of the subject. It has been designed to furnish a background of essential concepts for the clinical work of the Fifth Year.

Ten hours......Professor Byers.

# Thirteenth to Fifteenth Terms (5th Year).

#### 3. Clinical Ophthalmology.

In the Final Year, the entire available time is devoted to an intensive study of the ocular problems that are of greatest moment in general practice—the external diseases of the eye, and the main ophthalmoscopic findings in systemic disorders and affections of the nervous system; with practical lessons in ophthalmic nursing and first aid. This work is conducted in the ophthalmic clinics and wards of the Montreal General and Royal Victoria Hospitals. Professors Byers and Mathewson and Staff.

Text-books:-Parsons, May, Swanzy, De Schweinitz, Fuchs.

# OTO-LARYNGOLOGY

OTO-LARYNGOLOGY PROFESSOR:-H. S. BIRKETT. LECTURER:-HAMILTON WHITE. DEMONSTRATORS:-DEMONSTRATORS:-C. E. HODGE. J. T. ROGERS. A. E. LUNDON. W. J. MCNALLY. J. E. TREMBLE.

The course of instruction in Oto-Laryngology is carried on in the wards and out-patient departments of both the Montreal General and the Royal Victoria Hospitals, where, owing to the large clinics, the students are afforded ample opportunity of receiving practical instruction in these subjects. In these two hospitals there are about fifty beds set apart for this specialty.

The courses are designed to afford the student the opportunity of acquiring the oto-laryngological knowledge required by every general practitioner. The practical work is conducted in small groups, so that the personal instruction and supervision, so essential in this subject, are given to each student.

# Tenth to Twelfth Terms (4th Year).

# 1. Introductory Course.

Group instruction in:—(a) The normal anatomy of the ear, nose and throat, as exemplified in most dissections, dried specimens, models, stereoscopic plates and radiograms of normal conditions of the accessory sinuses of the nose and mastoid process; (b) the method of using the various instruments for examining the ear, nose and throat; (c) the usual tests for hearing; (d) the recognition of normal conditions of these special organs, as exemplified by clinical material. Professor Birkett and Staff.

# 2. Lecture Course.

Ten lectures upon the more common pathological conditions of the ear, nose and throat met with in general practice.

Professor Birkett.

# Thirteenth to Fifteenth Terms (5th Year).

#### 3. Clinical Oto-Laryngology.

A course of clinical instruction in the out-patient departments and wards of the hospitals. Professor Birkett and Staff. *Text-books:*—Chevalier Jackson and Coates; St. Clair Thomson; A. Logan Turner; H. Tilley; Kerrison; Phillips; Barnhill, "Nose. Throat and Ear."

# GRADUATE INSTRUCTION

1. Any graduate who so desires may attend any of the regular courses given to students of the Final Year. This opportunity frequently appeals to many of our graduates, who find in this plan a means of bringing their knowledge of medicine up to date.

2. Special graduate work is offered in every department, both in the laboratories and in the clinics, at any period during the year, provided the graduate is willing to assign himself for serious work to one service. Application for this privilege should be made to the Dean or to the Head of the Department in which the graduate desires to occupy himself.

Vide under heading of "Departments of Physiology, Pathology, Anatomy, Hygiene, etc."

3. Course for Diploma of Public Health: This course is specially designed as a thorough training for medical men undertaking the duties of a Medical Officer of Health.

The duration of the course is at least eight months (October 1st to May 31st).

The curriculum is as follows :--

(a) A course of lectures dealing in a comprehensive manner with the general principles of public health and preventive medicine.

(b) Bacteriology—a full practical course in general bacteriology, with special application to public health.

(c) (1) Sanitary Chemistry. Examination of air, water and water supplies in general, the commoner foods and beverages, sewage and sewage effluents, etc.; chemical investigations connected with trades and occupations; (2) *Physics*. General principles only in their application to hygiene.

(d) Practical public health work. An extended course under a M.O.H., affording facilities for instruction in public health relating to housing, factories, work-shops and industrial establishments, schools, waterworks, sewage plants, refuse distribution, abattoirs. dairies and milk stations, welfare centres, etc., etc.

(e) Public health legislation and administration. Statutes and bylaws relating to public health and the powers of health authorities; administration of the office of a Medical Officer of Health.

(f) Vital statistics. Calculation and tabulations of returns of births, marriages and deaths and diseases.

#### GRADUATE INSTRUCTION

(g) Meteorology and climatology; geographical and topographical distribution of disease.

Candidates for this diploma may claim exemption in any of the above subjects on presentation of adequate certificates.

Qualification for the diploma includes a knowledge of communicable diseases, of child hygiene and mental hygiene, the use of meteorological, hygienic and sanitary apparatus.

The successful candidate must further know the appearance of healthy and diseased tissues of animals, and their microscopic examination.

Finally, he must show a capacity to formulate a report on public health conditions in an actual locality and make annual and other reports as required by Officers of Health.

These examinations are written, oral and practical.

The fee for the course, including the diploma, is \$100.00.

5. Special Courses. Graduates desiring instruction in any special branch of Public Health and Preventive Medicine, such as School Health Services and Industrial Hygiene, should apply to the Department. Courses will be arranged suitable for the applicants, in order that they may receive full benefit from the time devoted to the course.

#### BUILDINGS

Few medical schools on this Continent offer better facilities than those enjoyed by the students of McGill University. Ideal academic and geographical conditions exist for the teaching of scientific and practical medicine.

The Medical School is on the University Campus, and is thus in juxtaposition to the scientific laboratories of the University and to the largest teaching hospital in the city. Co-operation with the scientific and cultural departments of the University is thus made easy.

The following hospitals and institutions are at the disposal of the teaching staff and students for clinical and pathological study:--

Royal Victoria Hospital. Montreal General Hospital. Children's Memorial Hospital. Foundling Hospital. Alexandra Hospital for Infectious Diseases. Protestant Hospital for the Insane. Royal Edward Institute for Tuberculosis.

The Maternity Hospital, from the teaching standpoint, is under the control of the University.

# THE MEDICAL BUILDING

This Building, erected in 1911, at a cost of over \$600,000, contains the Offices of Administration, the Medical Library (with its 38,000 volumes, its Reading Rooms and their complete set of technical journals), the Departments of Anatomy, Histology, Hygiene, Pharmacy, and the magnificent Museum of Anatomy. The Faculty of Dentistry is also in this Building.

The Department of Anatomy, with its commodious laboratories, its dissecting room, with 50 tables, and its very unusual abundance of material, affords unequalled facilities for students. Moreover, graduates who desire opportunities for research are adequately cared for in this Department.

The Department of Histology and Embryology, too, has excellent facilities, with laboratory space for 120 students, and smaller laboratories for research.

# THE BIOLOGICAL BUILDING

Completed in 1922 at a cost of over 500,000, this edifice was erected on the site of the original Medical Building, which was partly destroyed by fire in 1907. This extensive structure—184' x 60'—houses on each of its floors laboratories devoted respectively to Botany, Zoology, Biochemistry, Physiology and Pharmacology.

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#### BUILDINGS

Each of these departments is amply provided with laboratories and units for undergraduate teaching and graduate research.

Adjacent to and connected with the Biological Building is the Laboratory for Experimental Surgery. This two-storey building contains two operating units with sterilization and anæsthetic rooms, as well as commodious quarters for the storage of animals and their care during convalescence. The equipment is very complete and includes a refrigerator plant and kitchen.

# THE PATHOLOGICAL INSTITUTE

This Building, which was opened for use in October, 1924, and which is connected with the Royal Victoria Hospital by a tunnel, is situated on the Northeast corner of University Street and Pine Avenue, adjacent to the Medical Building. It provides accommodation for the departments of Pathology, Bacteriology and Medical Jurisprudence, and includes a Pathological Museum and museum workshops. It combines under one roof, quarters for teaching and research in these departments, both for the University and for the Royal Victoria Hospital. From the latter it draws chiefly its material. It was constructed at a cost of \$460,000; is of Montreal limestone; its main front is 242 feet long; the north end is 77 feet wide and the south end 60 feet. It provides ample facilities and equipment for instruction of students, and the research work of the Staff.

### HOSPITALS

The Medical School is closely affiliated with a group of active general and special hospitals, the staffs of which are appointed with the co-operation of McGill University and, for the most part, are teachers in the Medical School. These affiliated hospitals contain over 2,000 beds.

The Royal Victoria Hospital, in juxtaposition to the University buildings, is a general hospital for acute diseases and contains 322 public beds. During 1928 it cared for 9,985 cases, while in its outdoor department 66,812 cases were treated. Many new additions have been made to the Hospital. A modern University Medical Clinic was established in 1924.

There were 288 post-mortems during 1928.

The number of resident physicians is 34.

The Royal Victoria-Montreal Maternity Pavilion, with 200 beds for obstetrical and gynæcological cases, was opened in June, 1926. In this institution there are 100 teaching beds and an organized outpatient service which is of the greatest benefit to the undergraduate student. During the year 1928 the obstetrical service cared for 2,259

cases, with 2,075 confinements in the Hospital and 350 in the Out-patient Department, a total of 2,425. In the gynæcological section, 1,359 cases were admitted during the year.

There are 10 resident physicians.

The Montreal General Hospital is a general hospital for the treatment of acute diseases and contains 301 public beds. In 1928 there were 7,485 admissions to its wards. The large, reconstructed out-patient department, probably the finest in this country, treated last year 125,025 patients. Many modern additions to the original buildings have been made, and a large biochemical laboratory has been finished and completely equipped.

There were 444 post-mortems during the year.

The number of resident physicians is 40.

The Dental Clinic of the University, completed in 1921, has 50 dental chairs, and a hospital dental clinic unequalled anywhere.

The Western Division of the Montreal General Hospital— The Western General Hospital. A hospital for the treatment of acute diseases, with 59 public beds. It is hoped that this hospital will soon afford additional opportunities for teaching. The post-mortem and surgical material is now being used for teaching. During the year 1928 there were 1,926 admissions to the wards and 40,232 patients were treated in the out-patient department.

There were 38 autopsies during the year.

The number of resident physicians is 7:

The Children's Memorial Hospital has 115 public beds, and, in 1928, admitted 1,009 patients. The attendance at its out-door department totalled 11,816 patients. This hospital, while primarily for orthopædic cases, now admits all varieties of patients, and enables the student to get a broad conception of pediatrics. Of special interest are the Departments of Remedial Gymnastics, the Open-air Pavilion, and the wellequipped out-patient service.

There were 59 autopsies during the year.

The number of resident physicians is 6.

A summer course, lasting four weeks, has for several years enabled students and practitioners to become acquainted with many of the most important phases of modern pediatrics.

The Montreal Foundling and Baby Hospital affords a large amount of clinical material for students, and gives special facilities for the consideration of infant feeding. There are 75 beds. In connection with this institution, there is a largely-attended Baby Welfare Clinic for mothers seeking advice as to the care of the normal child, and of themselves.

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#### HOSPITALS

The Alexandra Hospital for Infectious Diseases, opened in 1906, with modern wards, cubicles and equipment, is regularly attended by students, who receive demonstrations on the essential features of the exanthemata.

There are 170 beds, and, in 1928, 1,411 patients were admitted to the hospital. There were 30 autopsies.

The number of resident physicians is 4.

The Protestant Hospital for the Insane at Verdun has 630 beds. It serves to instruct students in the diagnosis and treatment of the psychoses. Students are taken about the wards in groups, and are required to report on cases and discuss the general problems of psychiatry with the teachers. Occupational therapy is emphasized.

The Royal Edward Institute—a dispensary for tuberculosis —offers adequate material for teaching students, in groups, the essential features of pulmonary disease.

The Royal Victoria Hospital is adjacent to the Medical School, while the other affiliated hospitals are within easy access. These hospitals, with their large clinical and laboratory facilities, and their close affiliation with the University, offer excellent opportunities for the study of disease in all its phases.

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# LIBRARY

HONORARY LIBRARIAN :--- C. F. WYLDE.

"The history of the Library is the history of the Faculty." Professor Hall.

The Library occupies the central part of the Medical Building, the whole front of the second and third floors, as well as a portion of the first floor. On the third floor is the magnificent reading room,  $76 \times 24$  feet, exceptionally well lighted, and capable of accommodating 75 readers. On this floor also are the journal room and private offices. The second floor contains the stack room, the book stacks at present containing about 38,000 volumes and having a total capacity of sixty thousand volumes.

A special feature of the Library is the journal collection, and every effort is being made to complete this section as far as possible and thus to increase the value of the reference department of the Library. There is also a great duplicate collection of journals from which distribution can be made on the exchange basis.

There is no printed catalogue, but there has been compiled a comprehensive list of continuations with their inclusive volumes, and this list will be available for out-of-town borrowers.

The Library is for the use of the members of the Teaching Staff, graduates of the Medical Faculty of the University, undergraduate students in the Faculty, graduates from other colleges showing proper credentials, and registered nurses. It is felt that graduates living at a distance are not aware of the fact that books may be borrowed from the Library on payment of carriage both ways.

The Library is closed on Sundays, but is otherwise open daily during term from 9 a.m. to 6 p.m., except Saturday, when it closes at 5.00 p.m. After June 1st it is open from 9 a.m. to 5 p.m.; Saturdays, 9.00 a.m. to 1 p.m. During July and August it is closed on Saturday.

# **OSLER LIBRARY**

# LIBRARIAN :--- W. W. FRANCIS.

This special library of the history of medicine and science, collected by Sir William Osler with a view to its educational value, was bequeathed by him to his Alma Mater. The Osler Library, which comprises about 7,600 volumes, occupies a large room, beautifully

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#### LIBRARIES

equipped, on the third floor, convenient to the Medical Library. The collection is rich in early editions of the older literature, as well as in modern historical works; and its importance and usefulness are much enhanced by the donor's annotated catalogue. Planned and prepared by Osler along very useful lines, the catalogue has been completed, indexed, and printed since his death ("Bibliotheca Osleriana," Clarendon Press, Oxford, 1929, xxxvi, 875 pp.).

The books are classified in eight sections, of which the first, the "Bibliotheca Prima," presents a bibliographical outline of the evolution of science (including medicine), and was planned to contain the essential literature arranged chronologically under the names of the greatest contributors to the advancement of knowledge. Another feature of the Library is its Incunabula, a valuable collection of 136 books printed in the fifteenth century.

The Osler Library is open daily, except Sunday, for the use of undergraduates and all who are interested. The Librarian will be glad to give advice or informal instruction to students. Accommodation is provided for readers; and the books may not be borrowed or removed from the Library.

# MEDICAL SOCIETIES

# 1. THE MCGILL MEDICAL SOCIETY

The Society is composed of the registered students of the Faculty. Its purpose is :--

(1) To transact all matters of business connected with the undergraduate body.

(2) To stimulate interest along medical lines.

(3) To assist students to express themselves in public with facility.

(4) To provide an enjoyable social evening, at the same time developing a strong spirit of faculty loyalty.

Meetings are held every alternate Monday, at which addresses are given by prominent professional men, medical and otherwise. Case reports are also read and discussed by the members themselves.

The annual meeting is the last meeting in the spring, when the following officers are installed: Hon. President (elected from the Faculty), President, Vice-President, Secretary, Assistant Secretary, Treasurer, Reporter and three Councillors (of whom two are chosen from the Faculty). These officers are elected by ballot one week before the annual meeting.

A prize competition has been established in the senior and junior subjects. The senior are open to all to write upon, while only students of the first three years are allowed to compete in junior subjects. The papers are examined by a board selected by the Faculty, and two prizes are awarded in each division. The papers are subject to the call of the Executive on December 1st, and must be handed in for examination before February 1st. The Society also controls the Students' Reading Room. English and American journals, as well as the leading daily newspapers, are kept on file.

# 2. ALPHA OMEGA ALPHA HONORARY MEDICAL SOCIETY

This Society, which has Chapters in the various Medical Colleges of Canada and the United States, established a subsidiary branch at McGill University in 1912.

There are honorary, graduate and undergraduate members. Honorary members are selected from such teachers as are more particularly interested in the advancement of scientific medicine. Undergraduate members are selected from those students who, during their earlier academic career, have shown promise of development and have attained honour rank. They are eligible for election in the Fourth and Fifth years.

Meetings are held every month throughout the session, and papers are read by honorary and active members, as well as by graduates. Once during the year an open meeting is addressed by a visitor who is prominent in the medical world.

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# FACULTY OF LAW

# GENERAL INFORMATION

# COURSE OF STUDY

The Faculty offers a three-year course in Law, based mainly on the study of the Roman and Civil systems, the curriculum and timetable being arranged on the assumption that a student is devoting his entire time to his university work.

#### ADMISSION

Students who have successfully completed two years in the Faculty of Arts at McGill University will be admitted to the Faculty of Law without further examination. Other candidates for admission will have to satisfy the Faculty that they have attained an equivalent educational standard and are intellectually qualified to pursue with advantage the study of law.

Students whose right to enter the Third Year of the Arts course is conditional upon their passing supplemental examinations are not eligible for admission to the Faculty of Law.

Women are admitted to the Faculty on the same terms as men, and are eligible for the degree. As the law stands at present, however, they cannot be admitted to the Bar or to the notarial profession in the Province of Quebec.

#### FRENCH

The attention of students is directed to the necessity of being able to read French easily, as the greater number of the works to which they will be referred are in that language.

#### PARTIAL STUDENTS

The Faculty may admit a limited number of suitable persons to attend selected courses of lectures without matriculation in the University. Such permission will only be granted to applicants of at least twenty-one years of age who satisfy the Faculty of their capacity to undertake with advantage the study of law. They will not be allowed to proceed to a degree, but will be entitled to receive a certificate specifying the course of study which they have successfully pursued and the class which they have obtained in the examination.

# DEGREE

The degree granted in the Faculty is that of Bachelor of Civil Law (B.C.L.). The course covers three years.

No student under the age of 21 years will be eligible for a degree. The D.C.L. degree is granted under the authority of the Faculty of Graduate Studies and Research. The regulations governing this degree are given in the Announcement of that Faculty.

#### MOOT COURTS

Under the supervision of the professors, moot courts are held from time to time during the session in order to afford students practice in the preparation and presentation of legal arguments. Regular attendance at these courts will receive credit as class-room work.

# LIBRARY

The Law Library of the University at present contains over 12,000 volumes, and immediately adjoins the lecture rooms. The principal reports of Canada, the United Kingdom and France are taken, as well as a selection of reports from the United States and elsewhere.

There is a small lending library, from which students can obtain text-books for the session on payment of an *ad valorem* fee.

Students in the Faculty are permitted to use the Library of the Court House, which contains in addition a large number of the principal American reports, both of the Federal and of the State courts. The general Library of the University is also available for the use of Law students.

#### OFFICE ATTENDANCE

The attention of students is directed to the amendment to the Bar Act passed at the 1925 session of the Quebec Legislature which reduces the period of clerkship to one year for students who have previously obtained a recognized degree in Law. Advantage has been taken of this to reorganize the Faculty on a full-time basis. The final Bar examination may be taken as soon as the student has been admitted to the study of Law and has taken his B.C.L. degree. (For particulars as to Bar requirements, see page 379.)

# EXAMINATIONS

Examinations will be held :--

- (a) At the end of the first session, covering the year's work.
- (b) At the end of the second session, covering the second year's work, the final examination in Roman and Constitutional Law on the work of both years being held at this time.

(c) At the end of the course, on the work of the three years, except Roman Law, Constitutional Law and International Law.

Subject to the approval of the Faculty in each case, a student who has been prevented by illness from taking certain papers in the sessional examination may be permitted to take supplemental papers on the same subjects. A fee of \$5.00 will be payable in respect of each paper. No other supplemental examinations will be granted.

At all examinations in the Faculty students are at liberty to write their answers either in English or in French.

# CURRICULUM

#### FIRST YEAR

ROMAN LAW

Three hours throughout the session.

Professor Corbett.

Professor LeMesurier.

Professor Greenshields.

Professor Greenshields.

Assistant Professor Scott

Professor Howard.

CIVIL LAW

(a) Persons and Property.Two hours throughout the session.

(b) Obligations. Two hours throughout the session.

CRIMINAL LAW

One hour throughout the session.

CRIMINAL PROCEDURE

One hour throughout the session.

CONSTITUTIONAL LAW

One hour, one term.

INTERNATIONAL LAW

One hour throughout the session.

# SECOND YEAR

#### ROMAN LAW

One hour throughout the session.

Professor Corbett.

Professor Corbett.

#### CIVIL LAW

(a) Sale, agency, partnership, privileges, hypothecs and registration.Two hours throughout the session.Professor LeMesurier.

(b) Marriage covenants, lease and hire, prescription and minor contracts.

Two hours throughout the session.Professor Chipman.(c) Gifts, wills, substitution and successions.

One hour throughout the session. Assistant Professor Scott.

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LEGAL HISTORY

One hour, one term.

Professor Corbett.

Professor MacDougall.

Professor Surveyer.

CONFLICT OF LAWS

One hour, one term.

CIVIL PROCEDURE

CONSTITUTIONAL LAW

One hour throughout the session.

One hour, one term.

Assistant Professor Scott.

MUNICIPAL LAW

One hour, one term.

Assistant Professor Scott.

COMMERCIAL LAW

Corporations. Two hours, one term.

#### THIRD YEAR

# COMMERCIAL AND MARITIME LAW

(a) Corporations.

Two hours, one term.

(b) Introduction to the study of Commercial Law and insurance. One hour throughout the session. Assistant Professor Tyndale.

(c) Negotiable instruments and banking. One hour throughout the session. Assistant Professor Scott.

(d) Maritime Law and Carriers. One hour throughout the session.

Assistant Professor Scott.

# CIVIL LAW REVIEW

One hour throughout the session.

Professor LeMesurier.

# CIVIL PROCEDURE

Iwo hours throughout the session.

Professor Surveyer.

EVIDENCE

One hour, one term.

Professor Wainwright.

# CRIMINAL LAW AND PROCEDURE

One hour, one term.

Professor Greenshields.

# SPECIAL LECTURES

The Hon. Mr. Justice Mignault will deliver two special lectures in the course of each session.

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# ADMISSION TO THE PRACTICE OF LAW IN QUEBEC

The attention of students who wish to be admitted to the Bar or to the notarial profession in Quebec is drawn to the following summary of the statutory provisions governing the practice of law in the Province :---

# I. REGULATIONS APPLICABLE TO THOSE WHO INTEND TO BECOME MEMBERS OF THE BAR

# N.B.—The articles are here abridged.

R.S.Q., 1925, c. 210, Section 48.—Examinations for admission to study and to practise law in the Province of Quebec are held at the time and place determined by the General Council.

The examinations are held alternately in Montreal and Quebec every six months; namely, at Montreal on the second Tuesday of each January, and at Quebec on the first Tuesday of each July.

All' information concerning these examinations can be obtained from the Secretary-Treasurer of the General Council.

Section 50.—-Candidates must give notice, as prescribed by this article, at least one month before the time fixed for the examination to the Secretary of the section in which he has his domicile or in which he has resided for the past six months.

R.S.Q., 1925, c. 209, Section 2.—This section provides that candidates holding the degree of Bachelor of Arts, Bachelor of Science, or Bachelor of Letters, from any Canadian or British University are dispensed from the examination for admission to study. Such candidates are required to give the notice mentioned above.

R.S.Q., 1925, c. 210, Section 52 (as altered by by-law of the General Council).—On giving the notice prescribed by Section 50, the candidate pays the Secretary a fee of \$2.00, and makes a deposit of \$125.00 for a complete certificate of admission to study; of \$70.00 for a partial certificate of admission to study; and \$200.00 for admission to practice, which deposit, less \$30.00, is returned in case of his not being admitted.

Section 57.—To be admitted to practice, the student must be a' British subject and must have studied regularly and without interruption during ordinary office hours, under indentures entered into before a notary, as clerk or student with a practising advocate during four years, dating from the registration of the certificate of admission to study. In the case of a student who has followed a regular law course in a university or college in this Province and taken a degree in law therein the term is reduced to three years, carried on concurrently with the law course, or to one year after having received the said degree.

The By-laws passed by the General Council of the Bar of the Province of Quebec provide as follows:--

Article 51.—A course of lectures on law given and followed at a university or law school of this Province, and the diploma or law degree conferred on students by such university or law school shall count with reference to the Bar Act only if the course of study hereinafter outlined has been effectively followed by the university or law school and by the holder of the diploma.

Article 52.—A regular law course in a university or law school of this Province consists of seven hundred and eighty-five lectures of one hour each. These lectures are given on the various subjects in the following proportions:—

ROMAN LAW:--103 lectures:--This course comprises an introduction to the study of law, with explanatory remarks and comments on the Institutes of Justinian and on the principal Roman jurisconsults.

CIVIL, COMMERCIAL AND MARITIME LAWS:-413 lectures:-The course on these subjects must cover a period of at least three years. It comprises the history of French and Canadian law, explanatory remarks and comments on the Civil Code and on the statutes respecting commerce and shipping.

CIVIL PROCEDURE:—103 lectures:—This course must extend over at least two years. It comprises explanatory remarks and comments on the Code of Civil Procedure and of its statutory amendments, a study of the organization of the Civil Court of this Province and the history of the different judicial systems of the country; also the special modes of procedure provided by the statutes and the by-laws in general, as well as the Bar Act and the By-laws regarding the discipline of the Bar.

PUBLIC AND PRIVATE INTERNATIONAL LAW:-21 lectures:-This course comprises an historical outline, the sources of this law and of its subject matter, its objects (primary and secondary rights of sovereign states), rules of war, commercial and extradition treaties, etc., in force in Canada, as well as the rights and obligations of the citizens of the Province of Quebec and of Canada, and of aliens in the event of conflict of laws.

CRIMINAL LAW:--69 lectures:--This course comprises the history of Canadian criminal law, the organization of the criminal courts, criminal procedure, comments on the criminal law of the country, a comparative study of English and Canadian criminal law. The lectures shall extend over two years.

CONSTITUTIONAL AND ADMINISTRATIVE LAW:-41 lectures:-This course comprises an enquiry into the different constitutional enactments and public institutions of the country, the powers, the organization, the procedure of the Federal Parliament and of the Provincial Legislatures, the laws of education, and the Municipal Code.

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COMPARATIVE Law: --30 lectures: -- This course comprises a concise enquiry into the English common law, and a general knowledge of the main principles underlying the civil and commercial laws of the other Provinces of Canada.

Article 53:—The candidate for admission to practice who has obtained a law degree from a university or law school of this Province, must file, together with this notice, a certificate from the Principal or Head of such university or law school establishing that he has followed a law course in such university or law school during at least three years, in conformity with the Bar Act, and, moreover, specifying the number of lectures he has actually attended in each subject comprised in the foregoing curriculum during each of the three years and during the three years as a whole.

Article 54:—The examiners must refuse to accept such degree as valid under the provisions of the Bar Act, if they are of the opinion that the course of study hereinabove outlined has not been effectually followed by the candidate.

# II. REGULATIONS APPLICABLE TO THOSE WHO INTEND TO BECOME NOTARIES

For the regulations applicable to candidates for the notarial profession, see Revised Statutes of Quebec, 1925, ch. 211, Secs. 208-241.

#### FACULTY OF DENTISTRY

# FACULTY OF DENTISTRY

## FOUNDATION AND HISTORY

The Dental Department of McGill University was established as a Department of the Faculty of Medicine in the autumn of 1903. At that time the didactic teaching and laboratory work were carried on in the lecture rooms and laboratories of the Medical Building, clinical instruction being given at the Dental Infirmary, a clinic conducted by the Dental Association of the Province of Quebec. This arrangement fulfilled the requirements of the Department for a time, but soon the need of separate quarters for didactic and laboratory instruction and also of improved clinical facilities was felt. These have been supplied, first, by the assignment to the Department of a portion of the east wing of the Medical Building, and, second, by the establishment of a clinic at the Montreal General Hospital.

The new quarters of the Faculty occupy the northern half of the first floor of the east wing of the Medical Building. Here are provided all the necessary lecture rooms and laboratories, as well as private rooms for the members of the staff. The laboratories are equipped with the latest apparatus and appliances for teaching practical dental operations.

The clinic at the Montreal General Hospital was established in connection with the out-patient department of the Hospital in the early part of the session 1908-09.

The rapid growth of the Faculty, however, soon made necessary the enlargement of the facilities for teaching Clinical Dentistry, and so in 1921 the University, acting conjointly with the Governors of the Montreal General Hospital, thoroughly remodelled the space used for the clinic, and in addition erected a new wing 80 ft. x 36 ft.—the entire wing being occupied by dental chairs and other equipment. This gives to the Faculty one of the most thoroughly equipped dental clinics on the Continent. In addition to the splendid equipment and facilities provided in the Hospital clinic, students of the Dental Faculty share with the other departments the advantage of the great Hospital with which it is connected, such as a splendid X-ray department and a wellmanaged pathological department. They also have the privileges of the surgical operating amphitheatre, and the Hospital anæsthetists are always available for operations.

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# ENTRANCE REQUIREMENTS IN DENTISTRY

# ENTRANCE REQUIREMENTS

Every candidate for admission to the First Year in the Faculty of Dentistry must have completed two full years in the Faculty of Arts of a recognized university, including lectures and laboratory work in Chemistry (Inorganic and Organic), Physics and Biology.

In the case of those who intend to practise in the *Province of Quebec* these two years must be taken in a recognized English university in that province.

Courses specially designed to meet these requirements are offered in the Faculty of Arts of McGill University, where a student may take the two years of study required, or the second of the two if they have satisfied the requirements of the first by Senior Matriculation, or otherwise.

Particulars of the Junior and Senior Matriculation Examinations are given in the Arts Announcement.

# PROVINCIAL REGISTRATION

Intending students are reminded that a University degree in Dentistry does not itself give a right to practise the profession of Dentistry. It is necessary to comply with the Dental laws of the country, state, or province in which it is proposed to begin practice. Each province m Canada at present has special requirements for its license, and in all of them a certain standard of general education is insisted upon before beginning the study of Dentistry. Students who intend practising in Canada are advised to register their qualifications in the province in which they intend to practise, before they begin their University course.

The following is a list of the Registrars of the Dental Boards of the several Canadian provinces. Students are advised to write for information whenever they are in doubt as to the regulations of any province.

\*Ontario .- W. E. Wilmott, Toronto.

\*Nova Scotia.-Geo. K. Thompson, D.D.S., Halifax.

- \*New Brunswick .- F. A. Godsoe, D.D.S., St. John.
- \*Prince Edward Island .- J. S. Bagnall, D.D.S., Charlottetown.
- \*Manitoba.-H. F. Christie, D.D.S., 626 Somerset Block, Winnipeg.

\*Alberta.—A. E. Hennigar, D.D.S., Herald Building, Calgary, Alta. \*Saskatchewan.—L. J. D. Faskin, Regina.

Quebec.—Dr. Denis Forest, 3632 Park Ave., Montreal. British Columbia.—Albert Brighouse, Vancouver.

\* Members of the Dominion Dental Council.

#### FACULTY OF DENTISTRY

# DOMINION DENTAL COUNCIL OF CANADA

Seven of the nine Canadian provinces (*i.e.*, all but Quebec and British Columbia) have entered into an agreement whereby the holder of a license granted by the Dominion Dental Council may practise in any of the subscribing provinces. In order to obtain this license a candidate must: (1) hold a matriculation certificate of the proper standard; (2) pass the examination set by the council, and (3) pay the local provincial registration fee.

The Secretary of the Dominion Dental Council is Major W. D. Cowan, M.P., Regina, Sask.

# PHYSICAL EXAMINATION, VACCINATION, HEALTH AND ATHLETICS

First and Second Year students and all students of other Years coming to the university for the first time are required to pass a physical examination. Students of all Years who wish to engage in athletic activities are also required to be physically examined. The hours for this examination will be announced at registration.

Students who do not present themselves for this examination (or otherwise satisfy the Director) before November 1st, will not be allowed to attend the University.

Re-examinations will be held frequently throughout the session for those students who are of low category, or who are suffering from physical disabilities.

Under the regulations of the Provincial Board of Health, all students entering the University are required to present a certificate of successful vaccination within the last seven years or of insusceptibility to vaccine within the last five years. Those who cannot do so will have to be vaccinated in a manner satisfactory to the Medical Examiner.

All students in good standing who are taking a course of study held to be sufficient by a special committee of the Faculty in which they are enrolled will be allowed to take part in athletics, subject, however, to the general regulation regarding medical examination.

Should a student who is not qualified under the regulations regarding eligibility, medical examination, etc., take part in any athletic contest, or should any student take part in an unsanctioned athletic contest, he shall be immediately debarred from participation in all University athletics, and may be requested to withdraw from the University.

Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, and during this time only when requisitioned for by the Department. A leaflet concerning this service and the general work of the Department, together with the regulations governing athletics, will be distributed at the opening of the session.

# COURSE FOR THE DEGREE OF D.D.S.\*

Candidates for the degree of D.D.S. must complete two years of predental training in a College or Faculty of Arts, with Physics, Inorganic and Organic Chemistry and Biology as compulsory subjects, before entering upon the four-year course in this Faculty. The curriculum is as follows:—

#### FIRST YEAR

Anatomy (human). Bacteriology. Dental Anatomy. Histology. Physiology. Metallurgy. Prosthetic Technique. Operative Technique.

#### SECOND YEAR

Anatomy (human). Crown and Bridge Work. Operative Technique. Orthodontia. Prosthetic Technique. Pathology. Physiology. Pharmacology. Medicine. Biological Chemistry.

#### THIRD YEAR

Bacteriology. Crown and Bridge Work. Dental History and Economics. Dental Jurisprudence. Dental Materia Medica and Therapeutics. Operative Dentistry. Orthodontia. Pathology (General). Prosthetic Dentistry. Dental Radiography. General Anæsthesia. Dental Surgery. History and Economics.

## FOURTH YEAR

Local Anæsthesia. Materia Medica. Operative Dentistry. Orthodontia. Dental Pathology. Prosthetic Dentistry. Oral Surgery. Crown and Bridge Work. Oral Hygiene.

\* It should be understood that the programme and regulations regarding courses of study and examinations contained in this calendar hold good for this calendar year only, and that the Faculty, while fully sensible of its obligations towards the students, does not hold itself bound to adhere absolutely, for the whole four years of a student's course, to the conditions here laid down.

#### FACULTY OF DENTISTRY

#### EXAMINATIONS

Frequent oral examinations are held to test the progress of the student, and occasional written examinations are given throughout the session.

A minimum of 50 per cent in each subject is required to pass, and 75 per cent for honours.

All examinations in each year must be passed before a student will be allowed to advance to the next.

Candidates who fail at the regular examinations in not more than three subjects of the First, Second or Third Years, may, at the discretion of the Faculty, be allowed to take the supplementary examinations before the beginning of the following session. These examinations will be held during the week preceding the regular opening of the session.

Failure in more than three subjects of the First, Second or Third Years at the regular examinations excludes the candidate from advancement.

Students who fail in one subject only of the Final Year may, at the discretion of the Faculty, be allowed a supplementary examination in that subject. Should the subject be one in which practical or clinical work is required, the student must furnish a certificate of additional clinical attendance or laboratory work before presenting himself for examination.

Applications for supplemental examinations must be in the hands of the Dean at least three days before the date set for the beginning of the examination, and they must be accompanied by a fee of \$5.00 for each subject.

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#### REQUIREMENTS FOR D.D.S DEGREE

# QUALIFICATIONS FOR THE DEGREE

1. No one will be admitted to the degree of Doctor of Dental Surgery who shall not have attended lectures for a period of six sessions in this University, or partly in this University and partly in some other approved university, college or school of dentistry.

2. Students of other universities, so approved, who may be admitted on production of certificates to a like standing in this University, shall be required to pass an oral examination in primary subjects, and all examinations in the final subjects in the same manner as students of this University.

No one will be permitted to become a candidate for the degree who has not attended at least one full session at this University.

3. Candidates for the final examination shall furnish testimonials of attendance on the branches of dental education mentioned on page 12; provided, however, that testimonials equivalent to, though not precisely the same as these, may be presented and accepted.

4. Every candidate for the degree must, on or before the 1st day of May, present to the Dean of the Faculty testimonials of his qualifications, entitling him to an examination, and must at the same time submit an affirmation or affidavit that he has attained the age of twentyone years.

# FACULTY OF DENTISTRY

# COURSES OF LECTURES

## ANATOMY

The Robert Reford Professor:—S. E. Whitnall. Associate Professor of Histology and Embryology:—J. C. Šimpson. Assistant Professor of Anatomy:—John Beattie. Lecturer in Anatomy:—H. E. MacDermot. Lecturer in Histology:—W. M. Fisk. Senior Demonstrator in Anatomy:—D. S. Forster.

CE. H. CAYFORD.
E. B. CHANDLER.
R. R. FITZGERALD.
G. G. MILLER.
R. M. H. POWER.
P. G. SILVER.
D. Ross.
G. C. ANDERSON.
G. A. FLEET.
R. B. MALCOLM.
A. Ross
H. M. ELDER.
A. STEWART.
W. W. RUDDICK.
G. D. LITTLE.

The course covers two years, and is planned so that after making a general survey of the whole body, the dental student concentrates his attention on the head and neck. He is thus enabled to study in greater detail those parts which are related to his particular province, and he avoids spending undue time over regions which possess no special educational or professional value for him.

*First Year:*—The student takes the First Year medical course of three lectures and twelve hours' practical work a week during the first two terms, thus studying the body exclusive of the lower limbs.

Second Year:—Opportunity is afforded of revising and studying in further detail the head and neck. A special dental course of advanced lectures on the face, palate and jaws is given by the Professor and Assistants.

# Histology and Embryology.

First Year:-One lecture and one laboratory period per week throughout the session.

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#### ANATOMY

The course includes :--

(1) A survey of the general principles of embryology and of the early stages in the development of the human embryo.

(2) A detailed study of the fundamental tissues of the human body.

(3) A study of the development and microscopic structure of the organs and systems, in which the head and neck and the circulatory, digestive, and respiratory systems are considered in detail, whilst the remaining systems are treated in a more general way.

Text-books:-Gray's Practical Anatomy, Walmsley; Histology, Jordan, Noyes, Schafer's Elements, Bailey.

#### CROWN AND BRIDGE WORK

#### LECTURER :--- W. C. BUSHELL.

A series of lectures and laboratory periods in the Third Year leading up to practical cases in the Fourth Year, accompanied by lectures and clinics.

The course embraces all phases of crown work, including porcelain jacket crowns, the preparation of teeth for their reception, the construction of the crowns both as isolated units and as bridge abutments principles of fixed bridgework, indications and contra-indications, stresses and strains, choice of abutments, construction of pontics.

Special attention will be given to the use of porcelain in bridge construction—removable bridgework; the various attachments and methods of assemblings; a complete course in the casting technique; inlays, both as fillings and as bridge abutments; cavity preparations (direct and indirect); methods of obtaining patterns; the various casting techniques.

#### DENTAL ANATOMY

# LECTURER :- J. W. ABRAHAM.

This course, given in connection with general anatomy in the First Year, is to give the student a thorough knowledge of the size, shape, uses, and general construction of the natural teeth, their articulation and composition.

This is accomplished by lectures and demonstrations, with the use of drawings, models and lantern slides.

The student is required to carve in ivory sixteen teeth, representing all the forms in the human mouth, which are then articulated anatomically. These are used later on in his work in operative dentistry.

Different sections of extracted teeth are made, to familiarize the student with the relationship of the different structures composing the teeth.

#### FACULTY OF DENTISTRY

The total time given this subject during the First Year is five hours a week for a period of twenty-six weeks, total one hundred and thirty hours, divided as follows:—one hour a week devoted to lectures, twenty-six hours; four hours a week to demonstrating, modelling, carving, making sections, etc., one hundred and four hours.

Text-book :- Black.

### DENTAL HISTORY, ETHICS AND ECONOMICS

# LECTURER :--- CAMPBELL MORRIS.

# History:-

This course is intended to give to the student an intelligent conception of the evolution and development of dentistry from the primitive conditions and methods of the past to the present standing of the profession as a branch of the healing art. The relation of some of the outstanding men of the profession to this development will also be dealt with.

# Ethics:-

Under this head the moral, social and business relationships between the dentist and his patient will be discussed, as well as his duty to the public, his fellow practitioner and himself.

# Economics:-

Under this head the business of the dentist's life will be considered. The questions of office equipment, keeping of appointments, overhead charges, methods of determining fees, office assistants, etc., will be taken up.

# DENTAL JURISPRUDENCE

## PROFESSOR :- W. L. BOND.

In this course, the lecturer will discuss the laws governing the practice of Dentistry, their necessity and purpose.

The responsibility of the dentist under the laws of the Province, his position as defendant in suits for damages and as plaintiff in suits for fees, etc., will be fully explained.

## DENTAL SURGERY

### ASSOCIATE PROFESSOR :- A. L. WALSH.

Thirty lectures are given to the Junior Students in the above subject, which includes exodontia, cysts, fractures, and benign tumours, alveolectomy and apicoectomy. The Seniors are given clinics on practical cases and are required to complete one case during the year in any of the above, excepting exodontia.

### MATERIA MEDICA AND METALLURGY

#### MATERIA MEDICA AND THERAPEUTICS

#### PROFESSOR :- FRED. G. HENRY.

In the Fourth Year a course of demonstrations and lectures in this subject is given, extending throughout the whole session. This comprises the study of the physical properties, chemical composition and physiological action of the various medicinal substances used in the treatment of diseased conditions of the dental organs and morbid conditions of the oral cavity, together with their various applications, coses, antidotes, and contraindications, with instruction in prescribing, etc. Anæsthesia and the various anæsthetics are also taken up, following that already given in the Second Year.

Text-books:-Hare, Buckley, Prinz; Local Anæsthesia, Arthur E. Smith.

#### METALLURGY

## PROFESSOR :--- ALFRED STANSFIELD.

### ASSISTANT PROFESSOR :- GORDON SPROULE.

This course is given to Dental students of the First Year by the Metallurgical Department of the University.

It consists of twelve lectures of one hour, and twelve laboratory periods of two and a half hours each.

#### The lecture course covers:-

(1) Introductory lectures on the physical and chemical properties cf metals, especially in relation to their use in dentistry.

(2) Methods of melting, casting and alloying metals in the laboratory.

(3) Methods of extracting metals from their ores.

(4) The nature and preparation of alloys, including amalgams.

(5) The metals used in dentistry (lead, zinc, tin, bismuth, cadnium, antimony, aluminum, copper, silver, gold, platinum, iridium, nercury, iron and steel) are considered separately in regard to their properties, uses in dentistry, and, as far as time allows, extraction from their ores. The separation, purification and alloying of gold, silver and platinum are specially considered.

(6) The manufacture, properties and uses of dental amalgams.

Text-book :-- J. D. Hodgen, "Practical Dental Metallurgy."

The laboratory course includes experimental work with the metals: gold, silver, copper, lead, zinc, tin, aluminum, nickel, iron and steel.

The metals are melted, alloyed, cast, hammered, filed, cut, rolled, annealed and tested with acids and other chemicals.

#### FACULTY OF DENTISTRY

The preparation of pure gold and silver is carried out and the production and testing of dental and other amalgams.

The course is given during the first term of each session by Mr. Sproule.

## OPERATIVE DENTISTRY

# PROFESSOR:-F. H. A. BAXTER. Associate Professor:-A. L. Walsh. Lecturer:-W. G. Leahy.

The purpose of this course is to make the students thoroughly familiar with all modern and accepted methods. This course of lectures extends over two years and a half, and includes discussion of the treatment of caries; the preparation of cavities, the materials used for filling, the most approved instruments and appliances used in operating upon the teeth. Clinics will be held at the Dental Clinic, where ample material is provided and every available means used to make the student practically conversant with all the up-to-date knowledge of this important branch of dental science.

In conjunction with this course, operative technics is taken up, which provides a systematic course in manual training, thoroughly familiarizing the student with the anatomy of the teeth, and the shaping of cavities, from the simple to the more complex. This is carried out on models, using the different regular filling materials, scaling, bleaching, and, so far as possible, all of the operative procedures.

The Dental Clinic is open throughout the whole year, and students are advised to give as long a time to this work as possible. Each student must provide himself with the instruments necessary for his own use, a list of which will be furnished. He is required to perform all the usual dental operations as they present themselves, under the supervision of competent demonstrators, who are always at hand to offer advice and assistance under the direction of the Professor. Between the Second and Third Years, and also between the Third and Fourth Years, students are required to spend six weeks doing practical work in the Hospital Clinic.

#### ORTHODONTIA

PROFESSOR :--- A. W. McClelland. Lecturer :-- Gerald Franklin. Demonstrator :-- M. L. Donigan. Assistant Demonstrator :-- F. C. Thompson.

The course in this branch will commence with the study of the dental organs during development and eruption.

#### PATHOLOGY AND BACTERIOLOGY

Special attention will be given to the temporary teeth and the influence they exert in directing the normal occlusion of their permanent successors. The student will be directed to the importance of the study of the etiology of this subject, and its relation to the prevention and treatment of malocclusion. Cases deviating from the normal, typical of every variety met with in practice, will be dealt with and a classification made based on the treatment required.

The different methods employed in correcting these conditions will be fully demonstrated, together with the mechanical appliances used.

Ample clinical material is available at the Dental Clinic, where students in the final year will be allotted cases, the treatment of which will be carried on throughout the session.

Text-books -- Angle, Pullen, Dewey, McCoy.

## PATHOLOGY AND BACTERIOLOGY

PROFESSOR OF DENTAL PATHOLOGY :- FRED. G. HENRY.

PROFESSOR OF PATHOLOGY :- HORST OERTEL.

ASSISTANT PROFESSOR OF BACTERIOLOGY :- A. A. BRUÈRE.

## Dental Pathology.

This course is given to the students of the Third and Fourth Years, and includes a consideration of the various diseases of the enamel, dentine, dental pulp and peridental membrane, their symptomatology and treatment, also a consideration of abnormal conditions of the tissues of the oral cavity with a description of treatment and management of these diseases.

Special attention will also be given to pathological conditions of the nerve structures of the head and their connections with the diseased conditions of the dental tissues.

The mitigation of pain in dental operations receives special attention and the various means employed fully developed and explained, and such directions given as will enable the student to avoid methods and drugs harmful to the tissues.

#### Bacteriology.

A course of lectures upon bacteriology in relation to disease for students of the Third Year; lectures given twice a week during the autumn term.

A practical course in the bacteriology of infectious diseases for students of the Third Year. Two periods a week during the autumn term.

*Text-books:*—Dental Pathology and Pharmacology, Prinz. Endelman and Wagner and Black; Bacteriology, Muir and Ritchie, Mc-Farland, Park, Connell.

#### FACULTY OF DENTISTRY

### PHARMACY

## PROFESSOR :- ALEX. B. J. MOORE.

The course in Materia Medica and Pharmacy is given in the Third Year.

This course of about twenty-five lectures and demonstrations covers pharmacognosy, therapeutics and toxicology.

Pharmacopœias—B.P., U.S.P., B.P.C., and various hospital formularies;

Drugs—All organic and inorganic chemicals, such as :—alkaloids glucosides, essential oils, stearoptenes, mineral salts, coal tar and its derivatives, animal products, synthetics, their sources and medicinal properties;

Therapeutical classification of drugs, such as :--anæsthetics, anodynes, antiseptics, caustics, hypnotics, hæmostatics, counter-irritants, etc. etc.;

Toxicology—Toxic doses of potent drugs with chemical and therapeutical antidotes; toxic drugs, their action and administration;

Habit-forming drugs-cocaine, heroin, morphine, etc.;

Posology-

Prescription Writing—Various systems of prescribing, symbols, correct abbreviations, incompatibility;

Pharmacy--nomenclature, metrology, specific gravity, percentage solutions, sterilization;

Pharmaceutical Preparations—tinctures, pigments, spirits, collodions, hypodermic injections, mouth washes, dentifrices, fluid extracts, tablets, etc.;

Methods of Manufacture.

Text-books:-Dixon, Cushny, Prinz.

## PHYSIOLOGY

The Morley Drake Professor:—John Tait. Research Professor of Physiology:—Boris P. Babkin.

Assistant Professor :--- N. Giblin.

## DEMONSTRATOR :--- W. H. FINNEY.

The purpose of this course is to give the student an elementary knowledge of the whole subject of physiology with a more special knowledge of such aspects of the subject as bear more particularly on the practice of dentistry.

Text-books:-Huxley's "Lessons in Elementary Physiology"; Thornton and Smart, "Human Physiology."

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#### PROSTHETIC DENTISTRY AND SURGERY

## PROSTHETIC DENTISTRY

PROFESSORS :---

-{ George S. Cameron. J. S. Dohan.

LECTURER :--- I. K. LOWRY.

The course in prosthetic dentistry will embrace lectures, illustrated by lantern slides, and practical work in the laboratory, under the supervision of the demonstrator of technics. It will include the preparation of the mouth for dentures, impressions, and the properties of materials used in the construction of artificial dentures. The student will be required to construct the different forms commonly used. Attention is directed to the different functions to be performed by the denture in the restoration of the natural conditions as regards mastication, enunciation and the restoring of the features. Students entering the Second Year will be required to complete 10 days laboratory technique work, which will begin on September 10th at 9 a.m.

Text-book :-- Wilson.

## PROSTHETIC TREATMENT OF CLEFT PALATE

## OLIVER MARTIN AND I. K. LOWRY.

Practical clinics are given to Senior students on cases as they come through the Montreal General Hospital. These cases are carried through in the presence of the Dental students.

#### SURGERY

## ASSOCIATE PROFESSOR :-- W. L. BARLOW.

This course is essentially clinical. All lectures and demonstrations are given in the wards and the clinical theatre in the Outdoor Department of the Montreal General Hospital. Cases showing injuries and diesases of the mouth and jaws are demonstrated and the appropriate treatment shown, including operative procedures under local and general anæsthesia.

Text-books:-Oral Surgery, Blair and Ivy, 1923; Brophy's Oral Surgery; Dental Infections, Oral and Systemic, Weston Price, 2 Vols.

#### CLINICAL INSTRUCTION

Clinical instruction is given in the Operating Theatre and Out-Patient Department and in the Dental Clinic of the Montreal General Hospital. Abundant opportunity is afforded in this institution for the study of diseased conditions of the mouth and jaws, and for watching operations in these regions. The Dental Clinic, established fourteen

#### FACULTY OF DENTISTRY

years ago by the Hospital authorities, proved a success from the outset, and ample material for clinical study is now provided. Twenty thousand patents were treated at this clinic during the past session.

Stucents are required to attend the clinic every day during the Third and Fourth Years from nine to twelve o'clock and from onethirty to five o'clock, except during such part of the time as may be taken up with lectures or other work of the University course. The practical dental work is supervised by the Director of the clinic and his associates, four of whom are full-time members of the University staff. Anæsthetics are administered by members of the resident staff of the Hospital, who give practical instruction in this most important branch. A nurse is also in attendance during clinic hours.

## LIBRARY

In conjunction with the Medical Library, which contains all the standard text-books in the branches of the first two years in Dentistry, there is a splendid departmental library dealing exclusively with dental subjects. Students may consult any work of reference in the Library between ) a.m. and 6 p.m.; Saturdays, 9 a.m. to 5 p.m.

## MUSEUM

In connection with the Pathological Museum of the Medical Faculty there is a very good collection of plaster casts of deformities of the jaw, etc., and also a very large collection of teeth of all varieties. During the session the Dental Museum will be available for teaching purposes.

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# FACULTY OF MUSIC

# SESSIONAL ANNOUNCEMENT

The work of the Conservatorium of Music for the session 1929-30 will begin on September 16th, 1929, and will end on June 14th, 1930. It consists of three terms of eleven weeks each, with an additional summer term of three weeks, viz.:--

- (a) September 16th to November 30th.
- (b) December 2nd to March 1st (Christmas vacation, December 20th to January 5th inclusive).
- (c) March 3rd to May 23rd (Easter vacation, one week).
- (d) May 26th to June 14th (short summer term).

Lectures arranged in progressive courses are offered as forming part of a connected curriculum, leading to certificates and diplomas, as well as to degrees in Music in the University.

The lectures will begin in the first week of October and extend over three terms of ten weeks each, viz.:--

- (a) September 30th to December 7th.
- (b) December 9th to March 1st.
- (c) March 3rd to May 17th.

The examinations in Montreal for certificates and diplomas will be held towards the end of the third term, i.e., from May 12th to May 23rd. The Theoretical Examinations which precede the Practical Local Examinations will be held on May 1st.

#### ADMISSION

Students of the Conservatorium will be admitted either as :--

**Regular Students,** taking an organized course, which includes individual instruction in a First and Second Subject, together with such classes and lectures as may be thought advisable by the Director, leading to the Diploma of Licentiate in Music or the Degree of Bachelor of Music in the University.

Partial Students, who, besides individual instruction in the one principal subject, have the privilege of attending certain classes. Instrumentalists will, at the discretion of the Director, be assigned to certain of the following classes:—Theory, Harmony, History, Form and Analysis, Ensemble Playing. Vocalists will be assigned to two of the following classes:—Theory, Sight-Singing, Elocution and Diction, Choral Class.

Class Students. Those wishing to attend lectures or classes only, in either theoretical or practical subjects.

## **REQUIREMENTS FOR DEGREES AND DIPLOMAS**

#### (For Fees, see page 134.)

#### DEGREE OF DOCTOR OF MUSIC

Bachelors of Music of McGill University, after a lapse of a period of seven years from the time of taking the Degree of Bachelor of Music, may proceed to the Degree of Doctor of Music, the requirements for which are a composition in extended form, such as an oratorio, opera or cantata. This exercise must have as its first number an introductory orchestral movement in the form of a concert overture, must contain some eight-part writing and fugal treatment, and must be scored for a full orchestra. If preferred, a candidate may present a composition scored for full orchestra in the form of a symphony, symphonic poem or tone poem occupying no less than forty minutes in performance. The University may, if it elects to do so, order the candidate to give a public performance of this original and unaided composition, when approved by the examiners, in some public building connected with the University. In addition, an examination in the higher forms of composition shall be necessary, together with a critical knowledge of the full scores of certain prescribed works.

Graduates of other universities can, on payment of the necessary fees, be admitted "ad eundem" to the Degree of Mus. Bac. if they wish to proceed to the further degree of Mus. Doc., provided they secure permission to do so from the executive of the Faculty of Graduate Studies and Research.

Full particulars can be obtained from the Registrar of the University.

#### DEGREE OF BACHELOR OF MUSIC

All candidates for this degree must pass the following examinations:--

- 1. The Matriculation examination.
- 2. The First examination in Music (at the end of the first year).
- 3. The Second examination in Music (at the end of the second year).
- 4. The Final examination in Music (at the end of the third year).

A specimen set of papers for each of the three examinations in Music can be obtained from the Secretary, price 25c each.

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#### The Matriculation Examination

The Matriculation Examination is held yearly, in June, at McGill University and at various centres throughout the Dominion. There is also an examination held in September, but at McGill University only. Candidates for musical degrees will be examined in the following:—

- 1. English (two papers).
- 2. History (one paper).
- 3. Two of the following languages:—French, German, Latin, Italian, Spanish (two papers in each of the two languages chosen by the candidate).
- 4. Algebra or Geometry (one paper).
- 5. Music (musical intervals, scales, clefs, time signatures, construction of chords, elementary harmony to chord of dominant seventh)—one paper. The paper set will be that of the Senior Grade of the local theoretical examination in Music and must be taken by the candidate at the regular examinations held by the Conservatorium in May.

Further information with regard to this examination, and exemption therefrom through the possession of certain equivalent certificates, can be obtained from the Registrar of the University. Before being admitted to Undergraduate courses in Music, candidates must satisfy the Dean of the Faculty of Music that they are sufficiently advanced in their chief and second practical studies.

The requirements for examination in the chief practical subject will be those of the Senior Local Examination for the current year. In the second practical subject a Junior or even an Elementary grade will suffice. If the candidate has talent for and elects to take Composition during the Mus. Bac. course, the Intermediate Grade in one practical subject will be sufficient.

#### First Examination in Music

- (a) Harmony in three and four parts.
- (b) Counterpoint up to three parts.

(c) Form and analysis. Questions will be given on accent, cadence, metre, rhythm, phrasing, etc., and on form shown in the works of the classic composers.

(d) General outlines of musical history.

(e) Chief and second practical study. One of these may take the form of the composition of a song or songs, or a miniature suite for a solo instrument or any combination of instruments.

#### Second Examination in Music

- (a) Harmony in not more than four parts.
- (b) Counterpoint (strict and free) in not more than four parts.
- (c) Canon in two parts and fugal exposition up to four parts.
- (d) History of music from the 16th century to the present day.

(e) Form and analysis. The candidate must show an intimate knowledge of a few compositions, the names of which will be supplied on application, at least three months before the date of examination.

(f) Elementary knowledge of acoustics or physiology of the voice.

(g) Chief and second practical study, or, instead of one of these, the composition of :---

(1) A movement in sonata form for pianoforte (or piano and violin, or any other combination),

or ndep or

- (2) A choral movement with independent accompaniment,
- (3) A suite for strings.

The possession of the Diploma of Licentiate of Music obtained either under Class I or Class III from McGill University exempts candidates from the necessity of taking the First and Second Examinations for Mus. Bac., and, accordingly, candidates can proceed direct to the Final Examinations, provided that they have matriculated. The holder of a diploma under Class II is exempted from the First Examination for Mus. Bac. and from the practical, but not the theoretical, work of the Second.

## Final Examination in Music

- (a) Harmony up to five parts.
- (b) Counterpoint (strict and free) up to five parts.
- (c) Double Counterpoint in 8ve, 10th and 12th.
- (d) Canon and fugue in three and four parts.
- (e) History of music from the earliest time to the present.

(f) Form and analysis. Knowledge will be required of such works as the following:—Bach's 48 Preludes and Fugues; Beethoven's Pianoforte Sonatas; Schubert's, Schumann's and Brahms' Songs; an Opera or an Oratorio; Symphonies and Overtures by Mozart, Beethoven, Brahms, Mendelssohn, Wagner. Candidates should, at least three months before the examinations, obtain from the Secretary of the Faculty of Music a complete list of the works upon which the examination papers in this subject will be based.

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(g) Instrumentation. A knowledge of the compass and capabilities of all instruments in the modern orchestra and the scoring of a given passage in a given time; also the reading at sight of a short excerpt from an easy score of a classic composer.

(h) Chief and second practical study or, in lieu of both of these, a composition can be sent in by the candidate, containing four-part chorus, a solo or duet, an unaccompanied quartette and a four-part fugue. The whole work (except the quartette) must be scored for stringed instruments in such a way as to show considerable independence between voices and instruments. If preferred, this composition can take the form of a string quartette containing not less than three movements.

# REGULATIONS FOR THE DIPLOMA OF LICENTIATE OF MUSIC

## (For Fees, see page 134.)

Candidates may elect to be examined either in :-

Class 1-Theoretical Subjects and Composition, or

CLASS 2-Practical Subjects as Performers, or as

Class 3-Teachers in both Theory and Practice.

## First Examination

(a) Advanced Rudiments, including Sight Reading and Ear Tests.

(b) Harmony in four parts up to and including chords of the ninth, passing notes and suspensions; also the Harmonization of a Melody.

(c) Counterpoint in two parts.

(d) Viva voce examination in rudimentary Composition and Extemporization.

N.B.—If candidates can produce certificates of having passed in the Highest Grade of the theoretical local examinations, they will be excused all but the last test, which can be taken at the same time as the second examination.

## Second Examination

Requirements a, b, c, and d are the same as those for the First Examination for Mus. Bac. (See page 399.)

(e) Composition of a song (or two short songs) or a miniature suite for piano (or piano and violin, or any other combination). The M.S. should be sent in at least a month before the date of examination to the Secretary of the Examining Board, McGill Conservatorium of Music, Montreal.

## Third Examination

Requirements a, b, c, d and e are the same as those of the Second Examination for Mus. Bac. (See page 400.)

(f) Practical work on pianoforte or organ. The requirements are those of the Senior Grade of the practical local examinations. Exemption from this test may be claimed if candidates possess certificates showing that they have passed that examination.

(g) Composition of (1) a movement in Sonata form (for either pianoforte, or organ, or violin and pianoforte, or any other combination); or (2) a Chorus with independent accompaniment; or (3) a Suite for Strings. This should be sent in at least a month before the date of examination.

## CLASS 2.—PRACTICAL SUBJECTS AS PERFORMERS

## First Examination

(a) Rudiments of Music, including Sight Reading and Ear Tests.

(b) Easy Transposition Tests (for instrumentalists only).

(c) Diction in respect of Modern Languages (for singers only).

(d) Practical work either as Vocalist or Instrumentalist, in Principal Study, the requirements of which will be those of the Highest Grade of the practical local examinations.

## Second Examination (Semi-Final)

The requirements for candidates whose chief study is either pianoforte, or violin, or violoncello, or organ, or singing, will be found under separate headings.

## PIANOFORTE

#### (No written examination.)

1. Scales.

Major, minor (both forms) and chromatic scales at the distance of 8ve, 3rd, and 6th; also in double 3rds and double 8ves.

The candidates must be prepared to play all the above-mentioned scales in all keys, in either similar or contrary motion, beginning on either the highest or lowest notes, and with either legato or staccato touch.

## 2. Arpeggios.

Common chords, dominant and diminished 7ths, with inversions and with hands either an 8ve, 3rd, 6th, or 10th apart, in similar and contrary motion, also in double octaves, legato and staccato, beginning on either the highest or lowest notes.

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## 3. Reading at Sight.

## 4. Transposition.

Of a short passage, a semi-tone above or below.

## 5. Performance.

(a) One of the more difficult of the	
48 Preludes and Fugues,	[
or,	

Part of a Suite or Concerto

(b) One of the more difficult Etudes, Op. 100 Bk. I.....Kessler or

Etude No. 5......PAGANINI-LISZT (c) Sonata Op. 22 or Op. 26 or Op. 28 (D major)....BEETHOVEN

(d) Any one of the Novellettes.....Schumann

#### or

Toccata and Clair de Lune.....DEBUSSY

or

Any one of the following Etudes:

Op. 10, Nos. 4, 5, Op. 25, No. 16.....CHOPIN

or

Any one of the Nocturnes......CHOPIN

- (e) A piece of the candidate's own choice.
  - Questions will be asked on the general outlines of form shown in the pieces and also on the general outlines of musical history.

Candidates must be prepared to answer any advanced questions on rudiments of music.

## VIOLIN

## (No written examination.)

#### 1. Scales.

Any major scale, selected by the examiners in thirds, sixths, and octaves, one note to each bow, through two octaves. Also any of of the ordinary scales through three octaves with various bowings. Chromatic scale starting from F in the first position (D string) through two octaves.

## 2. Arpeggios.

All major and minor common chords, dominant 7ths, and diminished 7ths in three octaves. No. 7 from Sevçik Violin School, Op. 1, Part III, may be presented for this test.

3. Reading at Sight.

## 4. Performance.

Candidates must prepare any two Etudes from each of the following composers:--Kreutzer, Fiorillo, Rovelli, Gavinies, and Rode, and also play the first movement from any one of the Spohr Concertos.

## 5. Questions.

Questions will be asked on the general outlines of form shown in the studies and pieces, and also a few on the general outlines of musical history.

Candidates must be prepared to answer any advanced questions on rudiments of music.

## VIOLONCELLO

1. Scales. (No written examination.)

Major, minor (melodic form), and chromatic scales in all keys.

## 3. Reading at Sight.

4. Performance.

(a)	Suite 1	No. 2			 	.J. S.	Васн
(b)	Sonata	(last	two mo	ovements)	 	Bı	RAHMS
				or			
	Sonata	No. 1	(First	Movement)	 	.BEET	HOVEN

or

	Sonata No. 1	(First Movement)	Mendelssohn
(c)	Also any two	of the following pieces :-	

Rondo ......Boccherini La Serenata (published by Schirmer).....V. HERBERT Le Soir (published by Leduc).....L. VIERNE

## 5. Questions.

Questions will be asked on the general outlines of form shown in the pieces, and also a iew on the general outlines of musical history. Candidates must be prepared to answer any advanced questions on rudiments of music.

## VIOLA, DOUBLE-BASS, HARP AND WIND INSTRUMENTS

Requirements will be forwarded to candidates on application to the Secretary, 677 Sherbrooke Street West, Montreal.

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#### ORGAN

## (No written examination.)

# 1. Scales.

- (a) Manuals only (with both hands).
- (b) Pedals only.

(c) One hand only with pedals, at varying degrees of speed and beginning with either the highest or lowest note.

In the case of (a) and (c) contrary motion may be required.

2. Arpeggios.

(a) For pedals through two 8ves; common chords, major and minor, in keys of C, D flat, D, E flat, E, and F.

(b) One hand and pedals combined, in contrary motion.

# 3. Reading at Sight.

## 4. Transposition.

Of a short passage, a semitone above or below.

5. Performance of either List A or List B.

## List A.

Prelude and Fugue in G major.....BACH (Vol. VIII, Novello's Edition, or No. 1, Vol. II, Peters' Edition)

Chorale Improvisation, Op. 65, No. 13......KARG-ELERT

## List B.

Prelude and Fugue in E flatBAC	н
Elegie and Toccata-Prelude BAIRSTON	w
(Published by Augener)	
Scherzo in E majorGIGOU	Т

## 6. Questions.

Questions will be asked on the general outlines of form shown in the pieces, and also a few on the general outlines of musical history.

Candidates must be prepared to answer any advanced questions on rudiments of music.

#### SINGING

## (No written examination.)

1. Scales and Technical Exercises.

Major, minor, and chromatic scales at varying degrees of speed. (For example, see Randegger's Singing Primer, pages 38, 41 and 48.) Also any six of the technical exercises given on pages 161 to 169 of the same work, selected according to voice.

#### 2. Arpeggios.

See Randegger's Singing Primer, pages 102, 104 and 107.

- 3. Reading at Sight.
- 4. Performance.

Studies.

Soprano or Tenor—Any two from No. 1 to No. 17, Fourth Series. Part 1. 30 Solfeggios......VITTORIO RICCI

Alto or Bass-Any two from No. 1 to No. 17, Fourth Series.

Part II. 30 Solfeggios.....VITTORIO RICCI Medium Voices—Any two from No. 1 to No. 17, Fourth Series.

Part III. 30 Solfeggios.....VITTORID RICCI The selection of the pieces to be rendered in this examination is left

to the candidates, who must, however, choose music of the following character :--

(a) One or two specimens of Recitative.

(b) Two solos from an Oratorio or Oratorios,

or

Two Solos from an Opera or Operas.

- (c) One song by any of the following composers:-Schumann, Schubert, Franz, Brahms, Loewe, Parry, Elgar, Wolf, Henschel, Stanford, Ronald, Scott, Ireland.
- (d) One song by any of the following composers:—Gounod, MASSENET, GERMAN, BALAKIREFF, LISZT, MALLINSON, MAC-DOWELL, GRIEG, HAHN, SIBELIUS.

(e) One or two specimens of Folk Songs.

## 5. Questions.

Questions may be asked as to the style of the pieces selected and the modulations or keys through which the music passes, etc. Questions may be asked on the more advanced rudiments of music.

## Third Examination (Final)

The requirements for candidates whose chief study is either Pianoforte, or Violin, or Violoncello, or Organ, or Singing, will be found under separate headings. There is no written examination,

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# PIANOFORTE

1.	Transposition Test. The transposition of a passage a tone above or below.
2.	Sight Reading Test.
3.	Questions. Questions will be asked on musical history from the 16th century to the present day.
4.	Performance. (a) Prelude and Fugue C sharp major, Bk. 1 or A flat major, Bk. 2J. S. BACH or
	Toccata in G majorJ. S. BACH or
	Prelude and Fugue in A minorJ. S. BACH (Arranged by Max Vogrich) or
	Prelude and Fugue in E minorMENDELSSOHN
	(b) Any two of the following Etudes, Op. 10, Nos. 1, 2, 7, 8, 9; Op. 25, No. 6CHOPIN or
	Two contrasted studies from Bks. 2 or 3, Op. 100KessLer
	or Etude (on false notes)RUBINSTEIN Any one of 6 Etudes, Op. 111, Book 2SAINT-SAËNS
	(c) Sonata, either Op. 53, or Op. 54, or Op. 57, or Op. 31, No. 2, or Op. 31, No. 3BEETHOVEN
	A Concerto by a classical or modern composer.
	(d) Etudes Symphoniques (Tema and any 3 Etudes)Schumann or
	Sonata in E minorSjögren
	Intermezzi (any two)BRAHMS
	Theme and Variations Op. 16, No. 3PADEREWSKI (e) Lotus LandCyril Scott
	or Slavonic Dances Op. 46 (any two)Dνοκλκ
	or Reflets dans l'eauDEBUSSY
	or Ballade Op. 52Снорім

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(f) Au Bord d'une source Tarantelle

or

Danse des Elfes.....SAPELNIKOFF (g) A piece of the candidate's own choice.

Note.-Candidates must be prepared to play some, if not all, of these from memory.

5. Short Examination in Second Study.

Certificates gained in any of the three higher grades of the local practical examinations will exempt candidates from this test, whether the subject chosen is Organ or Violin, or Violoncello, or Singing.

VIOLIN

- 1. Sight Reading Test.
- 2. Questions.

Questions will be asked on Musical History from the 16th century to the present day.

3. Performance.

(a) Any one of the ten Sonatas.....BEETHOVEN (For Violin and Pianoforte,)

And either one long movement or two short movements from any one of the Six Sonatas for Violin Solo by J. S. Bach.

(b) Any one of the following Concertos may be selected by candidates :--

BEETHOVEN, MENDELSSOHN, ERNST in F sharp minor, PAGA-NINI, VIEUXTEMPS, TSCHAIKOWSKY, SAINT-SAËNS in B minor, BRAHMS, ELGAR, WIENIAWSKI, BRUCH, LALO.

(c) Romance in E minor.....SINDING

or

or

Havannaise ......SAINT-SAËNS

Rhapsodie Piedmontèse ......SINIGAGLIA

4. Short Examination in Second Study (which must be the Pianoforte). Certificates gained in any one of the three highest grades of the local practical examinations in pianoforte will exempt candidates from this test.

#### VIOLONCELLO

## 1. Reading at Sight.

2. Questions.

Questions will be asked on Musical History from the 16th century to the present day.

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#### 3. Performance.

Sonata in A major (1st movement)	BEETHOVEN
Serenade-Waltz	
Spanish Nocturne	E. GOOSSENS
(Pub. by Hawkes & Son.)	
Concerto in A miner	C C

concerto m r	I minor	····· DAINT-DAENS	5
Sonata		Gried	;
A la fontaine	(Fisher	Edition)DAVIDOFF	7

 Short Examination in Second Study (which must be the Pianoforte). Certificates gained in any one of the three highest grades of the local practical examinations will exempt candidates from this test.

#### ORGAN

1. Transposition and Modulation Tests.

The transposition of a passage into another key not exceeding a tone above or below. Modulation.—Candidates are advised to make their modulations musically and not only mathematically correct.

## 2. Sight Reading Test.

3. Questions.

Questions will be asked on Musical History from the 16th century to the present day.

## 4. Performance.

Of one piece from each of the following lists :--

(a)	Sonata in E flatBACH
	Prelude and Fugue in D majorBACH
	Introduction and PassacagliaMAX REGER
	Introduction, Passacaglia and FugueHEALEY WILLAN
	(Published by Ditson)
	Fantasia in F minorMozart
(b)	Sonata in D minorRHEINBERGER
	Sonata in E minorMERKEL
	Sonata in C sharp minor
	Sonata No. 4 in B flat majorMENDELSSOHN
(c)	Postlude in E flatGuilmant
	Dithyramb
	Fantasia in E flatSAINT-SAËNS
	Symphony No. 5 or No. 6, any two movementsWIDOR

5. Short Extemporization on a Given Theme. Optional test.

6. Short Examination in Second Study.

Certificates gained in any one of the three highest grades of the local practical examinations will exempt candidates from this test, whether the subject chosen is either Pianoforte, or Violin, or Violoncello, or Singing.

## SINGING

- 1. Performance.
  - (a) Studies.

Soprano or Tenor—Any two from No. 18 to the end of the Fourth Series, Part I, of 30 Solfeggios.....VITTORIO RICCI Alto or Bass—Any two from No. 18 to the end of the Fourth Series, Part II, of 30 Solfeggios.....VITTORIO RICCI Medium Voices—Any two from No. 18 to the end of the Fourth Series, Part III, of 30 Solfeggios....VITTORIO RICCI

- (b) The solo work from part of an Opera (an act or scene), or the solo work from a whole Oratorio.
- (c) Songs in various languages to exemplify proficiency in diction.
- 2. Sight Reading Test.
- 3. *Questions* on Musical History from the 16th century to the present day.
- 4. Chief Study.

The studies by Vittorio Ricci must be prepared by all candidates, but as types of voices and capabilities of vocalists differ so much, it is impossible to satisfactorily specify other work on which any individual candidate shall be examined. The Examination Board will be prepared to accept in the Final Examination any works on which a correct judgment can be formed as to whether the candidate shall, after examination, be awarded the Diploma:—

- (a) As soloist for Concert Work only.
- (b) As soloist for Light Opera.
- (c) As soloist for Grand Opera.
- (d) As soloist for Oratorio.
- (e) As soloist for a combination of any of these.
- Candidates should, after passing the Second Examination, submit to the Board of Examiners, through the Secretary, a list of works which they propose to present for the Final Examination.
- 5. Second Study (which must be the Pianoforte).
  - Certificates gained in any one of the three highest grades of the local practical examinations for Pianoforte will exempt candidates from this test.

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The ability of candidates to play their own accompaniments on the pianoforte to the vocal work prepared by them for the examination, together with the reading of a song accompaniment at first sight, will be accepted as second study.

CLASS 3.-TEACHERS' EXAMINATION (THEORY AND PRACTICE)

## First Examination

(Partly written and partly viva voce)

- 1. Advanced Rudiments.
- 2. A knowledge of harmony up to chords of the 7th. Analysis of given chords or passages, and harmonization of an easy melody and figured bass.
- 3. Chief Study.

Candidates will be expected to show sufficient executive ability to perform the technical work, studies and pieces contained in the list for the current year's local examination in the Highest Grade. (Total exemption from this examination can be claimed if candidates can produce certificates of having previously passed the Senior Grade, theoretical, and the Highest Grade, practical, of the local examinations.)

## Second Examination (Semi-Final)

## (Partly written and partly viva voce)

- 1. Harmony in three and four parts up to chords of the 9th, including suspensions and use of passing notes.
- 2. Counterpoint in two parts.
- 3. General outlines of Musical History.
- 4. The principles of Elementary Form and Analysis.
- 5. Chief Study.

The requirements for this will be the same as for the Semi-Final Performers' Licentiate (see pages 402 to 410).

6. Second Study.

The requirements will be similar to those of the Senior Grade of the local examinations.

If the candidate's chief study is Singing, Pianoforte Accompaniment will be accepted as second subject.

## Third Examination (Final)

## (Written Examination)

- 1. Harmony and Counterpoint in not more than four parts.
- 2. History of Music from the 16th century to the present day.
- 3. Form and Analysis.
- 4. Some acquaintance with the principles either of the Physiology of the Voice or of Acoustics.
- 5. A paper on the Art of Teaching of the candidate's chief subject.

Candidates must write a paper, which should be sent at least a week before the examinations, dealing with technical difficulties met with in teaching, and how to overcome them, also giving a graduated list of studies and pieces best adapted for the development of this branch of musical study. The paper must be the unaided work of the candidate, and be accompanied by a declaration to that effect.

# Viva Voce Examination

Requirements will be found under a separate heading corresponding to the candidate's chief subject.

## PIANOFORTE

- 1. (a) To demonstrate method of instruction as regards posture, fingertraining, wrist and arm action, etc.
  - (b) To illustrate gradations of touch.
  - (c) To differentiate between mechanical and æsthetic expression.
  - (d) To explain the principles of fingering, and, if required, to finger passages.
  - (e) To distinguish between use and misuse of pedals.
  - (f) To illustrate good part playing.
  - If thought necessary by the examiner, a student (not a pupil of the candidate) will be in attendance, so that the candidate may more easily and effectually demonstrate his or her ability to deal in a practical manner with the above points, and any others which may occur.
- 2.
- Candidates must be prepared to play the following :-
- (a) English Suite, No. 11, in A minor, or No. 4 or Prelude and Fugue No. 15 in G
- (b) Sonata, either Op. 31 No. 2, or Op. 31 No. 3, or Op. 53, or Op. 54, or Op. 57

(c)	HumoresqueSc	HUMANN
	or any two Ballades	
	or any two Intermezzi	BRAHMS
(d)	Any one of the Etudesand Rhapsodie Hongroise No. 13 or 14	
(e)	A piece of the candidate's own choice by a modern French or Russian Composer.	English,

Sight Reading Test.

3.

#### VIOLIN

- 1. To demonstrate method of finger-training and bowing, posture and fingering, also to finger and bow certain passages, if required.
- 2. Should the Examiner desire it, the candidate must be prepared to give a student (who must not be a pupil of the candidate) a specimen lesson, correcting, if necessary, any errors in bowing, intonation, posture, fingering, etc., and to answer questions and offer suggestions on the work after the student has retired.
- 3. To differentiate between mechanical and æsthetic expression.
- 4. To show ability to accompany on the pianoforte.
- 5. Candidates must be prepared to play any two Studies chosen by themselves from each of the following:-KREUTZER, FIORILLO, RODE, ROVELLI and GAVINES.

## 6. Performance.

- (a) First movement of any of the ten Sonatas for Violin and Pianoforte

BEETHOVEN, MENDELSSOHN, ERNST in F sharp minor, PAGA-NINI, VIEUXTEMPS, TSCHAIKOWSKY, SAINT-SAËNS in B minor, BRAHMS, ELGAR, WIENIAWSKI, BRUCH, LALO.

(c) Romance in E minor.....SINDING

Havannaise ......SAINT-SAËNS

Rhapsodie Piedmontèse ......SINIGAGLIA

7. Sight Reading Test.

#### VIOLONCELLO

See under Violin for requirements 1, 2, 3, 4 and 7. Candidates must be prepared to play:—

Nos. 11, 16 and 20 Studies.....DUPORT Any one of the five Sonatas (selected by the candidate).BEETHOVEN To show a general knowledge of the Six Suites.....J. S. BACH Also, "A la Source," Op. 20, No. 2.....DAVIDOFF Romance ..........WAGNER-POPPER

#### ORGAN

- 1. To demonstrate method of instruction for overcoming difficulties in pedal technique, clear part playing, independence of hands and feet, position of body, stop management, etc.
- 2. To answer questions as to the causes of difference of tone between the various stops.
- 3. To explain the principles of pedalling and mark passages submitted to candidates for that purpose.
- 4. To be prepared to play the following pieces :--

A Sonata by BACH, also a Sonata by either MENDELSSOHN or RHEINBERGER or MERKEL, and two pieces by modern composers (one should be British) selected by the candidate.

5. Sight Reading Test.

6. To extemporize and transpose.

## SINGING

- To demonstrate method of instruction in proper methods of breathing, tone, attack, unevenness of tone, intonation, expression, overcoming of awkward breaks, resonance, facial expression and posture.
- 2. To read (at the pianoforte) a simple accompaniment at sight, and also transpose within the limits of a major second above or below.
- 3. In passages given by the examiner, to phrase or insert breath marks.
- 4. Candidates must be prepared to give illustrations of Recitative, Solo singing in Opera or Oratorio, and to sing one song of any one composer in each of the following three groups:—
  - (a) BACH, HANDEL, MOZART, BEETHOVEN, MENDELSSOHN, SCHUBERT, SCHUMANN.
  - (b) FRANZ, BRAHMS, LOEWE, WOLF, STRAUSS, PARRY, ELGAR.
  - (c) GOUNOD, MASSENET, GERMAN, BALAKIREFF, LISZT, MALLINSON, GRIEG, HAHN and DEBUSSY.
- 5. Sight Reading Test (Vocal).

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# EXAMINATION FOR CERTIFICATE SHOWING CANDI-DATE'S FITNESS AS MUSIC INSTRUCTOR FOR CLASS WORK IN THE ELEMENTARY SCHOOLS

## Fee \$10.00

#### THEORETICAL

The examination will be in two parts: (a) Written; (b) Viva Voce. In the written part of the examination a paper will be given dealing with the general questions on the teaching of class singing in an elementary school.

The paper will be divided into four parts: (a) Voice Training; (b) How to teach Sight Singing in the Movable Doh System, using Solfa syllables only, and on its application to the staff notation; (c) Ear Training; (d) The teaching of songs.

As regards (b), emphasis will be laid on the mental effect produced when teaching tune, and on the use of time names when teaching rhythm in both notations.

"The School Music Teacher," Chaps. 1-7 inclusive and Appendices II and III......Evans and McNaught (Published by Curwen)

#### PRACTICAL (ELEMENTARY)

1. Sight Singing.

Two tests will be given, one in Solfa syllables only and one in Staff Notation, containing leaps to any note of the diatonic scale, with a transition to either 1st sharp (dominant) or 1st flat (sub-dominant) key, and containing chromatic notes introduced stepwise. Only the following divisions of the beat will be used, half-beat, three-quarters and a quarter, with some sustained notes. In Staff only the following time-signatures will be used, 2/4, 3/4, 4/4, 6/8. One of the tests will be in the minor mode, containing the sharpened sixth and seventh. (Not more than three attempts will be allowed, and the last time the test must be sung to la.)

2. Time.

Two tests will be given, one to Solfa syllables and one in Staff Notation, to be sung first to time-names and then to a monotone. (Two attempts allowed.)

In 2/4, 3/4 and 4/4 time (two, three and four pulse measure). The beat may be divided into halves, triplets or any division containing one or two quarters. In 6/8 time (six-pulse measure) the more minute divisions of the beat will not be given.

3. Ear Test.

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- (a) The candidate will write down in either notation a short phrase of not more than six notes. The name of the key will be given and the tonic chord (d.m.s.) sung or played each time.
- (b) The time names of a short passage will be asked and the passages must be written down in either notation. The tempo will be given. (Two attempts allowed.)
- 4. Candidates must be prepared to write on a black-board, as for a class, a short sight-singing test in both notations.
- Candidates must be in possession of a certificate showing they have passed the Junior Grade in Pianoforte of McGill Local Examinations in Music.

# EXAMINATION FOR CERTIFICATE SHOWING CANDI-DATE'S FITNESS AS MUSIC INSTRUCTOR FOR CLASS WORK IN HIGH SCHOOL OR COLLEGIATE INSTITUTE

## Fee \$15.00

## PART I (THEORETICAL)

A paper will be given demanding a more comprehensive knowledge of the methods and principles involved in the teaching of class singing. This paper will be divided into the same number of sections as the elementary paper, the following text-books being recommended for information:—

"Voice Culture," Part I (published by Novello)......BATES "The Singing Class Teacher" (published by Williams).FIELD HYDE

## PART II (PRACTICAL)

1. Sight Singing.

Two tests will be given, one to Solfa syllables and one in Staff Notation, containing more difficult leaps as well as leaps to chromatic notes with a transition to some more remote key. One of the tests will be in the minor mode containing a transition. (Not more than three attempts will be allowed and at the last attempt the test must be sung to la.)

2. Time.

Two tests will be given, one to Solfa syllables and one in Staff Notation, sung first to time-names and then to la. (Two attempts allowed.) The pulse will be divided into more minute divisions, and syncopation will be introduced.

- 3. Ear Test.
  - (a) The candidate will write down in either notation, in time and tune, a short melody. The name of the key will be given and the tonic chord (d.m.s.) sung or played each time.
  - (b) The time-names of a short passage will be asked and the passage must be then written down in either notation. The pulse will be more divided than in the elementary grade. The tempo will be given. (Two attempts allowed.)

- 4. Three school songs must be chosen and prepared by the candidate and sung to his or her own accompaniment. Two of the songs should be of the folk-song and one of the art-song type. Correct voice production and interpretation will be a necessity.
- 5. Candidates must be in possession of a Certificate showing they have passed the Intermediate Grade in Pianoforte of McGill Local Examinations in Music.

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# LOCAL CENTRE EXAMINATIONS IN MUSIC

## (For Centres with Local Representatives, see pages 40 to 42.)

Recognizing the necessity of helping to raise the standard of musical education in Canada, and at the same time to bring the influence of competent examiners to bear upon instruction, McGill University holds local examinations throughout the Dominion. In view of the fact that it grants Degrees in Music and a Diploma of Licentiate, the University extends its field of work by means of these local examinations, which are preparatory to those for Degrees and Dipolmas.

The Examiners are appointed by the Board of Governors of the University, the Chairman of the Examining Board being Dr. Harry Crane Perrin, Dean of the Faculty of Music and Director of the Conservatorium.

## GENERAL REGULATIONS

1. All fees must be paid in advance direct to the Secretary of McGill University Conservatorium of Music, 677 Sherbrooke Street West, Montreal, who will supply forms of entry. These can also be obtained from the local representatives or local secretaries. (See pp. 422 to 424.)

2. A local representative of McGill University will supervise the conduct of the theoretical examinations at each centre. All papers will be sent to McGill University itself, and, in the case of the local examinations, examined by a Board consisting of at least three examiners.

3. Every certificate gained by candidates in any of the public . examinations will bear the imprimatur of McGill University.

4. The Principal of a school may arrange with the Secretary to send an examiner to report on the musical education gained at the school. No individual certificates will be awarded in this case, but merely a collective detailed report drawn up by the examiner and sent to the Principal of the School.

5. Similar arrangements may be made with regard to Class Singing.

6. In case of a candidate being prevented by serious illness from attending any examination, the Secretary is authorized, on receipt of a medical certificate, which must, however, reach him at least five days before such examination, to transfer a candidate to the next examination without further fee.

7. As an additional assurance of fair treatment of every candidate, two examiners will be present at each examination in practical subjects throughout the Dominion, wherever it is at all possible to

arrange that such shall be the case. This must necessarily largely depend on the number of candidates presenting themselves for examination.

8. Examinations will be arranged by the Secretary when required, and new centres formed where not less than ten candidates are entered, provided the amount of fees is sufficient to meet the expenses incurred.

## ADVICE TO TEACHERS AND CANDIDATES

1. Candidates are advised not to attempt too high a grade when first entering for the local examinations, which are arranged in a systematic course of progressive grades, beginning with the Lowest or Primary grade and leading on through the Diploma examination for Licentiate of Music to that for the Degree of Mus. Bac.

2. Teachers as well as candidates are urged to regard the particular studies and pieces selected for examination in any one grade as indicating the degree of difficulty, and not to confine their attention for a whole year to the preparation of two or three examination pieces.

3. In preparation, teachers and pupils should use music of a lower grade at the beginning of the winter, and should not begin too early with the actual grade book selected for examination at the end of the session. Lack of interest often ensues from the monotony entailed by candidates concentrating their whole attention on the examination book for too long a period.

4. Books for past years, which contain well-assorted standard studies and pieces, will be found useful by teachers and pupils alike, whether for repertoire study, reading at sight, or analysis purposes. Price, 50c. per book, obtainable from the General Secretary.

# REGULATIONS FOR LOCAL CENTRE EXAMINATIONS FOR CERTIFICATES

1. Theory examinations will be held throughout the Dominion about May 1st, 1930. Candidates wishing to take an examination in a practical subject in the same year as the theoretical examination, if unsuccessful in the latter, can still proceed to the practical examination, and if they satisfy the examiner or examiners in this, they must present themselves at a supplemental theoretical examination held later in the same year, which, if they pass, entitles them to receive the certificate for the practical examination. A special charge for this supplemental examination will be found under fees on page 425.

2. Practical examinations will be held during May and June, 1930.

3. For both theoretical and practical local examinations, forms of application, duly filled in by the candidate, and accompanied by the

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ERNE BURNE

examination fee, MUST REACH THE SECRETARY IN MONTREAL ON OR BEFORE APRIL 1ST, 1930.

4. Certificates will be awarded to successful candidates in both theoretical and practical subjects. They will be of two kinds in each grade: (a) Distinction; (b) Pass.

5. These certificates do not entitle the holders to append any letters to their names.

6. The maximum number of marks obtainable in each practical subject is 100, of which 60 entitles to a Pass and 80 to Distinction.

7. The maximum number of marks obtainable in each theoretical subject is 100, of which 60 entitles to a Pass and 80 to Distinction.

8. No special text-books are prescribed for theoretical examinations, and no particular method or style is specified for practical examinations. For the convenience of teachers and candidates the University publishes, in separate books for each grade, the studies and pieces required for the Pianoforte Examinations, which can be obtained direct from the General Secretary or from the various local music dealers.

9. Candidates presenting a study or piece not prescribed by the current syllabus, run a risk of being disqualified.

10. Candidates entering for practical subjects must, in all grades except the two last (Elementary and Primary), previously work a theory paper of the preceding lower grade during the same year or the preceding year.

11. Only one candidate at a time is allowed to be in the examination room for practical examinations.

12. The accompanist for all examinations, where one is needed, is allowed to be in the examination room only to accompany the songs and pieces.

13. The examiner's decision is final, and cannot be reconsidered.

14. The possession of certain certificates granted by other institutions may exempt the holder from the necessity of taking the Theoretical part of the Local Examinations. In making application for exemption the holder of such certificates must give explicit information to the General Secretary at least one month before the date of the examination, and be prepared to produce the original certificate, if required.

15. The possession of certain certificates gained in the Local Examinations will entitle the holders to claim exemption from certain parts of the examinations for the Diploma of Licentiate in Music, should they at a later date decide to proceed to the higher examinations for that Diploma.

## LOCAL CENTRES

The following places have been adopted as centres for public examinations in Music; others will be added as necessity requires, but in all cases the establishment of a centre depends upon a sufficient number of candidates applying. All examinations for Certificates in the Local Grades, as well as some of those for Degrees and Diplomas, will be held at these centres :—

Victoria	.Representative: Principal of the High School.
	Secretary: Dr. J. E. Watson, 1002 Fort St.
Vancouver	.Representative: G. E. Robinson, Esq., B.A.,
	British Columbia University.
	Secretary: Mrs. A. E. Kerr, 1121 Connaught
	Drive.
Penticton	Representative: Rev. Canon G. Thompson.
	Secretary: Miss Monica L. Craig, L.A.B.
Cranbrook	.Representative: Mr. Buck, Principal of the
	High School.
	Secretary: Mrs. D. Finlayson.
Vernon	.Representative : Howard De Beck, Esq.
	Secretary: Miss Bertha Dillon, L.Mus., The
	Grange.
Kimberley	.Secretary: Miss Janet McKay.
Fernie	.Representative: Mrs. H. J. Johnson.
	Secretary: Miss S. E. West.
Nelson	.Representative : H. E. Dill, Esq., 418 Mill St.
Calgary	.Representative: A. Calhoun, Esq., City Libra-
	rian, Public Library.
	Secretary: George E. Bower, Esq., L.Mus.,
	1036 Fifth Ave. W.
Edmonton	.Representative : Hon. A. C. Rutherford, 11153
	Saskatchewan Drive.
	Secretary: Mrs. O. J. Walker, 11103 Sas-
	katchewan Drive.
Lethbridge and MacLeod.	Representative: A. J. Watson, Esq., Supt. of
	Schools, Central School.
	Secretary: Miss Erika Olander, L.Mus., Box
	507, MacLeod.
Assiniboia	.Representative: W. E. Hay, Esq., Superin-
	tendent of Schools.
Medicine Hat	.Secretary: Mrs. F. Duckworth, 543 Athabasca
	St. W., Moose Jaw.
Moose Jaw	.Representative: A. H. Gibbard, Esq., City
	Librarian, Public Library.
	Secretary: Chas. F. Nidd, Esq., 1127 Third
	Ave. N.

Kerrobert	Representative: J. M. Hanbridge, Esq., Bar- rister.
	Secretary: Mrs. R. H. Johnston.
Sastatoon	Representative: W. A. Gilchrist, Esq., Can-
Saskatoon	ada Bldg.
Wolsolay	.Representative :
worseley	Secretary: Mrs. Anna P. Thomson.
Indian Head	Representative : Mrs. H. G. W. Wilson.
	Secretary: Cecil C. Halleran, Esq., L.Mus.
Pagina	Representative: President of Regina College.
	Secretary: W. J. Record, Esq., 3327 Dewday Ave.
Fort Ou'Appollo	.Representative: W. M. Thompson, Esq.
Port Qu'Appene	Representative: Principal of Brandon Colle-
brandon	giate Institute.
Manual	Representative: Rev. J. R. Johns.
Macgregor	.Representative: —. —.
winnipeg	Secretary: D. B. McHardy, Esq., 200 Man-
	.Representative: Dr. E. H. Whelpley.
Gladstone	Secretary: David B. McHardy, Esq., 200
	Manderville St., Winnipeg.
Produville	.Secretary: Mrs. M. MacOdrum, West Pine
	St.
Pembroke	.Secretary; C. M. Wright, Esq., Box 503.
Renfrew	.Secretary: F. W. Hopson, Esq.
Peterboro	.Representative: Rev. Dr. Blagrave.
	Secretary: F. G. Mann, Esq., 186 Dublin St.
Ottawa	.Representative: Dr. Duncan Campbell Scott,
	Government Offices, Booth Bldg.
	Acting Secretary: Kenneth L. Meek, Esq.,
	L.Mus., 17 Metcalfe St.
Timmins	.Representative: E. J. Dickson, Esq., Magor.
	Secretary: Mrs. J. H. Faithful, Timmins
	College of Music.
Maxville	Secretary: Miss Netta McEwen.
Sherbrooke	Representative: H. G. Hatcher, Esq., M.A.,
	15 Cambridge Ave.
	Secretary: John W. Blackburn, Esq., Mus.
	Bac., 138 London St.
Three Rivers	Representative: Rev. J. R. MacLeod, B.A.
Granby	Representative: Ven. Archdeacon Longhurst.
	Secretary: Miss Gertrude Wallace.

Quebec	Representative: Dr. G. W. Parmelee, Par- liament Bldgs.
	Secretary: Capt. Charles O'Neill, Mus. Doc.,
St. John	Representative: Rev. C. Gordon Laurence, M.A., 50 Orange St.
Rothesay	Secretary: J. S. Ford, Esq., 6 Germain St. Representative: Rev. J. H. A. Holmes.
	Secretary: Miss A. Davidson, L.Mus. Representative: Dr. H. B. Bridges, Principal of the Normal School.
adom of Benne College cord, Eac. 3787, Deputy	Secretary: W. J. Smith, A.R.C.O., 679 Union St.
Moncton	Representative: Rev. J. A. Ramsay, The Manse, Alma St.
	Secretary: Geo. Ross, Esq., Mus. Bac.
Campbellton	Representative: Judge F. F. Matheson.
Halifax	.Representatives: Rev. S. H. Prince, Cobourg
	Road; Rev. J. A. Ibbott, 29 Inglis St.
	Secretary: Miss Ada Hoyt, 3 College St.
Truro	.Representative: David Soloan, Esq., Ph.D. Secretary: H. A. Wellard, Esq.
New Glasgow	.Representative: Mrs. J. T. McLeod, Stel-
	larton.
	Secretary: R. G. Humphreys, Esq.
Stellarton	.Representative: Mrs. J. T. McLeod. Secretary: L. N. Miller, Esq., L.Mus.
	.Representative: C. L. Moore, Esq., M.A. Secretary:
Pictou	.Representative: C. L. Moore, Esq., Pictou Academy.
at alle	Secretary: Miss Eva Skinner, Box 222.
	.Representative: Rev. A. H. Campbell, 58 Fal- mouth St.
Newcastle	Secretary: W. Rains, Esq., 196 Bentinck St. Representative: Rev. L. H. MacLean.
	Secretary: Thos. A. Moir, Esq. .Representative: Rev. A. MacLeod, Presby-
	terian Church Manse.
	Secretary: Miss B. McGregor.
Amherst	.Representative: Rev. F. L. Orchard, 1
	Secretary: Mrs Geo R Shiers 35 Roby St

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## FEES FOR LOCAL EXAMINATIONS

#### 1-Theory of Music

Highest Grade	\$ 9.00
Senior Grade	5.50
Intermediate Grade	4.00
Junior Grade	3.00
Elementary Grade	

## 2-Practical Subjects

Highest Grade, including fee for Theory	\$12.00
Senior Grade, including fee for Theory	10.00
Intermediate Grade, including fee for Theory	7.50
Junior Grade, including fee for Theory	6.00
Elementary Grade	3.50
Primary (or Lowest) Grade	2.50

## 3-Supplementary Theoretical Examination

Fee	for	the	three highest grades	\$ 2.00
Fee	for	the	two lowest grades	1.50

## 4-General School Examination

Fee, \$20.00 for first hour and \$10.00 for each succeeding hour. (One examiner.)

## 5-Class Singing Examination

Fee, \$10.00 per class. (One examiner.)

## LOCAL CENTRE EXAMINATIONS IN THEORETICAL MUSIC

These examinations are divided into five grades, and Certificates of two kinds in each grade will be awarded to successful candidates: (a) Distinction; (b) Pass. The maximum number of marks obtainable is 100, of which 60 are required for a Pass and 80 for Distinction.

HIGHEST GRADE.—Harmony up to chords of the major and minor dominant ninth and secondary sevenths, including the use of suspensions and passing notes; Counterpoint in two parts; Analysis, together with elementary knowledge of form, questions being based upon the candidate's previous study of the pieces given in this year's Highest Grade, List B, Pianoforte Book (a copy of which will be provided for the candidates in the examination room), and the outlines of musical history. The examinations in this grade only will consist of two papers. One paper will deal with Harmony and History of Music and the other with Counterpoint and Analysis and Form.

- SENIOR GRADE.—More advanced questions on the work specified for the Intermediate Grade. A knowledge of musical ornaments or graces and of syncopated time, analysis of given chords or passages and the harmonization of an easy melody and of a figured or unfigured bass.
- INTERMEDIATE GRADE.—A knowledge of the C clefs, all scales (including the chromatic) and (in both original and inverted positions) triads, common chords, chords of the dominant seventh with resolution on the tonic chord. In addition to the above, the harmonization by means of simple chords of short phrases with either melody or figured bass will be given.
- JUNIOR GRADE.—Transposition from treble to bass and vice versa, the more extreme key signatures and scales, completing bars, with notes or rests, marks of expression, a knowledge of triads, technical names of notes for scale degrees, intervals and their inversions.
- ELEMENTARY GRADE.—The following are the requirements:—A knowledge of staves, G and F clefs, notes, dots, rests, leger lines, timesignatures, key-signatures (major and minor), writing scales, the more common marks of expression, easy intervals.

N.B.—Specimens of examination papers used for the Highest, Senior and Intermediate Grades during the last five years can be obtained from the Secretary of McGill University Conservatorium at 10 cents per copy of each grade. Owing to the great demand in the past for Junior and Elementary papers, the supply of these is limited to the last two years.

# LOCAL CENTRE EXAMINATIONS FOR CANDIDATES IN PRACTICAL SUBJECTS

See Special Announcement.

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# FACULTY OF GRADUATE STUDIES AND RESEARCH

### GENERAL STATEMENT

The Faculty of Graduate Studies and Research directs and controls all the courses leading to the higher degrees and recommends candidates for these degrees.

The members of the Faculty are the Deans of the other University Faculties and all Professors and Associate Professors who conduct advanced courses of study or who superintend advanced research work offered to students registered for the degrees awarded by the Faculty. Other members of this University may be elected members of the Faculty in full session upon proper notice of motion.

There shall be two main divisions of the Faculty, to be known as "The Arts Division" and "The Science Division," respectively. The Arts Division shall include the following departments of study, viz., Classics, Economics and Political Science, English, Germanic Languages, History, Music, Oriental Languages, Philosophy, Romance Languages, Sociology and Theological Studies. The Science Division shall include all other departments of study represented in the Faculty. The Departments of Mathematics and Psychology shall, however, be members of both divisions.

These divisions shall have full power to discuss all matters and to make ail rules and regulations affecting the admission of students to their departments and the requirements for all degrees awarded for work in these departments. Each division shall meet at least once annually in the month of April for the election of officers and of committees and for general business.

Each division of the Faculty shall elect annually a Divisional Committee of not less than four, and not more than eight, including the Dean; the one to be called "The Committee of Graduate Studies in Arts," and the other "The Committee of Graduate Studies in Science." These committees shall, subject to the direction and approval of their proper divisions, examine and pass upon the academic records of all students, including lectures, seminars, and all other forms of graduate study. When the Dean of the Faculty has any doubt that a student's qualifications for admission or his subsequent record is entirely satisfactory, he shall call these cases specially to the attention of the proper committee for its decision. These committees shall also recommend all candidates for degrees to the Faculty in full session.

The Dean shall be a member of and chairman of both divisions, and of all general committees of the Faculty, and all meetings thereof shall be called by him or under his direction.

There shall be an Executive Committee of the Faculty, consisting of the Dean and two members appointed by and from each Divisional Committee; this committee shall, subject to the direction and approval of the Faculty, deal with all matters of general policy and over all executive matters as, for example, the annual calendar, the preparation of the annual announcement, finances, fees, registration, and all matters of routine.

### ADMISSION

Advanced courses of instruction are offered to students who are graduates of any university of recognized standing. These students are generally those who have at least second class honour standing or the equivalent of at least second class honours from McGill University in the subject in which they desire to take their major work. Admission to these advanced courses does not in itself imply candidacy for a higher degree.

#### REGISTRATION

Application for registration as a graduate student should be made to the Dean of the Faculty of Graduate Studies and Research. The application should be made in triplicate on special printed forms which may be obtained at the Dean's Office.

Candidates must consult the department or departments in which they intend to study regarding the course they desire to pursue, in time to attend the regular courses of instruction which begin on September 30th, 1929. Formal application for permission to attend courses must be filled up by the student, and signed by the head or heads of these departments and by the professors under whom the applicant intends to study, and filed with the Dean of the Faculty as early as possible, and at the latest October 8th.

The applicant will give the necessary information with reference to the courses of undergraduate study which he has followed, his standing in the major subject or subjects, his degrees, and in cases of other than McGill graduates, a registrar's certificate of his academic standing from his college or university. As soon as the candidate's course has been approved by the division of the Faculty concerned, he must register without delay at the offices of the University Registrar. He will not be given credit for attendance until he does so. Candidates whose courses extend for more than one year must register at the commencement of each year of their course. If not registered at the beginning of the academic year, as provided above, the candidate shall not be eligible for the degree at the following Spring Convocation.

### DEGREES

Graduate students may proceed to one or other of the following degrees:-Master of Arts, Master of Science, Master of Science in

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#### GENERAL INFORMATION

Agriculture, Master of Commerce, Doctor of Philosophy, Doctor of Civil Law, Doctor of Literature, Doctor of Science, Doctor of Music,

### RESIDENT GRADUATE STUDY

The instruction given in the Graduate Faculty includes lectures, seminars, colloquia, tutorial classes, laboratory and library instruction and research work. Each student, in addition to his thesis requirements, shall receive an adequate amount of course work instruction; the requirements differing with varying departments. The amount of this work will be designated by the major department concerned, with the approval of the Divisional Committee and if necessary of the Faculty. The student may take any number of years he chooses more than the minimum in order to complete these requirements.

Members of the teaching staff of the University, who are also students in the Graduate Faculty, and who give more than three hours of lectures or six hours of conference work or twelve hours of supervisory work in the laboratory per week, or any student doing the equivalent amount of work inside or outside the University, may not obtain a Master's degree in one year, and will require at least four years for the degree of Ph.D.

No full-time student registered in any professional Faculty of the University may register for a Graduate Degree without the special leave of both Faculties in full session.

### COURSES AT MACDONALD COLLEGE

Graduate students who are taking the major part of their work at Macdonald College may go into residence there and can take, when required, other graduate courses given at the University.

#### GENERAL RULES

1. Candidates for admission to the study of a degree shall hold at least second class Honours or the equivalent of second class Honours from McGill in the subject or subjects which they propose to study. Candidates who cannot comply with these requirements shall spend at least one preparatory year devoted mainly or wholly to advanced undergraduate study in these subjects at the University.

2. Candidates should, when possible, be given an opportunity to conduct classes or conferences of their own, and the department or departments in which they are working should note their aptitude for this kind of work.

3. All departments should have full liberty to recommend their students to follow classes in other departments, either as part of the

work of their own departments or as additional work. They may also recommend their students to attend classes in other departments, either with or without examination.

4. All departments should make careful reports from time to time of the work being done by students in their departments, as these reports may be of great value to the University and to the student in the future.

## GENERAL REGULATIONS FOR THE DEGREE OF M.A.

Instruction in the Faculty of Graduate Studies and Research leading to the degree of Master of Arts is provided in the following departments of study, which rank as "subjects":—

Biology.	Latin Language and Literature.
Chemistry.	Mathematics.
Chemistry, Agricultural.	Oriental Languages.
Economics and Political Science.	Physics.
English Language and Literature.	Philosophy.
Geology.	Psychology.
Germanic Language and Literature.	Romance Language and Literature.
Greek Language and Literature.	Sociology.
History.	have of help Partitions in Init weeking

Certain Theological studies may be taken as a minor subject only. See page 490.

1. Candidates must hold the degree of B.A. with at least second class Honours from McGill University or its equivalent.

2. One or two subjects may be taken.

3. Candidates must select one major subject. A minor subject may be selected with the consent and approval of the Head of the Department in which the major subject is taken, subject to the advice and agreement of the Head of the Minor Department. The candidate shall pass an examination in each of the subjects of his course.

4. The candidate shall also present a thesis on some topic connected with his major subject. The title of his thesis must have been previously submitted to the Head of the Department concerned and to the Divisional Committee concerned for their approval in writing. The thesis must be in some measure a contribution to knowledge and must also be written in good literary style.

The thesis must be in the hands of the Dean of the Faculty of Graduate Studies and Research on or before April 28th, if the candi-

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## REGULATIONS FOR MASTERS' DEGREES

date wishes to present himself for the degree at the Convocation in May; and before September 3rd if the candidate wishes to obtain his degree at the Fall Convocation.

### REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE (M.Sc.)

Instruction in the Faculty of Graduate Studies and Research leading to the degree of Master of Science is provided in the following departments of study, which rank as "subjects":---

Anatomy. Bacteriology. Bio-chemistry. Botany. Chemistry. Chemistry, Agricultural. Electrical Engineering. Engineering Physics. Entomology. Experimental Medicine. Fuel Engineering. Geodesy. Geology and Mineralogy. Highway Engineering. Hydrodynamics and Hydraulics. Mathematics.

Mechanical Engineering. Metallurgy. Mining. Pathology. Pharmacology. Physics. Physiology. Plant Pathology. Theory of Elasticity, Strength of Materials and Theory of Structures. Theory of Machines and Machine Design. Thermodynamics and Theory of Heat Engines. Zoology.

The requirements for the degree are as follows:-

1. Candidates must hold the degree of B.Sc. with at least second class Honours or B.A., M.D., with second class Honours or M.D., on application to the Head of the Department in certain cases of exceptional distinction in the Medical course.

2. The course of study followed by the candidate shall be of an advanced character, being the equivalent of that required for the degree of M.A., and shall lie in the domain of pure or applied science. It may be selected from any one or (at the discretion of the Head of the Department in which the major subject is) two subjects included in the list given above. This course of study, which must be of a comprehensive character, must have been previously submitted to the Head of the Department and to the Divisional Committee concerned, and have received their approval in writing. The candidate shall pass an examination in each subject of his course.

3. The candidate shall also present a thesis on some subject connected with his course of study. The title of the thesis must have been previously submitted to the Head of the Department and to the Divi-

sional Committee concerned, and have received their approval in writing. The thesis must be in some measure a contribution to knowledge and must also be written in good literary style.

4. The thesis must be in the hands of the Dean of the Faculty of Graduate Studies and Research on or before April 28th if the candidate wishes to present himself for the degree at the Convocation in May, except in the case of theses involving experimental work, when the time will be extended to May 12th. No thesis received after these dates will be accepted.

Theses for the Fall Convocation must be presented before September 3rd.

## REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURE (M.S.A.)

Instruction in the Faculty of Graduate Studies and Research, leading to the degree of M.S.A., is provided in the following departments of study at Macdonald College (Faculty of Agriculture) :---

> Agronomy. Agricultural Bacteriology. Agricultural Chemistry. Entomology. Plant Pathology.

The requirements for the degree are as follows :--

1. Candidates for this degree must hold a B.S.A. degree with at least second rank Honours from McGill or its equivalent.

2. Candidates must take one year of resident graduate study at Macdonald College, Faculty of Agriculture, McGill University.

3. One or two subjects may be taken.

4. When two subjects are taken, one of them shall be designated as the major subject, and special attention shall be paid to it. It must be a subject which the candidate has already studied in his undergraduate course, and the work required in it will represent an attainment in knowledge far in advance of that required for the B.S.A. degree.

5. The course of study selected by the student must receive the approval, in writing, of the Heads of the Departments concerned and also of the Divisional Committee concerned.

6. The candidate shall also present a thesis on some topic connected with his major subject. The title of his thesis must have been previously submitted to the Divisional Committee concerned, and the Head of the Department concerned, and have received their approval in writing. The

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thesis must be in some measure a contribution to knowledge and must also be written in good literary style.

The thesis must be in the hands of the Dean of the Facilty of Graduate Studies and Research on or before April 28th if the candidate wishes to present himself for the degree at the Convocation in May. If the course involves laboratory work, the thesis must be submitted before May 12th.

7. Candidates for the M.S.A. degree who select Agronomy may register in September or January. In the latter case they will be expected to remain in residence until the end of September, and application must be made before February 1st. It is recommended that one Summer be spent in the Agronomy Department, before or during the course, tc allow for practical, field, laboratory and thesis work during the growing season.

### THE DEGREE OF MASTER OF COMMERCE (M.Com.)

The regulations for this degree will be issued at a later date.

## REGULATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D.)

1. Candidates for the degree of Doctor of Philosophy must hold the degree of B.A. with Honours, or B.Sc. with Honours, or B.S.A. with Honours, or M.D. with Honours from McGill University or its equivalent.

2. They must follow a course of at least three years' resident study at a University or other institution of higher learning or research. Of these three years, at least one year for graduates of McGill and two years for candidates who are not graduates of McGill, must be spent at this University, including preferably the final year. The other years may be spent at institutions approved by the Faculty. Special exceptions regarding resident study may be made with the consent of the proper Divisional Committee and the Faculty. The evaluation of work cone in other institutions for the degree shall be decided by the proper committee of the Division of the Faculty, and this committee may require the student to attend before them to report on his work, and may require him to pass a special examination on his work.

3. They must select one major subject. A minor subject may be selected, with the consent and approval of the Head of the Department in which the major subject is, subject to the advice and agreement of the Head of the Minor Department.

Courses leading to the degree of Doctor of Philosophy are offered in the following as major subjects :--

Bacteriology. Bio-chemistry. Botany. Chemistry. Economics and Political Science. Experimental Medicine. Geology. History. Oriental Languages. Pathology. Pharmacology. Physics. Physiology. Plant Pathology. Psychology. Zoology.

In special cases, Heads of Departments may be able to provide courses in other subjects which will lead to this degree. Candidates, therefore, desiring to proceed to the degree of Doctor of Philosophy in other Departments than those mentioned above should make direct application to the Faculty of Graduate Studies and Research, asking whether courses in such subjects can be provided.

4. The course of study which the candidate desires to follow must, before he enters upon it, have been submitted to the Heads of the several Departments concerned and to the Divisional Committee concerned, and have received their written approval.

5. Every candidate must satisfy the Faculty of Graduate Studies and Research that he has a reading knowledge of French and German.

The examination shall be set by the Department in which the candidate is taking his major; the passages chosen will be typical of the literature of his major subject. The Departments of Romance and Germanic Languages will act as examiners. The Departments concerned may conduct the examination if they so desire.

Candidates are advised to take one language at the commencement of their first year and the other at the commencement of the second year, but both language tests should be passed not later than one month before the preliminary Ph.D. examination.

6. The first two years shall include instruction, training and direction in his field of study, with the object of giving the candidate a knowledge of his particular subject and its relation to cognate branches of learning and of preparing him for independent investigation.

The candidate's preliminary examination shall be held at the end of the second year, or at a time selected by the Head of the Major Department. This examination shall cover all graduate work previously taken by the candidate, including his prescribed reading, and may also include any work fundamental thereto. The candidate must show that he possesses a good general knowledge of the whole science or branch

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of learning which he has selected as his major subject. The examination shall be both written and oral.

The result of this examination will determine whether the candidate will be allowed to proceed to his degree. The final year is to be devoted chiefly to the preparation of his thesis or dissertation.

After his thesis has been received and approved, a special and more searching oral examination on the subject of his dissertation and subjects more intimately related to it will constitute his final examination. This will be conducted in the presence of a committee of at least four of the Faculty of Graduate Studies.

7. The thesis for the Doctor's degree shall display original scholarship expressed in satisfactory literary form and be a distinct contribution to knowledge. The subject of this thesis must have been approved, in writing, by the Head of the Department in which the major subject lies, and also by the Faculty of Graduate Studies and Research, at least twelve months before the date of the final examination. If the candidate wishes to present himself for the degree at the Convocation in May, this thesis must be in the hands of the Dean of the Faculty of Graduate Studies and Research on or before April 28th. No thesis received after this date will be accepted.

Theses for the Fall Convocation must be in the hands of the Dean of the Faculty on or before September 3rd.

8. Three copies of the thesis must be provided by the candidate and delivered to the Dean of the Graduate Faculty at the dates mentioned in the former paragraph.

9. Special regulation regarding the Ph.D. Thesis in Economics, see page 455.

## REGULATIONS FOR THE DEGREE OF DOCTOR OF CIVIL LAW (D.C.L.)

Any person who has graduated as B.C.L. from McGill University may after seven years from such graduation proceed to the degree of Doctor of Civil Law, provided he has distinguished himself by eminent services in the domain of law, and provided he has written a thesis on a subject previously approved by the Faculty of Graduate Studies and Research, and that such thesis has been adjudged by that Faculty to be a valuable contribution to legal science. The candidate may, instead of a thesis, submit a published book or books dealing in a scientific way with some branch or branches of law. A very high standard is required for this degree, but it does not call for any resident graduate study in the University.

## REGULATIONS FOR THE DEGREE OF DOCTOR OF LITERATURE (D.Litt.)

Bachelors of Arts of McGill University who are graduates of at least seven years' standing, and who have distinguished themselves by special research and learning in the domain of arts and literature, may submit their published works to the Faculty of Graduate Studies and Research and apply for the degree of Doctor of Literature. A very high standard is required for this degree, but it does not call for any resident graduate study at the University. Graduates of other universities are not eligible for this degree.

## REGULATIONS FOR THE DEGREE OF DOCTOR OF SCIENCE (D.Sc.)

Bachelors of Arts, Bachelors of Science or Doctors of Medicine of McGill University who are graduates in one or other of these Faculties of at least seven years' standing and who have distinguished themselves by special research and learning in the domain of science, may submit their published works to the Faculty of Graduate Studies and Research and apply for the degree of Doctor of Science. A very high standard is required for this degree, but it does not call for any resident graduate study at the University. Graduates of other universities are not eligible for this degree.

## REGULATIONS FOR THE DEGREE OF DOCTOR OF MUSIC

Bachelors of Music of McGill University, after a lapse of a period of seven years from the time of taking the degree of Bachelor of Music, may proceed to the degree of Doctor of Music, the requirements for which are a composition in extended form, such as an oratorio, opera or cantata. This exercise must have as its first number an introductory orchestral movement in the form of a concert overture, must contain some eight-part writing and fugal treatment, and must be scored for a full orchestra. If preferred, a candidate may present a composition scored for full orchestra in the form of a symphony, symphonic poem or tone poem occupying no less than forty minutes in performance. The University may, if it elects to do so, order the candidate to give a public performance of this original and unaided composition, when approved by the examiners, in some public building connected with the University. In addition, an examination in the higher forms of composition shall be necessary, together with a critical knowledge of the full scores of certain prescribed work.

Graduates of other Universities can, on payment of the necessary fees, be admitted "ad eundem" to the Degree of Mus. Bac., if they

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#### REGULATIONS REGARDING THESES

wish to proceed to the further degree of Mus. Doc., provided they secure permission to do so from the executive of the Faculty of Graduate Studies and Research.

The period of seven years referred to above to be counted from the date on which they received the degree of Bachelor of Music from their own University.

Full particulars can be obtained from the Registrar of the University.

#### **REGULATIONS CONCERNING THESES**

In the case of students who wish to graduate at the Spring Convocation, all theses for the degree of Master of Arts, and for the degree of Master of Science, must be handed to the Dean of the Faculty of Graduate Studies and Research not later than April 29th. Theses for the degree of Ph.D. must be handed in on or before April 25th.

All theses for the degree of Master of Science which involve experimental work, as well as all theses for the degree of Master of Science in Agriculture, must be in the hands of the Dean not later than May 13th.

In the case of students who wish to graduate at the Fall Convocation, their theses must be in the hands of the Dean of the Faculty of Graduate Studies and Research not later than September 3rd.

Owing to the fact that all theses submitted by successful candidates for higher degrees will be bound and placed in the Library, candidates for such degrees are advised that the Faculty of Graduate Studies and Research will henceforth require these to be prepared in a uniform manner and in accordance with the following specifications:—

(1) The paper is to be of uniform size,  $8\frac{1}{2} \times 11$  inches, and of substantial quality.

(2) The left-hand margin is to have a uniform width of about  $1\frac{1}{2}$  inches. Drawings larger than the prescribed page should be folded in the manner most suitable for binding.

(3) All theses must be typewritten and in duplicate. Ph.D. Theses in triplicate.

(4) No binding is necessary, but the loose sheets must be placed in a manila envelope in the order of their pagination.

In the case of candidates presenting themselves for the degree of Doctor of Science, Doctor of Literature or Doctor of Civil Law, two copies of the book or books—or for the degree of Doctor of Civil Law, should a thesis be substituted, two typewritten copies of the thesis—must be submitted to the Dean of the Faculty of Graduate Studies and Research not later than *February 14th* of the year in which the candidate desires to take the degree.

#### INTERCHANGE OF STUDENT TEACHERS

An arrangement has been made between the National Committee for the Training of Teachers, Scotland, and McGill University, for the reciprocal exchange of student teachers.

The students coming to McGill will be Honour Graduates in Arts or Science and probably also in Education. They may make a special study of Education or may take up any course leading to the degree of M.A., M.Sc., or Ph.D. If they study for a higher degree, the period and conditions of study will be fixed by the Faculty of Graduate Studies and Research on the recommendation of the Head of the Department in which the work is to be carried on. They will be assisted for one year and possibly for two. Students who study Education will be called upon to furnish a detailed report on their work, in which case only one year's studentship will be allowed. Details of the teaching work will be arranged by the Dean of the School for Teachers.

Students going from McGill must be Bachelors of Arts, or Bachelors of Science in Arts, or Masters of Arts.

They will be assisted for one year and in special cases for two. The allowance will be \$1,200 per annum.

They will be expected either to study for a higher degree or tc make a detailed study of Scottish educational systems. In the latter case, only one year's studentship will be allowed.

A student teacher, holding an M.A. degree from McGill, may be able to obtain a Scottish Ph.D. in two years.

Applications must be sent to the Principal before May 1st. These must state:—(a) University qualifications; (b) Teaching experience; (c) Any general experience; (d) Whether the student proposes to study for a higher degree and, if so, for what degree and whether or not he requires one or two years' assistance.

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AGRONOMY

## COURSES OF GRADUATE STUDY

### DEPARTMENT OF AGRONOMY

## (Macdonald College)

ROBERT SUMMERBY :—Professor of Agronomy. ALEXANDER McTAGGART :—Assistant Professor of Agronomy. L. C. RAYMOND :—Assistant Professor of Agronomy. E. A. LODS :—Assistant Professor of Agronomy.

The Agronomy Department is well equipped in field and laboratory equipment for crop studies. plant breeding, and field experiments. A greenhouse is available for the study of plant material and for carrying on work in winter.

Apparatus is available for reducing samples of plant material to a dry matter basis on an extensive scale. Facilities are also available in the Chemistry Department for students in Agronomy to make chemical analyses.

Other material facilities include microscopes, germination equipment, calculation machines, etc.

A large part of the attention of the Agronomy Department is devoted to breeding and other investigational work with crop plants. This furnishes a large amount of data and material for work in crop and plant breeding studies. The Department is always well supplied with an abundance of laboratory material for the study of types, varieties, variation, correlations, inheritance, etc. Extensive data are available for the study of many problems in Soil Heterogeneity.

In the Redpath, Macdonald College, and Agronomy Department Libraries all the important periodicals, scientific journals, books and bulletins on Agronomy and related subjects, are available to students.

### Courses for the Degree of Master of Science in Agriculture

Candidates for the degree of Master of Science in Agriculture who take Agronomy as a major are expected to have had a good training in general Agronomy, Botany, Chemistry, and Genetics. Those who have not had adequate training in these subjects will be expected to meet this requirement.

1. Crop Production. This course deals with the important factors of soil productivity and crop growth, and the relation of these to methods and practices of crop production.

Two lectures and one laboratory period per week for one term.

Assistant Professor Raymond.

2. Crop Breeding. This course deals with variation, inheritance, genetic relations and their application to plant breeding. It forms the basis for the plant breeding work in Courses 4 and 5.

One lecture per week for one term.....Professor Summerby.

**3. Experimentation.** This course deals with the factors involved in Agronomic investigations, technique, statistical methods and their application to the interpretation of results.

One lecture and two laboratory periods per week for one term.

Professor Summerby.

4. Forage Crops. This course includes a study of classification, adaptation, production, uses, breeding, and the investigational work on these subjects.

(a) Hay and Pasture Crops. Assistant Professor McTaggart.

(b) Corn and Roots.....Assistant Professor Raymond. Two lectures and two laboratory periods per week for two terms.

5. Grain Crops. This course includes a study of classification, adaptation, production, uses, breeding, and the investigational work on these subjects.

Three lectures and three laboratory periods per week for one term. Assistant Professor Lods.

6. Seminar. Fortnightly, during the year.

It is recommended that candidates spend at least one summer in the Agronomy Department before or during the course.

Each student shall be required to pass an examination in each subject of his course.

In addition, each student shall be expected to pass an oral examination to test his ability and knowledge outside of his regular courses of study.

### DEPARTMENT OF ANATOMY

S. ERNEST WHITNALL:--Professor of Anatomy.

J. C. SIMPSON:—Associate Professor of Histology and Embryology. J. BEATTIE:—Assistant Professor of Anatomy.

The Department is equipped with the usual laboratory facilities and can offer ample material, including a series of anthropoid subjects and brains. The Museum is fully representative, with a range of animal skeletons and a comprehensive osteological collection. An X-ray apparatus is installed and photographic work is done in the same building. A small departmental library contains general and advanced textbooks with some works of reference; the Medical Library is on the

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#### ANATOMY

same floor. There is a departmental card index of over 10,000 references to anatomical articles. Private rooms are available for individual work.

#### Courses for the Degree of Master of Science

1. Advanced General Human Anatomy, in which teaching and examination experience can be obtained... Professor Whitnall and Staff.

## 2. Specialization in one of the following subjects:

(a) Embryology: a course on the development of the human embryo and its coverings together with Organogenesis.

Professor Simpson and Staff.

(b) Human Morphology: students will be expected to dissect at least three Primates, and to familiarize themselves with the recent work on Pleistocene Man; special attention is to be given to myological and neurological problems.

Professors Whitnall and Beattie.

- (c) Physical Anthropology: instruction will be given in the measurement of human and anthropoidal skeletons, with statistical treatment of the results.....Professor Beattie.
  - (d) Neurology: a course on human and comparative neurology, with experimental laboratory course.....Professor Beattie.

Candidates may also be recommended to study certain cognate ninor subjects (Biochemistry, Physiology, Vertebrate Zoology).

The whole course is designed to be of no value to either (1) those who propose to engage upon clinical professional work, such as Gynæcology and Obstetrics, when in addition to the General Course in Anatomy, they may well be advised to take the special work in Embryology, or, for prospective nerve specialists, that in Neurology, or (2) • those who wish to pursue broader scientific lines of work, when they may take the Course in Morphology or Anthropology.

Each of the above courses will comprise colloquia, reading and practical work. The candidate must show evidence of ability to engage in research work, and shall present a thesis on some subject connected with his course of study.

Candidates for the above courses must hold the degree of M.D. with good standing.

# DEPARTMENT OF BACTERIOLOGY (Macdonald College)

The Department of Bacteriology offers graduate courses in Soil Microbiology, Fathogenic Microbiology and Bacterial Diseases of

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Plants. These courses, together with certain others in Pathology and Bacteriology given in the Faculty of Medicine, may form the basis for major study leading to the degrees of Master of Science in Agriculture, Master of Science and Doctor of Philosophy.

Laboratories are provided for general work in Bacteriological Technique, Soil Research and Animal Pathology. There are greenhouse facilities for soil and bacterial plant disease problems. An autopsy room adjoins the animal house for animal operations and autopsies. Equipment for this work includes also bacteriological apparatus for research, a high powered centrifuge, filtering apparatus and a Zeiss photomicrographic outfit.

1. Soil Microbiology. This course deals with the physical, chemical and biological aspects of the subject, with special reference to the maintenance of soil fertility. Emphasis is laid upon methods employed in soil research, the rôle of organic matter in the soil, the decomposition and transformation processes taking place, and stimulative agencies at work which affect the physiological efficiency of soil micro-organisms.

One lecture and six laboratory hours per week for one year; six colloquia.

2. Pathogenic Microbiology. This course includes the systematic study of micro-organisms causing pathological conditions in animals, the clinical symptoms of disease, and therapeutic measures. The development of technique in laboratory diagnosis receives emphasis.

One lecture and six laboratory hours for one year; six colloquia.

3. Bacterial Diseases of Plants. The purpose of this course is to give the student training in advanced technique and methods. The work includes systematic studies of numerous species of bacteria which cause plant disease, the application of methods of isolation and inoculation to plant disease problems. Specific plant diseases prevalent in Canada and the Northern United States are investigated.

One lecture and six laboratory hours per week for one year; six colloquia.

### EXAMINATIONS

Students are expected to write a final examination on each of the subjects for which they register.

Prerequisites for students taking Bacteriology as their major sub ject are:—At least one course in general microbiology of a year's duration; chemistry (inorganic and organic) and physics. Advanced mathematics and more chemistry, particularly physical and physiological, are advised.

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#### **BIO-CHEMISTRY**

Students selecting soil bacteriology should have had previous courses in the physics and chemistry of soils and farm crops.

A preliminary course in histological studies and technique and work in hygienic or pathogenic bacteriology are expected of students taking pathogenic microbiology.

Requirements for the Degree of Doctor of Philosophy See page 67, under Pathology and Bacteriology.

## DEPARTMENT OF BIO-CHEMISTRY

# J. B. Collip:—Professor of Biochemistry. S. W. Bliss:—Associate Professor of Biochemistry.

The Biochemical Laboratories are especially equipped for research on endocrine problems, but ample facilities are also provided for research on problems of more general biochemical interest.

## Courses for the Degree of Master of Science

It is desirable that students entering for the M.Sc. in Biochemistry should have taken advanced courses in both Chemistry and Biology as undergraduates.

Candidates who desire to proceed to this degree must have a good knowledge of Chemistry (inorganic, organic and physical) and must have taken (or must take concurrently with the work for this degree) all the undergraduate work in Biochemistry.

Candidates who have satisfactorily completed the course in general Biochemistry as undergraduates may present themselves for examination for the M.Sc. degree in Biochemistry at the end of one year's graduate work in the department. All others will be expected to spend two years in the graduate school before going forward for the degree. The requirements for this degree will consist of :--

1. Candidate attaining a thorough knowledge of the subject matter of general Biochemistry.

2. Completion of some minor research.

3. Presentation of a thesis.

#### Requirements for the Degree of Doctor of Philosophy

The requirements for registration for the degree of Ph.D., with Biochemistry as the major subject, are the same as those for the M.Sc.

During the course of study, the candidate must attain to a high degree of proficiency in the subject, and in addition must undertake a

research problem, to the elucidation of which he will be expected to devote much time and energy. In the selection of the problem consideration will be given to the previous training and demonstrated ability of each candidate.

### DEPARTMENTS OF BOTANY

FRANCIS E. LLOYD:-Professor of Botany.

ALFRED H. GILBERT:—Professor of Plant Pathology (Macdonald College).

GEORGE W. SCARTH :- Associate Professor of Botany.

J. G. COULSON :- Assistant Professor of Plant Pathology (Macdonald College).

JOHN EMIL MACHACEK :- Lecturer in Plant Pathology.

#### Material Facilities for Graduate Study

Ordinary laboratory equipment and greenhouse space for practical work in plant physiology, histology and genetics. Special equipment for optical and photographic work (ultra-microscopes, ultra-violet and moving-picture outfits); bio-physical measurements (potentiometers, tensionometers, etc.), and for cell investigation (micro-manipulators, etc.). Museum, Herbarium and Library with standard books and journals in Botany and General Physiology.

Courses for the Degree of Master of Science

- 1. Comparative Morphology and Taxonomy.
- 2. Anatomy and the Microchemistry of cell walls. (Specially adapted as a minor for students of Cellulose Chemistry and Technology.)
- 3. Physiology and Ecology. Repetitive studies.
- 4. Cytology and Cellular Physiology. (A suitable minor for students specializing in Physiology, Biochemistry, etc.)

### Major Subject

1. A candidate taking Botany as a major subject shall display a general knowledge of Botany well in advance of the standard required for a B.A. or B.Sc. degree (continuation course). He must also possess a knowledge of the history of Botany as contained in Sach's and Rey-

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#### BOTANY

nolds Green's text-books and an adequate acquaintance with any subject outside of Botany which may be prerequisite to the following.

2. The candidate shall show special knowledge of, and shall satisfy the laboratory requirements in, at least *two* of the *lines of study* mentioned above.

## Minor Subject

A candidate taking Botany as a minor subject shall possess as a prerequisite sufficient knowledge of Botany and other subjects to enable him to specialize in *one* of the *lines of study*, and in that line, shall satisfy the same requirements as for a major.

Each line of study demands about 6 hrs. laboratory work per week, in addition to prescribed reading and attendance at instructional courses.

## Requirements for the Degree of Doctor of Philosophy

A deeper knowledge of one of the above lines of study; reading and abstracting of original papers; and an intimate acquaintance with the particular field treated in the candidate's thesis. Instruction is given mainly by way of conference and direction of study.

## Research

The most important requirement over and above those of the M.Sc. is the accomplishment of a piece of research requiring originality and initiative.

The following courses are given in Plant Pathology at Macdonald College, leading to the degrees of M.S.A. and M.Sc.

The Departmental laboratories of plant pathology, plant physiology and histology, as well as a small research laboratory, are available for the use of graduate students. Greenhouse facilities are also provided.

The Department has a considerable number of the more specialized works and periodicals concerning plant pathology.

The Graduate work given in this Department is in the field of plant pathology and mycology.

Candidates must have completed satisfactory undergraduate courses in plant morphology, physiology, taxonomy, histology and cytology. Specialists in plant pathology should possess a general knowledge of the fundamental practices in agronomy and horticulture.

15. History of Plant Pathology. One lecture per week for one term. Extra reading required......Professor Gilbert.

16. Advanced Mycology. Two lectures and two laboratory periods per week for two terms. This course, requiring as a prerequisite a general course in systematic mycology, offers special work in the morphology and taxonomy of the fungi.....Dr. Machacek.

17. Advanced Plant Pathology. Detailed studies of plant diseases; culture and inoculation work; field and greenhouse tests in con-

trol measures, etc. Two lectures and two laboratory periods per week for two terms.....Professor Gilbert and Assistant Professor Coulson.

18. Physiology of the Fungi. Nutrient requirements; carbon sources in nutrition; nitrogen fixation; enzymes in nutrition; H-ion concentration; temperature, light and moisture conditions; chemotropism; phototropism; staling; spore germination conditions; biologic specialization; physiology of parasitism; symbiosis. Two lectures and two laboratory periods per week for one term. Assistant Professor Coulson.

19. Phytopathological Histology. A study of abnormal plant structures caused by myxomycetes, fungi, bacteria, insects, etc.; preparation of slides, photomicrographs, etc. One lecture and two laboratory periods per week for one term.....Assistant Professor Coulson.

21. Seminar. A course entailing reading, discussion, appreciation and criticism of research articles, monographs, etc., in the field of general botany, physiology, cytology, histology, morphology, ecology, taxonomy, genetics, mycology, pathology. Attention will be more especially directed to such articles as have application in plant pathology or mycology. One period per week.....

Professors Gilbert and Coulson and Dr. Machacek Candidates for the degree of M.S.A. in Plant Pathology will be required to take courses 15, 21 and two others of the graduate courses offered in this Department.

A candidate for the degree of Doctor of Philosophy may take two years at Macdonald College and one at another University.

### DEPARTMENTS OF CHEMISTRY

F. M. G. JOHNSON:—Professor of Inorganic Chemistry and Acting Director of the Chemistry Department.

J. F. SNELL:—Professor of Chemistry (Macdonald College). Otto MAASS:—Professor of Physical Chemistry

G. S. WHITBY :- Professor of Organic Chemistry.

HAROLD HIBBERT:-E. B. Eddy Professor of Industrial and Cellulose Chemistry.

W. H. HATCHER:-Assistant Professor of Chemistry.

J. B. MCCARTHY:-Assistant Professor.

E. W. R. STEACIE:-Lecturer.

R. R. McKibbin :—Lecturer.

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### CHEMISTRY

Facilities for Graduate work are available in Organic, Inorganic, Physical, Colloid and Cellulose Chemistry. In each of these branches a variety of research problems is offered for which equipment and laboratory facilities are ample. Accommodation is available for about forty students.

The Baillie Library of Chemistry is well endowed and exceptionally complete.

Courses for Higher Degrees

## 1. Advanced Organic.

2 hrs. per week.....Dr. Whitby. Chemistry of more complicated reactions and classes of organic substances.

## 2. Advanced Organic.

1 hr. per week.....Dr. Hibbert. General principles and recent developments.

## 3. Advanced Inorganic.

1 hr. per week.....Dr. Johnson. The Periodic System, modern theories of valence and atomic structure.

## 4. Advanced Inorganic.

1 hr. per week.....Dr. Johnson. Tutorial covering properties of the elements and their compounds.

### 5. Advanced Physical.

3	hrs.	per	week																					D.D	)r.	Maass.
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(a)	Properties of Matter - dis-					
	cussed from the kinetic point					
	of view	2 hrs.	per	week,	1st	term.
(b)	Physico-chemical Equilibria.					

- From point of view of time factor and thermodynamics... 2 hrs. per week, 2nd term.
- (c) Phase Rule..... 1 hr. " " 1st "
- (d) Atomic Structure and Radioactivity ..... 1 hr. " " 2nd "

Any or all of these sub-divisions, as well as a course in theoretical calculations may be required.

## 6. Colloid Chemistry.

2 hrs. per week.....Dr. Johnson. Laboratory courses are available in all of the above when required.

## 7. History of Chemistry.

1 hr. per week, 2nd term.....Dr. Hatcher. The above courses are available for Honours students in Arts and students in Chemical Engineering.

- Short Courses on Recent Advances.
   1 hr. per week......Senior Staff. (Subjects change annually.)
- Colloquium—Organic.
   2 hrs. per week.....Drs. Whitby, Hibbert and Hatcher.
- Colloquium—Inorganic and Physical.
   2 hrs. per week.....Drs. Johnson and Maass.
- 11. Cellulose, Lignin and Related Compounds. 1 hr. per week.....Dr. Hibbert

Graduate students are expected to attend the weekly meetings of the Chemical and Physical Societies.

## Courses for the Degree of Master of Science

- I. Students shall be required to take examinations in (a) Organic, (b) Inorganic, (c) Physical, (d) Colloid Chemistry and other assigned courses, if any. Students are expected to have covered the subject matter of at least two of the above courses on entrance to the Faculty.
- II. Colloquium-one per week.

Students are required to present and discuss in an acceptable manner papers dealing with fundamental and recent work.

III. Special Graduate Lectures.

Students shall be required to pass examinations on the subject matter of such lectures related to their particular work.

Requirements for the Degree of Doctor of Philosophy

- I. The research work in this Department may be conveniently considered under four heads:--
  - (a) Organic Chemistry.
  - (b) Inorganic
  - (c) Physical
    - (d) Colloid

One of these (under which the research falls) shall be designated the "principal subject" and each of the others a "secondary subject."

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## CHEMISTRY

Graduate students shall be required to take examinations in both "principal" and "secondary" subjects.

Principal Subject:—Several examinations, both written and oral, shall be held. Students shall be responsible for the subject matter of all related lecture courses and assigned reading. Special courses given in other Departments may be assigned and examinations required.

Secondary Subjects:—The examinations shall be less rigorous than in the principal subject. The subject matter is more clearly defined and may include suitable lecture courses or texts, or both.

II. Colloquium—one per week each year in the principal subject. Students are required to present and discuss in an acceptable manner papers dealing with fundamental and recent work.

# DEPARTMENT OF AGRICULTURAL CHEMISTRY (Macdonald College)

In addition to four student laboratories there are three research laboratories and space for the equipment of additional rooms, when required. A good supply of ordinary apparatus and chemicals is kept in stock. Special apparatus and instruments include a Schmidt and Haensch polarimeter, Abbe refractometer, Zeiss immersion refractometer with replaceable prisms, Chamot chemical microscope, Klett colorimeter, Van Slyke amino nitrogen apparatus, Van Slyke blood gas apparatus, Parr carbon apparatus, DeKhotinsky drying and vacuum ovens, electric muffle and combustion furnaces, etc.

There is a comprehensive library of agricultural books and periodicals. The resources of the University libraries and of the library of the Department of Agriculture and that of the National Research Council at Ottawa are readily accessible, and the courteous co-operation of other Canadian and American libraries can be counted upon in connection with research work.

# COURSES FOR THE DEGREE OF MASTER OF SCIENCE

*Prerequisites:*—Courses in Inorganic, Organic and Analytical Chemistry; training in Qualitative and Quantitative Analysis; courses in Physics.

 Chemistry of Soils and Fertilizers. Two lectures a week during the Spring term in alternate years. Given in 1929-30. Laboratory work in analysis of soils and fertilizers. Hours for Graduates variable. Supplementary reading.....

Dr. R. R. McKibbin.

 General Biochemistry. Two lectures a week during the Spring term in alternate years. Supplementary reading. Laboratory work. Hours for Graduates variable. Given in 1930-31. Dr. R. R. McKibbin.

\*3. Chemistry of Insecticides and Fungicides. Discussion of the composition of commercial insecticides and fungicides and of the chemical changes involved in the preparation of spraying mixtures; also of the methods of analysis of such materials with reference to the chemical principles involved. Three lectures a week during the Spring term. Laboratory work. Hours for Graduates variable. Given in 1930-31.....Dr. J. F. Snell.

\*4. Dairy Chemistry. Two lectures a week during the Fall term. Laboratory practice in the analysis of milk and its products. Hours for Graduates variable.....Dr. J. F. Snell.

- \*5. Food Chemistry. Two lectures a week during the Spring term. Laboratory practice in food analysis. Hours for Graduates variable......Dr. J. F. Snell.
- 6. Tutorial in Physical Chemistry. Reports and discussions on assigned readings. One hour a week...Dr. J. B. McCarthy.
- 7. Tutorial in Organic Chemistry. Reports and discussion on assigned readings. One hour a week for one term.

Dr. J. F. Snell.

- Tutorial in Colloid Chemistry. Reports and discussion on assigned readings. One hour per week for one term. Dr. J. F. Snell.
- \*9. Seminar. One hour per week in all years of the course. Each student will present at least three papers a year.

Dr. Snell, Dr. McKibbin and Dr. McCarthy.

10. Research. Supervision of reading and experimental work in connection with thesis.

Dr. Snell, Dr. McKibbin and Dr. McCarthy.

Special arrangements may be made for the Ph.D. in association with the McGill Department of Chemistry. Agricultural Chemistry will be regarded as the principal subject, and the other departments mentioned in Paragraph 1. (Requirements for the Degree of Ph.D.) as secondary subjects.

Candidates must qualify in the equivalent of at least four lecture/ hours of the above subjects in addition to participating in the Seminar.

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Part Parts

<sup>\*</sup> These courses are also open to advanced undergraduates.

#### CIVIL ENGINEERING AND APPLIED MECHANICS

## DEPARTMENT OF CIVIL ENGINEERING AND APPLIED MECHANICS

HENRY MARTYN MACKAY:—Professor of Civil Engineering. ERNEST BROWN:—Professor of Applied Mechanics and Hydraulics. R. DE L. FRENCH:—Professor of Highway and Municipal Engineering. R. E. JAMIESON:—Assistant Professor of Civil Engineering.

Excellent laboratory facilities are provided for work in the strength and elasticity of materials, structural elements, highway materials and hydraulics. The materials laboratories have exceptionally useful extensometer equipment for work in stress distribution.

## Courses for the Degree of Master of Science

1. Statically Indeterminate Stresses.—General methods of stress analysis, influence lines, applications to braced arches, rectangular frameworks, etc.; theory of riveted joints; columns with lateral and intermediate loads, etc.

One term, 2 hrs. tutorial, and 6 hrs. computation and reports.

### Assistant Professor Jamieson.

2. Technical Elasticity.—The general equations of elasticity with various applications (special attention being paid to approximate numerical solutions); strength of flat plates, etc.; torsion of thin tubes and prisms of non-circular section; the determination of stress distribution by means of polarized light; elastic stability; vibration of structures.

One term, 2 hrs. tutorial, and 6 hrs. computation and reports.

3. Secondary Stresses.—Secondary stresses due to rigidity of joints, deflection of floor beams, eccentric connections, latticing, etc.; critical discussion of specifications for structural members in the light of tests.

One term, 2 hrs. tutorial, and 6 hrs. computation and reports.

Professor MacKay.

4. Reinforced Concrete Arches (Advanced).—Preliminary design, development of influence lines, unsymmetrical arches, elastic piers, economics of concrete arches, etc.

One term, one hour tutorial, and 6 hrs. computation and reports. Professor MacKay.

5. Hydraulics.—General principles of hydrology in relation to power development; steam gauging and use of records; flow in streams and in open channels; back-water computations; dams and spillways; the principles of hydraulics as applied to modern turbines; general trend of turbine development; turbine testing and characteristics; special

problems such as pressure surges in conduits; general consideration of water-power plants, including the study of plants in operation; turbine testing and experimental work in hydraulic laboratory.

One hour tutorial, and 6 hrs. computation and reports throughout the session.....Professor Brown.

6. Highway Engineering.—A. Highways; history of development; finance, legislation and administration; traffic; economics of design, construction and maintenance; safety provisions. B. Highway Transportation; history; relation to other forms of transportation; economics of motor transportation; regulation; traffic control.

Session, 4 hours tutorial, and 12 hours computation and reports. Professors French and McKergow and Staff. Special lectures from

time to time.

Candidates for the M.Sc. degree will be expected to take at least two and generally three courses in addition to thesis work. Written examinations which may be supplemented by oral examinations will be held in each course. A high standard of attainment will be required.

#### DEPARTMENT OF CLASSICS

WILLIAM D. WOODHEAD:-Hiram Mills Professor of Classics.

C. H. CARRUTHERS :- Associate Professor of Classics and Lecturer in Comparative Philology.

C. W. STANLEY :- Professor of Greek.

A. M. THOMPSON :- Associate Professor of Classics.

Courses for the Degree of Master of Arts

Greek 1: Aeschylus, Oresteia.

The three tragedies will be read, with careful attention to points of textual criticism, interpretation, etc. 2 hrs. Colloquia......Professor Woodhead.

Greek 2: Economic Backgrounds of Greek History.

A knowledge of Mediterranean geography and of Greek history is a prerequisite. The student will be expected to read for himself passages in Greek literature to which he is referred, and to interest himself in some of the archæological evidence.

2 hrs. Colloquia......Professor Stanley.

Greek 3: Pindar.

A selection of the Odes will be read, with parallels from Bacchylides and other authors.

2 hrs. Colloquia......Professor Woodhead.

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#### CLASSICS

Greek 4: Greek Political Theory, with special attention to the Greek conception of Law.
Selected passages from Herodotus, Thucydides, Attic Tragedy will be read, and longer selections from the Republic and Laws of Plato, and from the Politics of Aristotle.
2 hrs. Colloquia......Professor Stanley.

Latin 1: Vergil, Aeneid.

Some books of the Aeneid will be read and lectures given on topics connected with the study of the poem. 3 hrs.....Professor Thompson.

Latin 2: Lucretius.

A knowledge of the six books will be required, though not all of the work will be read in class. The poem will be examined primarily as a piece of Latin literature; Greek philosophy and science will be subsidiary considerations.

2 hrs. Colloquia.....Professor Stanley.

Latin 3: Roman Satire.

Lectures on the development of Satura as a form of literature. The Apocolocyntosis, the Satires of Persius, and some of the Satires of Horace and Juvenal will be read.

2 hrs. Colloquia.....Professor Thompson.

Latin 4: Roman Literary Criticism.

An examination of the literary judgments passed by the Romans. The Ars Poetica, part of Quintilian's tenth book, the Dialogus of Tacitus, and some chapters of Aulus Gellius will be read.

2 hrs. Colloquia......Professor Thompson.

Latin 5: Propertius.

A study of Hellenistic influences in Roman literature. Selections from the Appendix Vergiliana and from Catullus will be read as well as the Elegies of Propertius.

2 hrs. Colloquia.....Professor Woodhead

Latin 6: Petronius and Apuleius.

The Cena Trimalchionis will be read, and selections from the Metamorphoses of Apuleius. 2 hrs. Colloquia.....Professor Woodhead

Latin 7: History of the Epigram.

A study of the origins of the Epigram, its development by Classical and Hellenistic Greek poets, and its place in Latin literature. Epigrams in the Poetæ Latini Minores will be studied, and selected poems of Catullus and Martial. Essays to be presented on special topics.

2 hrs. Colloquia......Professor Carruthers.

### Courses in Comparative Philology

ASSOCIATE PROFESSOR C. H. CARRUTHERS :- Lecturer.

## 1. Introduction to the Study of Language.

For students of Classical or Modern languages. Language as a human institution; relation to thought; theories of origin; value of linguistics as a science; historical method and principles of development; changes in sound, form and meaning; language, structure; writing and spelling in relation to speech; language and nationality; language families, with special reference to the distribution of the Indo-European languages.

## 2. Latin Historical Grammar.

The historical development is exemplified by a study of early inscriptions.

## 3. Greek Historical Grammar.

The historical development is exemplified by a study of certain Greek dialect inscriptions.

## 4. Comparative Grammar of Greek and Latin.

An outline of courses 2 and 3, primarily for Honour students in Classics.

### 5. Elementary Sanskrit.

Introduction to Sanskrit inflexions and texts, and comparison with Greek and Latin forms.

## DEPARTMENT OF ECONOMICS AND POLITICAL SCIENCE

STEPHEN LEACOCK :- Professor of Political Economy.

JOSEPH CLARENCE HEMMEON:—Associate Professor of Economics and Political Science.

JOHN PERCIVAL DAY :- Associate Professor of Economics. JOHN COLBORNE FARTHING :- Assistant Professor of Economics.

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#### ECONOMICS AND POLITICAL SCIENCE

	Courses for the Degree of Master of Arts
*1.	Social and Industrial Legislation. 3 hrsAssistant Professor Farthing
*2.	Great Britain: Economic and Fiscal Problems. 3 hrsAssociate Professor Day
*3.	Transportation. 3 hrsAssistant Professor Goforth.
*4.	Economic Geography of the Pacific. 3 hrs. First term. Monday, Wednesday, Friday, at 2. Assistant Professor Goforth.
*Po	litical Relations of Pacific Countries. 3 hrs. Second term. Monday, Wednesday, Friday, at 2. Assistant Professor Goforth
*6.	Financial and Monetary Systems of Pacific Countries. 3 hrs. Second termAssociate Professor Day
7.	Development of Public Policy in Canada, 1867-1897. Par- liamentary Debates and Contemporary Documents. 3 hrs. in 1st termProfessor Leacock.
8.	Development of Public Policy in Canada, 1897-1914. Par- liamentary Debates and Contemporary Documents. 3 hrs. in 2nd termProfessor Hemmeon.
9.	Graduate Seminar. (Conferences with individual students on thesis work.) 1 hour.

The work in the Department is carried out with special reference to the study of the economic and political problems of Canada.

No students are admitted except those who have taken an Honour B.A. degree in the Department or who have completed elsewhere a course accepted by the Department as equivalent to that standing.

Students who obtain the B.Com. degree under the four years' regulation and have elected all the options in Commerce for Economics courses may proceed to the degree of M.A. in Economics. Such students are required to pass the First Year Latin of the Faculty of Arts.

## Course for the Degree of Doctor of Philosophy

\* These courses are also open to undergraduates.

1. Qualifications for entrance on study to be that now obtaining for admission to graduate study in Economics and Political Science.

2. First year of study:—The M.A. course and successful candidacy for the M.A. degree; the thesis subject for M.A. to be continued for the Ph.D. degree.

3. Second year:—An approved course of study at a University outside of Canada in continuance of the work on the thesis subject already selected.

4. Third year:—Resident study at McGill under the general supervision of the Department, with no fixed hours or fixed units, the work to bear on the thesis subject, and to include the preparation and printing *in book form* of the thesis, such thesis to represent a genuine and useful contribution to the literature of Economics and Political Science, as concerning especially the British Empire.

5. The order of study of the Second and Third year may be reversed.

6. The holder of a position on the Staff of McGill may count his years in such a position as equal to resident study in the ratio of two teaching years to one of study.

### DEPARTMENT OF ELECTRICAL ENGINEERING

CLARENCE V. CHRISTIE:-Professor of Electrical Engincering.

## E. G. BURR :- Assistant Professor.

## G. A. WALLACE :- Assistant Professor.

This Department is well equipped in its various laboratories to carry out the course work listed below. There are adequate library facilities in the Departmental library, supplemented by the library of the Department of Physics.

## Courses for the Degree of Master of Science

1. Advanced Mathematics.-Lectures and study under the direction of the Department of Mathematics.

Lectures, 2 hrs.....Dr. Sullivan.

2. Electrical Physics.--Lecture and study under the direction of the Department of Physics.

Lectures, 2 hrs.....Dr. L. V. King and Dr. D. A. Keys.

## 3. Electrotechnics.

Colloquium, 2 hrs. The thesis will be in one of the following fields of investigation:--

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#### ELECTRICAL ENGINEERING

- (a) Design, characteristics and testing of electrical machinery; investigation of special machinery; special problems of design......Professor C. V. Christie.
- (b) Properties of dielectrics and electric insulators; laboratory instruction and experimental investigation, with facilities for high voltage testing. Professor C. V. Christie.
- (c) Design, characteristics and testing of electrical engineering measuring instruments and devices. Facilities are available for precision measurements of most of the electrical quantities. Laboratory investigation of new types of measuring instruments and development of special devices. Professor G. A. Wallace
- (d) Investigation of devices for protection of electrical power systems; laboratory testing of relays and other devices; development of special types......Professor E. G. Burr.
- (e) Stability of electric power systems. Stability under normal and transient conditions. Determination of short circuit currents. Design of generators and excitation systems for maximum stability.

Professor C. V. Christie and Professor E. G. Burr.

(f) Inductive co-ordination of power and signal systems.

Professor C. V. Christie and Professor G. A. Wallace.

The student, in addition to passing the examinations in the courses in Mathematics and Physics, and presenting a suitable thesis, is required to solve a group of problems bearing on the subject of his thesis, to read and master a selected group of papers from the engineering literature treating on his chosen subject, and to pass an examination in the general subject.

## DEPARTMENT OF ENGLISH

CYRUS MACMILLAN:—Professor of English. GEORGE W. LATHAM:— HAROLD G. FILES:— A. S. NOAD:—Assistant Professor of English.

### Courses for the Degree of Master of Arts

2. The English and Scottish Popular Ballads, with some attention to Canadian Folk-songs and Folk-tales and their relation to those of Europe. Lectures and theses. (Omitted 1929-1930.)

2 hrs. .....Professor Macmillan.

3. Chaucer. Investigation of special topics and preparation of papers by members of the class.

Prerequisite:-English 14 (in the undergraduate course).

2 hrs. .....Associate Professor Latham.

- \*5. Spencer and Milton. 3 hrs. in first term; Tu., Th., Sat., at 12.....

Associate Professor Latham.

- \*6. Shakespeare (Six Plays). 3 hrs.; Mon., Wed., Fri., at 10.....Professor Macmillan.
- **\*9. English Poetry of the Nineteenth Century.** A study of the beginnings of the Romantic Movement in England and a detailed consideration of the work of the chief English poets from Wordsworth to the present time.

3 hrs.; Mon., Wed., Fri., at 11.....

Professor Macmillan, Assistant Professor Noad, and an Assistant.

- English Novelists, from Richardson to the present time.
   3 hrs.; Tu., Th., Sat., at 10.....Assistant Professor Files.
- \*11. The English Drama, 1590-1642. (Omitted 1929-1930.) 3 hrs.; Mon., Wed., Fri., at 11..... Professor Macmillan and Assistant Professor Files.
- \*12. Anglo-Saxon; Anglo-Saxon Poetry and Introduction to English Philology.

3 hrs., 2nd term; Mon., Wed., Fri., at 2.....

Associate Professor Latham.

\*Courses marked with an asterisk are undergraduate Honour courses in the Faculty of Arts, which may also be followed by graduate students who have not already taken them.

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#### ENGLISH

\*13. The Technique of the Drama. Play production; scenic and lighting effects; play structure, etc.

Lectures and demonstrations in the Moyse Hall, Tu., at 10 a.m. Laboratory hours to be arranged.....

Professor Macmillan, Miss Gray and Assistants.

## \*14. Chaucer.

3 hrs. in 2nd term; Tu., Th., Sat., at 12.....

Associate Professor Latham.

## \*16. Comparative Literature.

The Influence of English Literature upon the Continent of Europe in the 18th and 19th Centuries.

3 hrs., 2nd term ......Assistant Professor Noad.

## \*17. Comparative Literature.

A study of some literary types from the Renaissance to the present day, with particular reference to the influence of Continental Literatures upon English.

3 hrs., 1st term; Tu., Th., Sat., at 9.....

Assistant Professor Noad.

Omitted in 1928-1929.

## 18. Memoirs and Memoir Writers.

A discussion of outstanding works in this class from St. Augustine to the early 19th century.

2 hrs. .....Assistant Professor Noad.

## 20. Middle English. Language and Literature.

3 hrs. .....Associate Professor Latham.

22. Mystical and Other Religious Literature in England During the Later Seventeenth and the Eighteenth Centuries. An investigation into the earlier phases of the conflict between ; rationalism and mysticism, with especial emphasis on the influence of Jacob Boehme in England.

2 hrs. .....Assistant Professor Files.

23. Literary Criticism. English 23 devotes some time to types and methods of criticism, but is for the most part concerned with the history and analysis of leading critical thought in the West, from Plato until the present time.

2 hrs. .....Assistant Professor Files.

<sup>\*</sup> Courses marked with an asterisk are undergraduate Honour courses in the Faculty of Arts, which may also be followed by graduate students who have not already taken them.

24. Shakespeare. A study of special topics; Shakespeare's debt to his own and earlier times, and his growth as a poet and dramatist.

2 hrs. .....Professor Macmillan.

Candidates for the degree of M.A., taking English as their only subject, must select four courses, of which two must be from Nos. 1 to 4 (inclusive) and 18 to 24, while No. 12, or its equivalent, is compulsory.

## DEPARTMENT OF ENTOMOLOGY (Macdonald College)

## W. H. BRITTAIN: — Professor of Entomology. E. M. DU PORTE: — Assistant Professor of Entomology.

The Department of Entomology contains the usual equipment for laboratory work, including the following collections: (1) a growing systematic collection of mounted insects, (2) a collection of economic insects in all stages with samples of the injury caused by these insects, (3) a large collection of named and unnamed, mostly local insects, for the use of students in morphology and taxonomy. Examples of various types of dusting and spraying machinery are available for study in the departments of Agricultural Engineering and Horticulture. The laboratories are well equipped and one large well-lighted laboratory is set apart for the use of advanced students in entomology. A greenhouse and insectary are available for life-history studies. A laboratory for the study of problems in insect physiology and physiological ecology is projected and some of the equipment is already available.

The College Library contains an entomological section. There is a departmental library consisting chiefly of works on economic entomology, including a set of experimental station bulletins. The private libraries of the members of the staff, containing many items not available in the general and departmental libraries, are open to advanced students.

In addition there is a large collection of insects and books available through the Lyman bequest and housed in the Redpath Museum. To these also advanced students have access, as well as to the Blacker Zoological Library housed in the Redpath Library Building.

## Courses for the Degree of Master of Science and Master of Science in Agriculture

## 1. Taxonomy.

Literature of entomology; how to make and use indices, catalogues, check-lists, bibliographies, etc.; zoological nomenclature; history of entomological systems; classification and the principles of classification.

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#### ENTOMOLOGY

Each student shall bring to the class a collection of the group of insects on which he desires to work, and may devote the greater portion of his time to a study of this group.

Four laboratory hours a week, supplemented with lectures and colloquia ......Dr. Du Forte.

### 2. Insect Morphology and Physiology.

A comparative study of insect morphology, development and phylogeny; the histology and physiology of organs; research on assigned topics.

One lecture, one colloquium, and four hours laboratory per week. Dr. Du Porte.

## 3. Economic Entomology.

(a) Principles of Insect Control.

This course includes a consideration of the principles underlying the control of crop-destroying insects, including:

- (1) the principal natural control factors and their artificial manipulation.
- (2) the methods employed in destroying insects by cultural, mechanical and chemical means, and
- (3) a study of plant quarantine legislation in various parts of the world.

One lecture and one colloquium per week for one term.

(b) Organization and Methods in Economic Entomology.

A study of the history and development of economic entomology throughout the world; the methods used in economic entomological research; the preparations of technical and popular treatises on economic entomology.

One lecture and one colloquium per week for one term.

## (e) The Insect Pests of Crops.

A laboratory study of the main groups of crop-destroying insects, including their biologies, life histories and control, examples being taken from representatives of the chief economic crops of the world, with special emphasis upon local fauna.

Four laboratory hours per week throughout the year...Dr. Brittain. 4. Parasitology.

Deals with the morphology, classification, biology and pathogenesis of the three great parasitic groups: Protozoa, Helminthes and Arthropoda; laboratory diagnosis. Consideration of control directed chiefly to preventive measures, but curative methods also discussed.

Two lectures, three laboratory hours per week.....Dr. Du Porte.

## 5. Medical and Veterinary Entomology.

A study of insects and other arthropods concerned in the causation of disease in man and domestic animals. The biology and habits of the hosts in relation to disease transmission by insects. Epidemiology of insect-borne diseases. Entomological aspects of sanitation in cities, towns, farming communities and military camps.

Two lectures, three laboratory hours per week for one term.

Dr. Du Porte.

### 6. Ecology.

With special reference to insects. Physical, chemical and biotic factors in the environment and the adjustment of organisms to these factors.

Inter-relations between animals and between animals and plants. Physiological life histories.

Behaviour.

Synecology-genetic and geographic.

Two lectures a week, first term.....Dr. Du Porte.

7. Seminar. 1½ hours weekly...Dr. Brittain and Dr. Du Porte. Courses offered by the Department of Zoology may also be taken.

A candidate for the degree of Doctor of Philosophy may take two years at Macdonald College, and one at another University.

Candidates who have taken the equivalent of the undergraduate courses in Entomology (see Macdonald College announcement) may complete the work for the degree of Master of Science in one year; otherwise at least two years will be required.

### DEPARTMENT OF EXPERIMENTAL MEDICINE

## MEMBER OF THE FACULTY

## J. C. MEAKINS:—Professor of Medicine and Director of the University Clinic.

Candidates for the higher degrees must present evidence of suitable preparation in chemistry, physiology, and pathology, and must have completed the undergraduate course for the degree of Doctor of Medicine.

Courses for the Degree of Master of Science

1. Tutorial Classes. 2 hrs. weekly.

2. Seminar. 1 hr. weekly.

All candidates for this degree must devote all the remainder of their time to experimental research, the accomplishment of which, as embodied in their thesis, will be the main consideration in recommending them for this degree.

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### Requirements for the Degree of Doctor of Philosophy

The above courses are continued throughout all years of graduate study and the experimental research must be of a fundamental and far-reaching character.

### DEPARTMENT OF GEOLOGY AND MINERALOGY

JOHN J. O'NEILL:—Professor of Geology. RICHARD P. D. GRAHAM:—Professor of Mineralogy. T. H. CLARK:—Professor of Palæontology.

Courses for the Degree of Master of Science

Students must take Courses 1 to 7, inclusive.

- 1. General Geology.—As in "Text Book of Geology," by Pirsson and Schuchert, vols. 1 and 2. To be read by students, with occasional colloquia.....Professor O'Neill.
- 2. Geological Colloquium.—Papers on a great variety of geological topics are assigned to students for review and concise presentation as a preface to general discussion. Each year, this course must be taken by all graduate students in Geology. 1 hr. per week.
- Ore Deposits.—As in "Mineral Deposits," by Lindgren; "Economic Aspects of Geology," by Leith; and "Principles of Economic Geology," by Emmons. Colloquium, 4 hrs. per week......Professor O'Neill.
- 4. Optical Mineralogy.—Methods of determining the various optical properties of minerals. Optical chapters in Miers' "Mineralogy" and Dana's "Text-Book of Mineralogy"; Tutton's "Crystallography and Practical Crystal Measurement."

1 lecture and 1 laboratory period per week during the first term. Professor Graham.

5. Petrography.—As in "Petrology for Students," by Harker, and "Essentials for the Microscopical Determination of Rockforming Minerals and Rocks," by Johannsen.

At least 9 hrs. laboratory per week.....

Professors Graham and O'Neill.

# 6. Palæontology.-

2 hrs. lectures and 1 laboratory period per week...

Professor Clark.

7. Physiography and Natural Resources of Canada.—This course must be taken by those who have not taken it in Fourth Year Arts.

2 lectures per week.....Professor O'Neill.

Students who have completed undergraduate courses in general geology, mineralogy, determinative mineralogy, petrography, Canadian geology, historical geology, and ore deposits and economic geology, or their equivalents, may expect to complete their M.Sc. course in one year; otherwise two years are necessary for the degree.

# DEPARTMENT OF GERMANIC LANGUAGES AND LITERATURES

H. WALTER: - Professor of Germanic Languages and Literatures.

W. L. GRAFF: - Assistant Professor of German.

G. W. LATHAM :- Associate Projessor of English.

Courses for the Degree of Master of Arts

	Gœthe. 1 hrProfessor G	fraff.
2.	Geschichte des deutschen Romans. 1 hrProfessor G	iraff.
3.	Hebbels Dramen.	

- 1 hr. .....Professor Walter.
- 4. Gothic and Introduction to Germanic Philology. 1 hr. .....Professor Latham.

Candidates who have not taken German Philology and Mediæval Texts in their undergraduate course must take it as part of their M.A. course, except when German is taken as a minor.

## DEPARTMENT OF HISTORY

W. T. WAUGH :- Professor of History.

C. E. FRYER :- Professor of History.

E. R. ADAIR: - Associate Professor of History.

# Courses for the Degree of Master of Arts

(Omitted in 1929-30.)

- 1. Historical Method and Criticism. Seminar, 1 hr. .....Professors Waugh, Fryer and Adair.
- 2. The Early History of the English Parliament. Seminar, 1 hr. .....Professor Waugh.

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#### HISTORY AND MATHEMATICS

3.	Joan of Arc and Her Times. Seminar, 1 hrProfessor W	augh.
4.	The Reign of Charles I. Seminar, 1 hrProfessor A	Adair.
5.	William Pitt and the Conquest of Canada. Seminar, 1 hrProfessor A	Adair.
б.	Industrial Democracy in England. Seminar, 1 hrProfessor H	Fryer.
7.	Problems in World Politics Since 1878. Seminar, 1 hrProfessor F	Fryer.
8.	A Selected Period in the History of Canada Since 1 Seminar, 1 hrProfessor F	
9.	History of a Quebec Parish. Seminar, 1 hrProfessor A	Adair.

Graduate work in the Department of History is directed through Seminars and Conferences. Students are expected to acquire a sound knowledge of methods of historical research and the ability to apply them in practice. The Redpath Library is well equipped with printed sources for the periods and subjects mentioned above, and students pursuing research in Canadian History may be required, if occasion arises, to avail themselves of the manuscript resources of the Dominion Archives at Ottawa and the Provincial Archives at Quebec, and of parochial and other records in Montreal and its vicinity.

# DEPARTMENT OF MATHEMATICS

DANIEL A. MURRAY :- Professor of Applied Mathematics.

CHARLES T. SULLIVAN :- Professor of Mathematics.

ALBERT H. S. GILLSON :- Associate Professor of Mathematics.

W. L. G. WILLIAMS :- Associate Professor of Mathematics.

HERBERT TATE :- Assistant Professor of Mathematics.

### Courses for the Degree of Master of Arts

\*1. Introduction to the Theory of Functions of a Real Variable.

3 hrs.....Associate Professor Williams.

\*Open also to undergraduates of the Fourth Year in the Honour course.

\*2. Introduction to the Theory of Functions of a Complex Variable.

3 hrs.....Professor Sullivan.

# 3. Theory of Numbers.

Introduction to the classical theory of numbers; arithmetical properties of hypercomplex numbers, etc.

2 hrs..... Williams.

# 4. The Differential Equations of Mathematical Physics.

One hour a week of this course will be devoted to the theory of the potential. Particular attention will be paid in the remaining part of the course to Laplace's equation and to the waveequation, with applications to problems in elasticity, electromagnetism and hydrodynamics.

2 hrs.....Associate Professor Gillson.

# 5. Differential Geometry.

- 2 hrs. .....Professor Sullivan.
- 6. Projective Geometry. 2 hrs. .....Assistant Professor Matthews.
- 7. Differential Equations and Advanced Calculus. 2 hrs. .....Professor Murray.
- 8. Theory of Generalized Relativity. 2 hrs. .....Associate Professor Gillson.
- 9. Theory of Invariants. 2 hrs. .....Assistant Professor Tate.

# 10. Theory of Algebraic Plane Curves.

2 hrs. .....Professor Sullivan.

Courses Nos. 1, 2, 4, 7 are given annually. An additional one of the courses listed above will be given, if a sufficient number of qualitied students present themselves.

Students taking a Minor in Mathematics for the M.Sc. degree in Applied Science must have as preliminary training the Mathematics required of undergraduates in Applied Science, with an additional fulltime more advanced course in Mathematics.

For a Minor in Mathematics for the Ph.D. degree the student must have the equivalent of the Mathematics required in the honour course in Mathematics and Physics, and an additional full-time graduate course in Mathematics.

\* Open also to undergraduates of the Fourth Year in the Honour course.

#### MECHANICAL ENGINEERING

The final examinations in Mathematics as a Minor for the Ph.D. degree shall include two papers, namely: one on the full-time graduate course, and one, which shall be a general paper on the facts and principles of the Mathematics in the honour course in Mathematics and Physics.

No candidate for the M.A. or M.Sc. degree in Mathematics will be accepted unless he has the equivalent of honours in Mathematics at McGill.

# DEPARTMENT OF MECHANICAL ENGINEERING

CHARLES M. McKERGOW:-Professor of Mechanical Engineering.

ARTHUR R. ROBERTS :- Professor of Mechanical Engineering.

LESSLIE R. THOMSON :- Professor of Fuel Engineering.

JOHN W. BELL:-Professor of Ore Dressing.

WILBERT GEO. McBRIDE:—Professor of Mining Engineering. ALFRED STANSFIELD:—Professor of Metallurgy.

JAMES A. COOTE :- Assistant Professor of Mechanical Engineering.

GORDON ST. GEO. SPROULE:-Assistant Professor of Metallurgy.

E. W. R. STEACIE:-Lecturer in Chemistry.

Courses for the Degree of Master of Science

1. Engineering Thermodynamics. Prerequisites, Courses 220 and 251.

(See Announcement of the Faculty of Applied Science.) 3 hrs. colloquia......Professor McKergow.

- 2. Machine Design. Prerequisites, Courses 225 and 242. (See Announcement of the Faculty of Applied Science.) 3 hrs. colloquia......Professor Roberts.
- 3. Industrial Engineering. Prerequisites, Courses 253, 254, 258 or their equivalent.

(See Announcement of the Faculty of Applied Science.) 2 hrs. lectures and 2 hours colloquia......Professor Coote.

4. Fuel Engineering. Prerequisites, a B.Sc. in Mechanical, Mining or Chemical Engineering.

# Group I. Fuels and their Sources

(a) Energy survey, 1 hr. per week, 1 term... Prof. McKergow.

(b) Coal problem and fuels, 1 hr. per week, 1 term.

Prof. Thomson.

(c) Economic geology of fuels, 1 hr. per term... Prof. O'Neill.

(d) Mechanical preparation of coal, 1 hr. per term.

Professors McBride and Bell.

Group II. Combustion Group.

(a) Heat measurements, 1 hr., 2 terms.....

Professors Stansfield and Sproule. \*(b) Principles of combustion, 1 hr., 2 terms.....

Professors McKergow and Thomson.

- (c) Coal processing and manufactured fuels, 1 hr., 2 terms. Prof. Thomson.
- \*(d) Steam and gas prime movers, laboratory course. Professor McKergow.

# Group III. Engineering

(a) Principles of fuel engineering, 1 hr., 2 terms.

Dr. E. W. R. Steacie.

- (b) Furnace and retort design, 1 hr., 1 term. . Prof. Stansfield.
- (c) Properties of materials, 1 hr., 1 term.....

Professors Stansfield and Sproule.

# Group IV. Financial and Economic

- (a) Economics of public utilities, 1 hr., 1 term. . Prof. Thomson.
- (b) Public relationships, 1 hr., 1 term......Prof. Coote.

### Undergraduate Courses

On account of the number of alternative entry qualifications it is impossible to detail the required undergraduate courses. They can be determined on consultation with the Head of the Department of Mechanical Engineering.

#### Thesis

The thesis may be either the final report referred to in Section D below, or a special thesis as may be determined by the Science Division of the Faculty.

### Extra-Mural Work

Each student will spend a minimum of four months at some industrial plant or plants, at which arrangements for his studies will have been made by the University.

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<sup>\*</sup> Not necessary for graduates in Mechanical Engineering.

### METALLURGICAL ENGINEERING

### DEPARTMENT OF METALLURGICAL ENGINEERING

ALFRED STANSFIELD:—Professor of Metallurgy. GORDON ST. GEORGE SPROULE:—Assistant Professor of Metallurgy. HAROLD J. ROAST:—Sessional Lecturer in Metallurgy.

# Facilities for Graduate Study

Library.—A working library of metallurgical books, periodicals, the proceedings of scientific and technical societies, and a file of technical papers and cuttings from journals of metallurgical interest are available in Dr. Stansfield's office. Students have access to the books and periodicals of the Baillie Chemical Library.

Laboratories.—No separate laboratories are available for graduate students, but they have the use of the general laboratories of the Department. The equipment available for their use may be summarized as follows:—

Furnaces for the production of moderate and high temperatures, using solid or gaseous fuel or electrical heat.

Apparatus for the measurement of high temperatures, for the automatic recording of these temperatures and for automatic control of furnace temperatures.

Appliances for holding, measuring and analyzing gases and for studying the reactions between these gases and ores or other materials.

A chemical laboratory in which chemical analyses and small scale experiments in hydro-metallurgy can be made.

Facilities for making fire-assays of ores and metallurgical products. Apparatus for the microscopic and physical testing of metals and alloys.

### Courses for the Degree of Master of Science

1. General Advanced Metallurgy. A series of advanced studies of the theory and practice of metallurgy, taken from the following list:---

Physical properties and allotropic changes of metals.

Constitution and properties of metallic alloys.

Constitution and properties of slags and mattes.

Chemical equilibria, thermo-chemistry and speed of chemical reactions in metallurgical practice.

Design and efficiency of fuel-fired and electrical furnaces. Properties, cleaning and utilization of furnace gases.

Properties, cleaning and utilization of furnace gases.

Electrolysis as applied to the refining and recovery of metals.

Instruction is given by directed reading supplemented by two hours per week of colloquium and three hours per week of laboratory work.....Dr. Stansfield, Mr. Sproule and Mr. Roast.

- 2. The same as No. 1, but including a special study of one or more selected metals, or of some special branch of metallurgy, such as electro-metallurgy or hydro-metallurgy. (Alternative with No. 1.).....Dr. Stansfield.
- 3. The same as No. 1, but including a course of instruction and laboratory work on the properties of metals and refractory materials and the use of metallurgical testing instruments. (Alternative with No. 1.).....Dr. Stansfield and Mr. Sproule.

The following undergraduate subjects are offered to students who did not take them in their undergraduate course :----

4. Advanced Metallurgy. Fourth Year Applied Science, No. 272,

2 hrs. lectures......Dr. Stansfield.

5. Electro-Metallurgy and Laboratory. Fourth Year Applied Science, No. 275.

2 hrs. lectures and 1 laboratory period in 2nd term.

Dr. Stansfield.

6. Metallurgical Analysis. Fourth Year Applied Science, No. 279.

1 hr. lecture and 1 laboratory period in 2nd term....Mr. Roast.

7. Metallography and Laboratory. Fourth Year Applied Science, Nos. 280 and 281.

1 hr. lecture and 1 laboratory period in first term....Mr. Roast.

## Courses of Study for the Degree of Master of Science

Each student is required to follow a course of reading with lecture or tutorial instruction and laboratory work, as outlined above (Nos. 1 to 3). He must also take certain Undergraduate Courses, usually in the Department of Chemistry. About one-half of his time is devoted to the investigation of some particular metallurgical problem by directed reading, discussion with the Head of the Department and experimental work in the laboratory: The result of this investigation is presented in the form of a thesis.

As far as possible, the experimental work required for a student's thesis is his own individual work, but two or three students will be permitted to work together on laboratory work for a thesis if it appears necessary, under strict supervision of the Head of the Department.

Note.—Graduates in Chemical Engineering in the Inorganic Option will be allowed to specialize in Metallurgy—including two summers' work and a year of metallurgical study in the Graduate Faculty—and if successful will be given the degree of M.Sc. in Chemistry.

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#### MINING ENGINEERING

# Examinations and Tests for Students Proceeding to the Degree of Master of Science

Each student is required to take two written examinations, one dealing with the general course of study he has followed, and the other dealing with the subject matter of his thesis. He also takes the regular examinations in any undergraduate subjects included in his course.

### DEPARTMENT OF MINING ENGINEERING

WILBERT G. MCBRIDE:—Professor of Mining Engineering. John W. Bell:--Professor of Ore Dressing. WILLI ERLENBORN:—Assistant Professor of Mining.

The Department of Mining Engineering has laboratories for ore dressing and certain kinds of mining work, such as compressed air generation. Small scale equipment provides means for the study of crushing and grinding, cyanidation, amalgamation, flotation, screening, classification, filtering, concentration by gravity methods and other processes used in the milling of ores. Particular attention is paid to cyanidation and flotation. In flotation the plant is so arranged that continuous operation is secured, and selective flotation of two or more minerals is carried on under conditions which closely approximate large scale operations in both practice and results obtained. The laboratory also contains facilities for assay, analysis, and microscopic study of the ore and mill products, as well as other aids to advanced investigation work.

The Departmental Library and Reading Room contain the latest books on mining and ore dressing, and a very comprehensive set of periodicals, transactions of the mining and metallurgical societies, government publications and other literature bearing on mining and ore dressing.

#### Courses for the Degree of Master of Science

A. Undergraduate Course open to Graduate Students who have not already taken it as Undergraduates.

1. Mining Engineering. Course 297 in the Faculty of Applied Science (see Announcement of that Faculty). The whole of this course of three lectures per week for two terms, or selected portions of it (methods of mining), is suitable as part of the requirements for the M.Sc. degree for students who have not taken this course while undergraduates.....Professor McBride.

B. Advanced Courses open to Graduate Students only.

2. Works Organization and Management. With especial reference to Mining, Ore Dressing, and Smelting establishments.

One lecture per week for one term ...... Professor McBride.

3. The Settling of Finely Divided Minerals in Water. Theories of classification and settling, the effect of temperature and of various electrolytes, colloids and flocculents, the calculation of settling rates and the design of settling tanks.

Two lectures and one laboratory period for one term.

Professor Bell.

- 4. Classification Laboratory. Advanced students who wish to supplement Course No. 5 will be given one or two laboratory periods per week for one term ... Prof. Bell and Mr. Erlenborn.
- 5. Filtration in Ore Dressing and Cyanidation. Theoretical and practical conditions governing the removal of finely divided and semi-colloidal minerals from water and dilute solutions by means of mechanical filtration apparatus.

One lecture and one laboratory period per week for one term. Professor Bell and Mr. Erlenborn.

- 6. Filtration Laboratory. Advanced students who wish to supplement Course No. 7 will be given one or two laboratory periods per week for one term ... Prof. Bell and Mr. Erlenborn.
- 7. The Cyanidation of Gold and Silver Ores. Advanced studies of the theory and practice of cyanidation. One lecture per week for one term ..... Professor Bell.
- 8. Cyanidation Laboratory. Advanced students who wish to supplement Course No. 9 will be given one or two laboratory periods per week for one term ... Prof. Bell and Mr. Erlenborn.
- 9. The Theory and Practice of Flotation. Advanced studies in flotation, surface tension, etc. Two lectures per week for one term.

Professor Bell or Mr. Erlenborn.

10. Flotation Laboratory. Advanced students who wish to supplement Course No. 11 will be given one or two laboratory periods per week for one term ... Prof. Bell and Mr. Erlenborn.

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NOTE .- The Department reserves the right to substitute tutorial instruction in place of set lectures when the classes are small enough to warrant the change. It is also prepared to increase the amount of work in certain of the courses when desirable.

#### ORIENTAL LANGUAGES AND LITERATURE

Permission will be given for two or more graduate students to work together on the physical part of an investigation, when the nature of the problem and the facilities in the laboratory make it desirable to do so.

No collusion in the working up of results and in the writing of the thesis will be allowed. Otherwise they will be disqualified.

# DEPARTMENT OF ORIENTAL LANGUAGES AND LITERATURE

# C. A. BRODIE BROCKWELL:—Professor of Hebrew and Semitic Languages, Law and History.

ALEXANDER R. GORDON :- Professor of Hebrew.

# GEORGE ABBOTT-SMITH :- Professor of Jewish Hellenistic Literature.

The University Library has a fair collection of the more essential books for graduate work, supplemented by the collections in the Library of Divinity Hall, and the Libraries of the Affiliated Theological Colleges. The Egyptian, Babylonian and Palestinian Archæological Collections in the University Museum are also available to students.

### Courses for the Degree of Master of Arts .

1. S	pecial	l Tex	ts.
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Seminar, 1	1	hr	 	 	• •	 P	ro	ie	255	or	C.	Α.	Br	odie	B	ockwell.
Seminar,	1	hr	 								Pre	ofes	sor	А.	R.	Gordon.
Seminar,	1	hr	 	 		 				Pr	ofe	esso	r G	. At	bot	tt-Smith.

- 2. History of Old Testament Criticism. Seminar, 1 hr. .....Professor C. A. Brodie Brockwell.
- 3. History of Israel to the Exile. Seminar, 1 hr. .....Professor A. R. Gordon.
- 4. History of Israel During the Persian and Greek Periods. Seminar, 1 hr. .....Professor A. R. Gordon.
- 5. Semitic Anthropology. Seminar, 1 hr. .....Professor C. A. Brodie Brockwell.
- Semitic Epigraphy. Seminar, 1 hr. .....Professor C. A. Brodie Brockwell.
- 7. Christian Hellenistic Texts. Seminar, 1 hr. .....Professor G. Abbott-Smith.

N.B.—By arrangement with the Department, a selection of these courses may be taken, and additional courses will be added to meet individual needs.

- 8. Hellenistic Grammar, Syntax and Lexicography. Seminar, 1 hr. .....Professor G. Abbott-Smith.
- 9. Critical Use and Values of Hellenistic Documents. Seminar, 1 hr. .....Professor G. Abbott-Smith.

Students must have Second Class Honours from a Semitic Language Department to be eligible for the above courses.

# PATHOLOGY AND BACTERIOLOGY

HORST OERTEL: -Strathcona Professor of Pathology.
F. C. HARRISON: -Professor of Bacteriology.
A. A. BRUÈRE: -Assistant Professor of Bacteriology.
THEO. R. WAUGH: -Assistant Professor of Pathology.
W. W. BEATTIE: -Lecturer in Bacteriology.

# Courses for the Degrees of Master of Science and Doctor of Philosophy

All courses in Pathology and Bacteriology are given in the Pathological Institute (a building of three floors and a basement containing the shop and attached animal house), which contains ample, fully equipped quarters for routine as well as advanced workers. The technical department provides facilities for studying and taking part in technical procedures in pathological and bacteriological research.

# A. Pathology

- - Modern Tendencies and Currents in Pathology.
     1 hr. weekly, 2nd term......Professor Oertel.
- \*2. The Hæmatopoietic System; Technique, Methods, Physiology and Pathology.
  - (Open also to advanced undergraduates.)
  - 1 lecture and demonstration.....Professor Waugh.
- 3. Special Problems in Hæmatology. Seminar, twice weekly.....Professor Waugh.
- 4. Research Into Hæmatological Problems.

Professor Waugh.

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### PATHOLOGY AND BACTERIOLOGY

5. Practicum and Colloquium in Pathological Anatomy. A discussion of the weekly routine work carried on in the Pathological Institute with demonstration of material and review of the recent literature pertaining to the points discussed.

1 colloquium weekly ..... Professor Oertel.

- \*6. Practical Diagnostic-Anatomic Exercises. 1 exercise weekly......Professor Oertel.
- 7. Research Into Problems of Pathology.

Professor Oertel.

7a. Technical Course of Methods of Pathological Investigation. (According to arrangement.) (Required of all candidates as prerequisite for undertaking research.)

# B. Bacteriology

# \*1. Systematic Bacteriology. 1 lecture and 3 laboratory exercises, one semester.

Professor Harrison.

Professor Harrison.

- Industrial Bacteriology. A general survey of bacteria as related to the industries.
   1 lecture and 6 laboratory exercises for the year; 6 colloquia.
- 3. Dairy Bacteriology. A comprehensive survey of the bacteria of milk and its products.

1 lecture and 6 laboratory exercises for the year; 6 colloquia. Professor Harrison.

\*4. Lectures and Systematic Laboratory Exercises in Bacteriology, including the Consideration of the Important Pathogenic Micro-organisms and their Cultivation and Identification.

2 lectures, 1st term..... Professor Bruère and Dr. Beattie.

- Practicum and Colloquium on the Methods and Technique of Serological Blood Examinations.
   1 colloquium, 2nd term.....Professor Bruère.
- Bacteriological and Serological Methods for Isolation of Pathogenic Micro-organisms Applied to Diagnostic Purposes and to Specific Organs. Daily, 2nd term......Professor Bruère and Dr. Beattie.

\* These courses are also open to undergraduates.

# 7. Research Into Problems of Immunity.

Throughout the session ...... Professor Bruère.

Candidates for the degree of M.Sc. must take Course 1 and a selection of two or three of above Courses 2 to 7.

### Requirements for the Degree of Doctor of Philosophy

Candidates for the degree of Doctor of Philosophy, if they desire to devote their attention more particularly to pathology, will take the other courses in that subject, and if they wish to follow more especially the study of bacteriology, they will take Courses 1 to 6. In either case additional courses will be provided, if necessary, to meet the instruction requirements.

The training for the Ph.D. in bacteriology is designed as a preparation for persons who intend to devote themselves primarily to research.

Intending students should have a background of information regarding the structure and function of living organisms. This implies familiarity with biology, comparative anatomy and histology. An acquaintance with analytical chemistry, experience in organic chemistry, and the elements of physical chemistry are indispensable. Certain aspects of physiology are also desirable.

Arrangements may be made by which candidates for either of these degrees may take a part of their work in the Department of Bacteriology at Macdonald College if they desire to do so.

### DEPARTMENT OF PHARMACOLOGY

# RAYMOND L. STEHLE:—Professor of Pharmacology. N. B. DREYER:—Assistant Professor of Pharmacology.

The laboratory is adequately equipped for research work in both the physiological and chemical aspects of the subject; working conditions are unusually satisfactory. A small library, for which the department is largely indebted to the interest of Dr. A. D. Blackader, contains the current literature most frequently desired.

Candidates for higher degrees must present evidence of suitable preparation in chemistry and physiology and must have completed the course in pharmacology as given to medical students.

It is strongly recommended that the student have a reading knowledge of German and French. If he has not he will be expected to begin making up these deficiencies immediately.

# Courses for the Degree of Master of Science

1. Advanced Pharmacology. This consists of laboratory work of a more advanced nature than that of the course given to

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### PHARMACOLOGY AND PHILOSOPHY

medical students, together with such reading and conferences as appear desirable. There are no formal lectures. The minimum of work which may be done consists of 30 laboratory periods of 3 hrs. each and reading and conferences to the extent of 30 hrs. This course is suitable for anyone desiring to take a minor in pharmacology. For students majoring in pharmacology the course will be suitably extended, and in addition a piece of original investigation must be carried through.

- 2. Chemical Pharmacology. Fifteen lectures or the equivalent in reading and conferences on the chemistry (chiefly organic) of drugs.
- 3. Colloquium. This is common to the Departments of physiology, biochemistry, botany, zoology and pharmacology. One hour weekly.

# Courses for the Degree of Doctor of Philosophy

Special arrangements can be made for anyone desiring to proceed to a doctorate.

### DEPARTMENT OF PHILOSOPHY

WILLIAM CALDWELL:-Professor of Moral Philosophy.

IRA A. MACKAY: - Professor of Logic and Metaphysics.

### Courses for the Degree of Master of Arts

*1.	The Critical Philosophy of Kant. Lectures, Readings and Papers. 3 hrsProfessor Caldwell or Professor Mackay.
*2.	Main Currents of Recent Philosophy.
	Lectures, Readings and Papers.
	3 hrsProfessor Caldwell.
3.	Ethical Seminar.
	Recent and Contemporary Ethical Theories.
	3 hrsProfessor Caldwell.
4.	Philosophical Seminar.
	3 hrsProfessor Mackay.

\* These courses are also open to undergraduates.

# DEPARTMENT OF PHYSICS

A. STEWART EVE: — Macdonald Professor of Physics and Director of the Department of Physics.
HOWARD T. BARNES: — Professor of Physics.
LOUIS V. KING: — Macdonald Professor of Physics.
A. NORMAN SHAW: — Professor of Physics.
DAVID A. KEYS: — Associate Professor of Physics.
J. STUART FOSTER: — Assistant Professor of Physics.
A. V. DOUGLAS: — Lecturer in Astrophysics.
A. L. PATTERSON: — Lecturer in Physics.

# THE PHYSICS DEPARTMENTAL LIBRARY

This excellent library, a branch of the main University Library, is one of the major assets of the Department of Physics. It includes 1,750 books, 122 current periodicals, 460 bound volumes of periodicals, 2,000 reprints, and current catalogues of apparatus and books. The regulations permit staff and students to take out books for the night only, so that during the day time it is always a nearly complete Reference Library. After five years most of the bound periodicals are removed to the main University Library across the Campus, where the older reference books may also be found.

### Equipment and Apparatus

There is a well equipped workshop under Mr. H. T. Pye, with two assistants. In Optics there are gratings and spectographs, including infra-red and ultra-violet instruments by Hilger; also a Moll apparatus for stellar and atomic spectra. The Electrical and Heat Laboratories are also well equipped, both for instruction and research work. The Röntgen Ray apparatus for crystal analysis is modern and varied. The provision for research is best estimated by the work carried out as stated below.

## Courses for the Degrees of Master of Science and Doctor of Philosophy

## \*6a. Electrical Measurements.

2 hrs.; Wed., Fri., at 9; 4 hrs. lab., Wed., 11-1; 2-4.

Dr. A. L. Patterson and Mr. H. G. I. Watson. A general course in electrical measurements with special attention to the theory and practice of accurate measurements of the quantities associated with direct and alternating current circuits. *Text-books:*—Law's Electrical Measurements (McGraw-Hill); Starling's Electricity and Magnetism (Longmans).

\* These courses are also open to undergraduates.

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#### PHYSICS

\*6b. Light. (Replaced by 8b in alternate sessions.<sup>†</sup>)

1 hr.; Mon., at 9 (lab., Mon., 2-5).

Associate Professor Keys and Dr. A. V. Douglas. The elements of Geometrical Optics; classical Physical Optics; laboratory instruction in interference, diffraction, polarization phenomena and spectroscopy.

Text-books:—Edser's Light (Macmillan); Wood's Physical Optics (Macmillan); Drude's Physical Optics (Longmans).

# \*7a. Electromagnetic Theory.

1 hr.; Sat., at 10.....Associate Professor Keys. The mathematical theory of electricity; Maxwell's Equations; the classical Electro-magnetic theory of Light; Electric Waves. *Text-books:*—J. J. Thomson's Electricity and Magnetism (C.U.P.); Pierce's Electric Oscillations and Electric Waves (McGraw-Hill).

# \*7b. Mathematical Physics.

2 hrs.; Tu., Sat., at 11.....Assistant Professor Foster. An introductory course, including the elements of potential theory, hydrodynamics, conduction of heat, thermodynamics and wave theory. Problems.

*Text-books:*—Houston's Introduction to Mathematical Physics (Longmans).

# \*8a. Molecular Physics.

2 hrs.; Wed., Fri., at 9......Professor Shaw. A review of the advances in Molecular and Sub-molecular Physics during the last thirty years; including an elementary introduction to modern theories of the structure of matter, the quantum theory, and the theory of electrons.

Text-book:-Crowther's Ions, Electrons and Ionizing Radiations (E. Arnold).

\*8b. Theory of Heat. (Replaced by 6b in alternate sessions.†) 1 hr.; Mon., at 9 (also 3 hrs. lab.‡).

Professor Shaw and Dr. A. V. Douglas. A reading course based on the assigned text, supplemented by weekly colloquia at which selected topics will be discussed in detail, including an introductory course of eight lectures on

<sup>†</sup> Courses 6b and 8b will be given in alternate sessions, as follows:-6b in '30-'31, etc., and 8b in '29-'30, '31-'32, etc.

<sup>&</sup>lt;sup>‡</sup> The Department of Metallurgy kindly permits students to do additional practical tests in the Metallurgical Laboratory.

<sup>\*</sup> These courses are also open to undergraduates.

Thermodynamics. Each student is required to perform ten fundamental experiments in Advanced Heat. *Text-book:*—Preston's Theory of Heat (Macmillan).

# 9. Radioactivity.

2 hrs.; Tu. and Wed., at 12; 3 hrs. lab., 2nd term.

Professor Eve.

This course follows the historical development from the beginning to to-day.

*Text-book*:—Rutherford's Radioactivity Transformations (C.U.P.).

# 10. Vector Analysis.

2 hrs.; Tu. at 9; Wed. at 10, 1st term.....Professor Eve, *Text-books:*—Coîlin's Vector Analysis, with references to other books by Wilson, Silberstein, Lorentz, Heaviside and others.

*Text-books:*—Lamb's Higher Mechanics (C.U.P.); Basset's Hydro-dynamics and Sound (Deighton Bell). References to Lamb's Dynamical Theory of Sound (Arnold); Lamb's Hydro-dynamics (C.U.P.); Rayleigh's Theory of Sound (Macmillan and Co.).

# 12. Kinetic Theory of Matter.

2 hrs. .....Professor King. A development of the theory of gases, including the theory of electrons in metals.

Jeans' Dynamical Theory of Gases (C.U.P.); Reference Loeb's Kinetic Theory of Gases (McGraw-Hill).

# 13a. Quantum Theory.

1 hr.; Th. at 12, October to March.....Professor Eve. This course follows the historic development from Planck to recent work, with the elements of Wave Mechanics.

Text-books:—Birtwistle's Quantum Theory of the Atom (C.U.P.); Sommerfeld's Atomic Structure (Methuen).

# 13b. Relativity.

1 hr., 2nd term.....Professor Gillson. Introduction to modern theories of relativity. Specialized relativity, an introduction to generalized relativity with recent developments, including the mathematical analysis involved.

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# 14. Advanced Electricity and Magnetism.

2 hrs. .....Professor King. Training in problems of an advanced character is specially emphasized.

Text-bcoks:--Jeans, Electricity and Magnetism (C.U.P.). Reference:-Gray's Absolute Measurements in Electricity and Magnetism (Macmillan).

# 15. Laboratory Practice and Physical Manipulation.

Mr. H. T. Pye and Mr. S. Amesse. A course of practical instruction on the use of tools (including the lathe), glass-blowing, photography and the construction of simple apparatus. This course is designed as an aid and introduction to original research.

# 16. Thermodynamics.

1 hr. .....Professor Shaw. (Alternate sessions, 1930-31, etc.).

A general course with special attention to the physical basis of thermodynamical concepts, and to the technique of deriving and applying thermodynamical relations.

Text-book:-Birdwhistle's Thermodynamics.

# 17. Electron Theory.

2 hrs. .....Professor King. A development of the theory of optical dispersion, molecular scattering of light, theories of magnetism, electrical and thermal conduction in metals, thermionics, and fundamental properties of the electron.

*Text-books:*—Richardson's Electron Theory (C.U.P.); Lorentz, Theory of Electrons (Teubners).

*Reference:*—Reports of the Solvay Congresses and current scientific literature.

18. Spherical Astronomy and Combination of Observations.

3 hrs. .....Professor Gillson. *Text-books:*—Ball's Spherical Astronomy; Newcomb's Spherical Astronomy.

(Math. 3 and 4, prerequisite.)

### 19. Astrophysics.

3 hrs. .....Dr. A. V. Douglas. Spectroscopy as applied to the problems of Astrophysics; the temperatures, sizes, positions and motions of the stars, with practical measurements on typical stellar spectrograms.

*Text-books:*—Russell's Astronomy, vol. ii (Ginn); Dingle's Astrophysics (Collins); Stratton's Astronomical Physics (Methuen).

(Math. 4 and 6, and Physics 5b prerequisite.)

Students who have received instruction in Astronomy may apply to proceed to the Dominion Observatory at Ottawa for vork in the summer.

A suitable selection of the above courses may be nade when Physics is taken as a minor subject. A general paper on elementary physics is also given when Physics is a minor subject.

### Examination and Thesis Requirements

*Prerequisite.*—The equivalent of the McGill Undergraduate Honour Course in Mathematics and Physics. A sound knowledge of Differential and Integral Calculus, Differential Equations, and some acquaintance with the Theory of Functions; Analytical Geometry, Plane and Solid; Statics, Dynamics of a Particle, Rigid Dynamics; Electromagnetic Theory and Electrical Measurements; Geometrical and Physical Optics; Theory of Heat; Properties of Matter; an introduction to Mathematical Physics and to Molecular Physics; and at least Elementary Chemistry.

*M.Sc. Course and Requirements.*—A thesis on Research Work; a reading knowledge of French or German; a good standing n examinations on lecture courses on Radioactivity, Vector Analysis, Quantum Theory, Advanced Electricity and Magnetism; Differential Equations of Mathematical Physics.

*Ph.D. Course.*—Completion at the beginning of the Second Year of an examination proving a reading knowledge of French and German; Research Work; Thesis on Research Work; further courses and acquaintance with Modern Physics, e.g., Kinetic Theory, Relativity, Thermodynamics, Hydrodynamics, Electron Theory, Wave Mechanics, Röntgen Rays, Spectroscopy, Astrophysics, Geophysics. After taking the M.Sc. Degree a student may present himself one year later for a written and oral examination whereby he may show his general knowledge of Modern Physics, together with a special knowledge of some branch in which he is interested. Four papers are set eacl candidate at the end of May, and special attention will be paid to the solution of problems set in those papers.

Final Year.—After passing the above examination the sudent will devote most of his time to research, and to the allied theoretical work and reading, so that time will also be devoted to work in the library,

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#### PHYSICS

and to conferences or colloquia. After his thesis is accepted there is an oral examination on the regions of Physics to which his research work is related.

Attendance at meetings of the Physical Society, Journal Club, and colloquiun, together with the presentation of papers, form an important element in the training of M.Sc. and Ph.D. students. The above statement is descriptive of past experience. Every effort will be made by the Department to encourage enterprise in research, and originality and sound thinking, to which end all regulations are secondary and subservient.

Opportunity for research work in the following fields is at present offered in the Physics Department, under the guidance of the Professors indicated.

PROFISSOR A. S. EVE. Fadioactivity. Atmospheric electricity. Geophysics. Infra-red and ultra-violet spectroscopy.

PROFISSOR H. T. BARNES. Le research.

PROFISSOR L. V. KING. Theoretical physics. Precision measurements in acoustics. Electrical measurements.

PROFESSOR A. N. SHAW.

Bygrometrical theory and measurements (applications to physical problems in ventilation and drying processes).

The measurement and theory of heat transmission across boundaries.

Thermoelectricity.

Precision measurements of electrical resistance and voltage.

Assoliate Professor D. A. Keys.

The phenomena of the discharge tube.

- The theory and application of piezo-electricity to the phenomena of explosions, pressure variations in engines and specific heats of gases.
- Spectroscopy.

Geophysics.

ASSOCIATE PROFESSOR H. E. REILLEY.

The acoustics of auditoriums, churches and offices, and the determination of acoustic properties of building materials.

Radioactivity. Magnetism. Electrical measurements. Geophysics.

ASSISTANT PROFESSOR J. S. FOSTER. The Stark-effect. The Zeeman-effect. Spectroscopy.

DR. A. V. DOUGLAS. The investigation of stellar spectra. Variable stars. Spectroscopic binaries. Absolute magnitudes.

Dr. A. L. PATTERSON. X-ray analysis of organic compounds. X-ray spectroscopy.

# DEPARTMENT OF PHYSIOLOGY

JOHN TAIT:—Professor of Physiology. B. P. BABKIN:—Research Professor of Physiology. N. GIBLIN:—Assistant Professor of Physiology.

Courses for the Degree of Master of Science

1. Lectures on Autonomic Nervous System.

Professor Babkin.

- 2. Lectures on Selected Advanced Topics. . Professor Giblin.
- 3. Lectures on Structure and Function ...... Professor Tait.
- 4. Advanced Laboratory.
- 5. Physiological Colloquium.

# Requirements for the Degree of Doctor of Philosophy

Courses for a second year, toward the degree of Doctor of Philosophy, may be selected from those set forth above which have not already been taken in the first year of graduate study.

The advanced courses in physiology have been designed with two things in view: (1) to provide higher training for graduates who look forward to an exclusive academic career either in physiology or in

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# PHYSIOLOGY AND PSYCHOLOGY

some cognate branch of biological or medical science; (2) to offer increased facilities of study to the younger clinicians of the school. The work is arranged to meet the individual needs of each student.

### DEPARTMENT OF PSYCHOLOGY

# WILLIAM D. TAIT: — Professor of Psychology. CHESTER E. KELLOGG: — "Associate Professor of Psychology. J. W. BRIDGES: — Associate Professor of Psychology.

The Psychological Laboratory is adequately equipped with apparatus for original investigation in all branches of human psychology, including abnormal and applied. The research rooms are provided with gas, compressed air, 110-volt D. C. current, 6 and 8-volt battery circuit from storage batteries and electrical inter-room connections. There is a workshop, sound-proof room and photographic dark room.

The Library is well supplied with nearly all the leading English, German, French and Italian periodicals, monographs, and other special publications in addition to the standard works in each language.

### Courses for M.A. and Ph.D.

- 1. Psychological Laboratory. Experimental investigations in human psychology under the immediate direction of members of the Department. Laboratory conferences are held monthly, at which students receive constructive criticism in their work. Professors Tait, Kellogg and Bridges.
- Seminar in Feelings and Emotions. History of the problem, physiological correlates, methods of investigation and results, measurement, theories, etc. Given in 1929-30.

#### Professor Tait.

3. Seminar in Systematic Psychology. Contemporary systems of psychology. A critique of the present day systems. Given in 1929-30.

Associate Professor Kellogg.

4. Abnormal Psychology. Relation between normal and abnormal mental life, disorders of the senses and higher processes, disturbances of personality, conflict, dissociation, etc.

Associate Professor Bridges.

- Advanced Psychology. The psychology of William James. (Given 1930-1931.) Professor Tait.
- 6. Advanced Statistical Methods.

Associate Professor Kellogg.

### Notes Regarding the Above Courses

1. Admission to this course will be limited to students who have taken honours in Psychology for their B.A. degree or its equivalent. The term "equivalent" will be used in a restricted sense, and no student coming from any other university will be admitted to study for an advanced degree unless his training has been of a kind to amply equip him to undertake it.

2. The first year of the course will consist of 12 hours per week at least of regular work, including lecture courses, seminar and research work, and, with a satisfactory thesis this year, will qualify for the Master's degree.

3. The second year will consist of an equal number of hours of work, but more time will be devoted to research; for example, one seminar, one lecture course, and the remainder of the time to research, or two seminars and the remainder of the time to research would be required this year.

4. In the third year at least 8 hours will be given to research and the remainder to seminars and lectures.

5. In addition to the regular work of the Department, the student will have to prepare the usual standard Doctor's thesis based upon personal investigation and research.

6. All students will be required to have a knowledge of advanced statistical methods such as correlation, partial correlation, regression equations and methods of testing the reliability of psychological measurements.

7. Candidates will be required to possess an adequate knowledge of the main principles of Physics, Chemistry and Physiology, so far as these subjects are cognate to scientific Psychology.

8. A certain amount of ability in shopwork, enough at least to show that the candidate is capable of designing and constructing simple apparatus, will also be required.

9. The preliminary examination for Ph.D. will include History of Philosophy, Logic, Principles of Psychology, Experimental and Physiological Psychology, Statistical Methods, Contemporary Psychology.

10. At the thesis examination the candidate will be expected to show an accurate knowledge of the whole field in addition to his special field.

NOTE.—For other Graduate Courses, see Faculty of Arts Announcement.

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#### FRENCH

## DEPARTMENT OF ROMANCE LANGUAGES

### Courses for the Degree of Master of Arts

1. Comparative Literature (Department of English, Course 16).

3 hrs. .....Assistant Professor Noad.

- 2. Methodologie. 1 hr. .....Assistant Professor —
- 3. Etude sur le théâtre contemporain. 2 hrs. ......Assistant Professor Furness.
- 4. Exercices pratiques (Colloquia). 1 hr.
- \*5. Histoire du roman en France. 3 hrs. (Given in 1930-31.).....Professor du Roure.
- \*6. Histoire de la langue française. 3 hrs. .....Assistant Professor ———
- **\*7.** Histoire de la poésie lyrique en France. 3 hrs. (Given in 1929-30.).....Professor du Roure.

Candidates for the Master's degree in French only will take courses 1 to 4 inclusive, and also one of 5, 6, 7.

Those taking French as a major will omit 1 and either 2 or 3.

Those taking French as a minor will take 4 and one of the one-hour courses.

The M.A. thesis should be written in French.

### The Summer Session Courses

A student taking one session of the advanced course in the French Summer School will be exempted from the corresponding number of hours for the M.A. degree.

A student taking two sessions of the advanced course will be exempted from half of the regular session.

A student taking four sessions of the French Summer School advanced course will be exempted from attendance during the regular session and will receive the M.A. degree on presenting an acceptable thesis in French under the direction of the Department.

\* These are also Honour courses in the Faculty of Arts.

# DEPARTMENT OF SOCIOLOGY

CARL ADDINGTON DAWSON :- Associate Professor of Sociology.

EVERETT CHERRINGTON HUGHES :- Assistant Professor of Sociology.

### Facilities consist of :--

(1) Seminar room, with facilities for mapping and charting of social data. Basic population and other social data already collected are accumulating rapidly. All such data remain available to students.

(2) Library.—Graduate students are allowed special privileges in the University Library. This library contains (a) the standard works on social theory, social institutions and cultural anthropology and (b) census reports, special monographic studies and other material necessary to research. Additional sources of material are the other libraries of Montreal, especially the various French ones and the archives of the city, which contain original data. Through the courtesy of various governmental departments, certain original data and records in Ottawa are available to graduate students with a formulated research problem.

(3) Research. (a) National problems. The data necessary to research will vary according to the nature of the problem. Where the data are a matter of record, Montreal has an advantage by virtue of its position as the headquarters of many national organizations as well as by its proximity to Ottawa. (b) The city of Montreal.—In social research the first requisite is a community in which social processes can be seen and studied at first hand. Montreal, a large and complex city, furnishes an array of research problems unequalled elsewhere in Canada. The Department of Sociology has undertaken an organized programme of urban research under competent direction. The student has, therefore, the double advantage of a wide range of problems and of contributing to an accumulative scheme of research.

# Courses for the Degree of Master of Arts

# \*1. The Community.

Tu., Th., Sat., at 9.....Dr. Dawson and Mrs. Hughes. A study of Greater Montreal in comparison with the small town and open country communities. Analysis of the basic forces that condition the social life and social institutions of the great community. The trend of urbanization and its effects on human behaviour. Cities as centres of dominance and culture.

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SOCIOLOGY

# \*2. Social Origins.

Not given in 1929-30.....Dr. Hughes. The culture and social organization of primitive or pre-literate peoples, including anthropological data on :--Marriage and kinship; property and the division of labour; magic, religion and science; taboos, customs and morals; myth, folklore and legend; art, ornament and decoration; war, slavery, punishment and the state; the mind of primitive man. The processes of invention and diffusion in the origin and development of culture.

# \*3. Social Movements.

Not given in 1929-30.....Dr. Hughes. The natural history of typical social movements, such as revivals, migrations, revolutions, reform and political movements; classification of such movements; the "life-cycle" of a social movement; social movements in relation to social change.

# \*4. Social Progress.

Not given in 1929-30.....Dr. Hughes. Theories of social progress; social trends; social lag; progress and invention.

# \*5. Social Institutions.

Mon., Wed., Fri., at 9.....Dr. Hughes. The institution as a unit of social structure and as a bearer of culture; the processes by which institutions arise, develop and die; the life-cycle of such institutions as the sects, the church, the school, the newspaper, etc.; crises and the reorganization of institutions.

# \*6. Social Attitudes and Personality.

Not given in 1929-30.....Dr. Dawson. Social situations and the development of social attitudes; the process of social conditioning in relation to personal organization; social types; problems dealing with the social adjustments of persons. An extensive use of descriptive material, biographical and autobiographical documents.

# \*7. Culture Areas in Canada.

Mon., Wed., Fri., at 2, 2nd term.....Dr. Dawson. The application of anthropological and sociological methods to the study of culture areas in Canada. These areas are separated

Note.—The starred courses are also Honour Courses in the Faculty of Arts. Each graduate student who takes this course is required to undertake an original project in addition to the undergraduate requirement.

from each other by the main physiographic regional divisions. Each region breaks up into the older areas of settlement and pioneer belts. The basic structure and related social and cultural organization of each area will be studied. A comparison of the main culture traits and their diffusion in each area. Research projects to discover the indices of culture organization and social change in the various areas. The conflict of British, American and Canadian culture patterns in Canada.

### 8. Graduate Seminar: Research Problems and Methods.

Hours to be arranged.....Dr. Dawson and Dr. Hughes. The work of each student will be related to theory and problems in the special field of his dissertation.

Written examination in each course of study and a general theory examination will be required of each candidate.

### DEPARTMENT OF THEOLOGICAL STUDIES

GEORGE ABBOTT-SMITH: — Professor of Jewish Hellenistic Literature, McGill University.

O. W. HOWARD:—Professor of Church History, Co-operating Theological Colleges.

WILLIAM A. GIFFORD:—Professor of Church History, Co-operating I heological Colleges.

ALEX. R. GORDON:—Professor of Hebrew, McGill University. JAMES SMYTH:—Professor of New Testament Language and Literature, Co-operating Theological Colleges.

R. E. WELSH:—Professor of History and Philosophy of Religion, Co-operating Theological Colleges.

A selection from the following courses may be taken as fulfilling the requirements of a minor subject for the degree of Master of Arts.

### Old Testament

- 1. Introduction—Canon, Text and Introduction to the Historical Books. Exegesis—Selections from the Historical Books or Prophetical Books.
  - 3 hrs. a week throughout the year.....Professor Gordon.

# New Testament

- 2. Introduction. Course in three parts.
  - (1) History of New Testament times.

(2) Canon and Text.

- (3) The Language of the New Testament.
- 3 hrs. a week throughout the year ..... Professor Abbott-Smith.

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#### ZOOLOGY

3. Introduction to the Acts and Pauline Epistles; and Exegesis (Greek) of the Epistles to the Galatians and Ephesians.

3 hrs. a week throughout the year ..... Principal Smyth.

- Introduction to the Catholic Epistles; and Exegesis (Greek) of the Epistles of St. James, First St. Peter, and First St. John.
   3 hrs. a week throughout the year....Professor Abbott-Smith.
- 5. The Rise and Progress of Protestant Christianity in Europe until the close of the 16th Century. Two lectures a week with weekly colloquium...Prof. Gifford.
- History of the Christian Church in the First Six Centuries. Two lectures a week with weekly colloquium....Prof. Howard.
- 7. History and Comparative Study of Religions chiefly Hindu, Buddhist, Zoroastrian and Mohammedan (Islam). 2 hrs. a week for two terms......Professor Welsh.

#### DEPARTMENT OF ZOOLOGY

ARTHUR WILLEY:—Strathcona Professor of Zoology. N. J. BERRILL:—Assistant Professor of Zoology.

All equipment necessary for courses mentioned below: Microscopes, microtomes, reagents and glass ware and material supplied. The Blacker Library of Zoology is very complete.

Courses for the Degrees of Master of Science and Doctor of Philosophy

\*2. Comparative Anatomy of Invertebrata.

Assistant Professor Berrill. Two lectures a week and four hours' laboratory throughout the session. A survey of organization, biology, and affinities of each of the principal groups of invertebrate animals; examination and dissection of representative animals; mode of life and response to environmental stimuli.

3. Biological Colloquium.

Joint weekly colloquium of the various biological departments in the university.

\*4. Zoology of Vertebrata.....Professor Willey. Two lectures a week and three hours' laboratory throughout

<sup>\*</sup> These are also Honour courses in the Faculty of Arts.

the session. Comparative anatomy of vertebrates with dissection of leading types in each of the classes, and their general biology.

- \*5. Comparative Embryology.....Assistant Professor Berrill. Two lectures a week and two hours laboratory in the second term. Comparative study of the development of the principal types of invertebrates and vertebrates; survey of recent work in experimental embryology, regeneration, transplantation and tissue-culture.
- \*6. Experimental Zoology.....Assistant Professor Berrill. Two lectures a week and two hours' laboratory in the second term. Studies in comparative physiology of animals; animal behaviour and adaptation.
- **\*8.** Marine Biology.....Assistant Professor Berrill. Two lectures a week and two hours' laboratory in the second term. Physical chemistry of sea-water; methods used in oceanographical research; physical and chemical analyses of seawater; maintenance and study of marine aquaria; relation of animal life to variable factors of sea-water; fishery problems.
  - 9. Systematic Zoolgy.....Professor Willey. One hour a week throughout the session. Principles of classification, divergence, and convergence.

Prerequisites for graduate courses are Zoology 1 and Zoology 2 or 4. The candidate shall pass an examination in each subject of his course except the Biological Colloquium. Oral examinations will be held at the discretion of the examiners.

Candidates for the Ph.D. in Zoology will be required to take at least one summer course at Wood's Hole or other marine station.

\* These are also Honour courses in the Faculty of Arts.

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# DEPARTMENT OF PHARMACY

# GENERAL ANNOUNCEMENT

The Montreal College of Pharmacy, organized as a teaching body in 1867, for fifty years successfully carried on the work of instructing pharmaceutical students, and for many years it was the only institution in the Province of Quebec offering such instruction.

During the summer of 1916 this College was taken over by McGill University, and a Department of Pharmacy was established in connection with the Faculty of Medicine.

Special instruction on all subjects required by the future pharmaceutical chemist is given in the class room and laboratories of the University, the students of Pharmacy having access to its splendid equipment.

The work of the Department embraces courses in Botany, Physics, Chemistry and Practical Chemistry, Theoretical and Practical Pharmacy, Dispensing, Materia Medica and Toxicology.

The thirteenth session of this Department will be opened on Monday, September 30th, 1929.

The course in Pharmacy covers a period of three years, the work being distributed as follows:---

# First Year

Physics, Junior Chemistry and Junior Practical Pharmacy.

### Second Year

Materia Medica, Junior Theoretical Fharmacy, Senior Chemistry and Botany.

# Third Year

Materia Medica and Therapeutics, Analytical Chemistry and Senior Practical Pharmacy.

# ENTRANCE REQUIREMENTS

For entrance into the Department of Pharmacy the University accepts the preliminary examination of the Pharmaceutical Association of the Province of Quebec in default of the B.A. degree or Arts matriculation (B.A. Course), particulars of which will be found on pages 75 to 86.

A diploma of Bachelor of Arts, Science or Letters from a Canadian or British University is accepted in lieu of the preliminary examination. In this case the candidate must register his application with the Secretary of the Association, and produce his diploma, together with personal proof of his identity.

The candidate for the study of Pharmacy must give satisfactory certificates of good morals, as well as identification and a recent photograph duly attested. He must be a British subject of the male sex and not less than seventeen years of age. He is also required to pay the fee in advance.

The examination which the candidate is required to undergo embraces the following subjects:—

# GROUP I. LETTERS.

I. Mother tongue (English or French):—Dictation, grammar, syntax, analysis, composition. English candidates will also be required to have a critical knowledge of Shakespeare's "Macbeth."

LITERATURE:—The study of the principles of *Belles Lettres* and *Rhetoric*; notions of the different classes of literature; a knowledge of the principal authors who have especially exemplified these different classes in Greek, Roman, French and English literature.

2. Auxiliary language (English or French):-Translation in both languages (books recommended, "Telemaque" and "The Vicar of Wakefield," by Oliver Goldsmith), grammar and syntax. (French for English candidates and English for French candidates.)

3. Latin.—Virgil, book VI; Cicero, "Pro Milone." A sound knowledge of grammar and syntax as exemplified in the texts chosen.

4. History.—French, English and United States.

5. Geography.—Notions on universal geography—a special knowledge of the geography of France, England and North America.

### GROUP II. SCIENCES :--

1. Arithmetic.

(a) Ordinary and decimal fractions, single and compound proportion, interest, percentage and square root; problems.

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- (b) Units of measure in use in Canada—" Linear, surface and volume"; metric system.
- (c) Mensuration:—Computation of areas and volumes of simple geometrical figures; problems.
- 2. Algebra:-Fractions and equations of the first degree of one or more unknown.

Geometry :- The first four books of Euclid; proofs.

3. Physics and Chemistry.

Physics :- Elementary notions on mechanics, weight, hydrostatics, pneumatics, capillarity, osmosis, optics and heat.

Chemistry:—General knowledge, definitions, the elements, principal laws of chemical reactions, properties of the principal metalloids and their compounds.

For admission the candidate must obtain at least the following percentage in the different subjects :---

Mother tongue and arithmetic, 60 per cent; other subjects, 50 per cent; and, on the total, 60 per cent.

The candidate who fails in one subject only of the above groups, either of letters or of sciences, may present himself for examination in that subject at any one of the four subsequent examinations.

The candidate may try for science or letters at different examinations, separately or for both of these two groups at the one examination. Clear and legible writing is required.

Fee, \$20.00, or \$10.00 for each group.

The preliminary examinations for admission are held in Montreal and Quebec, the first Thursday of January and July of each year.

The registration of candidates for the examination must be made at the office of the Registrar of the Association at least ten days before the date set for the examinations. A blank register form can be obtained from the Registrar, and must be signed by the candidate.

The major and minor examinations are held at Montreal in April, and at Quebec in the Autumn.

# REGISTRATION

Students in Pharmacy are required to register at the office of the University Registrar between September 23rd and September 28th, both dates inclusive. Students entering on or after Monday, September 30th, will not be allowed to register until they have paid a late registration fee of \$5.00 during the first week of the session, and \$10.00 during the second. This will not be refunded except for satisfactory reasons and by special authorization of the Faculty.

### **EXAMINATIONS**

Examinations in each subject are held at the close of the course. Students who pass in all subjects of the curriculum, as required by the Pharmaceutical Association of the Province of Quebec, will receive the University Diploma of Pharmacy. The pass requirements are 50 per cent in each subject and 60 per cent on the whole. Sventy-five per cent is required for honours. The examination requirements of the Pharmaceutical Association of the Province of Quebec for license to practise Pharmacy in the Province are stated on page 500.

# FEES

All students must register with the University Registrar before paying their fees.

The fees for separate courses will be as follows :-

Registration fee	\$ 5.00
Fee for Athletics and Athletic Grounds	*3.00
Course in Junior Chemistry and Physics	50.00
Course in Senior Chemistry	50.00
Course in Junior Materia Medica and Pharmacy	50.00
Course in Senior Materia Medica and Pharmacy	50.00
Course in Practical Pharmacy (Junior)	50.00
Course in Practical Pharmacy (Senior)	50.00
Course in Analytical Chemistry	50.00
Course in Botany	25.00
Diploma fee	15.00
Fee for Supplemental Examination, each subject	5.00

The special day set apart for the payment of fees in Pharmacy is Friday, September 27th, but they may also be paid on October 2nd, 3rd, 4th or 5th, or before September 30th.

Certain fees are payable to the Pharmaceutical Association of the Province of Quebec for registration, examinations, and for the licentiate in pharmacy. (See page 502.)

# MEDAL

A medal will be awarded to the graduate who obtains the highest total percentage over 80 per cent.

\* Students in Pharmacy may, if they so desire, secure the privilege of the skating rinks and tennis courts during the Session and admission to the home games under the control of the Athletic Board by the payment of an additional amount of \$7.00.

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# **TEXT-BOOKS RECOMMENDED**

PHARMACY AND PRESCRIPTIONS:-Remington's Pharmacy, Bennett's Medical and Pharmaceutical Latin, Scoville's Art of Compounding, Lucas' Practical Pharmacy, Dispensing, Cooper and Dyer.

CHEMISTRY :- Junior and Senior Chemistry.

Reference Book:-Sadtler and Coblentz, Pharmaceutical and Medical Chemistry.

PHYSICS :- Balfour Stewart's Elementary Physics, Ganot's Physics, Peck's Ganot's Physics.

BOTANY:-Gray-Robinson Manual, Kraemer's Applied and Economic Botany.

MATERIA MEDICA:—British Pharmacopœia, United States Dispensatory, Squire's Companion to the British Pharmacopœia, Royal's Materia Medica, Sayre's Organic Materia Medica and Pharmacognosy, Heebner's Synopsis.

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# COURSES OF LECTURES

### CHEMISTRY

Two courses will be required for the Diploma in Pharmacy, namely, the junior and senior.

Junior Chemistry.—This includes elementary physical science and a university course on the general principles of the science of chemistry. A course in elementary physics will be taken with the students in the School of Commerce and will consist of a series of twenty-five lectures on the principles of physics and their application. The course is nontechnical and is intended as an introduction and supplementary to the course in general chemistry. The course in general chemistry will consist of three lectures per week, given for the students in Arts and pre-medicals, on Monday, Tuesday and Thursday, at two o'clock. In addition to these lectures, there will be two laboratory periods each week of two hours, immediately following the lectures on Monday and Thursday. This course in general chemistry is intended to give a thorough grounding in the fundamental principles governing chemical action and the formation of chemical compounds, organic as well as inorganic.

Senior Chemistry.—The senior course in chemistry will be a short course of laboratory work on the identification and separation of organic and inorganic compounds of special importance in Pharmacy, and will include elementary toxicology, the assay of crude drugs, volumetric analysis, analysis of urine, the use of spectroscope, etc.

#### PRACTICAL PHARMACY

Junior.—This course will embrace (1) the preparation of a number of typical examples drawn from the official dilute acids, waters, liquors, plasters, extracts, fluid extracts, mixtures, liniments, oleates, syrups, ointments, etc. (2) General principles to be observed, simple and compound powders, mixtures, emulsions, their nature and preparation; pills and pill coating, gargles, lotions, liniments, suppositories, plasters, ointments, cachets, capsules, tablets and tablet triturates, lozenges and pastilles, lamellae, incompatibility, Pharmacy law.

Senior.—Practical Pharmacy in all its branches will be thoroughly dealt with. The course will include the following subjects:—Clarification, crystallization, decantation, dialysis, distillation, drug grinding, extraction, filtration, heat, metrology, percolation, precipitation, solution, specific gravity, specific volume and vaporization.

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In conjunction with the foregoing, the class will practice the modus operandi for the manufacture of different preparations of the B. P., and others. including chemical solutions, elixirs, spirits, plasters, emulsions, ointments, granular effervescent salts, crystal and scale salts of iron, resins, oleo resins, etc.

Particular attention will be given to pharmaceutical assaying, such as opium, ipecac, belladonna, cinchona, nux vomica.

#### MATERIA MEDICA AND THEORETICAL PHARMACY

Junior.--This will include instruction in pharmaceutical jurisprudence, poison schedules, weights and measures; classification of the official organic drugs, including leaves, flowers, fruits, seeds, herbs, barks, gums, resins, etc., with the geographical source, parts used and official preparation of each; posology; theoretical pharmacy (embracing the theories of manufacture of the simple preparations of the B. P., such as medicated waters, syrups, tinctures, compounds, powders, pill masses, etc.); dispensing.

Senior.—Complete classification of all official organic and inorganic drugs, giving, in the former, the mode of collection and preservation, geographical and botanical sources and parts used—and in both instances the constituents and impurities, also the medicinal properties of each, with their preparations (animal drugs, such as pepsin, pancreatin, thyroids, etc., will be dealt with in a similar manner); posology; pharmacognosy; toxicology; theoretical pharmacy (embracing the theories of manufacture of the more complex Galenical official preparations); adulterants, impurities and the methods of detection.

#### BOTANY

General Botany.—General external morphology of the higher plants (higher cryptogams and phanerogams); anatomy and histology, the latter treated with more especial reference to methods of drug identification by means of the microscope.

General Physiology.-Elementary plant physiology, treated briefly.

Special Botany.—Structure of those plants below the pteridophytes of use or interest to the pharmacist, treated briefly; special morphology of pteridophytes and phanerogams, and their classification. Attention will more especially be given to those families (about 30) of plants chiefly represented in materia medica.

# EXAMINATIONS FOR ADMISSION TO THE PRACTICE OF PHARMACY

## (1) EXAMINATION TO OBTAIN THE CERTIFICATE FOR ASSISTANT PHARMACIST

To become an Assistant in Pharmacy the candidate must furnish proofs of having registered three years as a student in Pharmacy, also that he has served at least three years under a doctor or druggist duly registered; he must pay the fee required, and pass an examination on the medico-pharmacal sciences, Physics, Chemistry and Pharmacy. (Art. 4997, Law of Pharmacy.)

The candidate must be able to read prescriptions in script, translate them into English and French, write fully and legibly all the abbreviated words; point out the doses which are unusual, prepare, label and address properly the prescription, under the scrutiny of the examiner.

The candidate must recognize the Galenic preparations of the B. P., such as extracts, tincture, powders, etc.; describe the composition of the compound preparations, giving the proportions of their active ingredients, the mode of preparation, and the doses. He must be able to describe properly in the presence of the examiner the different official Galenic preparations.

He must recognize samples of roots, barks, leaves, fruits, etc., employed in medicine, and name the official preparations into which they are incorporated; have a knowledge of the laws of physics and chemical combinations, of the nature and properties of the elements and their compounds, and recognize the acids, oxides, salts and other chemical bodies, described in the B. P., and also give their doses.

# (2) FINAL EXAMINATION FOR LICENTIATE IN PHARMACY

The Final Examination to be passed by the candidate includes all the subjects required for the Assistant in Pharmacy Examinations, but a more thorough knowledge of these sciences is required, also practical analytical Chemistry and Botany.

The candidate will have to describe the methods of obtaining acids, oxides, salts and other chemical compounds described in the B. P., explain the decompositions which take place when they are made, by means of written equations and diagrams, and also possess a good knowledge of the new synthetic products.

He must recognize the more important medicinal plants; know the therapeutics and posology of B. P. preparations, also the non-official plants which are used commonly, know the physiology and anatomy of plants, the shape, structure and characteristics of the roots, barks, leaves, flowers, fruits, etc.; their physiological functions and their natural order.

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He will be required to know the best antidotes for urgent cases of poisoning by the ordinary toxics, and must pass in a satisfactory manner the test on practical pharmacy, analytical chemistry, volumetric and urine analyses.

He must also show that he is registered as an Assistant Pharmacist, and give proofs of having duly served four years under a doctor or druggist duly registered; that he has followed for two years the Medico-Pharmacal classes, two years of Physics and Chemistry classes, one year's course in Botany and other natural sciences, according to the programme established in institutions incorporated and authorized by the Council of the Association; pass the examinations on the above subjects, and pay the fee. (Art. 4997, Law of Pharmacy.)

However, the student in Pharmacy or the certified clerk may, if he so desire, give up a whole twelve months exclusively to the study of Pharmacy. (Art. 4997.)

The Board of the Pharmaceutical Association will accept only one course in any subject in the same year; classes attended during the same scholastic year in different schools will count for one course. Private or academy classes will not be accepted.

At the Junior and Final Examinations, students must obtain 40 per cent of points on each subject, at the written examinations, and 50 per cent on the total number of points, to be admitted to the oral examinations; but the student who passes satisfactorily the written examination is not obliged to begin it over again if he fails in the subsequent oral examination. At the oral examination, they must obtain at least 40 per cent on each subject, and finally, to obtain their license, they must obtain 60 per cent of the total examinations, oral- and written united. Any candidate receiving less than 40 per cent on any one subject in the written or oral examinations may apply at the following examination to be examined on this one subject. A candidate who fails to obtain the necessary 40 per cent in two or more subjects must take all subjects of the examination over again. Any candidate who does not apply at the next examination following to take the subject in which he has failed, or who tries and fails again, will have to take the whole examination, either written or oral, as the case may be.

No certificate of examination will be accepted from any Pharmaceutical Association or College, unless it has been granted after a service of four years in a drug store and following a course of studies which, in the opinion of the Board of the Association, is equivalent to that required by the articles 4997-4998 of the Law of Pharmacy of the Province of Quebec.

Candidates who apply for the final examination, and who are not twenty-one years old, will be admitted to the examination, but if they succeed their license will be retained until they have attained the age of twenty-one.

#### FEES FOR THE EXAMINATIONS

The fees to be paid by candidates, besides the registration fee, before they are admitted to the examination, are as follows:—Preliminary examination, \$20.00, or \$10.00 for each group; Assistant in Pharmacy, \$15.00, and Pharmacist, \$25.00. These fees must be paid in advance to the Registrar of the Association.

Any person having registered his name for an examination and not attending will lose the fee paid.

In addition to the above, a sum of \$40.00 is required for the Diploma of Assistant Pharmacist, and \$75.00 for the diploma of Licentiate in Pharmacy.

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# SCHOOL OF PHYSICAL EDUCATION GENERAL INFORMATION

## History and Aims.

The McGill School of Physical Education, which was established in 1912, has grown from a short summer course to a full two years' course and is now officially recognized by, and is an integral part of, McGill University.

It is the only School of Physical Education in Canada with a full two years' course connected with a University, and it has, since its inception, been fulfilling its purpose to provide Canada with a training centre for teachers of physical education, with marked success.

The modern conception of education is one which includes the individual as a unit and which strives to link all subjects in an organic whole. The Physical Education of to-day contributes to general complete education by means of motor activities which develop desirable standards of conduct, wholesome attitudes, sound habits of thinking, and efficiency of the human machine.

### The Field.

The field for trained teachers in physical education is rapidly widening in scope, to include such organizations as the following:—Public and Private Schools; High Schools; Colleges; Y.M.C.A.'s; Y.W.C.A.'s; Church Clubs; Playgrounds; Recreation Centres; Welfare and Social Clubs; Settlements; Industrial Organizations; Boy Scouts; Girl Guides; Summer Camps, etc.

## Qualifications.

Scholastic: Matriculation (see pages 79 and 506).

It is highly desirable for any student anticipating entrance into this course to take either Chemistry, Physics or Biology in their preparatory work.

Motor Training: A native motor ability above the average, a rhythmic sense and previous training in motor activities is essential.

Personal: The programme of physical education places a rare opportunity in the hands of the instructor, and thus necessitates a forceful personality, guided by high ideals and aspirations, an understanding of people and an ability to organize and control group activities.

## Courses Offered.

A two-year course, from September to May, inclusive, is given in the theory and practice of physical education. This course is required for the Diploma of the School, and includes an analysis of the underlying principles of general education, educational psychology, the physical organism as a functioning unit, and a study of the possible contribution

of physical education to the problems of modern civilization. Opportunity for practice teaching under staff supervision is provided before graduation.

Partial students may be admitted for the study of special subjects. Special arrangements will be made for admission to the course on Playground Problems.

## Facilities.

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The work is carried on in the University buildings, the laboratories and museums being at the disposal of the students.

The University Library is available for use by the students, as are the University Hockey Rinks, Tennis Courts and the Percival Molson Memorial Stadium.

A special library of selected works and the leading magazines on physical education is available for use by the students.

Through the kindness of the Protestant Board of School Commissioners, the Day Nursery, the University Settlement, the Ladies' Benevolent Society, and the Hebrew Orphans' Home, exceptional facilities are afforded for practice teaching and observation.

Practical demonstrations are carried on in the Out-Patient Department of the Montreal General Hospital.

## Hostel.

A residence in charge of a resident tutor, at 3466 University Street, in the immediate vicinity of the campus, is conducted by the University and is available for students, provided application is made at an early date. Priority will be given to students without conditions. Printed regulations will be supplied to intending students.

Room rent, \$200.00 for the session; board in the Royal Victoria College (adjacent), \$320.00 for the session. (Inclusive charge, \$520.00.) Charges for rent and board are paid in two instalments (October and February). Rooms are available from the day before the last day of registration (September 11th), until the day after Convocation, for students of the Second Year and until the Saturday before Convocation (May 24th), for students of the First Year. The board charges cover the same period. Most of the rooms are cubicles and *no room is assigned* for a shorter period than the University session, September to May. A deposit of \$10.00 is required when a room is reserved and is deducted from the charges for the first term.

Students whose homes are not in Montreal are required to live in the Hostel unless they submit their plans for residence in writing to the Director, and obtain his written approval. In cases where this privilege is granted, the accepted rules of residence must apply.

# Costume for Women Students.

The regulation costumes of the School must be worn, and students will not be permitted to wear other than the regulation gamments. Measurement blanks will be furnished upon registration and students will be advised where the costumes can be secured. A list of articles required, including clothes and books, with approximate cost, will be sent to students on application.

## Student Organization.

All undergraduates are members of the McGill Women Students' Society (the official Undergraduate Society for Women).

An Undergraduate Association is also organized by the School of Physical Education, together with an Athletic Association which is a branch of the McGill Women Students' Society.

## Voluntary Cadet Corps.

The 1st Montreal Cadet Corps is operated under the auspices of the School for the training of Girl Guide Officers.

# Alumnae Association.

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There is a very active association of the graduates of the School which meets regularly for mutual benefit. It is the endeavour of the School to keep closely in touch with its graduates, to locate them in positions for which they are best suited, to advise upon particular problems, and to furnish them from time to time with new ideals and inspiration for the profession in which they are engaged.

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# ENTRANCE REQUIREMENTS

1. Students are required to have passed the Matriculation Examination, as follows:---

- 1. English (two papers).
- 2. History (one paper).
- 3. Elementary Mathematics [Algebra (one paper) and Geometry (one paper)].
- One of the following:— Physics, Chemistry, Botany, Zoology (one paper).
- One of the following:— Latin, French, Greek, German, Spanish (two papers).

For requirements in each subject and other information regarding the examination, see the Arts Announcement.

A candidate who has qualified for admission to the Faculty of Arts will also be accepted for the School of Physical Education.

Students holding the Degree of B.A. or B.Sc. will be eligible for advanced standing. A complete statement of the courses covered, together with the practical experience of the student, must accompany every such application.

# Health Examination.

In order to safeguard the health of the student, every candidate on entering the School will be required to pass a satisfactory health examination before proceeding with the course. In order to be sure of the applicant's fitness to undertake the course, students are required to submit a medical certificate before registration. (See application form.)

## Vaccination.

All students entering the University for the first time are required to present a certificate of successful vaccination within the past seven years, or of insusceptibility to vaccine within the past five years, failing which, they shall at once be vaccinated in a manner satisfactory to the authorities. This should be attended to previous to entrance so as not to cause unnecessary absence from classes.

## Health.

Provision is made by the University for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, and for this time only when requisitioned for by the Department. The University will not be responsible for any

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accidents occurring during the course. A leaflet concerning this service and the general work of the Department will be distributed at the opening of the session.

## Admission.

Only women students are admitted to the regular courses in the School. They will not be admitted if they are less than eighteen (18) or more than twenty-seven (27) years of age, except under special conditions. A personal interview is advisable and applicants must have had some practical experience in physical work before registration. Registration for the Session 1929-30 is limited to fifty (50) students and priority will be given to applicants who do not have conditions.

Two references, one from a former teacher, must be submitted with the application form. Neither reference should be from a relative.

Partial students, both men and women, will be admitted to special courses at the discretion of the Committee, and the work done will count toward the Diploma of the School.

#### Regulations.

1. All students enter the School on an indeterminate probation. At the end of the first term, students who are considered unsuitable for the profession will be advised to discontinue; \$77.00 of the fees paid at the beginning of the course will not in this case be returned.

2. A student may at the discretion of the Committee be requested to withdraw at any time for reasons of unsatisfactory work or conduct.

3. Except in the case of illness or emergency, students must not absent themselves without previous permission, and students persistently late or absent will not be allowed to sit for the examinations.

4. No student will be permitted to participate in outside demonstrations, classes or teams, etc., without first having secured permission from the Director.

# FEES AND REGISTRATION

#### I. FEES

# Sessional fee ...... \$150.00

#### By instalments:

Note.—The deposit fee of \$10.00 for Hostel accommodation made at the time of acceptance of application will be deducted from the charges for the first term.

Students are also required to pay a fee of \$2.50 which entitles them to membership in the McGill Women Students' Society and subsidiary societies, and \$1.50 for the McGill Daily.

In addition, there will be a fee of \$6.00 for athletics and athletic grounds, for the skating rinks and tennis courts during the Session and for admission to the home games under the control of the Athletic Board.

Fees for Partial Students: \$4.00 for library, \$3.00 for athletics and athletic grounds and a fee at the rate of \$9.00 for an hour a week of instruction during the academic year, but the maximum fee shall in no case exceed the full undergraduate fee.

Partial students may, if they so desire, secure the privilege of the skating rinks and tennis courts during the Session and admission to the home games under the control of the Athletic Board by the payment of an additional amount of \$3.00.

## Fees for Supplemental Examinations.

**Caution Money.** Every student is required to deposit with the Bursar the sum of \$5.00 as caution money, to cover damages done to furniture, apparatus, books, etc. This amount, less deductions (if any), will be returned at the close of the Session.

#### II. REGISTRATION

Students (both former and entering) will register between September 9th and September 12th, and the opening lecture will be given on Thursday, September 12th.

A fine of \$5.00 for the first week and of \$10.00 for the second week is exacted for late registration.

Application forms should be returned not later than September 9th, 1929.

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# EXAMINATIONS AND PRIZES

# Diplomas.

Examinations will be conducted in all subjects and diplomas are granted to successful students at the end of the session. Strathcona Certificates issued through the Strathcona Trust are granted to students at the end of the First Year.

Fifty per cent is required for a pass, 60 per cent for second class, 75 per cent for first class; but at least 60 per cent must be made on teaching and in the major practical subjects.

The Educational Diploma is recognized by the Protestant Committee of the Department of Education, Province of Quebec, and the Protestant Board of School Commissioners of Montreal as qualifying students who are British subjects for the salary of Specialist in the Public Schools.

Students failing in their sessional examination may, at the discretion of the Committee, take supplemental or special examinations.

All students of the Second Year are required to do a certain amount of practice teaching and athletic officiating. Credit is given for this work.

### Prizes.

1. JUNIOR YEAR PRIZE.—The School offers a prize to the student of the Junior Year who attains the highest general proficiency in the sessional examinations.

2. LIEUTENANT-GOVERNOR'S BRONZE MEDAL.—This medal is awarded to the student of the Junior Year who attains the second highest general proficiency in the sessional examinations.

3. SENIOR YEAR GOLD MEDAL.—The School offers a prize of a gold medal to the student of the graduating year who attains the highest general proficiency throughout the course.

4. LIEUTENANT-GOVERNOR'S SILVER MEDAL.—This medal is awarded to the student of the Senior Year who attains the second highest general proficiency throughout the course.

5. A Cup, presented by the Class of 1916, is held for one year by the student of the Senior Year gaining the highest standing in practical work.

6. A Shield, presented by the Class of 1925, is awarded to the student attaining highest standing in practice teaching throughout the course and is held for one year by the student.

Note.-No student shall be entitled to more than one prize in any one year.

# COURSES OF INSTRUCTION

## JUNIORS

# SENIORS

H subjects and diplomas are	ours	anneatrons will be conducted	Hours
English	1	Physiology of Exercise	
Physics	1	Individual Gymnastics and	
Chemistry	1	Massage	2
General Anatomy and Physi-		Preventive Medicine	2
ology	3	Kinesiology and Applied	
Physical Diagnosis	1/2	Anatomy	1/2
Theory of Physical Educa-		Principles of Education	1
tion	1	Organization and Adminis-	
Educational Psychology	1	tration	
History, Education and Phy-		Theory of Physical Educa-	
sical Education	1	tion	
First Aid	1/2	Child Welfare	
Playground Problems	1	Gymnastics	
Gymnastics	4	Games and Athletics	
Games and Athletics	3	Dancing	2
Dancing	3	Aquatics	
Aquatics	1	Practice Teaching	3
Teaching, Observations and		HE WE MANAGEMENT AND	Restort.
Practice Teaching	1		21

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The hours as stated indicate hours per week for the session of thirty weeks.

## THEORY

# JUNIORS

## English

This course is arranged primarily to supplement the students' knowledge and appreciation of English literature. The course will include brief discussions, from a comparative point of view, of the novelists, the essayists, and Canadian poets particularly.

It will be directly allied to Physical Education in that all answers, quotations, readings and discussions will be given orally and points regarding voice production and training will be taken up as the occasions arise.

Miss Slack

1st and 2nd Terms, Wed. 12.

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#### Physics

This course is adapted to problems in physical education, so as to give the students an understanding of the practical applications of physical laws and principles bearing upon their work.

Mechanics (force, work, power, energy, mechanical advantage); properties of matter (density, elasticity, cohesion, adhesion, capillarity, surface tension, osmosis, gas laws); heat (temperature, specific and latent heat, modes of transfer, effects, humidity); light (undulatory theory of electromagnetic waves, source within the atom, laws of reflection, refraction, images with mirrors and lens, photometry); magnetism (methods of magnetization, lines of force, poles, law of force, compass); electricity (properties of positive and negative charges, electroscope, friction machines, currents, cells, electrolysis, magnetic effects, induction dynamo motor, Ohm's law, therapeutic uses of electricity).

Professor Reilley, Dr. Douglas

1st Term, Wed. 11, Fri. 9.

## Chemistry

This course will include the fundamental principles requisite for a knowledge of general chemistry. Stress will be laid upon the chemical interpretation of (a) combustion and its relation to respiration, (b) water purification and sanitation, (c) disinfection, (d) pasteurization. Where possible, trips will be arranged for practical demonstrations of the above lectures.

A series of lectures will be given on the phenomenon of solution in its various phases of neutralization, hydrolysis, electrolysis and osmosis. Compounds met with in ordinary daily routine will be discussed and illustrated with experiments. In conclusion, there will be a brief introduction to organic chemistry of general interest.

Dr. Hatcher

1st and 2nd Terms, 1 hour, Fri. 10.

# General Anatomy and Physiology

The purpose of this course is to give the student a clear conception of the human body as a *living mechanism* in which the functions and structure are inseparably related, and in which the activities of all parts are intimately co-ordinated. As far as possible, therefore, the anatomy and physiology of the various organs and systems are considered together.

After an introductory study of the structure of the body as a whole, the great vital phenomena which distinguish all living organisms are considered and a detailed analysis made of the way in which they are exemplified in man.

In this way the various processes which go to make up the life cycle are taken up; the processes of ingestion, digestion, absorption,

assimilation, catabolism, respiration, excretion, irritability and conductivity, movement and reproduction—and the structure of the organs concerned in these functions studied.

Professor Simpson 1st and 2nd Terms, 3 hours, Mon., Wed., Fri., 9.

# **Physical Diagnosis**

Lectures and practical demonstrations in the methods of examination for defects of posture and development, especially of the spine and thorax; description of deformities due to disease; examination by inspection palpation, percussion and auscultation; tests for sight, hearing, nasal obstruction; examination for dental defects.

Students will be taught the early recognition of contagious disease, the more common defects and when to seek expert advice. Practice in methods of examination will be carried on under supervision in the Senior Year.

The course will include a study of human measurements, with reference to signs, body proportions, state of development and function of the body; the effect of age, sex, occupation, race and environment on development—adaptability to various forms of exercise and occupation demonstrations of the use of various anthropometric instruments.

The application of this material will be made to educational institutions, including such follow-up procedures as: the hygiene of instruction, conservation of sight classes, fresh air rooms, school clinics, etc.

Dr. Harvey, Miss Herriott

2nd Term, Wed. 5.

# Theory of Physical Education

This course includes a study of the contributions of psychology, biology and physiology to physical education, an analysis of the aims and objectives of physical education in relation to general education, standards for evaluating physical education activities and the underlying principles of curriculum construction. A section of the course will be devoted to the modern programme of health education. Readings, term papers and the construction of a curriculum will be required.

Miss Herriott 1st and 2nd Term, 1 hour, Mon. 9, Tues. 10.

## Educational Psychology

A brief outline of general psychology, with special reference to the relation between mind and body and the most important principles of educational psychology, including a study of original nature, the laws of learning, transfer of training, etc.

Dr. Best

2nd Term, Mon. and Wed. 11.

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#### History of Education and Physical Education

This course will trace the development of physical education through the different periods of world history. Attention will be given to the characteristics of the people and to the ideals and customs of time and place as determining factors in the development of general education and of physical education.

Miss Herriott

2nd Term, Thurs. and Sat. 9.

# First-Aid

The endeavour in this course is to give the student a thorough practical knowledge of the correct action to take in cases of emergency.

The treatment of burns, scalds, sprains, dislocations, fractures, shock, hemorrhage, poisoning, etc., also the various kinds and uses of bandages, splints, antiseptics, etc., are carefully considered.

Successful students qualify for the certificate of the St. John Ambulance Association.

Dr. Tees

2nd Term, Fri. 11.

## **Playground** Problems

This course will relate the psychological principles to the actual activities of child life and the types of activity best suited for children of varying ages and development; theories of play, etc.

The various playground activities; individual, group and mass athletics, dancing, games, singing, pageants, festivals, story-telling, handicraft, as well as layout and equipment, will be specially considered.

Actual practical work and visits to grounds form part of the course. 1st Term, Tues., Thurs. 9.

Dr. Lamb, Mrs. A. E. Coleman

#### SENIORS

#### Physiology of Exercise

The object of the course is to study by lectures and practical demonstrations the effects of exercise on the neuro-muscular system, metabolism, respiration, circulation, etc. The work in this course will supplement and apply the problems studied in physiology to the working power of the human machine.

Dr. Lamb

2nd Term, Wed., Fri. 9.

### Individual Gymnastics and Massage

General consideration of movements used for remedial treatment; actual practice in class work; observations in the hospital clinics.

A consideration of the theory and effects of massage taken in broad outline to give the students a knowledge of its general usage and benefits. Practice in technique of massage manipulation with application to minor disabilities.

Miss Hancock, Dr. Harvey

1st and 2nd Terms, 2 hours, Tues., Thurs., 9.

# **Preventive Medicine**

The study of Preventive Medicine is taken up under the following heads :--

# (a) Bacteriology and Serology.

Lectures and demonstrations are given in the study of the more common pathogenic organisms and communicable diseases. Their relation to health is considered in air, water, food, clothing, skin, hair, mouth, etc. Precautions against and means of combating pathogenic organisms are studied in, e.g., sterilization, disinfection, pasteurization, vaccination, immunization and general prophylaxis.

# (b) Personal Hygiene.

A consideration of the philosophy of health, the social responsibility of the individual, the principles of mental hygiene, and the laws of healthful living in relation to the individual and the environment.

# (c) Public and School Hygiene.

Health organizations and the means for the maintenance of health; occupational diseases and the effect of various occupations on health, sanitation, light, heating, ventilation, water supply and drainage, schoolroom inspection, etc.

Dr. Starkey, Miss Herriott

1st and 2nd Terms, 2 hours, Tues., Thurs. 11.

## Kinesiology and Applied Anatomy

This course will consist of a general review, by means of lectures and demonstrations, of the mechanics of movement of the human machine, also of the classification and analysis of exercise, joint-movements and the action of muscle groups in producing motion.

Dr. Harvey

2nd Term, Wed. 11.

# Principles of Education

This course includes a study of the underlying principles of general education, including concomitant learnings, the project method, the doctrine of interest, coercion in learning, etc. Application will be made to the field of physical education. Miss Herriott

1st Term, Wed., Fri. 10.

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### Organization and Administration

This course comprises a study of various problems in organization and administration, from arranging a simple schedule of competitive events to the organization and supervision of a Department of Physical Education.

Actual visits to study organizations of various types will be made under supervision.

Dr. Lamb, Mr. Powter

1st Term, Wed., Fri. 9.

## Theory of Physical Education

A continuation of the course outlined for Juniors.

Child Welfare

A study of child life and the influences necessary to the normal development of the child, the treatment of dependent, neglected, delinquent and defective children; child-welfare legislation.

Professor Hughes

1st Term, Thurs. 12.

# ACTIVITY COURSES

### JUNIORS AND SENIORS

The practical courses are planned to enable the student to gain not only an adequate knowledge of the numerous activities in physical education, but also to attain a moderate degree of skill in each type and to be able to intelligently teach and direct motor activities.

The student is made thoroughly familiar with the broad underlying principles of practical work and is furnished with ideas and ideals, thereby facilitating the application to any conditions which may arise in the teacher's field of endeavour.

#### Gymnastic Floor Work

#### SECTION I

Swedish and Danish gymnastics, with apparatus work.

#### SECTION II

#### SECTION III

Informal activities, such as game skills, stunts, tumbling, pyramid building, and self-testing activities.

#### SECTION IV

This period is devoted to lectures and discussion of the material in the activity sections.

Miss Herriott, Miss Wain, Miss Slack, Mrs. Amaron, Mr. Finlay, Mr. Van Wagner, Major Forbes, Mr. Burridge.

## Games and Athletics

# SECTION I

The teaching, organization and compiling of games of low organization suitable to various ages of childhood.

### SECTION II

This course offers training in the fundamentals of games of high organization, such as basketball, baseball, tennis, field and ice hockey, archery, etc. An opportunity will be offered to develop efficiency m coaching and officiating.

Miss Wain, Miss Slack, Major Forbes, Mr. Burridge.

## Track and Field Activities

Instruction in all track and field activities will be given in the fall season during the first six weeks of the session.

Miss Wain, Miss Slack, Mr. Van Wagner.

## Dancing

SECTION I

Folk, National and Clog Dancing.

#### SECTION II "

Character and Interpretative Dancing. Dances suitable for public and high school students, with necessary technique and original dance compositions by the students.

## SECTION III

Natural Dancing. This material is a rhythmic expression of the native and fundamental activities, including child rhythms and plays, music interpretations and natural dances.

Miss Herriott, Miss Wain, Miss Slack.

## Aquatics

This course includes methods of individual and class instruction of back, crawl, side, breast and trudgeon strokes; diving; life saving; methods of release, rescue, resuscitation; water polo; aquatic meets, etc. Miss Duval.

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## **Practice Teaching**

# JUNIOR YEAR

During the first half of the second term, opportunities are provided for weekly visitations to private schools, Y.W.C.A., Montreal Amateur Athletic Association, etc.

During the second half of the second term, practice teaching under staff supervision is required at the University Settlement, Montreal Day Nursery, Hebrew Orphans' Home and Ladies' Benevolent Society.

# SENIOR YEAR

From October to March practice teaching under staff supervision is required at the University Settlement, Montreal Day Nursery, Hebrew Orphans' Home and Ladies' Benevolent Society.

During March and April, the opportunity is provided for practice teaching in the public schools of the city.

In addition to the above, each senior student is provided with a class outside of the University for which she assumes the full responsibility.

Athletic leagues in the city of Montreal provide experience in officiating.

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# SCHOOL FOR SOCIAL WORKERS

# (A Member of the Association of Schools of Professional Social Work)

### FOREWORD AND HISTORY

The School for Social Workers was founded in 1918 to provide social education and to supply the demand from Canadian cities for social workers with a breadth of view and scientific training. It has developed gradually from a department fostered by the Joint Board of the Theological Colleges, the social agencies of Montreal, McGill University, the Graduates' Society and interested individuals into its present status of a School. It is separate from any other faculty or department but is a constituent part of the University. After three years of trial and experiment the School was able to offer a regular one-year course of lectures, covering the practical side of social work and the educational background necessary for a proper appreciation of modern social problems. From 1923 onwards the work of the School centred around a two-year course leading to a diploma.

Social work, or social service, is not a new development, and its professional aspect alone is comparatively recent. At the end of the nineteenth century the number of permanent salaried positions for wellqualified men and women increased so greatly that a professional aspect was imparted to the work which had formerly been left in the hands of the casual volunteer. At this time social workers began to look beyond the remedial measures which would readjust the family or individual to normal conditions of life, and to seek the causes of mal-adjustment in order to build up a programme of preventive service. To-day the number of social agencies with a preventive policy, which provide facilities for wholesale personal and social development by means of community, recreational and educational work, is steadily increasing.

Without schools or text-books to prepare them for the profession of social work, the workers had to acquire their training through a system of apprenticeship, as was followed by the early educational methods in the older professions of law and medicine. This haphazard way entailed a heavy cost in mistakes and inefficiency to the agency and their clients.

At the end of the nineteenth century, training courses of a few weeks were given by universities and interested organizations. From this simple nucleus has gradually emerged the modern school of social

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work, with a curriculum covering several years, an organized system of field work, text-books and staffs of instructors who give all their time to teaching and supervising. Standards of social work have advanced along with standards of professional training, and now the social worker is required to have a scientific knowledge and a technique which requires skilled performance to be effective.

### THE FIELD OF SERVICE

The demand for trained and educated persons in the field of social work is in advance of the supply. Social work is a profession for men as well as for women, and the School seeks the entrance of young men to meet the requests which come from the social agencies. Graduates of the School hold positions ranging from executive secretary to case worker or visitor in the social agencies, and their activities cover such different fields as family welfare, hospital social service, Y.W.C.A., nursery schools, child placing, juvenile delinquency, mental hygiene, boys' homes, and work with the handicapped and the tubercular. Additional fields in which social workers may follow their profession are child welfare, immigration, institutions for the care of children and adults, church social service, clubs, settlements, personnel departments, social research, Y.M.C.A. and rural community work.

#### EXTENSION LECTURES

The School and the Department of Extra-Mural Relations are ready at all times to co-operate with existing organizations by providing speakers on social-education topics. They also arrange series of popular lecture courses in the social field for churches, schools, social agency boards, social service committees and community organizations.

#### ADMISSION

Candidates for admission are required to make application on a form supplied by the School, at an early date.

Students intending to register must first call at the Office of the School for Social Workers.

**Diploma Course (Two Years).**—Two years of university work or their equivalent will be required for admission to this course. College graduates, graduate nurses and teachers should take the course successfully.

Age.—Persons under 20 and over 35 years of age will only be admitted under exceptional circumstances.

**University Graduates.**—The Department of Sociology exists within the Faculty of Arts to carry on a scientific study of human society. University graduates while taking the two-year course in social work may also qualify for an M.A. in Sociology.

**Undergraduates in Arts.**—Undergraduates in the Faculty of Arts who intend to enter the School after graduation may specialize in the field of Sociology and allied Departments. This fundamental background for social work will enable them to complete the two-year course in one year. They may also acquire practical experience in the settlements and clubs in Montreal.

Limited Diploma Students.—Students who for special reasons are not able to follow the regular curriculum of the course, may, if those reasons appear satisfactory to the Director, be accorded the status of Limited Diploma Students. Such students may distribute their work over three or four years, on the understanding that the sequence and arrangement of courses shall follow the requirements laid down in the regular curriculum.

Partial Students.—All lectures in the School for Social Workers are open to Partial Students, at the discretion of the Director. A statement of standing for courses taken under examination can be obtained, but credit is not given towards a diploma.

**University Credit.**—Students holding degrees, diplomas or certificates from any recognized University will be given credit for equivalent courses. They must submit official records with their application.

**Medical Examination.**—Before the university opens, all new students must present a certificate of medical examination, and of vaccination within the past seven years, from their own physician, upon forms supplied by the School Secretary; or they may have the examination made by the University Medical Officer, free of charge, after the opening of the session.

## FIELD WORK

Field work, the practical training of the student in the social agencies, is of primary importance in the education of a social worker. During the First Year of the course, observation trips, attendance at social work clinics and, from January to May, one day and a half per week in a family welfare agency, comprise the sessional field work.

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Following the May examinations, there is one month of intensive field work with a family welfare agency.

Before the beginning of the Second Year lectures, the month of September is devoted to family welfare field work. During the session two days a week of field work are spent with hospital social service departments, children's agencies, social settlements and so forth. Following the final examinations, a third month of intensive field work is spent in that branch of social work in which the student intends to specialize.

# TIME REQUIRED

Students taking the Diploma Course cannot expect to do the work of the School satisfactorily unless they give their full time to it. The whole course covers a period of twenty and one-half months, which includes two scholastic years of eight months, three months of intensive field work and three months vacation between the First and Second Year.

#### LOAN FUND

A small loan fund is at the disposal of the School, from which assistance is given to students in particular need of financial assistance. Loans are repayable on easy terms.

Applications for assistance from this fund should be made as early as possible.

Prizes are offered for the highest standing in the work of the various courses.

## SCHOLARSHIPS

Numerous scholarships have been donated to the School by clubs and organizations for the purpose of ensuring a high educational standard for social work. These scholarships are awarded on a basis of ability, experience, education and financial need. They are of the value of \$300 and cover the two-year course leading to a Diploma. The Montreal Women's Club Scholarship—preference given to candidates from the Province of Quebec; the Notre Dame de Grace Women's Club Scholarship—preference given to candidates from Notre Dame de Grace; and the Montreal Rotary Club Scholarship will not be open to candidates until 1930. At present these are held by university graduates.

Applications will be accepted in the spring of 1929 for the following :---

The Mrs. Sadie Sherwood Memorial Scholarship.

McGill School for Social Workers Alumnae Scholarship.

Applications should be in the form of a two or three-page letter, stating candidate's interests, experience and reasons for application. This should be accompanied by an official transcript of the university

record, two letters of recommendation from university professors and one from an employer, high school principal, or other person capable of estimating the candidate's capabilities.

#### FACILITIES

Montreal as a Social Work Laboratory.—In Montreal, the student sees a large number of social agencies in operation, learns how experienced social workers help people to solve their difficulties, and participates in a variety of social work practices under expert guidance.

Library.—The School has developed a special library dealing with social problems and social work.

**Undergraduate Society.**—All students in the School may become members of the Undergraduate Society of the McGill School for Social Workers, and participate in its social and administrative activities.

Alumnæ Society.—The Alumnæ Society, founded in 1925, is an active organization which unites the graduates and maintains their contact with the School and its students.

Athletics.—Athletic exercises in the form of gymnasium and dancing classes, basketball, tennis, ice hockey, etc., are available. All students desiring to take part in any of these activities should register at the Department of Physical Education.

**Board and Lodging.**—Accommodation for a limited number of out-of-town students can be arranged for at the settlements. Residents are required to give one or two evenings a week to helping in the work of the settlement.

#### FEES

For Diploma Students.—The annual fee is \$70.00; if paid in two instalments (in October and February), \$72.00 (this includes the library fee).

Other fees payable by women students are as follows:-

Ground	s Fee	\$6.00
McGill	Women Students' Society	2.50
McGill	Daily	1.50

For Limited Diploma Students.-The fee is \$18 a course.

For Late Registration.—Those students who register after the period of university registration will be charged an additional fee of \$5.00.

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Students are also required to deposit with the Bursar the sum of \$5.00 as caution money, to cover damages done to furniture, apparatus, books, etc. This amount, less deductions (if any), will be returned at the close of the session. Books and other School expenses should not exceed \$15.00.

**Partial Students.**—Partial students will be charged a fee at the rate of \$7.00 for an hour a week of instruction during the academic year. Partial students taking three hours or more a week will be required to pay the Library Fee (\$4.00), the Grounds Fee (\$3.00), and deposit \$5.00 with the Bursar as caution money.

Partial students may, if they so desire, secure the privileges of the skating rinks and tennis courts during the session and admission to the home games under the control of the Athletic Board by the payment of an additional amount of \$7.00 for men and \$3.00 for women.

Extension Course Students and Partial Students taking less than three hours a week of Instruction.—These students desiring to use the University Library will be required to deposit \$5.00 with the Librarian to cover damage done to books. This amount, less deductions (if any), will be returned at the close of the session.

The day set apart for the payment of fees by students in the School for Social Workers is Monday, October 14th, but they may also be paid on October 2nd, 3rd, 4th or 5th, or before September 30th. They may be paid by cheque, which should be mailed to the Bursar so as to reach him by October 15th.

# **REQUIREMENTS FOR A DIPLOMA**

# First Year Courses:

Socia	ll Work Hours per week
Nu	mber: for the session
i.	History of Social Work 3
ii.	Introduction to the Study of Society (Sociology 1) 3
iii.	Introduction to Psychology (Psychology 1) 3
	Public Health and Preventive Medicine 2
	Social Economics (Economics 2) 3
vi.	Field Work1½ days per week, 2nd term

## Second Year Courses:

FIRST TERM			SECOND TERM			
vii.	The Family (Sociology 7). 3	ix.	Social Case Work 3			
viii.	Public Speaking 1		Social Legislation 1			
ix.	Social Case Work 3		Field Work2 days per week			
. x.	Social Legislation 1	xiii.	Home Economics 1			
xi.	Sociology of the Child	xiv.	Social Pathology (Soci-			
	(Sociology 10) 3		ology 4) 3			
xii.	Field Work2 days per week	xv.	Social Welfare Adminis-			
			tration 2			

## Alternative Courses:

The following courses may be substituted for ones already covered; or, if the student plans to do special work along one of these lines, the course may take the place of a Second Year subject.

Playground Problems ......2 hrs. per week, 1st term. The Community, a study of Rural and Urban

Li	te (Sociolog	gy 2)		 66	66	66	sess.
Social	Institutions	(Sociology	11)	 66	~"	a	66

A student may proceed to the Second Year with any one full course, or its equivalent, unpassed. A certificate of standing can be given on the satisfactory completion of one year's work.

The Diploma of the School is awarded to students who obtain not less than 50 per cent in any one written examination, and satisfactory reports from the social agencies in which their field work has been taken.

No student may graduate before completing the required periods of field work, 26 weeks in all.

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# COURSES OF LECTURES

# (Courses numbered with Roman numerals comprise minimum requirements for the Diploma)

# I. COURSES IN THE SCHOOL FOR SOCIAL WORKERS

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Practices in caring for dependent individuals and groups among some of the ancient peoples, and in the Mediæval age; the English Poor Law and the beginnings of modern social work; types and method of social treatment in other countries; the background of modern case work methods.

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This course presents, through the study of actual histories, the case method of dealing with social maladjustment. It enables the student to approach, analyze and interpret individual, family and group problems and to recognize the basis upon which to work out a solution. It discusses the function of the different types of social agencies in the working out of a social programme, and offers a practical basis for constructive and preventive social work.

# X. Social Legislation. One hour ...... Miss Reid.

The purpose of this course is to enable the student to know and to use effectively social legislation as a community resource.

# XIII. Home Economics. One hour, 2nd term ...... Miss Philp.

Food in relation to health; the dietetic and economic values of foods; planning low cost meals; family budgets and their use.

# XV. Social Welfare Administration. Two hours, 2nd term.Mr. Falk.

Historical development; scope, and relations between public and private agencies; organization and structure of a social agency; officers and boards of management; executive and staff; volunteer service; personal efficiency; office management; social agency accounting; social agency financing, individual, collective; social work publicity; social work statistics; social work co-ordination; the field of Protestant and non-sectarian social work in Montreal.

# IV. Public Health and Preventive Medicine. Two hours.

Department of Public Health and Preventive Medicine.

Public health in general; the value of health to the individual and the community; the cost of preventable disease; the public health aspect of the communicable diseases, including tuberculosis and the venereal diseases, methods of prevention and control; safeguarding of water, milk and food supplies; rural and urban hygiene; housing; maternal, infant, pre-school and urban hygiene; industrial and mental hygiene; personal hygiene.

A history of the phases of public health development and an outline of its relation to social work; an explanation of the relations of governments, health and social agencies; the social worker's use of the community's health resources.

### VIII. Public Speaking. One hour, 1st term.

Parliamentary procedure; the relation between speaker and audience; analysis of prepared and impromptu public speeches. The course affords extensive opportunity for practice and discussion.

#### II. COURSES IN THE SCHOOL OF PHYSICAL EDUCATION

**Playground Problems.** This course will relate the psychological principles to the actual activities of child life and the types of activity best suited for children of varying ages and development; theories of play, etc.

The various playground activities, individual, group and mass athletics, dancing, games, singing, pageants, festivals, story-telling, handicraft, as well as layout and equipment, will be specially considered.

Actual practical work and visits to grounds form part of the course. Dr. Lamb, Mrs. A. Coleman......2 hours, 1st term, Tues., Thurs., 9.

### III. COURSES IN THE FACULTY OF ARTS

II. Introduction to the Study of Society (Sociology 1). Three hours ......Dr. Dawson.

An environmental approach to the study of human nature and behaviour; an objective and scientific analysis of human relations; ecological and social forces; the great society and the growth of communication; conflict as a social function; the social order and social change; definition and use of the main sociological concepts.

## The Community (Sociology 2). Three hours.

Dr. Dawson and Mrs. Hughes, Research Assistant.

A study of Greater Montreal in comparison with the small town and open country communities. Analysis of the basic forces that con-

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dition the social life and social institutions of the great community. The trend of urbanization and its effects on human behaviour. Cities as centres of dominance and culture. Student research under direction.

## XIV. Social Pathology (Sociology 4). Three hours, 2nd term. Dr. Hughes.

The processes of social disorganization; the basic causes of poverty; unemployment, irregular work, industrial fatigue and the consequent demoralization of the individual and disorganization of the social group; social unrest and disorder; critical analysis of the attempts to control and reorganize society in the light of pathological social conditions; modern methods of research in the study of social change as it is related to social pathology.

Text:-Parmelee, Poverty and Social Progress (Macmillan).

## VII. The Family (Sociology 7). Three hours, 1st term.

Dr. Hughes.

The study of the family as the fundamental institution, its early forms, attitudes, and natural history; sociological interpretation of family relations in rural and urban life; biological, economic, religious, educational and legal aspects of family life. Present-day disorganization and reorganization of family life.

# XI. The Sociology of the Child (Sociology 10). Three hours, 1st term ...... Dr. Hughes.

The child as a developing personality; the normal cycle of social growth in the family; modern supplementary institutions for the normal child, such as the school, the playground and the social agency; the dependent child and the delinquent child, and the institutions which treat them.

# Social Institutions (Sociology 11). Three hours.....Dr. Hughes.

The institution as a unit of social structure and as a bearer of culture; the processes by which institutions arise, develop and die; the life-cycle of such institutions as the sects, the church, the school, the newspaper, etc.; crises and the re-organization of institutions.

## III. Introduction to Psychology (Psychology 1).

Three hours .....Professor Tait and Mr. Smith. Lectures and experiments.

#### V. Social Economics (Economics 2).

Three hours ......Assistant Professor Farthing. A study of the economic system with particular reference to social justice.

# SCHOOL FOR GRADUATE NURSES

# FOUNDATION AND HISTORY

The School for Graduate Nurses was established in 1920 under the direction of Miss Flora Madeline Shaw to provide for the preparation of public health nurses for the community, and administrators and teachers for schools of nursing. The foundation of the School was made possible by the generosity of the Quebec Provincial Red Cross Society, which agreed to finance the undertaking for three years. Dr. Helen R. Y. Reid, a member of the Corporation of the University, was chiefly instrumental in securing the interest and co-operation of both the University and the Red Cross Society. In October, 1924, the University, satisfied that the School had demonstrated its value to the community and the nursing profession, assumed responsibility for its maintenance.

During the session 1924-25 a new course of study—Supervison in Schools of Nursing—was offered. This was arranged in order to meet the needs of nurses not qualified to enter the course in Administration, but wishing to prepare for positions as supervisors or assistants in Schools of Nursing.

In 1927 the School suffered a very great loss in the death of its Director, Miss Shaw.

In 1928 the graduates of the School established and contributed very generously toward an Endowment Fund for the School as a memorial to Miss Shaw. The Fund has also received the active and generous support of individual nurses, of private citizens, and of the Quebec Provincial Association of Graduate Nurses.

In 1929 the curriculum was reorganized in content and methods of instruction, to meet the growing professional needs of the students and in accordance with the University educational standards. Courses of study were expanded and a new course was added to prepare nurses for higher executive and teaching positions as supervisors, organizers and administrators in the various public health and welfare organizations in the community. A programme of health education was established in one of the affiliated undergraduate schools of nursing under the direction of a specially qualified health educator on the staff of the McGill School for Graduate Nurses. Instruction in this important phase of nursing was arranged for all field workers, teachers, supervisors and administrators who would later be engaged in the education of nurses and the public in either institutions and schools of nursing or in the community at large. Increased emphasis was placed and provision made for the preparation of administrators, supervisors, clinical and classroom teachers, through directed observation, participation and responsible practice under supervision in the affiliated hospitals.

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Research in Nursing:—An important development was the establishment of a fellowship providing for an intensive study of nursing in a selected ward in one of the affiliated hospital schools with a view to developing the clinical content of nursing and the best methods of clinical teaching in order to insure that the rich clinical experience of the student would be conducted on a sound educational basis. The study was developed under the direction of the School for Graduate Nurses and thus provided a model field for the study of nursing and the demonstration of clinical teaching.

Several additional members were added to the teaching staff of the School in order to develop the above programme.

The School continues to serve a national purpose. Students are enrolled from every province in the Dominion and Canadian nurses in the United States are returning to study at McGill. The enrolment shows a steady increase in numbers. One hundred and sixty-eight students have graduated from the School and the majority of them are filling positions of leadership as directors, teachers or supervisors in schools of nursing, or in public health nursing in the community.

Each year, in addition to the students taking full-time courses leading to a diploma or a certificate, an increasing number of partial students have been registered. The School has thus served as a teaching centre where nurses on the staff of the local hospitals, the Victorian Order of Nurses, the Metropolitan Life Insurance Company and the Child Welfare Association have profited by the opportunities offered in the School, and in this way have been able to continue their professional education.

## COMMUNITY AND PROFESSIONAL NEEDS IN NURSING

Need for Graduate Schools of Nursing:—The educational function of undergraduate schools of nursing is to give the basic course in nursing which will insure a sound foundation in the highest professional ideals, knowledge, and skills essential for general practice, and for further study in any of the various fields of nursing in which their graduates may desire to engage. Undergraduate schools prepare the general practitioner in the art of nursing, but do not prepare specialists. They teach the art of nursing, but not that of teaching, supervision or administration, each of which, like nursing, is based on underlying sciences and has its own principles and technique. These must be studied in graduate schools of nursing.

It is also felt that at present the undergraduate school does not give its students that sound knowledge of the principles of health and prevention of disease which is a necessary foundation for all public health work.

The functions of graduate schools of nursing, such as the McGill University School, is to prepare specialists in nursing, and qualified teachers, supervisors and administrators for schools of nursing and the fields of public health; to act as teaching centres for the continued education of those in active service in the community; to engage in research to advance the art of nursing, the professional content and methods of instruction, and to study and endeavour in every way to meet the national, community and professional needs.

Need for Qualified Superintendents, Directors and Leaders:—At all times, but particularly when a profession is passing through a critical, transitional period in its development, and when the conditions under which the professional group practices are rapidly changing, those who are shaping and directing the policies governing the education and practice of this group undoubtedly require a sound, broad education, both general and professional. In the nursing profession this need is becoming more and more acutely felt, and those with special graduate preparation are being increasingly sought for all teaching and executive positions.

The position of our superintendents is a very demanding one and much is expected of them. They are charged not only with the professional administration of the hospital nursing service, but with the educational administration of the school. This dual responsibility brings problems and corresponding opportunities which challenge our best informed and most able women. To adequately conduct the hospital nursing service, professional knowledge and skill, executive ability and other personal qualifications of a high order, together with experience and special training in administrative work, are required. To conduct the school in accordance with educational standards, it is becoming increasingly apparent that one needs, in addition, a sound general education, a knowledge of modern educational ideals and methods in the fields of general and professional education, a knowledge of present problems and trends in nursing education and practice, an understanding of changing social conditions and community health needs, and an understanding of the various fields of nursing in which the students will later be engaged and for which they should receive their basic preparation in the undergraduate school.

Need for Qualified Teachers and Supervisors:—There are two main divisions of the nursing curriculum, first, those subjects, including the basic sciences, which are taught chiefly in formal classrooms; second, the principles and practice of nursing in its special branches, or services, which are learned chiefly through clinical instruction and experience in the hospital wards and clinics and in community health associations.

There is a steadily increasing demand for qualified classroom teachers which far exceeds the supply. With the growing appreciation of the importance of properly directed supervised experience in education,

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more attention is also being paid to clinical teaching, to planning and supervising this clinical experience, and the need of properly qualified clinical teachers (head nurses and supervisors) is being more and more emphasized.

Both types of teachers require not only a sound knowledge of the subject matter of the courses which they teach, but must also be trained in the art of teaching based upon the best modern educational philosophy, psychology, and principles and methods of teaching in general and higher education. The function of clinical teachers is, like that of the superintendent, a dual one, carrying with it both executive and teaching responsibilities differing chiefly in range of content, guidance and direction. Supervisors are often assistant superintendents and vice versa. For this reason the position of supervisor is a logical and necessary preparation for that of superintendent and director of a school. In the larger schools there is also a need for a "Supervisor of Instruction" who will assist the director in developing, co-ordinating and supervising the whole educational programme.

The number of teachers and supervisors or assistants required is naturally much greater than the number of superintendents and directors. Because of the intimate, first-hand contact and influence with students and patients, or because of interest and opportunity to study the subjects taught, or because of pleasure in the art of teaching itself, many women find in teaching their greatest satisfaction and an outlet for their highest capacities. The need in this field is constant and steadily growing and for some time to come the demand is likely to exceed the supply.

Need for Public Hedlth Field Workers, Teachers and Administrators in the Community:—With the increasing emphasis upon the prevention of disease and the upbuilding of positive health, the fields for the public health nurse are developing rapidly. This is especially true in a new and growing country like Canada.

Among the opportunities in Canada is the Victorian Order of Nurses, a national visiting nurse organization, which employs more than three hundred nurses. With new centres being opened from time to time, and older ones enlarged, there is a constant need for more nurses. The maternity and child welfare campaigns, under whatever agency it is carried on, is a work of vast consequence in public health and, in a sense, is basic to all other branches of this work. Other fields of great attraction and importance are those of school nursing, mental hygiene, industrial hygiene, hospital social service, and preventive work in tuberculosis. The County Health Units now being organized offer a most interesting opening in rural health work. City and provincial departments of health, the Canadian Red Cross and voluntary agencies alike require more trained field workers and competent leaders, organizers and supervisors.

The greater the recognized need for public health nurses, the more general is the conviction that nurses require special preparation for this type of work. Public health organizations tend more and more to refuse candidates, especially for positions of leadership, unless they have taken a recognized course in public health nursing.

While efforts are being made to include the teaching of public health nursing in the nursing school curricula, it is often impossible to secure sufficient emphasis and suitable practice work. At present, then, this does not suffice to give nurses the thorough knowledge of the principles of health and of the prevention of disease, nor to develop the "public health viewpoint" through which the nurse gains a conception of the value and immense possibilities of public health nursing.

Post graduate courses have therefore been organized. An important advance in public health nursing education was made when the universities decided to assume responsibility for these courses, in this way acknowledging the need and value of such preparation and placing their stamp of approval on the efforts being made to fit nurses for a work so vital to the community.

## AIMS OF THE SCHOOL

The courses offered in the School for Graduate Nurses are designed to prepare qualified nurses to act as instructors, supervisors, assistants, or superintendents and directors in schools of nursing and hospitals and in public health nursing. The hope and aim of the School is to send out teachers and leaders, who, whether by helping to improve the methods and raise the standards of nursing education in schools of nursing in Canada, or by improving the methods and raising the standards of preventive and remedial nursing and health education in the community, may alike serve as public health workers.

# EDUCATIONAL OPPORTUNITIES OFFERED BY THE SCHOOL

The McGill University School for Graduate Nurses offers unusual opportunities for the preparation of graduate nurses for positions of leadership in either schools of nursing or in health and welfare organizations in the community. Through the Faculty of Arts, the School of Medicine, including the Department of Hygiene, the Nursery School, the School for Social Workers, the School of Physical Education, Macdonald College and other departments, courses are available in all the academic subjects, in the basic biological, physical and social sciences, and in professional courses for the education of teachers. The School for Graduate Nurses provides advanced professional courses in nursing education specially adapted to prepare teachers, supervisors and administrators for schools of nursing and the various fields of public health and welfare work in the community.

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The excellent teaching hospitals for both the School of Medicine and the School for Graduate Nurses-the Royal Victoria Hospital, the Montreal General Hospital, the Alexandra Hospital (communicable diseases), the Shriners' Hospital for Crippled Children (orthopædic children), the Children's Memorial Hospital, the Maternity Hospital of the Royal Victoria Hospital with its numerous clinics-and other hospitals in and about Montreal offer every facility for the study of the most modern and efficient nursing in all its branches and for observation and practice in teaching, in supervision, and in administration of hospitals and schools of nursing. The public health and welfare associations and clinics, both public and private-the Victorian Order of Nurses (an educational centre of this national organization), the Child Welfare Association, the industrial clinics, maternity clinics, the mental hygiene clinics, the social service departments of hospitals, the Family Welfare Association and other social agencies, the municipal Health Department, the County Health Units, the Department of Hygiene in the School of Medicine-supply ample opportunities for study and field work- for visiting nursing, health teaching, supervision, organization and administration of public health and welfare work in the community.

The libraries of the University, the School of Medicine, the School for Social Workers and other schools, together with the professional library of the School for Graduate Nurses, afford every facility for reading, study and research.

# COURSES, CERTIFICATES, DIPLOMAS AND EXAMINATIONS

The educational programme of the School is carried on in the Faculty of Arts, The School of Medicine, including the Department of Hygiene, the School for Social Workers, the School of Physical Education, the Nursery School, the Schools of Nursing, the hospitals, schools and other health and welfare organizations, public and private, in the community, and in the School for Graduate Nurses.

#### COURSES FOR DEGREES

The University does not, at present, grant a professional degree in the School for Graduate Nurses. The proposal to establish such a degree is, however, now under consideration. The curriculum of the School and methods of instruction are, nevertheless, strictly in accordance with the best university standards.

Matriculated applicants may register as partial students in the Faculty of Arts and all regular Arts courses passed may, with the approval of the Dean, be credited toward the Bachelor of Arts or Bachelor of Science degree. Applicants already holding a bachelor's degree may register as partial students for courses leading to a Master's degree.

### COURSES FOR CERTIFICATES AND DIPLOMAS

The following courses representing five fields of major interest in nursing are offered by the School:---

I. Teaching in Schools of Nursing.

Diploma:-Instructor in Schools of Nursing.

- II. Supervision in Hospitals and Schools of Nursing. Diploma:—Supervisor in Hospitals and Schools of Nursing.
- III. Organization and Administration of Hospital Nursing Services and Schools of Nursing.
  Distance Superintendent of Nursing and Director of School
  - Diploma:—Superintendent of Nursing and Director of School of Nursing.
- IV. Visiting Nursing and Health Teaching in the Community. *Certificate:*—Visiting Nurse and Health Teacher in the Community.
- V. Organization and Supervision of Nursing in the Community. Diploma:-Supervisor of Nursing in the Community.

Length of Courses:—The courses of study which lead to one of the above graduate *diplomas* in nursing extend over two sessions of eight months each (nine months where additional field work is required) and provide a thorough professional preparation for the field selected. The prescribed courses include approximately one session of general academic

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courses and professional courses in education, in McGill University or elsewhere in an approved college, and one session of professional courses in the McGill School for Graduate Nurses.

A *certificate* in one of the above major fields may be granted upon the satisfactory completion of approved courses of study which extend over one session of eight months or nine months where field work is required.

*Part-time students:*—One or more courses may be taken on a parttime basis by graduate nurses actively engaged in service in schools of nursing, in bedside nursing, or in the fields of public health nursing.

The minimum period of residence for a certificate or diploma is one year.

## EXAMINATIONS

Certificates or diplomas are awarded to students who obtain an average mark of fifty per cent in all examinations and not less than forty per cent in any examination.

In the case of students who do field work, satisfactory reports must also be received from the agencies with which their field work has been taken.

Examinations are held in some subjects at the end of the first term and final examinations are held in May. The School closes at the end of May.

# ENTRANCE REQUIREMENTS

# (1) PROFESSIONAL REQUIREMENTS

1. All applicants must present evidence of the satisfactory completion of the basic professional course in nursing covering a period of at least two years in a school of nursing of approved standards, and connected with a hospital which insured adequate teaching and clinical experience. Applicants must also be registered when coming from a state or province where registration is in force and must be eligible for membership in the state, provincial and national nursing organizations.

2. Applicants for the courses in supervision in either schools of nursing or in public health organizations must present satisfactory evidence of ability to profit by these courses indicated by previous experience and demonstrated fitness for higher responsible executive and teaching positions.

3. Applicants for the courses in administration in either schools of nursing or in public health organizations must present evidence of having held satisfactorily, for at least one year subsequent to graduation, a position which has unmistakably demonstrated fitness for leadership and higher responsible executive work.

### (2) ACADEMIC REQUIREMENTS

# (a) Students Who Have Qualified for Matriculation in Arts

Students who have qualified for entrance to Arts may be admitted to the School as candidates for a certificate or a graduate diploma in nursing and may register as partial students in the Faculty of Arts, the courses taken, with the approval of the Dean, being later credited, if desired, toward a Bachelor of Arts or Bachelor of Science degree.

Regulations governing Junior and Senior Matriculation are stated in the regular University Calendar.

Students who already hold a baccalaureate degree from an approved institution may be admitted to the School as candidates for a certificate or a graduate diploma in nursing and may register as partial students in the Faculty of Graduate Studies and Research, the courses taken, with the approval of the Dean, being later credited, if desired, toward a Master's degree.

# (b) Students Who Have Not Qualified for Matriculation in Arts

The McGill School for Graduate Nurses exists because of the recognized need to provide a sound preparation for leaders, directors, and teachers for schools of nursing and community public health organizations and to assist those already in service. There are many women

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of ability, fine character and personal qualifications who do not meet the usual university standards of admission, but who have already given valuable service and demonstrated their fitness for executive and teaching positions. They would be greatly assisted and undoubtedly would make much greater contributions if allowed to avail themselves of the enriched knowledge and experience which is so abundantly offered in a great University.

Such mature students of experience or demonstrated fitness, who cannot meet the matriculation requirements, may be admitted as partial students, and as candidates for a certificate or a graduate diploma in nursing in one of the major courses offered.

The minimum admission requirement for such students is the satisfactory completion of three years of high school work or its equivalent.

#### (c) Part-Time Students

It is highly desirable that all graduate nurses should continue their education while in active service. This may be done in the McGill School for Graduate Nurses.

# (3) PHYSICAL REQUIREMENTS

As the work demands continued and concentrated effort, students must be in good physical condition, and must present a medical certificate to that effect.

All students entering the University for the first time are required to present a certificate, or other satisfactory evidence of successful vaccination, failing which they shall at once be vaccinated in a manner satisfactory to the authorities.

# APPLICATION FOR ADMISSION

Candidates for admission to the School must make application on the prescribed form, if possible during the spring and early summer and not later than the tenth of September, 1929, except under unusual circumstances. For application blanks and further information, write to the Director, School for Graduate Nurses, McGill University.

## ADMISSION TO ADVANCED STANDING

A student of another university applying for exemption from any subject or subjects which she has already studied is required to submit with her application a Calendar of the University in which she had previously studied, together with a complete statement of the course she has followed and a certificate of the standing gained therein.

### **REGISTRATION AND ATTENDANCE**

### 1. REGISTRATION

Students in Public Health Nursing will register on September 3rd for field work.

Other students will register on September 26th, 27th or 28th.

The opening lecture will be held on September 30th.

Students are required to consult the Director at the time of registration.

#### 2. ATTENDANCE

1. Students are required to attend at least seven-eighths of the total number of lectures or laboratory periods in any one course.\* Those whose unexcused absences exceed one-eighth of the total number of lectures in a course in which attendance is compulsory shall not be permitted to come up for the regular examination in that course, and those whose unexcused absences in such courses have exceeded one-fourth of the total number of lectures must repeat the work in that course.

It is to be clearly understood that excuses for absences in excess of one-eighth will be entertained only in cases of serious illness (which must be vouched for by a proper medical certificate), domestic affliction, and such other cases as are provided for by special regulations.

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

3. Credit for attendance on any lecture or class may be refused on the grounds of lateness, inattention, neglect of study, or disorderly conduct in the class room or laboratory. In the case last mentioned the student may, at the discretion of the Professor, be required to leave the room. Persistence in any of the above offences against discipline shall, after admonition by the Professor, be reported to the Head of the School.

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

In cases where it is impracticable to record late attendance, students who are not present at the commencement of these lectures will be marked absent.

\* Physical education is included under this regulation.

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## SCHOLARSHIPS, MEDALS AND PRIZES

### SCHOLARSHIPS

The Montreal General Hospital School of Nursing offers the following scholarship:---

The Mildred Hope Forbes Memorial Scholarship:—A scholarship established by Mrs. Norman Wilson in memory of the late Mildred Hope Forbes, a graduate of the Montreal General Hospital Training School for Nurses.

The value of this scholarship is sufficient to enable four graduate nurses each year to take one year's post-graduate work in the School for Graduate Nurses, McGill University.

The Association of Registered Nurses of the Province of Quebec offers a scholarship of \$250.00 to a graduate of an approved school of nursing in the Province of Quebec for any course elected in the School for Graduate Nurses, McGill University.

The Royal Victoria Hospital School of Nursing offers the following scholarships :---

The Board of Management, Royal Victoria Hospital, gives a yearly Scholarship for post-graduate work in nursing in McGill University.

The Dr. Garrow Scholarship has been created mainly through the nurses of the Royal Victoria Hospital, and is given each year for postgraduate work in McGill University.

Under the Will of the late Harry J. Crowe, of Nova Scotia, provision is made for the establishment of a scholarship open to a graduate nurse of this Hospital for a course in nursing or dietetics in a Canadian hospital.

The Victorian Order of Nurses for Canada offers twelve scholarships of \$400.00 each, to graduate nurses who wish to avail themselves of a post-graduate course in Public Health Nursing at any of the following Universities: Toronto, British Columbia, Western Ontario, McGill. Upon successful completion of her course, a nurse accepting one of these scholarships is expected to return to the service of the Victorian Order of Nurses for one year.

The School of Nursing of the Children's Memorial Hospital offers a scholarship to one of its graduates in the form of maintenance at the Hospital during the University session.

### MEDALS AND PRIZES

The Lieutenant-Governor of the Province of Quebec offers annually for competition a silver medal to be awarded to the student obtaining

the highest standing in the course of Teaching in Schools of Nursing (diploma course) and a bronze medal to the student obtaining the highest standing in the course in Public Health Nursing.

Dr. Helen R. Y. Reid offers a prize of books, to be awarded to the student obtaining the highest standing in the course of Administration in Schools of Nursing.

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# FEES AND DEPOSITS

The fee for any certificate course is \$100.00 a year (including the use of the Library), to be paid by October 10th, or payable in two instalments of \$51.00 each, the first to be paid by October 10th and the second by February 1st.

Regular students pay in addition \$6.00 for the use of the skating rinks and tennis courts and for admission to the home games under the control of the Athletic Board; \$2.50 for the McGill Women Students' Society and \$1.50 for the McGill Daily, as well as special fees for laboratory courses.

Students are also required to deposit with the Bursar, the sum of \$5.00 as caution money, to cover damages done to furniture, apparatus, books, etc. This amount, less deductions (if any), will be returned at the close of the session.

For Late Registration:—Those students who register after the period of university registration will be charged an additional fee of \$5.00.

Partial Students:—Fee at the rate of \$7.00 for an hour of instruction a week during the academic year; library fee of \$4.00; \$3.00 for athletics; special fee for courses which include laboratory work. Partial students may become members of the Women's Society on payment of the regular fee of \$2.50. They may also secure the privileges of the skating rinks and tennis courts during the session and admission to the home games under the control of the Athletic Board by the payment of an additional fee of three dollars.

#### EXPENSES

1. Board and Residence:—Information about boarding and lodging houses may be had on application to the Director of the School. A list of suitable houses is prepared about a fortnight before the opening of the session each year. Owing to frequency of change, this list is not mailed.

2. Approximate Estimate of Cost of Course:--A state of average expenses for the academic year is as follows:--

University fees	\$110.00
Books	
Room (30-32 weeks)	175.00 " 225.00
Board	225.00 " 300.00
Incidentals	30.00 " 40.00
Average total	560.00 " 700.00

# COURSES OFFERED BY THE SCHOOL FOR GRADUATE NURSES

An understanding of the professional courses in nursing education, whether it be in the art of teaching, supervision, or administration in schools of nursing or in public health work in the community, requires the preliminary study of basic subjects, principles and methods in the fields of general and professional education upon which such arts are based, in order to adapt them to the special needs and fields in nursing. Teachers (classroom, clinical or community health teachers) require advanced knowledge of the subjects which they are to teach in addition to knowledge and skill in the art of teaching. Administrators, like principals of other schools, institutions or organizations, require that broad preparation and experience in teaching, supervision and administration which will enable them to establish a sound professional course or service in nursing, to guide and direct their teachers and supervisors in carrying out the school or community health programme, to guide and counsel students, and to act as leaders in nursing in schools and communities.

# I. TEACHING IN SCHOOLS OF NURSING

Diploma:-" Instructor in Schools of Nursing."

The following course of study is planned to prepare qualified nurses for positions as instructors in schools of nursing.

*Certificate Course:*—A certificate may be granted for the satisfactory completion of an approved selection of courses (at least 5 courses throughout the year—see description of courses, pages 30 to 38) from the courses outlined below during a period of one academic year. Students may enter for a half-year's study, but at least one full year is recommended as the minimum period.

Diploma Course:—The complete course, outlined below, leading to a diploma covers a period of two academic years (sixteen months).

The courses are arranged in four groups. For the Diploma, groups A and B are required. In addition, five full-year courses (or the equivalent in half-year courses) including chemistry, physiology, and bacteriology, from Groups C and D, are required, making a total of twelve full-year courses.

## Group A

#### PROFESSIONAL COURSES IN EDUCATION

Terms

Sociology	2
Psychology	2
Educational Psychology	2
Principles of Teaching	1
History and Philosophy of Education	1

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# Group B

# NURSING EDUCATION

	T CI III
The Curriculum in Nursing Schools	 1
Teaching in Nursing Schools	
Observation and Practice Teaching	2
Public Health Nursing	
Preventive Medicine and Hygiene	1
History of Nursing	

# Group C

COURSES TO BE TAUGHT IN NURSING SCHOOLS

Chemistry	 	 	 	2
Physiology				
Bacteriology .				
Materia Medic				
Principles and				

# Group D

# RECOMMENDED ELECTIVES

Supervision in Nursing Schools
English
French
History
Public Speaking
Vocational Psychology
Social Psychology
Physics 1
Mental Hygiene 1
Child Hygiene 1
Zoology

# Recommended First Year Course

Psychology	2
The Curriculum in Nursing Schools	
(Principles of Teaching) 1	1
(Teaching in Nursing Schools) 1	1
(Observation and Practice Teaching) 2	2
Preventive Medicine and Hygiene 1	
Public Health Nursing 1	1
History of Nursing 1	
Chemistry 2	-
Physiology 1	

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# II. SUPERVISION IN HOSPITALS AND SCHOOLS OF NURSING

Diploma:-" Supervisor in Hospitals and Schools of Nursing."

The following course of study is planned to prepare qualified nurses for positions as clinical instructors, supervisors, and assistant superintendents, in schools of nursing. Previous experience as a headnurse or an equivalent satisfactory executive or teaching experience is desirable in order to profit fully by the course.

*Certificate Course:*—A certificate may be granted for the satisfactory completion of an approved selection of courses (at least 5 courses throughout the year—see description of courses, pages 30 to 38) from the courses outlined below, during a period of one academic year together with required field work. Students may enter for a halfyear's study, but at least one year is recommended as the minimum.

Diploma Course:—The complete course outlined below, leading to a diploma, covers a period of two academic years (16 months), together with required field work.

The courses are arranged in four groups. For the Diploma, Groups A and B are required. In addition, three full-year courses (or the equivalent in half-year courses) from Groups C and D, making a total of twelve full-year courses, are required.

# Group A

## PROFESSIONAL COURSES IN EDUCATION

	TCIME
Sociology	2
Psychology	2
Educational Psychology	2
Principles of Teaching	1
History and Philosophy of Education	

### Group B

#### NURSING EDUCATION

The Curriculum in Nursing Schools 1
Teaching in Nursing Schools 1
Supervision in Nursing Schools 1
Observation and Practice Supervision 2
Public Health Nursing 1
Preventive Medicine and Hygiene 1
Mental Hygiene 1
History of Nursing 1
Social Case Work 2
Hospital Economics and Administration 1
Principles and Practice of Nursing 1
Observation and Practice Teaching 1

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### Group C

## SPECIALIZATION IN SUPERVISION

Field work in one of the Major Clinical Fields such as Medicine, Pediatrics, Obstetrics or Communicable Diseases, etc.

## Group D

RECOMMENDED ELECTIVES	Terms
Chemistry	2
Physiology	. 1
Bacteriology	
Physics	. 1
Public Speaking	
Social Psychology	
Vocational Psychology	1
English	. 2
French	. 2
History	. 2
Child Hygiene	. 1
The Family (Sociology 7)	. 1
The Community (Sociology 2)	. 2

# III. ORGANIZATION AND ADMINISTRATION OF HOSPITAL NURSING SERVICES AND SCHOOLS OF NURSING

Diploma:--"Superintendent of Nursing and Director of School of Nursing."

The following course of study is planned to prepare women of superior qualifications and experience for positions as superintendents and directors in schools of nursing. Satisfactory experience of at least one year in administrative and educational work in schools of nursing is required as a prerequisite to this course.

*Certificate Course:*—A certificate may be granted for the satisfactory completion of an approved selection of courses (at least 5 courses throughout the year—see description of courses, pages 30 to 38) from the courses outlined below during a period of one academic year together with required field work. Students may enter for a halfyear's study, but at least one full year is recommended.

Diploma Course:—The complete course outlined below, leading to a diploma, covers a period of two academic years, together with the required field work, unless preceded by a year's study in either Course I or Course II outlined above.

The courses are arranged in three groups. For the Diploma, Groups A and B are required and electives from Group C, making a total of twelve full-year courses.

# Group A

	PROFESSIONAL	COURSES	IN	EDUC.	ATION	4	Terms
Sociology							 . 2
	1 Psychology						
	of Teaching .						
	d Philosophy						

# Group B

### NURSING EDUCATION

The Curriculum in Nursing Schools 1
Teaching in Nursing Schools 1
Supervision in Nursing Schools 1
Hospital Economics and Administration 1
Administration in Nursing Schools 2
History of Nursing 1
Public Health Nursing 1
Preventive Medicine and Hygiene 1
Social, Health and Nursing Legislation 1
Observation and Practice Administration

## Group C

## RECOMMENDED ELECTIVES

Observation and Practice Teaching	2
Observation and Practice Supervision	
Electives selected from Groups C and D of Courses	
I and II or from Course V	

# IV. VISITING NURSING AND HEALTH TEACHING IN THE COMMUNITY

Certificate:-"Visiting Nurse and Health Teacher in the Community."

The following course of study is designed to give to graduate nurses a basic preparation for Public Health Nursing in its generalized and specialized forms.

Students may enter for a half-year's study, but at least one full academic year is recommended as the minimum period.

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	PROFESSIONAL	COURSES IN EDUCATION	Terms
Sociology			2
Psychology			2
Principles	of Teaching .		

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### Group B

COURSES IN PUBLIC HEALTH NURSING	Terms
Public Health Nursing	2
Observation and Practice in Public Health Nursing	2
Observation and Practice in Health Teaching	2
Preventive Medicine and Hygiene	2
Child Hygiene	1
Mental Hygiene	1
Nutrition and Health	. 1
Social Case Work	2

## Group C

#### RECOMMENDED ELECTIVES

History of Nursing	1
Public Speaking	
Refresher Courses:	
(Tuberculosis).	
(Communicable Diseases)	
(Obstetrics).	
(Bacteriology).	
(Physiology).	
(Materia Medica).	
(Chemistry), determined to solven These notice read	

# V. ORGANIZATION AND SUPERVISION OF NURSING IN THE COMMUNITY

Diploma:-" Supervisor of Nursing in the Community."

The following programme of study is planned to prepare women of superior qualifications and experience for positions as superintendents, supervisors and teachers in Public Health Nursing.

Satisfactory experience of at least one year in Public Health Nursing is required as a prerequisite to this course.

*Certificate Course:*—A certificate may be granted for an approved selection of courses from those outlined below, during a period of one academic year, together with required field work.

Diploma Course:—The complete course outlined below leading to a diploma, covers a period of two academic years, unless preceded by the satisfactory completion of Course IV outlined above.

The courses are arranged in four groups. For the diploma, Groups A, B and C are required, together with five full-year courses (or the equivalent in half-year courses) from Group D, of which History of Nursing shall be one.

# Group A

	PROFESSIONAL COURSES IN EDUCATION Ter	m
Sociology	I	2
Psychology		2
Principles	of Teaching	1
Educationa	l Psychology	2

# Group B

# COURSES IN PUBLIC HEALTH NURSING

Public Health Nursing	2
Observation and Practice in Health Teaching	2
Preventive Medicine and Hygiene	2
Child Hygiene	1
Mental Hygiene	
Nutrition and Health	
Social Case Work	

# Group C

COURSES IN SUPERVISION AND ORGANIZATION IN PUBLIC HEALTH NURSING

Supervision and Organization in Public Health Nursing	2
Observation and Practice in Supervision	2
Special Problems in Supervision	2
Social, Health and Nursing Legislation	2

# Group D

### RECOMMENDED ELECTIVES

History of Nursing 1	1
Public Speaking 1	1
Sociology 2, 4, 7, 10 2	2
Economics, 1, 2 2	2
Physical Diagnosis 1	1
Social Psychology 2	2
Social Welfare Administration 1	1
Refresher Courses:	
(Tuberculosis) 1	1
(Communicable Diseases) 1	
(Obstetrics) 1	
(Bacteriology) 1	
(Physiology) 1	
(Materia Medica) 1	
(Chemistry) 1	

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# Recommended First Year Course

STORES STATES AND TONE TO A LABOR OF AN LABORTON	Terms
Supervision and Organization in Public Health Nursing	2
Observation and Practice in Supervision	2
Sociology	
Psychology	2
Principles of Teaching	1
Observation and Practice in Health Nursing	2
Public Health Nursing	2
Preventive Medicine and Hygiene	2
Child Hygiene	1
Mental Hygiene	1
Nutrition and Health	1
Social Case Work	2

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# DESCRIPTION OF COURSES

# COURSES IN THE SCHOOL FOR GRADUATE NURSES

# 1. The Curriculum in Nursing Schools.

The historical development of nursing curricula; brief survey of current critical studies and revisions of professional curricula; comparison of nursing curricula with other vocational and professional curricula; purpose and aims of schools of nursing; principles of curriculum construction and their application to the selection and organization of the content of nursing curricula including theory and practice.

Three hours, 1st term ...... Miss Harmer.

## 2. Teaching in Nursing Schools.

Classification of subjects in the curriculum to be taught; the selection, preparation and qualifications of teachers; teaching schedules; educational opportunities and special problems in teaching; classrooms, library, study rooms, text and reference books and other teaching materials; the grouping, sequence, and arrangement of classes; the application of principles and modern methods of teaching to the various subjects to be taught in schools of nursing.

Two hours, 2nd term...... Miss Harmer and Miss Lindeburgh.

### 3. Observation and Practice Teaching.

*First Term:*—Weekly observation of classes taught followed by conferences and discussions. Students will prepare reports of observations, teaching equipment, text and reference books.

Second Term:—Students will prepare lesson plans, participate in teaching, and finally be responsible for supervised practice teaching, followed by conferences, in subjects which they later expect to teach.

## 4. Supervision in Nursing Schools.

The organization and administration of hospital and school; the dual executive and teaching functions of the supervisor; relationship to the headnurses and their dual functions; principles and methods of supervision; application to the management and supervision of wards and departments, and the care of patients; staff conferences; organization and sequence of the clinical content of the curriculum; the correlation of theory and practice, and methods of clinical teaching.

Forms, records and reports.

Two hours, 2nd term ...... Miss Harmer.

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# 5.—Observation and Practice Supervision.

Observation of ward, clinic, and community health supervision, and clinical teaching. Practice in supervised clinical teaching; conferences and discussions.

Second Term......Miss Harmer and Special Instructors.

### 6. Specialization in Supervision.

Six weeks' intensive experience in the supervision of one of the major services or departments in affiliated hospitals or out-patient departments.

# 7. Administration in Nursing Schools.

First Term:—This course deals with the professional administration of the hospital department of nursing service,—its function, organization, control, cost of nursing service; the personnel—staff required, qualifications and selection, duties and responsibilities, staff education; ward equipment; administration and supervision of nursing care of patients; records and reports.

Second Term:—Deals with the educational administration of hospital and other types of schools of nursing—their function, organization, support, control and management; relationship to the hospital and department of nursing service; the personnel—number, qualifications, selection, duties and responsibilities in the school and department of nursing service; staff education, tenure and promotion; school buildings, classrooms, and equipment; educational programme, theory and practice; standardization and registration; school budgets.

Two hours ......Miss Harmer,

## 8. Observation and Practice Administration.

Weekly excursions to hospitals and public health organizations in the community; weekly conferences and discussions; reports of observations and special problems in administration. Six weeks' intensive experience in administration in affiliated hospitals.

Miss Harmer and Miss Hill.

## 9. Hospital Economics and Administration.

Lectures and Observations:—This course deals with the hospital and its relation to the community; the board of trustees, the medical board and the general staff; problems of planning, organizations, equipment and administration of the various departments; the purchase and handling of supplies and other problems of hospital housekeeping from the point of view of the administrator.

Two hours, 1st term.....Dr. Haywood.

# 10. Social, Health and Nursing Legislation.

The purpose of this course is to enable the student to know and to use effectively social, health and nursing legislation.

Lecturers to be appointed later.

# 11. History of Nursing.

Lectures, readings and written reports.

Three hours, 2nd term ..... Dr. Abbott and Miss Manson.

## 12. Preventive Medicine and Hygiene.

A brief history of the development and present status of public health administration; the control and prevention of communicable diseases; maternal and infant hygiene; mental hygiene; discussion of sanitation, housing, water, food, and milk supply; industrial hygiene.

Three hours..Department of Public Health and Preventive Medicine.

## 13. Public Health Nursing.

First Term:—A brief history of the development of Public Health nursing, its principles and organization, and the specialties which have arisen.

Second Term:-Record keeping, foreign developments, international organization, discussion of modern problems of public health nursing.

# 14. Observation and Practice in Public Health Nursing.

Excursions, observation and practice to give the student a knowledge of health and social activities of the community. Conferences for discussion of this experience.

## 15. Observation and Practice in Health Teaching.

Observation of Health Teaching, with conferences for discussion; lesson, plans, source material, planning a series of talks for different groups; teaching of home nursing procedures; practice in Health Teaching.

One hour......Miss Manson and Miss Lindeburgh.

# 16. Child Hygiene.

A. The Health of the Infant and the Pre-school child.

Dr. Chandler and Miss Beith. B. The Health of the School child and health education in the School.

Three hours, 2nd term.....Dr. Fleming and Miss Lindeburgh.

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# 17. Neuro-Psychiatry and Mental Hygiene.

Discussion of modern psychiatry, with historical outline of development; the desirability of thinking of mental disorders in terms of behaviour; mental health, mental hygiene movement; the psychological development of the individual and the maladjustments of children, adolescents and adults; mental diseases, nursing and social treatment; community applications of mental hygiene principles and preventive treatment.

One hour, 2nd term.....Dr. Mitchell.

# 18. Supervision and Organization in Public Health Nursing.

This course deals with the principles and practice of supervision in Public Health Nursing with special reference to staff education and student field work. Discussion of problems of organization and administration, financial support, publicity, health demonstrations, etc.

# 19. Observation and Practice in Supervision.

Time spent with public health nursing organizations for observation of methods and content of supervision. Special emphasis is placed upon the teaching function of the supervisor. Opportunity will be given for teaching student and staff groups. Conferences for discussion of experience.

# 20. Special Problems in Supervision.

This course is for discussion of the problems arising in supervision of public health nursing. Each student will make a special study of one of these problems and present the result of the study in a written report.

1 hr..... Miss Manson and special lecturers.

# 21. Nutrition and Health.

Lectures, Recitations and Demonstrations—elements of nutrition and dietetics:—This course describes the essentials of an adequate diet, and the nutritive properties of common food materials. The application of such knowledge to the feeding of individuals and family groups is discussed, budgets, buying of foods, etc. Diet in disease is also considered. One hour, 1st term.......Miss Hayward.

22. Public Speaking.

Lectures, debates, etc. One hour, 2nd term.....Instructor to be appointed.

23. Tuberculosis-Prevention, Control and Treatment.

Dr. Byers.

# 24. Communicable Disease.

Control and care in scarlet fever, measles, diphtheria, smallpox, venereal diseases.

Lectures and clinics.....Dr. Cushing and Dr. Powell.

# 25. Obstetrics.

Pre-natal and natal work. Maternal and infant care.....Dr. Goodall.

# 26. Bacteriology for Public Health Nurses.

Classes and Laboratory Work:—The study of the more common pathogenic organisms, moulds and yeasts; use of microscope; preparation and use of culture media; bacteriology of milk and water; applications of bacteriology in public health and preventive medicine.

Department of Public Health and Preventive Medicine.

# 27. Materia Medica.

Lectures and Demonstrations:—This course includes a discussion of drugs, their sources, crude forms, and preparation, with laboratory demonstrations; proper methods of administration, with physiological, therapeutic and toxic action.

One hour, 2nd term.....Dr. Scriver.

# 28. Principles of Teaching.

A.—The aims of education for the individual, society, nursing schools; when and how do pupils really learn?; education as habit formation; the training of memory; how can we test the progress of learning?; how do pupils get hold of new ideas; how can we get our pupils to pay attention?; how can we get vivid impressions on our pupils' minds?; the fine art of questioning.

Two hours, 2nd term.....Dr. Best.

### 29. History and Philosophy of Education.

The development of the aims, methods, organization, curriculum . and consequences of education from the Greeks to Dewey and the correlation of the main tendencies with the dominant philosophical theories of each age.

Three hours, one term.....Dr. Best.

## COURSES IN THE FACULTY OF ARTS

1. Introduction to Psychology (Psychology 1). Second Year. Lectures and experiments.

3 hrs.; Mon., Wed., at 10, and one laboratory period to be arranged. Professor Tait and Mr. Spence.

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2. Educational Psychology (Psychology 9). Third and Fourth Years.

Lectures, readings and reports.

3 hrs.; Tu., Th., Sat., at 11.....Associate Professor Kellogg. (Given in 1930-31.)

- 3. Social Psychology (Psychology 7). Third and Fourth Years. Lectures, readings and reports.
  3 hrs.; Tu., Th., Sat., at 10......Professor Tait. (Given in 1930-31.)
- 4. Child Psychology (Psychology 6). Third and Fourth Years. Lectures, readings and reports (half course).
  3 hrs., 1st term; Tu., Th., Sat., at 10.....Professor Tait. (Given in 1929-30.)
- 5. Vocational and Industrial Psychology (Psychology 15). Third and Fourth Years.

Lectures, readings and reports (half course).

3 hrs., 2nd term; Tu., Th., Sat., at 11.....Prof. Tait. (Given in 1929-30.)

6. Introduction to the Study of Society (Sociology 1). Second Year.

(a) Tu., Th., Sat., at 10.....Dr. Dawson and Dr. Hughes.

(b) Tu., Th., Sat., at 11.....Dr. Dawson and Dr. Hughes.

An environmental approach to the study of human nature and behaviour; an objective and scientific analysis of human relations; ecological and social forces; the great society and the growth of communication; conflict as a social function; the social order and social change; definition and use of the main sociological concepts.

7. The Community (Sociology 2). Third and Fourth Years. Tu., Th., Sat., at 9.....Dr. Dawson and Mrs. Hughes, Research Assistant.

8. Social Pathology (Sociology 4). Third and Fourth Years.

Mon., Wed., Fri., at 10, 2nd term.....Dr. Hughes. The processes of social disorganization; the basic causes of poverty, unemployment, irregular work, industrial fatigue and the consequent demoralization of the individual and disorganization of the social group; social unrest and disorder; critical analysis of the attempts to control and reorganize society in the light of pathological social conditions; modern methods of research in the study of social change as it is related to social pathology.

Text:-Parmelee, Poverty and Social Progress (Macmillan),

- 9. The Family (Sociology 7). Third and Fourth Years. Mon., Wed., Fri., at 10, 1st term.....Dr. Dawson.
- 10. Delinquency and Crime (Sociology 10). Third and Fourth Years.
- Elements of Political Economy (General Economics)— (Economics 1). Second Year. This course is open to Arts students.

3 hrs.; Mon., Wed., Fri., at 11.

Professor Leacock, Associate Professor Hemmeon and Mr. Culliton.

12. Elements of Political Economy (Social Economics)-(Economics 2).

This course is open to Theological students proceeding to a degree in Arts, to students in the School for Social Workers, to partial students, and, by permission, to General students.

Mon., Wed., Fri., at 11.

Professor Leacock, Associate Professor Hemmeon and Assistant Professor Farthing.

# 13. General Chemistry (Chemistry 1).

3 hrs.; Mon., Wed., Fri.

Section A-Professor Hatcher at 12.

Section B-Professor Evans at 2.

Laboratory, 4 hrs. Tu. and Th., 2 to 4 (Wed. and Fri., 3 to 5, by arrangement).

Professor Hatcher and Dr. Steacie and Demonstrators.

Text-books:—Alex. Smith, General Chemistry for Colleges, new edition; Newell's College Chemistry; Macpherson and Henderson, General Chemistry.

# 14. Elementary Zoology (Zoology 1).

2 hrs., 1st term; Mon., Wed., at 2.

2 hrs. lab.; Fri., at 2.....Assistant Professor Berrill.

# COURSES IN THE FACULTY OF MEDICINE

 Bacteriology. Laboratory Course in Bacteriology (Bacteriology 1), with explanatory lectures and demonstrations. Autumn Term.

Pathological Institute......Professor Bruère, Dr. Beattie, Demonstrators and Assistant Demonstrators.

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2. Physiology. Introductory Course (Physiology 1.) Lectures and demonstrations.

Six hours a week during the Spring Term.

# COURSES IN THE SCHOOL FOR SOCIAL WORKERS

### 1. Social Case Work.

Principles, objective and method of case work, with special emphasis on actual case studies; adequate knowledge as a basis for judgment and action in effecting individual adjustments; how obtained and applied; relief—its place in case work; the relation of case work to the community; records; the use and purpose of records; record making; forms; correspondence, etc.

## 2. Social Legislation.

The purpose of this course is to enable the student to know and to use effectively social legislation as a community resource.

One hour......Miss Reid.

# 3. Social Welfare Administration.

Historical development; scope, and relations between public and private agencies; organization and structure of a social agency; officers and boards of management; executive and staff; volunteer service; personal efficiency; office management; social agency accounting; social agency financing, individual, collective; social work publicity; social work statistics; social work co-ordination; the field of Protestant and non-sectarian social work in Montreal.

Two hours, 2nd term......Mr. Falk.

### 4. Public Speaking.

Parliamentary procedure; the relation between speaker and audience; analysis of prepared and impromptu public speeches. The course affords extensive opportunity for practice and discussion.

One hour, 1st term......Instructor to be appointed.

## COURSES IN THE SCHOOL OF PHYSICAL EDUCATION

#### 1. Physical Diagnosis.

Lectures and practical demonstrations in the methods of examination for defects of posture and development, especially of the spine and thorax; description of deformities due to disease; examination by inspection palpation, percussion and auscultation; tests for sight, hearing, nasal obstruction; examination for dental defects.

Students will be taught the early recognition of contagious disease, the more common defects and when to seek expert advice. Practice in methods of examination will be carried on under supervision in the Senior Year.

The course will include a study of human measurements, with reference to signs, body proportions, state of development and function of the body; the effect of age, sex, occupation, race and environment on development—adaptability to various forms of exercise and occupation—demonstrations of the use of various anthropometric instruments.

The application of this material will be made to educational institutions, including such follow-up procedures as: the hygiene of instruction, conservation of sight classes, fresh air rooms, school clinics, etc.

2nd Term. Tues. 2.....Dr. F. W. Harvey, Miss Herriott.

### 2. Chemistry.

This course will include the fundamental principles requisite for a knowledge of general chemistry. Stress will be laid upon the chemical interpretation of (a) combustion and its relation to respiration, (b) water purification and sanitation, (c) disinfection, (d) pasteurization. Where possible, trips will be arranged for practical demonstrations of the above lectures.

A series of lectures will be given on the phenomenon of solution in its various phases of neutralization, hydrolysis, electrolysis and osmosis. Compounds met with in ordinary daily routine will be discussed and illustrated with experiments. In conclusion, there will be a brief introduction to organic chemistry of general interest.

1st and 2nd Terms, 1 hour, Fri. 10.....Dr. Hatcher.

### 3. Physics.

This course is adapted to problems in physical education, so as to give the students an understanding of the practical application of physical laws and principles bearing upon their work.

Mechanics (force, work, power, energy, mechanical advantage); properties of matter (density, elasticity, cohesion, adhesion, capillarity, surface tension, osmosis, gas laws); heat (temperature, specific and latent heat, modes of transfer, effects, humidity); light (undulatory theory of electromagnetic waves, source within the atom, laws of reflection, refraction, images with mirrors and lens, photometry); magnetism (methods of magnetization, lines of force, poles, law of force, compass); electricity (properties of positive and negative charges, electroscope, friction machines, currents, cells, electrolysis, magnetic effects, induction dynamo motor. Ohm's law, therapeutic uses of electricity).

1st Term, Wed. 11, Fri. 9..... Professor Reilley, Dr. Douglas.

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# THE LIBRARY SCHOOL

Plans for a sessional Library School at McGill University were made in the spring of 1904 by Mr. C. H. Gould, then Librarian, in consultation with Dr. Melvil Dewey, Director of the New York State Library School at Albany. In order to lose no time, a Summer Course was provided for that year, thus constituting the first library school in Canada. Owing to limited funds, the Winter Course could not then be provided, and the Summer Course was repeated in 1905-1911, 1913-1914, 1920-1924, 1926 and 1927. In 1928 the Summer Course became a regular part of the Library School and will continue to offer a six weeks' course of approved training for library assistants and librarians in small libraries.

In 1921 the University Librarian again proposed the establishment of a sessional course, and this was approved by Corporation in the same year and by the Governors early in 1922. The realization of these plans was made possible by the co-operation of the Carnegie Corporation with McGill University, and the first Winter Course under the auspices of a Canadian university opened in October, 1927. It has now been accredited as a Junior Undergraduate Library School by the Board of Education for Librarianship of the American Library Association. In addition to fundamental courses in library methods and administration, the School offers special advantages and opportunities in training for special libraries and for college and university libraries, as it is situated in a large city which provides examples of libraries of all types and is part of a university with a recognized high standard of scholarship.

## REQUIREMENTS FOR ADMISSION

1. Applicants for admission to the course leading to the certificate of the Library School must offer a minimum of one year of work acceptable for admission to the Sophomore class of an approved college or university, evidenced by a transcript of the college record.

2. Applicants must have had two months of satisfactory general experience in an approved library or its equivalent.

3. Candidates must satisfy the Director of the School that they possess aptitude and personal qualifications necessary in library work.

4. The School reserves the right to refuse to admit an applicant who meets the first two requirements, but fails in the third; and the right to admit applicants who do not meet the first two requirements but can show, by means of an entrance examination, that they can carry the work without lowering the standard of instruction.

5. Applicants over thirty-five years of age are not encouraged to enter the School.

6. Qualified students who are not candidates for the certificate may be admitted to individual courses as partial students.

7. Teachers and qualified persons may attend the special lectures.

8. Students must offer one year's work in a foreign language, or must take such a course in addition to the Library School curriculum.

Ability to use a typewriter is a valuable part of the equipment of a library assistant, and students are encouraged to provide themselves with a portable typewriter or should rent one from the School.

### PARTIAL STUDENTS

A limited number of partial students may be admitted to courses each year. Before registration such students must satisfy the School of their ability to follow the courses selected and they must fulfill all requirements of classroom work and tests prescribed for regular students in these courses. A certificate of attendance may be obtained on application to the Registrar of the University, on payment of the required fee; but no certificates shall be given for attendance at lectures unless the corresponding examinations have been passed.

# REGISTRATION AND ATTENDANCE

#### REGISTRATION

1. Students in the Library School are required to present themselves at the office of the School some time during the seven week-days preceding the commencement of lectures, in order to furnish the information necessary for the University records, and to register for the particular courses which they wish to attend. For dates, see Calendar.

2. Upon registering each student will be given cards of admission to the courses registered for, on presentation of which to the several instructors, his name will be entered on the class registers, or notification will be sent to the instructors, as may be found most convenient.

#### ATTENDANCE

1. Students are required to attend at least seven-eighths of the total number of lectures or laboratory periods in any one course.

2. Excuses on the ground of illness or domestic affliction shall be dealt with only by the Director of the School. Medical certificates covering absences must be presented by the student immediately after his return.

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3. Those whose unexcused absences exceed one-eighth of the total number of lectures in a course shall not be permitted to take the regular examination in that course, and those whose unexcused absences in such a course shall exceed one-fourth of the total number of lectures must repeat the work in that course for credit.

4. A record shall be kept by each professor or instructor in which the presence or absence of students shall be noted.

5. Lectures will begin promptly on the hour and will end ten minutes before the next hour.

## SCHOLARSHIP AND PRIZES

1. The Ethelwyn M. Crossley Scholarship Fund is available for women students. Details may be obtained on application to the Secretary of the School.

2. Book prizes are given to the most efficient student in the courses on Library Administration, The History of the Book, Children's Reading, Cataloguing, and Reference Work.

# PHYSICAL EXAMINATION

1. The University requires those attending for the first time to pass a physical examination. The hours for this examination will be announced at registration.

2. Students who do not present themselves for this examination (or otherwise satisfy the Director of the Department of Physical Education) before November 1st, will not be allowed to attend the University.

3. All new students are required to present a certificate, or other satisfactory evidence, of successful vaccination, failing which they shall at once be vaccinated in a manner satisfactory to the medical examiner.

4. Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation is provided for seven days only, but only when requisitioned for by the Department.

# FEES AND EXPENSES

Fees are due and payable to the Bursar at his office on October 14th, but they will also be received before October 1st or on October 2nd, 3rd, 4th or 5th. After October 15th or February 1st (in the case of those who pay by instalments) an additional fee of \$2.00 will be exacted of all students in default.

#### FEES

Fee for the Library Course (including the use of the	
Library and School Certificate)	\$150.00
By instalments :	
First instalment, if paid before October 15th	77.00
Second instalment, if paid before February 1st	77.00
Fee for partial students, per point, in required courses	15.00
Fee for partial students, per point, in elective courses	12.50
Library fee for partial students taking less than two points,	
unless registered at McGill	4.00
Fee for each supplemental examination	5.00
Certificate for partial students	1.00
Fee for Summer Course	60.00

Immediately after October 15th (or February 1st in the case of students who pay by instalments) the Bursar will send to the Director of the School a list of registered students who have not paid their fees. Such students cannot be re-admitted to classes except on presentation of a receipt from the Bursar certifying to the payment of the necessary fees.

### CAUTION MONEY

Every student is required to deposit with the Bursar the sum of \$5.00 as Caution Money to cover damage done to furniture, books, apparatus, etc. This amount, less deduction (if any), will be refunded at the end of the session.

#### FIELD WORK

The Library School trip to New York in March is a required part of the Library Course, and students should allow a minimum of \$75.00 for this purpose.

### TEXT-BOOKS AND MATERIALS

Students should allow approximately \$35.00 for text-books, blank forms, cataloguing cards and other library supplies needed during the session. These may be purchased at cost from the Secretary of the School. Portable typewriters may be rented, for use in the School only, at the rate of \$1.00 per month.

#### BOARD AND RESIDENCE

Information about boarding and lodging houses may be obtained on application to the Secretary of the School. Accommodation can be obtained in private houses in the vicinity of the Library at a cost of

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\$50.00 and upwards per month; or, separately, board at \$45.00 to \$55.00 per month and rooms from \$15.00 to \$20.00 per month. Men students can obtain board at the McGill Union at low rates, either in the dining room or at the lunch counter.

#### CLUBS AND SOCIETIES

Women students of the School are eligible for membership in the Monteregian Club, 3426 McTavish Street, and, if University graduates, in the University Women's Club, 3492 Peel Street.

Membership in the McGill Women Students' Society, and subsidiary societies, is required of women students of the Library School at a fee of \$2.50 with an additional fee of \$1.50 for the *McGill Daily* and of \$6.00 for athletics and student activities.

Men students are required to pay a student fee of 17.00 for the *McGill Daily*, athletics, tickets to games, and the use of the Union.

#### PRELIMINARY READING

Students who wish to prepare themselves during the preceding summer for the winter's work may obtain, on application to the Secretary of the School, a list of suggested books for professional reading.

## LIBRARY VISITS

The lectures and practice work of the School are supplemented and illustrated by required professional visits and reports.

- (a) Visits to libraries, binderies, book shops, museums and printing establishments in Montreal and its neighbourhood.
- (b) A week's visit, under the direction of members of the Staff, to similar institutions in New York and adjacent cities.

# COURSE OF STUDY

The numbers in right-hand columns represent the hours per week. Students must choose electives to make up at least 15 hours per week each term, but electives may be taken only with the approval of the instructor.

Course Numbers	IREQUIRED COURSES	First Term	Second Term
1-2	Cataloguing and Classification	4	2
3- 4	Reference Work and Bibliography	3	3
5- 6	Book Selection	2	2
7-	Trade Bibliography and Orders	1	ar the
- 8	Circulation, Publicity and Extension	and the	1
9–10	Organization and Administration of Libra- ries	2	2
11-12	Field Work, Observation, and Visits	1	and the state
Constance of	service of the second	13	11
	II.—ELECTIVE COURSES		
13-	History of Books and Libraries	bren 1	1
15-	Children's Reading	1	
16-	Library Work with Children	ts to Bhi Internetion	1
-18	School Libraries	eiv Ther	1
19-20	Special Libraries	1	1
-22	College and University Libraries		1
-24	Indexing and Filing,	-	1
-26	Advanced Classification	—	2
	The second second second second	3	8 -

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# DESCRIPTION OF COURSES

## 1-2. Cataloguing and Classification.

Four points, first term; two points, second term...Miss Herdman. The aim of the course is to teach the students to be thoroughly familiar and conversant with the principles of classification and cataloguing (including subject headings); how to think out their classification problems logically and independently; and how to arrive at accurate decisions. It is also to drill them in the form of the unit card and the actual procedure of a catalogue department; to teach them familiarity and skill in the use of books which are necessary tools used in the actual practice of the classification and cataloguing of books. In the second term are taken up the special problems of cataloguing and the more complicated problems of classification.

The students become thoroughly conversant with Dewey's and Cutter's classification, the A.L.A. Catalogue Rules and the A.L.A. and Sears Subject Headings, and each student completes a catalogue of approximately 200 books which illustrates the usual and special problems of classification and cataloguing and serves as the basis for practical problems in indexing and filing.

In the class work definitions of terms, and the meanings and significance of subjects are reviewed, so that the work can be intelligently done, and in the laboratory work the individual problems of each student are worked out with the student.

# 3-4. Reference Work and Bibliography.

Three points, each term ...... Miss Higgins.

The work of this course consists of a careful and minute study of the standard books of reference in English, French and German, as regards author's name and record, publisher, edition and date, the scope and special features, limitations, arrangement and indexes, as well as the kind of articles included.

During the first term a general view of the field of reference work is given by means of a study of the most used popular reference books. A more intensive study of works of more scholarly character follows in the second term.

The course is designed to acquaint the students with all the reference tools through the use of which they may aid the readers of a library in finding both simple and elusive material, as far as the resources of the library will allow. No small part of the work is the instruction in the administration of the Department and in the selection of a working collection of reference books, as well as the consideration of a proper arrangement of reference material to aid in the dispensing of prompt and accurate service.

In addition, students will be taught how to prepare a practical bibliography and will be made familiar with the outstanding bibliographies in particular subjects, under the direction of specialists. The practical use of bibliographies in library work is emphasized in lectures and by assigned readings.

Class work consists of a careful study of Mudge's New Guide to Reference Books, with discussions, and lectures on additional material not included there. Readings on topics of special interest and problems based on the reference books are assigned for outside study.

#### 5-6. Book Selection.

Two points, each term ...... Professor Carter.

The purpose of the course is to train students in the ability to select books for different types of libraries and readers, by interpreting community needs and interests in terms of the most helpful and interesting books. In order to obtain the necessary skill to perform these functions, the course includes principles of book selection; book aids, their characteristics and use; increased knowledge of books and their publishers from the library viewpoint, each class of books being considered with regard to the libraries to which it is best suited; and annotations for librarians and readers. These objectives are achieved by lectures, reading reports, problems and discussion.

Text:-Bessie Graham, The Bookman's Manual.

## 7. Trade Bibliography and Orders.

One point, first term.....Dr. Lomer and Miss Higgins.

A study of the bibliographical equipment necessary in ordering books and periodicals, English, American and foreign; the use of catalogues and trade lists; the equipment and administration of the order department; funds, invoices and accounts; the recording of gifts; bookbuying policy; problems and practice.

## 8. Circulation.

One point, second term......Miss Higgins.

The organization of the circulation department, the equipment of the loan desk, and a comparative study of the different methods of charging books, with practice.

#### 9-10. Organization and Administration of Libraries.

Two points, each term.....Dr. Lomer and Special Lecturers. Relation of the library to other educational organizations; elements of library administration of various types of libraries; library legislation; business and ethics of librarianship; library work in connection

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with museums and exhibitions; relation of librarian and trustees; committees and committee meetings; library buildings and equipment; supplies and stock; the budget, distribution of funds, accounts, minutes, reports and statistics; library extension, travelling libraries, inter-library loans, branches, stations, etc.; inventory and checking stock; interrelation of departments and economical routine; binding materials and routine; staff management and records.

# 11-12. Field Work. Observation, and Visits.

One point, each term.....

As all instruction is given with a view to its application in professional service, it is essential that students have sufficient opportunity for practical work. The School affords this in three ways:—

- 1. The problems and laboratory work involved in the technical courses provide, at the rate of two hours for every lecture, the conditions necessary for the practical application of the principles and methods taught.
- 2. Field work in the second term provides an opportunity for wider observation, comparison of libraries and their methods, and actual practice in the routine of library work where the pace is set by experienced workers. A programme of conducted visits to other libraries, including a week's visit to New York and vicinity, is planned for the second term as a required part of the course. This aims to give the student an opportunity to observe the practical applications of subjects taught.
- 3. Two weeks of practical work under supervision is planned to take place in May, in order that the student may acquire an appreciation of library work as a whole.

## 13. History of Books and Libraries.

One point, each term.....Dr. Lomer.

A course of lectures, fully illustrated by lantern slides and exhibits, dealing with the development of the arts of record from pre-historic times to the present day. The production and care of manuscripts and books in classical, medieval and modern times will be considered, and a brief sketch will be given of the origin and development of printing in China and in Europe. The lectures are supplemented by outlines, readings and an essay.

# 15. Children's Reading.

One point, each term.....Professor Carter. The aim of the course is to develop an approach to children's literature through a consideration of children's interests and activities; to

become acquainted with the classics suited to children as well as with recent children's books; and to suggest methods of presenting literature which children will enjoy and, at the same time, develop their ability to appreciate good books.

This is accomplished by means of lectures on child psychology, aids to the selection of children's books and illustrators of children's books, as well as by the reading and presenting of different types of books which are always considered from the viewpoint of inclusion in a children's library.

### 16. Library Work with Children.

One point, first term.....Professor Carter. Consideration is given to the aims of library work with children; to make good books available to all the children of a community; to train boys and girls to use the library with discrimination; and to build character and develop literary taste through the medium of good books and the influence of the children's librarian, and the best way in which these aims may be accomplished.

How to stimulate interest in the organization of a children's library; the qualifications of a children's librarian; equipment and administration of children's rooms; personal work with children and the way in which environment, social differences and background affect children in relation to their reading. Lectures, problems, discussions, surveys.

# 18. School Libraries.

One point, second term......Miss Higgins.

The organization of libraries in schools of various types is brought out by means of lectures and discussion. The relationship of libraries to modern education is always kept in view. The work of the high school library is especially considered from the standpoint of its history; the present standards; types of libraries; the physical plant; financial. aspects; staff-qualifications, duties, etc.; co-operation with departments of the school; special problems, such as discipline, fines, etc.; and, finally, the selection of library material.

## 19-20. Special Libraries.

One point, each term....Professor Carter and Special Lecturers. Since it is generally realized that, although the fundamentals of library service may be the same in general and special libraries, there are certain differences in method and viewpoint, the object of the course is to point out specific differences, and to give some idea of the scope of special library work.

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During the first term, a survey of the special library field is presented in order to give the student some idea of the function of special libraries in the daily work of the world. Several of these lectures are given by authorities in their fields.

The aim of the course in the second term is to show how methods learned in the general library course may be applied to special library problems. Lectures, visits, problems.

# 22. College and University Libraries.

One point, second term.....Dr. Lomer. This course is designed for those, preferably college graduates, who wish to specialize in work in college and university libraries. The application of processes common to other libraries will be reviewed and emphasis will be laid upon the place of the library in university education and administration, the selection of books, the apportionment of funds, the problems of departmental libraries, reference work, reserved books, graduate research, the use of the stack and instruction in the use of the library.

## 24. Indexing and Filing.

One point, second term......Miss Herdman. The principles of alphabetic, numerical, geographic, subject and classified filing; analyses of filing conditions; central files and organization; and the basis of choice of filing system for material to be filed; with some work in the principles of indexing; all of which is given practical application in problems.

# 28. Advanced Classification.

The principles of classification, the history of their development and their application in the Dewey, Bruxelles, Cutter, Brown and Library of Congress classifications.

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
9-10	Reference	Trade Bibliography	Cataloguing Lecture	Reference	Reference	Cataloguing Lecture
10-11		Book Selection	Cataloguing Laboratory	Children's Reading	Book Selection	Cataloguing Laboratory
11-12	Special Libraries	Administration	Cataloguing Laboratory	Administration	Book Selection	Cataloguing Laboratory
12-2						
1.45-2.45	Cataloguing Lecture			Cataloguing Lecture	goug - a	
2.45-4.15	Cataloguing Laboratory			Cataloguing Laboratory	for the second	
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# TIME TABLE—FIRST TERM

HOURS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
9-10	Classification (Advanced)	Circulation	Classification (Advanced)	and find	Indexing and Filing	
10-11	Reference	Library Work with Children	Reference	approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. approx. app	Reference	No.
11-12	Special Libraries	Administration	Book Selection	Administration	Book Selection	1381
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## TIME TABLE—SECOND TERM

## SUMMER SESSION

The McGill University Library School will offer a six weeks' course in general library methods, beginning on Tuesday, July 2nd, and ending on Friday, August 9th, 1929.

The course is designed to prepare librarians for small libraries or assistants for larger libraries, and it fulfils the requirements and embodies the course of training approved by the Board of Education for Librarianship of the American Library Association, by which the Summer Course has been accredited.

The Library School, the oldest of its kind in Canada, will hold its sessions in a portion of the University Library which has been specially equipped for the purpose, and includes a lecture room, with stereopticon and refractoscope, and two study rooms for students, equipped with individual desks. In addition to the Library School collection of books, students have access to the stacks of the University Library, a fine limestone building of Romanesque style, situated on the campus and containing, with the departmental libraries, over 300,000 volumes. There is a Library Museum containing an exhibition illustrating the historical development of the book; and special exhibits are arranged in connection with the course.

## COURSE OF STUDY

#### GROUP I

## Cataloguing, Classification, and Subject Headings.

A simplified course aiming to meet the needs of the school and the small public library. Instruction in the principles of dictionary cataloguing is given by means of lectures and supervised laboratory work. The assigning of subject headings is also taught. The fundamental principles of classification form a basis for the practical application of the Dewey Decimal and Cutter Expansive systems. Some attention is given to the ordering and use of Library of Congress printed catalogue cards, the assigning of book-numbers from the Cutter-Sanborn author tables, shelf-listing, alphabeting and filing. These various processes will be correlated in order to give the students practice in planning the full cataloguing of a book. Students who can do so are urged to type their catalogue cards.

Two fifty-minute laboratory periods per lecture hour are a required part of the course.

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## Book Selection.

Approach to this subject is made through the underlying principles of selection and a consideration of various classes of books (travel, history, biography, poetry, drama and fiction). Practice in using printed aids to assist selection, in writing booknotes, and selecting books for different types of readers, is given. Lectures, reports, problems.

## Subject Bibliography.

#### Children's Literature.

Principles of book selection as applied to children of varying ages and interests; story-telling; administration of the children's room.

# Trade Bibliography and Ordering.

Instruction is given in the use of the ordinary bibliographic equipment necessary in ordering books and periodicals. The making of order cards and the routine of ordering are explained. Practical problems are assigned.

#### GROUP III

## Reference Work.

## GROUP IV

## Organization and Administration of Libraries.

and librarians, the business and ethics of librarianship, the supervision of buildings and staff, the preparation of annual budgets, statistics and reports, and library exhibits.

These lectures are supplemented by a consideration of special phases of library work planned as an elementary introduction to aspects of library management which are considered more in detail in the sessional course. The chief topics are:---

## 1. Library Buildings and Equipment.

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A consideration of the fundamental principles of the construction of small libraries, with special attention to heating, ventilation, lighting, and the arrangement of the stack and a consideration of the essential equipment of a small library.

#### 2. Publicity and Extension.

\_\_\_\_\_. \_\_\_. Lectures.

Methods of publicity as aids to help advertise the value of the library will be stressed, and ways and means of extending library service will be considered. The assignments will consist of readings.

## 3. Loans and Stack Administration.

Miss Young......2 Lectures.

A consideration of charging systems with their application to the needs of the small library and to school and college libraries. The arrangement of books in the stacks, checking the shelves, and the rearrangement of classes will also be considered, as well as the general care of books.

## 4. Binding and Repairs.

The principal materials and processes of binding will be considered from the point of view of their practical application and cost. The routine of the binding department will also be considered and practice in elementary repairs will be supplemented by a visit to local binderies.

## 5. Periodicals and Serials.

The recording and arrangement of periodicals and serials will be explained, as well as the equipment and management of a periodical reading room.

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THE FERENCE

## Special Libraries or School Libraries.

These courses are elective, and students are required to select one.

## 1. School Libraries.

Place and function of the school library in relation to the curriculum; the high school library; instruction of students in the use of the library; standards for the school library and its equipment.

## 2. Special Libraries.

The organization of special libraries (Miss Herdman); College and university libraries (Dr. Lomer); Phases of public library work (Miss Saxe); Business libraries (Miss Herdman); Travelling libraries (Miss Hall).

#### EXCURSIONS

Saturday mornings will be devoted to the following excursions, which are a required part of the course: (1) Art Association of Montreal, 679 Sherbrooke Street West; (2) Art Book Binding and Loose Leaf Company, 1a Demontigny Street East; (3) Bibliothèque Saint-Sulpice, 1700 St. Denis Street; (4) Fraser Institute Free Public Library, 359 Dorchester Street West; (5) Mechanics' Institute of Montreal, 890 Atwater Avenue; (6) Public Library of the City of Montreal, 630 Sherbrooke Street East; (7) Westmount Public Library, Westmount Park.

## APPLICATIONS FOR ADMISSION

Applicants for admission to the course should be high school graduates with aptitude and personal qualifications for library work and should give evidence of ability to pursue profitably the course. Assistants already engaged in library work or applicants with a definite appointment to a library position are preferred, as the number of students is limited. The Library School gives a certificate to those who have successfully completed the course, but this implies no university credit, and the School does not guarantee positions to students.

## FEES

The fee for the course is \$60.00, payable in advance at the Bursar's Office.

Students may rent portable typewriters for \$2.00 for the session and may obtain necessary supplies from the Secretary of the School, who will also, on request, furnish a list of approved boarding houses.

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## SECRETARY :--- CONSTANCE M. HARVEY.

The Department of Extra-Mural Relations carries on work in adult education. It is concerned with lectures and study for persons who are not registered in any Faculty or Department and are not aiming at academic credit. Its object is to bring the community and the University into closer touch one with the other, and to achieve this end it functions largely outside the University walls.

Lyceum Lectures are offered in the Province of Quebec and neighbouring districts. Societies, clubs and other groups may arrange for single lectures or series of separate lectures on subjects of general interest. Most of these lectures are of a popular nature; a few are intended for professional audiences already acquainted with the technical nature of the subject. Details are given on pages 577-589.

Community groups wishing to arrange courses of study for nonacademic audiences are invited to avail themselves of the services of the Department. Details of the courses to be given during the session 1929-1930 in co-operation with the Montreal Board of Trade, the Chartered Institute of Secretaries and the Canadian Society of Cost Accountants will be found on pages 590-597.

In co-operation with the University Library, the Department loans sets of slides accompanied by written lectures free of charge. These are of particular use in towns which by reason of distance find it difficult to obtain an adequate number of speakers. On examination of the list of these illustrated lectures on pages 598 and 599 it will be noted that each lecture is complete in itself, but that it is possible to build up courses on such subjects as Canadian Geography, Canadian Economics, The British Empire.

The value of research in all subjects is now generally recognized. Whether the question involved be some technical difficulty in manufacturing or a problem of employment or hygiene, the staff of the University is ready and willing to deal with it and to give all the assistance possible. It is one of the duties of the Department of Extra-Mural Relations to promote such co-operation and to put inquirers in touch with the proper authorities at McGill.

Descriptive articles, pamphlets and photographs are published from time to time by the department, and copies, when available, may be had on application.

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## I. LYCEUM LECTURES

## General

Local committees, schools or other authorities are asked to select subjects from the list below and indicate the day or days on which they wish the lectures to take place. Lectures will be provided during the periods from October 14th to December 15th, and January 6th to March 30th. Lecturers whose names are marked with an asterisk are able to lecture in Montreal only.

## Outside Montreal

Local committees outside Montreal are called upon to provide accommodation and entertainment for lecturers and to pay railway expenses and taxi fares to and from stations. The University pays the lecturers' fees.

In the case of illustrated lectures, if local committees cannot provide a lantern, one will be furnished at an additional fee of \$2.00, Local committees are expected to provide operators.

When a soloist is provided for musical lectures, local committees are called upon to pay the travelling expenses of the soloist *and also his fee.* 

## In Montreal and Environs

In the cities of Montreal, Westmount, Outremont, Lachine, Verdun and St. Lambert committees are called upon to pay the University a fee of \$15 per lecture as a contribution to the general expenses of the Department.

A lantern and operator are supplied at an additional charge of \$5.00. Lantern only is supplied at a charge of \$2.00.

## Accounts

Co-operating committees will receive a bill for expenses from the Secretary of the Department after a lecture has taken place.

Cheques are to be made payable to McGill University and forwarded to the Secretary of the Department of Extra-Mural Relations.

Local committees outside Montreal are asked to settle accommodation expenses direct with hotels.

## Lecturers and Subjects

E. R. ADAIR, M.A., Associate Professor of History.

- 1. The Art of 17th Century England (Illustrated).
- 2. Corsica, The Birthplace of Napoleon (Illustrated).
- 3. The 17th Century Pirate.
- 4. Spain under Primo de Rivera.

- 5. French Canadian Art (Illustrated by slides).
  - The history of the development of certain branches of art in Quebec under the French régime and their continuance in the late 18th and early 19th centuries.

HOWARD T. BARNES, D.Sc., F.R.S., Professor of Physics.

- 1. Ice Engineering—Principles of Ice Destruction and Control (Illustrated).
- 2. Ice and Its Natural History (Illustrated).
- 3. Icebergs and Their Control (Illustrated). An account of 35 years of research.
- 4. The Glory of the Sunrise in Natural Colour (Illustrated).
- 5. The St. Lawrence River Problems (Illustrated). Being the findings of 35 years of study.

JOHN BEATTIE, M.Sc., M.D., Assistant Professor of Anatomy.

- 1. Sight and Insight (Illustrated).
  - The sense of sight and its importance in the evolution of intelligence.
- 2. Our Feelings (Illustrated).
  - A lecture on the mechanisms whereby we learn of changes outside and inside our bodies.

D. MAUD BELLIS, Lecturer in Art, Macdonald College.

- 1. The World's Painters, Past and Present (Illustrated).
- 2. Art in Every Day Life (Illustrated).
- WILFRID BOVEY, O.B.E., LL.B., F.C.I.E., Director of Extra-Mural Relations.
  - 1. Road, Rail and River (Illustrated).
    - Land and water highways of Canada and how Canada has grown up along them.
  - 2. Quebec to Gaspe-History, Legend and Scenery (Illustrated by slides).
  - 3. New Canada (Illustrated). The Mackenzie Valley and the Far North.

\*ALFRED BRAMLEY-MOORE, B.A., M.D., Demonstrator in Ophthalmology.

1. Eyesight (Illustrated).

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- J. W. BRIDGES, B.A., Ph.D., Associate Professor of Abnormal Psychology.
  - 1. Environmental Factors in Mental Health.
    - What is inherited? the influence of environment in the development of intellect, temperament and character; environmental factors as causes of mental defect and diseases; the health environment.
  - 2. Psychoanalysis and Mental Health.
    - Psychoanalysis as a contribution to the understanding of human nature; the meaning of the unconscious, mental conflict, repression, over-compensation and sublimation; illustrations from every-day life; significance for mental health.
  - 3. The Meaning of Dreams.
    - Critical discussion of various theories; dream symbolism; relation of dream to reverie, to poetry, and to mental diseases; the study of dreams as a help to selfknowledge.
  - 4. The Motivation of Behaviour.
    - A psychological analysis of the fundamental "drives" or springs of human action; the physiological drives; feelings, emotions, instincts and habits as motives; social motives; unconscious motives; the influence of ideals; the interaction of motives; "drive" as the basis of achievements.
  - 5. The Psychology of Personality.
    - The elements of personality and their organization; intellect, temperament and character; types of personality; imbalance, dissociation and other abnormalities of personality.
- HOWARD D. BRUNT, B.A., Ph.D., Head of the Department of English at Macdonald College.
  - 1. Biography.
  - 2. The Inn in English Literature.
  - 3. The Drama, Child of the Church (Illustrated).
  - 4. John Masefield, Poet and Man.
  - 5. "The Woodcarver's Wife" (Reading).
  - 6. Bernard Shaw's "St. Joan."
  - 7. Idylls of the King (Illustrated).
  - 8. Poetry as Interpretation of Life.
  - 9. Satire.
  - 10. Joseph Conrad, Novelist.

MARY DUNCAN CARTER, Ph.B., B.L.S., Assistant Professor of Library Administration and Assistant Director of the Library School.

- 1. The Place of the Library in the Community.
- 2. Libraries as Bureaus of Business Research.
- 3. Children's Books and Libraries (Illustrated by slides).
- 4. Bringing Books to the People (Illustrated by films).
- 5. Choose Your Own Books:

i. How to Judge a Book.

- ii. Book Reviews as Aids in Choice of Reading.
- iii. Biography.
- iv. Travel and History.
- v. Poetry and Drama.
- vi. Fiction.

Six lectures to develop interest in books and reading. Each lecture is complete in itself.

T. H. CLARK, Ph.D., Associate Professor of Palæontology.

- 1. Montreal Through the Geological Ages (Illustrated by diagrams).
- Man's Life on Earth (Illustrated by lantern slides). A consideration of the background and progress of mankind.

EARLE W. CRAMPTON, M.S., Assistant Professor of Animal Husbandry, Macdonald College.

1. Has Genetics Anything to Offer the Livestock Breeder?

A popular discussion of the contribution which the science of Genetics has made to the practical problems of the stock breeder, as, for example, status of such theories as maternal impression, telegony; causes of reversion; inbreeding; our present information on the inheritance of sex, acquired character, milk production and the breed characteristics.

CARL A. DAWSON, B.A., Ph.D., Associate Professor of Sociology and Director of the School for Social Workers.

- 1. The Settlement of Pioneer Regions in Canada (Illustrated).
- 2. The Optimum Population for Canada.
- 3. Educating the Adult.
- 4. The Agitator, Reformer and Uplifter.
- 5. Casual Charity versus Professional Social Work.
- 6. The Church in the Changing Community.

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A. VIBERT DOUGLAS, M.B.E., Ph.D., Lecturer in Astrophysics.

- 1. Astronomy Ancient and Modern (Illustrated).
- 2. The Constellations of the Winter Sky (Illustrated).
- 3. The Signs of the Zodiac (Illustrated).
- 4. Telescopes and the Universe They Reveal (Illustrated).

Three lectures suitable for children.

- a. The Sun and Its Family (Illustrated by films and slides).
- b. The Constellations: Birds, Beasts and Giants in the Sky (Illustrated by films and slides).
- c. The Stars: Wireless Messages from the Milky Way (Illustrated by films and slides).

JEANNE DURAND-JOLY, Lecturer in French.

- 1. Effective methods of Studying French.
- ARTHUR S. EVE, C.B.E., M.A., D.Sc., F.R.S.C., F.R.S., Macdonald Professor of Physics and Director of the Department of Physics.
  - Flight and Flying (Illustrated by experiments and slides). Flight of balls, bullets, birds, bats, fish, airplanes, airships, gliders.

J. HOWARD T. FALK, Lecturer in the School for Social Workers.

- 1. Social Work's Relation to Industry and Commerce.
  - Extraordinary care in the selection and maintenance of the physical machinery of Industry and Commerce is now generally accepted as essential to low cost production. Is the same care exercised in regard to the human machinery? Is social work the measuring stick by which the effect of industry on the human machines —the workers—can and should be estimated?
- 2. The High Cost of Social Maladjustment.
  - Every dependent in hospital, gaol, asylum or institution is a consumer of wealth which someone else produces. Do we realize the high cost of social maladjustment?
- 3. How Sane Methods of Finance and Co-operation Have Made Social Work More Humane. The Federation movement for the financing of Social Work has swept the American continent; New York, Boston, Chicago and Washington, D.C., are the only cities of size which have not adopted this plan. "Co-operation" has ousted "competition" and with it has come a more humane attitude to social problems.

- R. DE L. FRENCH, B.Sc., C.E., Mem. Am. Soc. C.E., M.E.I.C., Professor of Highway and Municipal Engineering.
  - 1. The Romance of the Post (Illustrated).
  - 2. Engineering Education (Illustrated).
  - 3. The First White Rajah (Illustrated).

The life of Sir James Brooke, first Rajah of Sarawak.

## F. C. HARRISON, D.Sc., F.R.S.C., Professor of Bacteriology and Chairman, Faculty of Graduate Studies and Research.

- 1. The Short Stories of Rudyard Kipling.
- 2. Louis Pasteur-Life and Work.
- 3. Practical Results of Bacteriological Research.
- 4. The Yew in Poetry and History.
- 5. Garden Planning.
- 6. Bacteria in Their Relation to the Housekeeper.

1 to 5 lectures as required.

## MYRTLE HAYWARD, B.S., Lecturer in Foods and Cookery and in Educational Methods, Macdonald College.

- 1. Food for Growing Girls and Boys.
- 2. Diet for the Pre-School Child.
- 3. Food for Efficiency.
- 4. Malnutrition-Its Causes and Effects.
- 5. Balanced Meals for Family Groups.
- 6. Diet for Health.
- 7. Diet in Disease.
- 8. An Investment in Health.

Hot lunch in rural schools, how to organize and carry out the project, its need in the life of the child.

CHARLES K. P. HENRY, M.D., C.M., F.A.C.S., Lecturer in Surgery.

- 1. Blood Transfusion (Illustrated).
- 2. Cranial and Intracranial Injuries (Illustrated).
- 3. Surgical Complications of Gastric and Duodenal Ulcer (Illustrated).
- 4. Sutures, Ligatures and Wound Healing (Illustrated by slides and a film).
- 5. Surgery of the Gall Bladder (Illustrated).
- 6. Surgery of Exophthalmic Goitre (Illustrated).
- 7. Modern Cancer Therapy (Illustrated).
- 8. Cancer of the Female Breast (Illustrated).
- 9. Cancer-Prevention and Cure (Illustrated).

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Low A week

- EVERETT CHERRINGTON HUGHES, B.A., Ph.D., Assistant Professor of Sociology.
  - 1. Modern Children and Old Fashioned Parents.
  - 2. The Juvenile Delinquent: How Did He Become Delinquent and What Shall We Do With Him?
  - 3. Poverty: A Personal or a Community Failure?
  - 4. Can Social Institutions Be Changed?
  - 5. The Play Group and the Gang.

ELDON C. IRVINE, M.A., Lecturer in Mathematics, School for Teachers.

1. The Measurement of Intelligence in Children from the Standpoint of Parent and Teacher.

DAVID A. KEYS, M.A., Ph.D., F.R.S.C., Associate Professor of Physics.

- 1. Light Visible and Invisible (Illustrated by experiments and slides).
- ARTHUR S. LAMB, B.P.E., M.D., Director, Department of Physical Education.
  - 1. Education for Health.
    - The meaning of health, preventable disease, cost of sickness and inefficiency, increase in life expectancy, personal and civic responsibility.
  - 2. Modern Aspects of Physical Education.
    - Changes in the nature and development of the child. Relation to school and home life; nature of activities demanded; a suggested programme of activity.
  - 3. The Olympic Games (Illustrated by slides and moving pictures).

The influence of the ancient games on the religious, literary and social life of Greece. The growth and influence of the modern games.

- J. E. LATTIMER, Ph.D., Assistant Professor of Agricultural Economics, Macdonald College.
  - 1. Agricultural Expansion and Immigration.
  - 2. Population and Food Supply.
  - 3. The Problem of Rural Education.

Popular:

- 1. Rubber Culture in Sumatra and Malaya (Illustrated by slides and films).
- 2. Costa Rica and the Banana Culture (Illustrated by slides).
- 3. The Chihuahuan Desert and the Guayule Rubber Plant (Illustrated by slides).
- 4. Vegetation of North America (Illustrated by slides).
- 5. Tufa: Pyramid Lake, Nevada, and Its Tufa Formation (Illustrated by slides).
- 6. Wonderland Through the Microscope (Illustrated by slides and films).
- 7. South Africa-Plants and Animals (Illustrated by slides).

Technical or Popular:

- 8. Further Studies in Conjugation (Illustrated by films and slides).
- 9. Utricularia, The Mouse-Trap Plant (Illustrated by films and slides).
- 10. The Contractile Vacuole—a comparative study with especial reference to Paramoecium and Spirogyra (Illustrated by slides and films).
- 11. Periodic Precipitation—The Liesegang Phenomena (Illustrated by slides).
- \*G. R. LOMER, M.A., Ph.D., University Librarian, Director of the Library School and Professor of Library Administration.
  - 1. The Book in Egyptian Times (Illustrated).
  - 2. Babylonian and Assyrian Records (Illustrated).
  - 3. The Books of the Greeks and Romans (Illustrated).
  - 4. Mediæval Books (2 lectures) (Illustrated).
  - 5. Mediæval Libraries (Illustrated).
  - 6. History of Paper and Books in China (Illustrated).
  - 7. The Beginnings of Printing in Europe (Illustrated).
  - 8. How a Book is Made (Illustrated).

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FRANCIS E. LLOYD, M.A., F.R.C.S., F.L.S., Macdonald Professor of Botany.

T. W. L. MACDERMOT, M.A., Assistant Professor of History.

- 1. Sir John A. Macdonald. Canada's First Prime Minister.
- 2. Montreal Merchants and the Northwest. The days of the Beaver Club.

PAUL F. MCCULLAGH, M.A., Lecturer in Classics.

- The Bible in Stone (Illustrated). Detailed photographs of the famous carvings of the great cathedrals of the Middle Ages.
- 2. A Bicycle Tour Through France (Illustrated).
- 3. The Glory That Was Greece (Illustrated).
- 4. The Grandeur That Was Rome (Illustrated).
- 5. Some Masterpieces of Greek and Roman Sculpture and Architecture (Illustrated).
- 6. The Last Days of Pompeii (Illustrated).
  - The private and public life of a Roman city of 2000 years ago before the eruption of 79 A.D. with photographs of modern eruptions of Vesuvius.
- The Catacombs of Rome (Illustrated). The burial places of the early Christians; their art and inscriptions.
- 8. The Cathedrals of England (Illustrated).
- 9. Life in Roman Britain (Illustrated).
- 10. A Bicycle Trip Through England (Illustrated).

ROBERT R. MCKIBBIN, Ph.D., Research Assistant and Lecturer in Chemistry, Macdonald College.

1. What We All Come-From and Where We All Go (Illustrated).

> A popular lecture on men, animals, plants, soils and rivers and what they are composed of.

- 2. Precious Minerals of Everyday Life (Illustrated).
  - The roles of calcium, phosphorus, potassium, magnesium, sulphur, iron, etc., in plant, animal and human nutrition, presented in a popular form.

JOHN APPLETON NUTTER, B.A., M.D., C.M., F.A.C.S., Clinical Professor of Orthopædic Surgery.

1. The Foot (Illustrated).

Disease and disabilities of the foot and their treatment.

- 2. Rheumatism (Illustrated).
  - A popular lecture on the causes, manifestations and treatment of rheumatism.
- 3. Backache and Sciatica (Illustrated). A popular lecture on causes and treatment.
- 4. Posture (Illustrated).

Development of posture; good and bad posture; results of bad posture and treatment.

- 5. Paralyses of Childhood (Illustrated).
  - Popular lecture on Poliomyclitis, Spastic Paralysis and Obstetrical Paralysis; cause, diagnosis and treatment.
- 6. Tuberculosis of Joints (Illustrated). A popular lecture.

FRANK GORDON PEDLEY, B.A., M.D., C.M., C.P.H., D.P.H., Lecturer in Industrial Hygiene.

1. The Cost of Health.

H. E. REILLEY, M.Sc., Associate Professor of Physics.

- 1. Liquid Air and Low Temperatures (Illustrated by slides and experiments).
- 2. Sounds and Hearing (Illustrated by slides and experiments).
- 3. X-rays, Their Uses and How Produced (Illustrated by experiments and a few slides).
- 4. Short Cuts in Arithmetic.

Entertaining and of interest to young and old, "lightning calculation."

HAROLD J. ROAST, F.C.S., F.C.I.C., Lecturer in Metallurgy.

- 1. The Inner Life and Activity of Metals (Illustrated).
- 2. Lead-How It Is Produced and Its Uses.

JOHN F. SNELL, B.A., Ph.D., F.A.A.A.S., F.C.I.C., Professor of Chemistry, Macdonald College.

1. The Maple Syrup Industry (Illustrated by slides and a film).

CARLETON STANLEY, M.A., Associate Professor of Greek.

- 1. The Poetry of Thomas Hardy.
- 2. The Art of Katherine Mansfield.
- 3. A Ramble in Greece (Illustrated).

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ALFRED STANSFIELD, D.Sc., A.R.S.M., F.R.S.C., Professor of Metallurgy.

- 1. Metallurgy Ancient and Modern (Illustrated).
- 2. How Metals Are Obtained From Their Ores (Illustrated).
- 3. The Electric Furnace (Illustrated by slides and experiments).

ALICE M. STICKWOOD, B.S., M.A., Lecturer in Dietetics and Institutional Administration, Macdonald College.

- 1. The Best Use of Foods.
- 2. The Well-Balanced Meal.
- 3. Foods and Their Use.
- 4. Food Selection.

EDOUARD FABRE SURVEYER, B.A., B.C.L., K.C., Professor of Civil Procedure.

- 1. James McGill (Illustrated).
  - 2. Canada's Rise As a Nation.
- 3. Maria Chapdelaine.
  - 4. Parliamentary Elections in 1792.
  - 5. Husband and Wife in Louisiana and Quebec.
  - 6. William Grant, First M.P. for Quebec.
  - 7. Philippe de Rocheblave, First M.P. for Surrey.
  - 8. Pierre G. Guerout, First M.P. for Richelieu.
  - 9. Joseph Frobisher of Beaver Hall.
  - 10. "Auld Robin Grey" in France (singer required).
  - 11. Judge Pierre de Boune, First M.P. for York.

WILLIAM D. TAIT, M.A., Ph.D., Professor of Psychology, Chairman of the Department and Director of the Psychological Laboratory.

1. Intelligence of the Apes (Illustrated by a film).

- 2. The Genius in Our Midst.
- 3. Psychology and Democracy.

R. R. THOMPSON, M.C., V.D., C.A., Professor of Accountancy, Industrial Organization and Business Organization.

- 1. The Campaign for Jerusalem, 1917 (Illustrated).
- 2. The Gallipoli Campaign, 1915 (Illustrated).
- 3. Tales and Legends of the Anglo-Scottish Border (Illustrated).
- 4. Moslem Egypt (Illustrated).
- 5. Saracenic Art in Egypt (Illustrated by slides and specimens).

- LESSLIE R. THOMSON, B.A.Sc., M.E.I.C., M.Am. Soc. C.E., Associate Professor of Fuel Engineering.
  - 1. Some Notable Small Boat Voyages (Illustrated).
  - 2. Sailing Ships and Their Development (Illustrated).
  - 3. The Coal Problem of Canada.
  - 4. What's in a Lump of Coal? (Illustrated).
  - 5. \*Ships and Shanties (Illustrated by slides, music and models).

RAMSAY TRAQUAIR, M.A., F.R.I.B.A., Macdonald Professor of Architecture.

- 1. Old Churches and Church Carving in the Province of Quebec (Illustrated).
- 2. Old Houses and Furniture in the Province of Quebec (Illustrated).

Note:-These lectures are available in Quebec, Ottawa and Three Rivers only.

## PHILIP J. TURNER, F.R.I.B.A., Special Lecturer in Building Construction, Specifications and Professional Practice.

- 1. Cottages and Cottage Life of Old England (Illustrated).
- 2. The Trend of Modern Architecture (Illustrated).
- 3. The Old English Manor House (Illustrated).
- 4. The English Parish Church (Illustrated).
  - An account of the growth and development of the country church from Saxon times to the Reformation.
- 5. Man and His Buildings (Illustrated).

The aspiration of every age reflected in its architecture.

- 6. The Romance of the Old English Inn (Illustrated).
- 7. Old English Country Life and Customs (Illustrated).
- 8. Liverpool Cathedral—An Inspiration in Stone (Illustrated).
- 9. The Story of a Great Norman Abbey—Bury St. Edmunds (Illustrated).

\* In lecture No. 5 Mr. Thomson will be assisted by Mr. Jack Howell as soloist. Local committees are called upon to pay the travelling expenses of the soloist and lecturer and an additional sum of \$10, covering the soloist's fee.

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- ALFRED E. WHITEHEAD, Mus. Doc., F.R.C.O., Instructor in Organ and Lecturer in Theoretical Subjects, Organist of Christ Church Cathedral.
  - 1. Pepys and His Diary (Illustrated by slides and one song, sung by lecturer).
  - 2. Folk Songs From Many Nations (Illustrated by piano and songs).
  - 3. Christmas Carols (Illustrated by piano and songs).
  - 4. The Songs of Shakespeare (Illustrated by piano and songs).
  - 5. Schubert and His Songs (Illustrated by piano and songs).

Note:-Lectures 2, 3, 4 and 5 require two soloists in addition to the lecturer.

Local committees are called upon to pay the travelling expenses of the soloists and lecturer and an additional sum of \$25, covering the fees of the two soloists.

- S. E. WHITNALL, M.A., M.D., B.Ch., M.R.C.S., L.R.C.P., Robert Reford Profesor of Anatomy.
  - 1. Identification and Finger Prints (Illustrated).
  - 2. Evolution and Function of the Brain (Illustrated).

W. D. WOODHEAD, Ph.D., Professor of Classics.

- 1. The Island of Crete (Illustrated).
- 2. Delphi and Olympia, Two Famous Sites in Greek History (Illustrated).
- 3. A Glimpse of Greece (Illustrated).
- 4. Greek Tragic Drama.
- 5. Greek Comic Drama.
- 6. Women in Greek Life and Literature.

# II. MONTREAL BOARD OF TRADE COURSES IN COMMERCIAL EDUCATION

## DIRECTOR :--- WILFRID BOVEY.

REGISTRAR:-J. STANLEY COOK, Montreal Board of Trade.

## I. GENERAL

The Montreal Board of Trade Commercial Courses have been instituted to provide advanced commercial instruction. They are designed for young men living in Montreal and speaking the English language, who are unable to attend a university and wish to qualify for commercial diplomas or for membership in certain professional societies.

## II. OBJECTIVES

The courses offered prepare students for the following examinations:

- (a) Exmination for the MONTREAL BOARD OF TRADE DIPLOMA FOR COMMERCIAL EDUCATION.
- (b) First and Final Examinations of the CANADIAN SOCIETY OF COST ACCOUNTANTS.
- (c) Intermediate and final examinations of The CHARTERED INSTITUTE OF SECRETARIES.

#### III. CHARACTER OF COURSES AND HOURS OF LECTURES

Lectures are given in the evening and are of a practical nature. The subjects dealt with have been selected by experienced men of business. Subjects included in the curriculum for students of The Chartered Institute of Secretaries and the Society of Cost Accountants are required by the regulations of these associations.

## IV. REGISTRATION

- (a) Students must register at the office of the Montreal Board of Trade between the hours of ten o'clock a.m. and five o'clock p.m.
- (b) Students must declare at entrance what qualification they wish to obtain.
- (c) The final selection of candidates is at the discretion of the Committee.

#### V. LIMIT OF ENROLMENT

The class for 1929-1930 is limited to 100 students. If fewer than 100 students enrol for full courses, other students may register for one or more subjects.

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## VI. QUALIFICATION FOR ENTRANCE

No fixed entrance qualification is demanded, but applicants are expected to have reached an educational standard at least equal to that of the eighth grade in Canadian public schools.

Each student will be required

- (a) To produce a letter of recommendation from his employer; or
- (b) To produce a school certificate showing that he has reached the required standard; or
- (c) To satisfy the Registrar otherwise as to his fitness to enrol.

Students who wish to qualify for membership in The Chartered Institute of Secretaries or the Canadian Society of Cost Accountants should note the following sections.

## VII. THE CHARTERED INSTITUTE OF SECRETARIES

The Chartered Institute of Secretaries requires students to pass the Preliminary Examination of the Institute or else to obtain exemption, before they can proceed to the Intermediate Examination. Exemption is granted to students who have passed School Leaving or Matriculation Examinations.

Students not exempted are strongly recommended to pass the Preliminary Examination before entering the Board of Trade courses, as they will find it difficult to prepare for the Preliminary while working for The Intermediate Examination.

When students who desire to qualify for The Chartered Institute of Secretaries register for the Board of Trade courses, they should also register as students of The Chartered Institute of Secretaries.

The following regulations of The Chartered Institute of Secretaries are applicable:

Every candidate applying for registration as a student is required to produce evidence satisfactory to the Council:

(a) That he is not less than 16 years of age;

- (b) That he has passed the Preliminary Examination of the Institute, or has been exempted therefrom;
- (c) That he is, at the time of application, engaged in the office of a public company, or other public authority or body, or society or institution; or that he is undergoing a course of systematic instruction in an organized school of commerce approved by the Council of the Institute with the object of preparing for the examination of the Institute;

- (d) That he is recommended by a member of the Institute, or by a person of official standing approved by the Council, from personal knowledge, as a fit and proper person for admission to the examinations of the Institute, and is bona fide in course of preparation with the object of adopting the profession of Secretary as his chief occupation after passing the examinations;
- (e) That he has paid a registration fee of one guinea.

## VIII. CANADIAN SOCIETY OF COST ACCOUNTANTS

The Board of Directors of the Canadian Society of Cost Accountants has power to hold examinations, and to issue certificates of efficiency to successful candidates.

The following are among the rules of the society with regard to the holding of examinations:

- (a) There will be two examinations, a First and a Second, and a period of four years' service.
- (b) Candidates must be members in good standing in the C.S.C.A. at the date of the First Examination and must remain so in order to be eligible to write the Final Examination.
- (c) Candidates must make application on the form and in the manner prescribed.

#### FIRST EXAMINATION REQUIREMENTS

(h) Each candidate must have served two years in one of the following capacities before he can sit for the First Examination:

Accountant in public practice.

Auditor.

Audit Clerk.

Bookkeeper.

Assistant Bookkeeper.

Cost Accountant.

Assistant Cost Accountant.

Wages or Other Clerk making or checking records immediately connected with a cost or general system of accounts.

(i) Each candidate shall have attained the age of twenty-one years before he can sit for his First Examination.

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(m) Candidates, who are twenty-one years of age who have completed the services of two years required above, and who have passed the Intermediate Examination of any of the following bodies, will be regarded as hiving passed subjects (a), (b) and (c) of the First Examination:

Association of Accountants and Aulitors in Ontario;

General Accountants' Association;

Chartered Accountants; any Society or Institute belonging to the Dominion Association of Chartered Accountants; Corporation of Public Accountants of the Province of Quebec;

Institute of Accountants and Auditors of the Province of Ouebec;

And such other corporate bodies is the Board of Directors may see fit to add to the list.

The examination in Cost Accounting (d) will be taken by all candidates.

Candidates must make application to the Dominion Secretary on the prescribed form to be exempted from the First Examination under this clause. The application must be accompanied by the fee.

Note.—The subjects referred to are as follows: (a) Bookkeeping; (b) Accounting, main principles; (c) Law. The fourth subject is Cost Accounting.

#### SECOND OR FINAL EXAMINATION REQUIREMENTS

(n) Candidates must have passed or been exempted from their First Examination, and, subsequently thereto, must have served two years in one of the following capacities:

Accountants in public practice;

Auditor;

Audit Clerk;

Book-keeper;

Assistant Bookkeeper;

Cost Accountant;

Assistant Cost Accountant;

Wages or Other Clerk making or checking records immediately connected with a cost or general system of accounts.

Note.—The subjects for this examination are Cost Accounting, Industrial and Business Organization, and Administration. A thesis also is required.

(17) Candidates must send in their applications in writing to reach the Dominion Secretary not later than 15th September of each year. Such applications shall be on the prescribed form and will be forwarded by the Registrar for candidates.

Note.—Each must be accompanied by the prescribed fee.

## IX. EXAMINATION REQUIREMENTS

## 1. Montreal Board of Trade Diploma for Commercial Education

Students who fulfil any of the following conditions will receive the Diploma for Commercial Education :---

- (a) Students who have passed the Intermediate Examination of The Chartered Institute of Secretaries. (See below.)
- (b) Students who have passed the First Examination of the Society of Cost Accountants (see below), and also examinations in subjects 4 or 10, 6 and 7.
- (c) Students who have passed examinations prescribed by the Committee in subjects 1, 2 or 3 or 4, 5, 6, 7, 9 and 10 or 11.

## 2. Canadian Society of Cost Accountants

- (a) Subjects 1, 2, 5, 9 and 11 will provide the material for the First Examination given by the Society of Cost Accountants.
- (b) Subjects 15 and 16 will provide the material for the Final Examination given by the Canadian Society of Cost Accountants.

## 3. The Chartered Institute of Secretaries

- (a) Subjects 1, 3, 5, 6, 7, 8, 9 and 10 will form the material for the Intermediate Examination prescribed by The Chartered Institute of Secretaries.
- (b) Subjects 12, 13 and 14 will provide the material for the Final Examination prescribed by The Chartered Institute of Secretaries.
- Prospective students are invited to consult with the Registrar upon details of courses and examinations of the co-operating professional bodies.

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### CURRICULUM

## Courses for Montreal Board of Trade Diploma for Commercial Education

## INTERMEDIATE EXAMINATION

THE CHARTERED INSTITUTE OF SECRETARIES FIRST EXAMINATION CANADIAN SOCIETY OF COST ACCOUNTANTS

	FIRST YEAR	Lecture
	I monitor	Periods
1.	Book-keeping, Partnership and Manufacturing Accounting	56
2.	Cost Accounting and Factory Organization	25
	Society of C.70 Accountants	
3.	Commercial Arithmetic and Mathematics of Investment	25
	or	
4.	Psychology	25
5.	Elements of Commercial Law and Sale of Goods, Contracts, Negotiable Instruments, Banking, Agency and Partner-	20
	ship	30

## SECOND YEAR

6. Commercial Correspondence .....

#### (Courses of the Second and Third Year will not be given in the Session 1929-1930.) Lecture Periods 7. Corporation Finance ..... 30 8. Secretarial Practice ..... 30 9. Sale of Goods, Trusts and Executors, Company Law, Bankruptcy and Winding Up..... 30 25 10. Economics ..... 11. Cost Accounting and Factory Organization..... 25 4. Psychology (if not already taken)...... 25

#### REGULATIONS

(a) The above courses may be taken in two successive years or over a longer period.

(b) When the student has passed the examination following any course, he will receive a certificate to that effect.

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## THIRD YEAR

## (Courses of the Second and Third Year will not be given in the Session 1929-1930.)

# A. Course for Final Examination of the Chartered Institute of Secretaries

		Periods
12.	Advanced Secretarial Practice	*40
13.	Conduct of Meetings, Commercial Law, Company Law,	renter
	Banking and Exchange	*40
14.	Economics	*40

## B. Course for Final Examination of the Canadian Society of Cost Accountants

15.	Industrial	Organization and	Administration	*40
16.	Advanced	Cost Accounting		*40

\* These periods will include discussions and a considerable amount of individual work will be expected.

## Fees

(Payable on Registration)

## FIRST YEAR

CHARTERED INSTITUTE OF SECRETARIES—Full Course	\$70
COST ACCOUNTANT STUDENTS not taking Board of Trade Diploma	\$61
COST ACCOUNTANT STUDENTS taking courses to make up Board of Trade Diploma requirements :	
Course 4	\$14
Course 6	\$ 9
DIPLOMA STUDENTS	\$70
PARTIAL STUDENTS :	
Course 1	\$30
Course 2	\$15
Course 3	\$15
Course 4	\$15
Course 5	\$18
Course 6	\$10

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# Calendar Calendar

First day of Autumn Term	September 30th*
Last day of Autumn Term	December 20th
First day of Winter Term	JANUARY 6TH
Good Friday, Easter vacation	April 18th
Courses recommence	April 22nd
Last day of Winter Term	Мау 9тн

\* All courses begin in this week.

# Timetable

## (Subject to change)

		Mon.	Tues.	Wed.	Thurs.	Fri.
Course	1.	 		5.30 to 7.30		
66	2.	 *8 p.m.		a Within	·····	
"	3.	 	8 p.m.			
48	4.	 			8 p.m.	
66	5.	 *9 p.m.				
	6.	 	`		9 p.m.	

\* Except in Easter week, when these lectures will be held on Friday, April 25th.

## III. ILLUSTRATED LECTURES

The University is prepared to supply sets of slides accompanied by written lectures to teachers and others who may wish to deliver illustrated addresses.

The lectures are all up-to-date, and series A and B are new.

Lecturers wishing to make use of this service are requested to give notice as early as possible. It is advisable for them to obtain the slides and addresses at least three days in advance of the lecture date in order to familiarize themselves with the material. The addresses may be used either verbatim or as a guide; lecturers are under no obligation to deliver them as written.

Application is to be made to the Illustrated Lecture Department, McGill University Library.

## Series A .- Canadian Geography and Economics

- A 1. Canada Coast to Coast.\*
- A 2. Across Canada by Rail.
- A 3. Canadian Scenery and Recreation.\*
- A 4. The St. Lawrence River.
- A 5. Scenery of the Rockies and the West coast.
- A 6. The Province of Alberta.\*
- A 7. The Province of Saskatchewan.\*
- A 8. The New Northwest and the Arctic Islands.
- A 9. The Pulp and Paper Industry of Canada.\*
- A 10. Canada's Agricultural Lands and Agricultural Development.\*
- A 11. The Newer Commercial Canada.

## Series B.-Travel

- BA 1. Paris.
- BA 2. Italy.
- BA 3. Devon and Dartmoor.
- BA 4. The British Empire.
- BA 6. The Hawaiian Islands.
- BA 7. The West Indies.
- BA 8. Egypt.

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<sup>\*</sup> By Courtesy of the Natural Resources Intelligence Service, Dominion Government.

- BB 1. A Round the World Cruise.\*
- BB 2. A Mediterranean Cruise.\*
- BB 3. To Europe.\*
- BB 4. To the Far East.\*
- BB 5. A West Indies Cruise.\*

## Series C.—Science

- C 1. The Story of the Great Lakes.
- C 2. Mosquitoes.
- C 3. Tea Production in Japan.

## Series D.-Religious Study

run Genera<del>n on</del>

- D 1. Life of St. Paul.
- D 2. The Bible.

\* Available on two weeks' notice.

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(Geology)

(Botany)

(Entomology)

#### MACDONALD COLLEGE

# MACDONALD COLLEGE

#### FOUNDATION AND PURPOSE

Macdonald College, which is incorporated with McGill University, was founded, erected, equipped and endowed by the late Sir William C. Macdonald for the following among other purposes:—

(1) The advancement of education; the carrying on of research work and investigation and the dissemination of knowledge; all with particular regard to the interests and needs of the population in rural districts.

(2) To provide suitable and effective training for teachers, and especially for those whose work will directly affect education in schools in rural districts.

#### SITUATION AND EXTENT

The College occupies a beautiful site, overlooking the Ottawa River at Ste. Anne de Bellevue, Que., twenty miles west of Montreal. The main lines of the Canadian National and of the Canadian Pacific railways pass through the property, and the stations of both railways are within its boundaries.

The College property comprises 786 acres, and has been arranged into four main areas, viz.: (1) the campus, with lawn and recreation fields for students of both sexes; (2) the experimental grounds, with plots for illustration and research in grains, grasses, and other farm crops; (3) the horticulture and poultry departments; and (4) the stock farm.

## THE GENERAL ORGANIZATION

The College is divided into three schools :--

(1) The School of Agriculture, which aims to provide a theoretical and practical training in the several branches of agriculture.

(2) The School for Teachers, which offers a comprehensive and thoroughly practical training in the art and science of teaching.

(3) The School of Household Science, which gives young women such training as will make for the improvement and greater enjoyment of home life and instruction in professional work in household and institutional superintendence and management.

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#### MACDONALD COLLEGE

## ENTRANCE REQUIREMENTS

## School of Agriculture.

See page 79 and the following.

## School for Teachers.

Teachers to be trained for the schools under the control of the Protestant Committee of the Council of Education for the Province of Quebec will be admitted under conditions prescribed by that body, particulars concerning which are given in detail in the Anouncement of Macdonald College.

## School of Household Science.

All candidates for admission :---

- 1. (a) To the homemaker course, must have entered their eighteenth year and completed grade VII. of the Province of Quebec, or its equivalent.
  - (b) To the institution administration course, must have entered their twenty-first year, completed grade XI. (school leaving) of the Province of Quebec, or its equivalent, and have had some previous experience in housekeeping (*e.g.*, assisting with the housekeeping in their own homes).
  - (c) To the short courses, must have entered their eighteenth year, be able to read and write the English language acceptably and be proficient in the use of elementary mathematics.

2. Must produce satisfactory evidence as to moral character; also medical certificate of health, including successful vaccination within the six years preceding date of entrance.

## THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE (B.S.A.)

The regular course of study for this degree is given in the Announcement of the College.

## DEGREE IN HOUSEHOLD SCIENCE

Students who shall have completed the regular course of study of the first two years in the Faculty of Arts, and thereafter shall have completed a special course of study for two years at Macdonald College, shall be entitled to the Degree of Bachelor of Household Science.

#### MACDONALD COLLEGE

## DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE (B.Sc. in Agr.)

Students who take the first two years of the B.A. course or of the B.Sc. course in Arts, and afterwards complete their Third and Fourth Years in the Faculty of Agriculture, with certain subjects compulsory in both Faculties, will obtain the degree of Bachelor of Science in Agriculture. In the former case they can also qualify for a High School Diploma for the Province of Quebec if they have passed in the subjects required by the Department of Education. See page 171.)

#### HIGHER DEGREES

Post-graduate work may be taken at Macdonald College. The degrees offered are M.S.A., M.Sc., Ph.D. These courses are set forth in the Announcement of the Faculty of Graduate Studies and Research.

## PROVINCIAL GOVERNMENT GRANTS TO STUDENTS FROM THE PROVINCE OF QUEBEC

## (1) School of Agriculture

The Department of Agriculture of the Province of Quebec grants to each student who belongs to the Province of Quebec \$9.00 per month of attendance employed in studying according to the time-table in the School of Agriculture, Macdonald College. This amount will be placed to the credit of such students by the College Bursar and will be applied on account of board and lodging.

## (2) School of Household Science

The Provincial Government grants bursaries of \$20.00 to \$50.00 each to Quebec students from the farming community in the junior and senior years of the School of Household Science.

#### COLLEGE ANNOUNCEMENT

Full details as to the course, etc., will be found in the Announcement of Macdonald College, which will be sent on application to the Registrar, Macdonald College, Que.

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#### DEPARTMENT OF PHYSICAL EDUCATION

# DEPARTMENT OF PHYSICAL EDUCATION

## FOR MEN

All students on entering the University and all students of the First and Second years are required to pass a physical examination. By such examination, any physical defect or weakness may be discovered early, and the student will be advised in regard to treatment. For those defects amenable to treatment by exercise or other hygienic measures, individual attention will be given, and the student will be advised as to what forms of exercise will be likely to prove beneficial or harmful.

## I. GENERAL

The aim of the University requirements in physical education is the maintenance and improvement of the physical well-being of the student body, and the production of graduates who are physically as well as mentally fitted for their life-work.

As voluntary exercise is of greater value than compulsory, great latitude is given the individual student in his choice of the type of activity.

The chief factors limiting this choice are :--

1. The suitability of the exercise as a means of physical education.

2. The physical fitness of the individual student to take the form of exercise chosen.

3. The possibility of effective supervision.

4. The practicability of ensuring regular participation.

The aim is not to replace the existing forms of University athletics, but to assist in developing an interest in these by every legitimate means.

#### II. REGISTRATION

1. At the time of registration every male student of the first three years in the Faculties of Arts, Medicine, Dentistry and Science and of the first two years in the Faculty of Law shall be given a printed announcement of the University requirements in physical education.\* This announcement shall include a list of the recognized forms of physical activities in which a student may take part in fulfilment of the requirements, and a statement that at the time of his medical examination he will be expected to indicate his choice of the particular forms which he wishes to follow.

\*Note.-Owing to lack of accommodation these requirements are suspended for the Session 1929-30.

## DEPARTMENT OF PHYSICAL EDUCATION

2. At the time of his medical examination, each student shall be required to fill in a card indicating his choice, as outlined in paragraph III. 1. The Director shall then decide as to his physical fitness for the form chosen and shall inform the student of his decision and note the same on his card, which shall be filed for reference.

2. Every student shall be categorized by the University Medical Officer as either:-

- (A) Fit for all forms of physical exercise.
- (B) Fit for a limited number of forms.
- (C) Fit for gymnasium work only.
- (D) Fit for remedial gymnastics, or temporarily unfit.
- (E) Unfit for any forms of physical exercise.

## III. EQUIVALENTS

1. Subject to paragraphs 2 and 3 the following activities are recognized as fulfilling the requirements:—University basketball, boxing, wrestling and fencing, English rugby, golf, gymnastic classes, harriers, hockey, indoor baseball, rugby, ski-ing and snowshoeing, soccer, swimming and water polo, tennis, track and field teams, the McGill C.O.T.C., and such other activities as shall be decided upon from time to time by the Committee on Physical Education.

2. Subject to the approval of the Director, as laid down in paragrap II. 2. any student who desires to participate in competitive athletics, as mentioned in paragraph III. 1, may be excused from other forms of exercise during the season of training, provided that this is performed to the satisfaction of the Director.

3. If successful in making a place on the team, he shall be excused from any other forms of exercise for the season of play, and may be excused for the remainder of the term at the discretion of the Director.

4. Any student who has been placed in Categories A, B, C or D at his University medical examination, and who does not voluntarily take part in any of the other recognized forms of exercise as provided above, shall be required to attend the regular gymnasium classes appropriate to his category.

## IV. ATTENDANCE

1. The amount of time required to be devoted to physical exercise by each student shall be two hours per week throughout the session. Until such time as the University is in possession of its own gymna-

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sium, however, this amount of time may be reduced by the Committee on Physical Education to meet the exigencies of gymnasium accommodation.

2. A record will be kept of the attendance of every student as far as his required physical work is concerned.

3. Medical certificates covering absences which are accepted by the Dean of the Faculty concerned will be accepted by the Department, but if the student is able to attend lectures the question of his fitness to take part in physical exercise shall rest entirely with the Director and the University Medical Officer. Medical certificates covering absences from the University must be presented to the University Medical Officer by the student within one week after his return to University work.

4. Unexcused absences up to one-eighth of the required number of periods shall be allowed. Unexcused absences exceeding one-eighth, but not exceeding one-fourth, may be allowed if at the end of the session the student passes a special examination and satisfies the Director that he has made sufficient progress. Unexcused absences exceeding one-fourth shall disqualify a student. Such students shall be required to take extra gymnasium class work to the satisfaction of the Director, a supplemental course being given in the month of September for this purpose.

5. Excuses will be granted for absences due to participation in Intercollegiate Athletics as follows:--

(a) For all fixtures under the jurisdiction of the C.I.A.U.

(b) For a maximum of one fixture for each sport not under the jurisdiction of the C.I.A.U. This fixture must be specially approved by the Athletic Board, the names of proposed players being submitted to the Faculty previous to the game. The Faculties concerned may not approve of granting excuses from lectures to any whose academic standing does not warrant such an excuse.

In order to secure exemption from attendance on the above grounds Managers must fill out and certify to the facts on the special forms provided for this purpose and deposit them within seven days at the office of the Department of Physical Education.

6. At regular intervals during each session and also at the end of each session, the Director of Physical Education shall furnish the Dean of each Faculty with a list of students who have failed to meet the attendance requirements as laid down in the ordinary curriculum, or who have proved unsatisfactory in other respects, and such cases shall be dealt with by the respective Faculties.

## DEPARTMENT OF PHYSICAL EDUCATION

7. No student in default shall be allowed to proceed to the next year of his course unless for special reasons exemption should be granted on the recommendation of his Faculty and approved by the Committee on Physical Education.

8. Not less than one month before the conferring of degrees in each session the Director shall furnish to the Registrar of the University, for transmission to Corporation and the Faculties concerned, a list of all students, being candidates for degrees at the forthcoming Convocation, who have failed to satisfy the requirements of the Committee on Physical Education, and no Diploma for a degree shall be issued to any such candidate unless by the express direction of Corporation.

#### V. EXEMPTION

Claims for exemption from the above requirements shall be made in the first instance to the Director, who shall refer them to a subcommittee on exemptions appointed by the Committee on Physical Education.

#### VI. COLLEGE GROUNDS AND ATHLETICS

The management of the College grounds, all Physical Education, including athletics and sports, is under the control of the Standing Committee on Physical Education. This Committee is responsible for the general maintenance of all University grounds, and retains the ultimate authority and power of supervision in all matters affecting athletics in the University. All matters which may in any way affect athletics must be referred to the Athletic Board, and its approval must be obtained before any departure is made from the authorized routine. The Athletic Board reports to the Committee on Physical Education.

The Athletic Board is responsible for the organization, administration and supervision of the entire athletic programme. The composition of the Board is as follows:—The Principal of the University, Chairman, the Bursar, three members of the teaching staff, three graduates, one of the Stadium guarantors and three undergraduates. The Athletic Manager is Secretary of the Board. Intra-mural and Intercollegiate competitions are conducted in the following sports:—Basketball, Boxing, Wrestling and Fencing, English Rugby, Golf, Gymnastics, Harriers, Hockey, Indoor Baseball, Rugby, Ski-ing and Snowshoeing, Soccer, Swimming and Water Polo, Tennis, Track and Field.

All students of all years must, during the current session and prior to participation in competitive athletics or otherwise engaging in athletic practice or competition, have passed the University medical examination and have received an appropriate category. Those students taking part in Intercollegiate competition must first complete a C.I.A.U. eligibility form for each sport.

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## DEPARTMENT OF PHYSICAL EDUCATION

All students in good standing who are taking a course of study held to be sufficient by a special committee of the Faculty in which they are enrolled will be allowed to take part in athletics, subject, however, to the general regulation regarding medical examination.

Suspension from lectures for any cause, or absence from more than one-eighth of the total number of lectures given in any course, as shown by the monthly reports furnished to the Dean of each Faculty by the several professors and lecturers, shall be considered as sufficient ground to disqualify a student from engaging in athletic contests.

The managers, coaches and captains of clubs, or other responsible executive officers, are required to insist upon the strict observance of the rule in regard to medical examination and all the rules and regulations of the Committee which concern them.

All clubs must submit their regulations, rules, and by-laws, and any changes in the same, for the approval of the Board. They must make application for the use of such portions of the grounds as they require, and for any special privileges.

During the session and including the Christmas holidays, all teams and individual students desiring to participate in "outside athletics"\* must first apply in writing through the Manager or Coach of the club concerned, who must secure the permission of the Athletic Manager, by whom all such sanctions are granted.

Should any student take part in any athletic contest not having been sanctioned as above, or who is not personally qualified under the regulations regarding eligibility, medical examinations, etc., such student shall be immediately debarred from participation in all University athletics. He shall be reported to the Athletic Board, which body shall, if it sees fit, request the offender to withdraw from the University, if the consent of the Principal has been given, until Corporation shall meet to deal with the matter.

(For further regulations see handbook published by the Athletic Board.)

All students of the University are required to pay a fee of ten dollars (\$10.00) for athletics and the use of the grounds (this is included in the general fee of \$17.00 paid by undergraduates). The amount so paid is credited to the Athletic Board, and is by this body expended in the interest of College athletics, under the general direction of the Committee on Physical Education. A book of general admission tickets for all home games is furnished to students who pay this fee.

The amount derived as grounds and athletics fees from the students of the Royal Victoria College is placed at the disposal of the Committee on Physical Education, for expenditure in the interest of women students.

<sup>\*</sup> Outside athletics is interpreted to mean those forms of athletics over which the Athletic Board of the University or the Canadian Intercollegiate Athletic Union does not have control.

## DEPARTMENT OF PHYSICAL EDUCATION

#### VII. HEALTH

Provision is made by the Department for the care of the health of undergraduate students during the session. Hospital accommodation, when requisitioned for by the Department, is provided without cost to the student, for seven days only.

A special leaflet concerning this service and the general work of the Department will be supplied to all students at the opening of the session.

## VIII. MEDALS

The Wicksteed silver and bronze medals for physical education (the gift of the late Dr. R. J. Wicksteed) are offered for competition to students of the graduating class and to students who have had instruction in the gymnasium for two sessions; the silver medal to the former, the bronze medal to the latter. The award of these medals is made by judges appointed by the Corporation of the University. Every competitor for the silver medal is required to lodge with the judges, before the examination, a certificate of good standing in the graduating class, signed by the Dean or Registrar of the Faculty to which he belongs, and the medal will not be awarded to any student who may fail in his examination for the degree.

## IX. STRATHCONA CERTIFICATE COURSE

The Departments of Education and Physical Education offer the following courses for men undergraduates of the Fourth Year:--

A course of 45 hours on the principles and practice of physical education. The course will cover elementary anatomy, physiology and hygiene, the theory of gymnastics and class teaching.

Students who satisfactorily complete this course are entitled to certificate "B" of the Strathcona Trust.

#### FOR WOMEN

## (ROYAL VICTORIA COLLEGE)

Classes in educational gymnastics for all undergraduates of the College and for resident students of music are conducted in the gymnasium of the Royal Victoria College. All students on entering the University are required to pass a physical examination (see regulation on page 92) and are required to pass satisfactory physical tests before taking part in any of the outdoor or indoor physical exercises organized by the Department, whether educational, remedial or recreational.

\* In all cases of absence the student is required to report to the Physical Director for Women. The ordinary interpretation of the one-eighth rule concerning absences does not apply in this Department.

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## DEPARTMENT OF PHYSICAL EDUCATION

Work in the Physical Education Department throughout the fouryear course (amounting to 140 hours in all) is required of all undergraduate students in the Faculties of Arts and Music.\* These periods will be used for instruction in personal hygiene and for educational, remedial and recreative gymnastics, according to the physical requirements of the individual. No student will be asked to do work unsuited to her physique, and students debarred from exercise of any kind will be dealt with separately and carefully advised. Every student is required to wear the costume recommended by the Department.

Classes in Physical Education required of women students in other faculties than the Faculty of Arts are also held in the gymnasium of the Royal Victoria College.

Partial students are admitted to the classes in educational and recreative gymnastics on payment of a fee of \$5.00.

Reports of attendance in physical education will be regularly sent to the Faculty.

Strathcona Prizes.—Three first prizes valued at \$8, \$10 and \$12, and three second prizes valued at \$5, \$6 and \$9, are open to students of the Royal Victoria College, for competition in the Second, Third and Fourth Years respectively. Two prizes of \$5 are offered for competition to the students of the First Year; one for students who have taken part in educational gymnastics at school, and the other for students who have had no previous physical training.

All competitions will be held under the following regulations :--

1. Competitors will be awarded 50 per cent of the marks on the work of the session.

2. No prize shall be awarded unless the judges consider the work up to the standard of 75 per cent.

3. The prizes shall not be awarded in the Second, Third and Fourth Years should the winner fail to obtain her full academic standing. The prizes in the First Year shall not be awarded if the winners fail in more than one subject at the sessional examinations.

4. Competitors will be judged on the work taught in the Physical Education Department during the session, the Physical Director for Women arranging all details concerning the competition. A programme of the competitions will be posted not later than March 1st.

5. Judges for these competitions shall be appointed yearly by the Committee on Physical Education.

## STRATHCONA CERTIFICATE COURSE

A course similar to that announced on page 603 is given for the women undergraduates of the Fourth Year.

## MILITARY TRAINING

## MILITARY TRAINING

## CANADIAN OFFICERS' TRAINING CORPS

## HONORARY COLONEL:-GENERAL SIR A. W. CURRIE, G.C.M.G., K.C.B., LL.D.

## OFFICER IN COMMAND :- MAJOR J. W. JEAKINS, B.A.

In order to train undergraduates that they may become men fitted to hold His Majesty's Commissions, a contingent of the Canadian Officers' Training Corps was organized at McGill University two years before the Great War. The contingent is a unit of the Active Militia, being governed by special regulations, under which it cannot be called out for active service as a unit.

The training is intended to bring the largest possible number of students up to the standard required for the two certificates:—A, a Lieutenant's, and B, a Captain's. The value of these certificates lies in their showing that the candidates have satisfied a board of regular officers at practical examinations that they have developed properly their powers of command, know how to give orders to other men, can retain their self-possession, and can act promptly on their own initiative in a sudden emergency; and further that they have passed the written examinations, in which they must show a thorough knowledge of topography, how to organize and look after the welfare of men under their command, etc. If a member is recommended for a commission in the Active Militia of Canada, or the corresponding military force in any other part of the Empire, the possession of one of these certificates entitles him to promotion to the rank denoted, as soon as there is a vacancy.

To obtain a Certificate A (Lieutenant's) a member must complete one year's efficient service in the corps, and in the case of Certificate B (Captain's) two years' efficient service, and pass the practical and written examinations, which are held under the auspices of the Imperial and Dominion Governments conjointly, for the whole Empire at the same time. The written papers are set and corrected by military experts in London, England.

To be efficient in a given year (1st August to 1st July), a member must have attended 40 parades if in his first year of service, or 25 parades if in a subsequent year, and must have completed his prescribed course of musketry. The time required is about two hours per week each session, and rifle practice is encouraged.

Military training is one of the forms of activity recognized as fulfilling the requirements of physical education.

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## THE UNIVERSITY LIBRARY

The University Library is under the general management of a Committee of Corporation, consisting of the Principal, Chairman; the Librarian, Secretary; two members of the Board of Governors; one **Representative Fellow**, appointed by Corporation; two representatives of the Faculty of Arts, elected by the Faculty; two representatives of the Faculty of Applied Science (one of whom being a member of some special Science Library Committee will look after the interests of these libraries on the committee); one representative of each of the Faculties of Law, Medicine, Dentistry, and Graduate Studies, elected by their respective Faculties; the Dean of the Faculty of Medicine (or the Secretary of the Faculty); the Honorary Librarian of the Medical Library; one representative of the Royal Victoria College, one from the Library School, and four other members appointed by Corporation.

The several libraries of the University now contain over 300,000 volumes and 35,000 pamphlets, considerable collections of maps and photographs, and a number of the rarer and more costly monographs and serials which are indispensable for purposes of research. The Library now receives over 1,200 periodicals, Government publications and transactions of various literary and scientific societies.

Among the special collections possessed by the Library may be mentioned the Mendelssohn Choir Memorial Collection of works on Music, the T. D. King Collection of Shakesperiana, the Redpath Historical Collection, and the Collection of Canadiana. The nucleus of the latter is formed by the choice library of the late Mr. Frederick Griffin, which he bequeathed to the University about forty years ago. It has been growing ever since, and includes, at the present time, besides numerous manuscripts, an interesting collection of Canadian portraits and autographs, recently increased by a gift from Mr. George Iles. The Canadiana have been further enriched by the recent gift of over 270 volumes and 50 pamphlets from the library of the late Mr. William McLennan, presented in memory of him by his children. The library now has an extensive collection of bookplates in process of being classified and mounted.

The Redpath Historical Collection was begun by the late Mr. Peter Redpath soon after he became a Governor of the University. It received substantial yearly additions from him up to the year of his death, after which it was steadily augmented by his widow during the remainder of her life. It is now large and valuable, and affords excellent opportunities for the study of history. Its most striking feature—a series of political, religious and social tracts, for which the first selections were made by the late Professor Henry Morley—was greatly enriched by the late Mrs. Redpath and now comprises about 10,000 brochures, dating from 1600 A.D. to the end of the nineteenth century.

A special Architectural collection, known as the "Blackader Library of Architecture," has been established in honour of Captain Gordon Home Blackader, B.Arch. (McGill), who was wounded near Ypres on June 2nd, 1916, and died in London on August 20th of the same year.

"The Emma Shearer Wood Library of Ornithology" was presented by Colonel Casey A. Wood, M.D., LL.D., as a special research collection and reference library rich in periodical and pamphlet material, for use by all who are interested in birds.

"The Blacker Library of Zoology" has been presented by Robert Roe Blacker and Nellie Canfield Blacker, as a comprehensive reference library on this special subject. In addition to standard works, it includes a number of monographs and an extensive collection of reports of scientific voyages and periodicals. It is supplemented by the Lyman Collection of books on Entomology.

These three collections are now housed in the recently completed addition to the library and are provided in each case with a readingroom adjacent to the new steel stacks which are devoted to these special libraries.

Students and investigators have the privilege of using the resources of the Gest Chinese Research Library, which contains, in addition to works in English and European languages, a Chinese collection of 60,000 ts'ê, bound in t'ao, on all subjects and including an unusually large number of early rare and imperial editions, including a copy of the original edition of the great Chinese encycloædia, T'u Shu Chi Ch'êng, of which the only other complete copy known is in the British Museum.

The Faculties of Medicine and Law maintain libraries in their respective buildings; and there are Departmental Libraries in Engineering, Chemistry, Physics, and Botany.

The Barnes Collection of books on Physics is shelved with the Departmental Library in the Physics Building. The School of Commerce, the School for Graduate Nurses and the Department of Social Service are beginning to make collections of books on their special subjects.

Founded in 1900, as a memorial to the late Mr. Hugh McLennan from his children, the Travelling Libraries of McGill University were endowed in 1911 by their founders. These libraries contain, each, from thirty to forty carefully selected volumes and are sent, on application, and on payment of a nominal fee of \$4.00, to schools, to country libraries, to reading clubs, and to small communities which possess no public library. Pictures, lantern slides and lectures are also supplied by this department. Regulations and full particulars may be obtained from the Librarian of the University. Provision has also been made to supply books by mail to graduates of the affiliated theological colleges and to ministers who have not the advantage of local libraries.

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Although the Library is maintained primarily for members of the University, the Corporation has provided for admission, upon certain conditions, of such persons as may be approved by the Library Committee. It is the desire of the Committee to make the Library as useful to the entire community as is consistent with the safety of the books and the general interests of the University.

The Library serves also as a general reference library for Montreal and has been of service in this capacity to institutions, learned societies, business houses, railways, corporations, and industrial societies. It also has a system of inter-library loans by which it sends books to other libraries and obtains for the teaching staff works not available here.

With the Library are affiliated the McGill College Book Club and the University Book Club, which supply their members with standard, important and recent publications and make a substantial annual contribution of books to the Library.

The Library maintains a museum, open to the public, with a permanent exhibition illustrating the development of the Book Arts, and numerous temporary exhibits are shown in the Gallery of the Reading Room.

## EXTRACTS FROM THE LIBRARY REGULATIONS

1. The University Library is closed on Sundays, and on certain stated University holidays. With a few exceptions, which are posted in the Library at the appropriate time, it is open as follows:—

(a) During the session, from 9 a.m. till 9.30 p.m. On Saturdays from 9 a.m. till 5 p.m.

(b) During vacation, from 9 a.m. till 5 p.m. On Saturdays, from 9 a.m. till 1 p.m., except during July and August, when the Library is closed on Saturdays.

2. Students in the Library School are entitled to read in the Library, and may borrow books (subject to the regulations) to the number of three volumes at one time.

3. Books may be taken from the Library only after they have been charged at the delivery desk; borrowers who cannot attend personally must sign and date an order, giving the titles of the books desired.

4. Books shelved in the reading rooms must not be taken from the rooms to which they have been assigned; and, after they have been used, they must be returned promptly by readers to their proper places upon the shelves.

5. Before leaving the Library, readers must return to the attendant at the delivery desk books which they have drawn from the stack for use in the reading-room.

6. All persons using books remain responsible for them so long as the books are charged to them.

7. Writing or making any mark upon any book belonging to the Library is unconditionally forbidden. Any persons found guilty of wilfully damaging any book in any way shall be excluded from the Library and shall be debarred from the use thereof for such time as the Library Committee may determine.

8. Damage to or loss of any books, maps, or plates, and injury to library fixtures, must be made good to the satisfaction of the Librarian and the Library Committee.

Damage, loss or injury, when the responsibility cannot be traced, will be made good out of the caution money deposited by the students with the Bursar.

9. Should any borrower fail to return a book upon the date when its return is due, he may be notified by postal card, and requested to return the book. If the time has not been extended, or the book returned, after a further delay of at most three days, the books may be sent for by special messenger, at the borrower's expense, or may be replaced and paid for, in the case of a student, out of the caution monies of such student; in the case of graduates or other borrowers, out of their library deposits. A fine of five cents for ordinary books and of twenty-five cents for reference books is imposed for each day that a book is overdue.

10. Before the close of each session, students must return, uninjured, or replace to the satisfaction of the Librarian, all books which they have borrowed.

11. Silence must be strictly observed in the Library.

12. Infringement of any of the rules of the Library will subject the offender to a suspension of his privileges, or to such other penalty as the nature of the case may require.

## LIBRARY FEES

The Library fee for undergraduate students in the Faculties of Arts, Applied Science and Law is included in the University fees. The fee for partial students is \$4.00. Graduates and students attending extension courses using the University Library must make a deposit of \$5.00 at the Bursar's Office. The fee for members of the McGill College Book Club and the University Book Club are payable to their respective treasurers. Individuals not belonging to any of the above groups may use the Reading Room upon proper introduction and should apply to the Library Committee, through the Librarian, for permission to take books from the building.

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## UNIVERSITY BUILDINGS

## THE ARTS BUILDING

This building stands at the head of the Avenue and is three storeys in height. It contains two large and twelve average-sized class-rooms, the largest capable of seating 180 students, as well as numerous conference rooms, professors' offices and a Psychological laboratory and research room.

The men's and women's lounge rooms and the reading room are on the first floor where are also to be found the office of the Dean, the Faculty Room and the Professors' common room for men (that for the women Professors is on the second floor).

During the spring and summer of 1926 the old Arts Building and Molson Hall were transformed into this splendidly equipped modern building, the only part of the old building remaining being the front wall. The main feature of the building is the Moyse Hall, the cost of which was provided for mainly by a donation from Lord Atholstan in memory of the late Charles E. Moyse, Professor of English Language and Literature for many years. It is fitted for lectures and plays with the necessary dressing rooms and stage fixtures and is especially used in connection with the English classes. The hall is capable of seating 500 people and is beautifully decorated, as is also the large vestibule with its four immense black marble pillars. The style of decoration in the vestibule follows that in the Moyse Hall.

## THE CONSERVATORIUM OF MUSIC

The Conservatorium of Music is situated at the corner of University and Sherbrooke Streets, adjoining the University grounds. On the ground floor are the offices of the Director and of the Secretary, the library and a concert hall where recitals by the staff and students are given during the session and where orchestral and choral practices are held (the more important concerts take place in the large assembly hall of the Royal Victoria College). The second and third floors contain a number of studios, where lessons are given by the various members of the staff, as well as a room for lectures in theory and history of music, sight-singing, etc. In the basement are several practice rooms.

## THE MEDICAL BUILDING

This Building, erected in 1911, at a cost of over \$600,000, contains the Offices of the Administration, the Medical Library (with its 38,000 volumes, its Reading Rooms and their complete set of technical journals), the Osler Library, the Department of Anatomy, Histology, Hygiene, Pharmacy, and the magnificent Museum of Anatomy. The Faculty of Dentistry is also in this Building.

The Department of Anatomy, with its commodious laboratories, its Dissecting Room with 50 tables, and its very unusual abundance of material, affords unequalled facilities for students. Moreover, graduates who desire opportunities for research are adequately cared for in this Department.

The Department of Histology and Embryology, too, has excellent facilities, with laboratory space for 120 students, and smaller laboratories for research.

#### THE BIOLOGICAL BUILDING

Completed in 1922 at a cost of over \$500,000, this edifice was erected on the site of the original Medical Building, which was partly destroyed by fire in 1907. This extensive structure—184' x 36'—houses on each of its floors laboratories devoted respectively to Botany, Zoology, Biochemistry, Physiology and Pharmacology.

Each of these Departments is amply provided with laboratories and units for undergraduate teaching and graduate research.

The Department of Botany, in addition to its laboratories, has three glass houses— $60' \ge 18'$ —adjacent to the Building, and provides living material for the work in General Biology and General Physiology.

The Department of Physiology, with its large and well-equipped teaching laboratories, each accommodating 96 students, is provided not only with motor-driven recording drums for each pair of students, but has also 16 fixed tables equipped with all the necessary apparatus for practical experiments in Physiology which each student must undertake for himself. Other rooms provide for advanced practical instruction and research. This Department is admirably equipped with an excellent workshop, animal quarters, operating and sterilizing rooms, stringgalvanometer room, histology rooms, including dark rooms, and the usual space for demonstration. The frog and turtle tanks are in the Basement, and a two-storey house for mammals is adjacent.

The Biochemistry Laboratory on the Third Floor is of the most modern type, and has abundant accommodation for research workers. An extension of this floor is already required to fulfil the needs of Physical Chemistry and the added interest of metabolic studies.

The Department of Pharmacology occupies the Top Floor, and is equally well-equipped.

## THE PATHOLOGICAL INSTITUTE

The Pathological Institute houses the Department of Pathology, Bacteriology and Medical Jurisprudence. This building, over 200 feet long and from 60 to 90 feet wide, faces the Royal Victoria Hospital, with which it is connected by a tunnel. It is of steel and stone construction in harmony with the architecture of the Royal Victoria Hospital and consists of a high basement containing mortuary for twelve bodies,

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shops, students' rooms, offices, and machinery rooms. The first floor is given over to Pathology and Medical Jurisprudence (autopsy theatre, lecture room, museum, demonstration rooms, several small laboratories, library and photography).

The second floor has the chemical, histological, experimental, animal and other research laboratories. The third floor is set apart for students' and research laboratories in Bacteriology. With the main building is connected by an archway a small cottage with living quarters for the technical help and for animal rooms. The building contains throughout all floors a refrigerating system (ammonia plant), hot and cold water, live steam and air exhausts, and a special forced ventilating system. The large students' histology laboratory, accommodating 120 students, is built on a rising tier system of student benches, and the whole northeast wall is practically of thick glass.

## THE MACDONALD ENGINEERING BUILDING

This building is designed to provide accommodation for six hundred students. The ground floor is given up to the civil engineering, geodetic, electrical and mechanical engineering laboratories, and is for the most part 23 feet in height. Mechanical and electrical engineering laboratories and the workshops also occupy the three lower floors of the Workman Building. The centre portion of the second floor is used for purposes of administration (faculty rooms, offices, library, etc.). The front parts of the second and third floors are occupied by eight class rooms which contain 700 seats, while the upper floors, both of the Engineering Building and the Workman Building, are devoted to drafting rooms, containing over 500 tables. The building throughout is of the most approved fire-proof construction, not only in the matter of materials, but in arrangement as well, the several floors being divided by fire walls and fire doors into separate sections. It was erected in 1909 at a cost of about half a million dollars.

## THE MACDONALD CHEMISTRY AND MINING BUILDING

In addition to the large lecture theatre, which seats about 250 students, there are four lecture rooms for small classes and a number of offices. There are also three large general clinical laboratories (each with a floor space of about 2,400 square feet and accommodation for 200 students at a time), large laboratories for assaying, ore dressing and metallurgy, with a very complete equipment, and a number of smaller rooms and laboratories for special purposes, including research work. The reference library contains about 1,400 volumes.

## THE MACDONALD PHYSICS BUILDING

The building is five storeys in height, each floor having an area of 8,000 square feet. Besides a lecture theatre and its apparatus rooms, the building includes an elementary laboratory nearly 60 feet square, large special laboratories, a range of rooms for optical work and photography, separate rooms for private work and two large laboratories arranged for research, provided with solid piers and the usual standard instruments. There are also a lecture room for mathematical physics, a special physical library and convenient workshops.

## THE UNIVERSITY LIBRARY

This building, which is a fine example of the Romanesque style of architecture, was erected in 1892 by Mr. Peter Redpath, a Governor of the University, and was enlarged in 1900 and again in 1922. The general reading room is 110 feet long, 44 wide and 34 high, and will seat 150 readers. The book stacks, four and five storeys in height, have a working capacity of 150,000 volumes.

## THE OBSERVATORY

The Observatory is equipped for instruction in the use of meteorological instruments and in astronomical work. It is the Montreal station of the Meteorological Service of Canada. Time signals are given to the city, the railways and the shipping.

## THE POWER STATION

The new Power Station supplies heat to the following buildings: New Medical Building, Biological Building, Engineering and Workman Buildings, Chemistry and Mining Building, the Physics Building and the Arts Building. It also furnishes current for light and power to these buildings and to the Royal Victoria College, the Union and Strathcona Hall. The equipment of the station includes boilers of 1,000 H.P. nominal capacity, provision being made for future extension, and engines and generators of 600 kilowatt capacity. The coal bunkers hold 500 tons. The heating distribution is partly by tunnel and partly by underground conduit, the farthest building served being at a distance of 700 feet from the station. Electric cables are placed underground in vitrified clay conduits.

## THE REDPATH MUSEUM

The Museum occupies a commanding position at the upper end of the campus, and besides its central hall and other rooms devoted to the collection, it contains a large lecture theatre, class rooms and work rooms. The collections in botany, palæontology, geology and zoology are fully and admirably arranged for teaching purposes.

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## THE ROYAL VICTORIA COLLEGE

This is a residential college for the women students of McGill University. It is situated on Sherbrooke Street, in close proximity to the University buildings and laboratories. On the ground floor are the offices of the administration, lecture rooms, students' common room, and a spacious dining hall. A gymnasium is fitted up in the basement. On the first floor are other lecture rooms, the library, reading room and a handsome assembly hall. The second and third floors are given up entirely to rooms for resident students. These rooms are handsomely furnished, as indeed is the whole building.

## STRATHCONA HALL

Strathcona Hall is the home of the Student Christian Association of the University. The building is 55 feet by 110 feet, and is five storeys in height. The three upper storeys are arranged to afford residential accommodation for about sixty students. On the ground floor are the secretary's office, sitting rooms, cloak rooms and a hall capable of seating 350 persons. The second floor contains a large reading room, a large game room, and five small rooms for the use of clubs and societies.

## THE UNION

The McGill Union stands at the corner of Sherbrooke and Victoria streets, within two minutes' walk of the College gates. The building measures 93 feet by 71 feet and consists of three storeys and a basement. On the main floor are the dining and luncheon rooms; on the second floor, billiard rooms, a news hall, a reading room and a library, a study and a lounging gallery (8 ft, by 21 ft.) The large hall is situated in the top storey. It measures 88 ft. by 45 ft. and has a seating capacity of 400. There are also smaller rooms for society meetings, etc. In the basement are baths, locker rooms and an exercise room (24 ft. by 38 ft.). The Union is the social centre of the University, the common meeting ground for students of all faculties. It is intended to promote a broad and true university spirit.

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## MUSEUMS

#### ARCHITECTURAL MUSEUM

The Museum of the Department of Architecture contains a representative collection of historic casts illustrating the development of architectural ornament and form, and the technique of architectural material. Many of the casts have been specially prepared for the Department. The group of English mediæval art is unique in any University on this continent. The collection of metal work includes examples of iron, brass, copper and jewellery, and is arranged so as to exhibit the technical possibilities of the material.

## BOTANICAL MUSEUM

In the library and museum room of the Department of Botany, on the ground floor of the Biological Building, is arranged a small teaching collection of 50,000 specimens of Canadian and exotic plants, and collections illustrating structural and economic botany.

### MUSEUM OF HYGIENE

The material in the museum has been rearranged with a view to exhibiting not only specimens of the best and most approved types of appliances in each particular branch of public health, but also examples of types which are to be avoided on hygienic principles.

In order to facilitate study and reference, the specimens have been classified upon a decimal system under the following sections:--

1. Disinfection.—Including disinfecting apparatus of all kinds, disinfectants and antiseptics.

2. Lighting and Heating.—Showing contrivances used for these purposes, and illustrative of the principles involved.

3. Water.—Showing conditions connected with pollution of water supplies, whether derived from the surface or underground sources; methods of purification on large and small scales; water pipes, etc., and the influence which these fittings may exert upon the water contained therein.

4. Soils and Building.—Building sites, various kinds of soils; relation between soil and dampness; permeability of soils to gases and water; composition of soils; effects of ground moisture on dwellings; measures to be taken against dampness and foul air; and building materials of all kinds.

5. *Air.*—Including ventilation schemes and appliances; climate and meteorology, with apparatus illustrative of each class.

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6. Foodstuffs.—Adulteration and sophistication practised; samples of unsound foodstuffs.

7. Bacteriological and Pathological.—Specimens of diseased meats; specimens and slides of all the common micro-organisms, pathogenic and non-pathogenic.

8. *Clothing.*—Specimens of all the materials utilized for the manufacture of clothing, showing the raw state and the various processes through which they pass until the finished product is reached; the hygienic value of these various articles is also set forth.

Injuries and deformities which may directly result from the use of badly designed articles of clothing; history and evolution of clothing.

9. Drainage and Refuse Disposal.—This section includes every type of appliance used as sanitary fixtures in buildings; drainage schemes; ultimate disposal of refuse both liquid and solid; refuse destructors, and sewage disposal plants. The section also includes types of faulty methods and appliances which on principle ought to be avoided.

In addition to the regular museum exhibit, there is a collection of over 1,000 lantern slides illustrative of phases of hygiene. The slides have been so arranged as to be available for demonstration as hand specimens.

A catalogue with text and full description of all the exhibits contained in the museum is issued by the University authorities, and may be purchased at the general office.

## THE MCCORD NATIONAL MUSEUM

This Museum is located in the old Joseph House, at the corner of Sherbrooke and McTavish Streets. The collection is a gift to the University from Mr. David Ross McCord of Temple Grove, a graduate in Arts of 1863, and in Law of 1867. The range of the collection is most extensive, comprising, as it does, mementos of the great statesmen, warriors, writers and spiritual leaders among the two principal races which are now represented in Canada, as well as of the great explorers of every part of the North American continent. The Arctic souvenirs are especially numerous and important, and in the department of Wolfiana, the Museum is probably unrivalled.

One of the most important departments is that treating of the North American Indian, the section relating to the Indians of the Eastern half of the continent being especially complete. Here are to be seen the arms and personal relics of Tecumseh and Brant, and most wonderful specimens of wampum and Indian silver. The great series of paintings illustrative of the campaigns and archæology of Canada are not only accurate, but artistic. There are separate departments for china, glass

and historical furniture as well as one for the cradle industries of Canada. There is a special room for relics of the Founder of the University, and of its first great Principal, Sir Wm. Dawson, with his distinguished colleagues in science at the time, Sir William Logan and Dr. Sterry Hunt.

A special aim of the Museum is to form a school of useful and ornamental art, based on types of native Indian industry, such as the manufacture of wall papers, works in metal of all kinds, and ceramic work, in the motifs for which the Museum is especially rich.

#### PATHOLOGICAL MUSEUM

On the ground floor of the Pathological Institute is the Pathological Museum which includes the teaching material for this department. Material for the hospital ward clinics is also prepared from this collection.

## REDPATH MUSEUM

On the ground floor is the geological lecture theatre, class, and chart rooms with offices for the staff.

The Lyman Entomological Room is situated on the ground floor. Mr. A. F. Winn is the entomological curator under the Lyman Bequest. The Lyman entomological reference library is kept with the collection.

On the first floor is the great museum hall, on each side of which are alcoves with upright and table cases containing the collection in palæontology arranged primarily to illustrate the successive geological systems, and subordinately to this, in the order of zoological and botanical classification, so as to enable the student to see the general order of life in successive periods, and to trace any particular group through its geological history.

At the extreme end of the hall are placed the collections of minerals and rocks, arranged in such a manner as to facilitate their systematic study. In the centre of the hall are economic collections and large casts and models. These comprise the Sir William Logan Memorial Collection.

In the upper story or gallery of the great hall are placed the zoological collections; the invertebrate animals in table cases in regular series, beginning with the lower form; the vertebrate animals in upright cases, in similar order. The *Philip Carpenter Collection* of shells is especially noteworthy for its arrangement and completeness.

Papers and memoirs relating to certain type specimens in the collections can be obtained from the Assistant Curator. Classes of pupils from schools can be admitted on certain days under regulations which may be learned from the Professors of Geology and Zoology or from the Registrar of the University.

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## STRATHCONA MUSEUM

## Ground Floor: Ethnological Collection.

On the ground floor is arranged :-

1. Ethnological Collection, including Dr. G. M. Dawson's Indian Collection of materials from the Queen Charlotte Islands.

2. The Todd Collection of Canadian Indian material.

3. The Todd Ethnographical Collection from West Africa.

4. Ethnological Collection from the Montreal Natural History Society.

Also much other material presented to the University extending over a period of fifty years.

## Second Floor: Medical Collection.

Material consisting of 3,540 mounted and catalogued specimens is on the shelves, and the balance in a carefully labelled and classified storage, where the specimens are readily available for clinical teaching, and from which they are constantly being drawn and added to the display collection on the shelves of the Museum proper.

A descriptive catalogue is in process of preparation. The Museum includes the pathological collection of the Royal Victoria Hospital, which consists of some 240 specimens preserved in colours, mounted and catalogued. Some 110 models of microscopic slides and charts, for pathological and clinical teaching, are filed in the Museum. There are also 250 of Osler's original specimens collected and prepared by himself while at McGill University.

## Third Floor: Anatomical Collection.

The Anatomical Museum is designed primarily as a teaching museum to be used in conjunction with the didactic and practical instruction given in the Department of Anatomy. It now contains several thousand preparations and models arranged to illustrate general embrylogy; human embryology and organogenesis; the theory of human evolution; the prehistoric races of mankind; physical anthropology; comparative osteology; general comparative anatomy and the details of human structure, regional, systematic and topographical.

In addition to the material which is exhibited in the museum cases several hundred wet preparations are kept in storage and are used as teaching specimens in the class and dissecting rooms.

Special collections illustrating the anatomy of regions and organs have been formed and are being continually augmented. These are available not only for undergraduate teaching, but also for use by interested graduates.

A collection of over two thousand lantern slides and several hundred stereoscopic photographs is maintained.

# LABORATORIES

## CEMENT LABORATORIES

The laboratory is equipped for making complete tests on the strength and properties of cements, mortars, concrete, concrete beams, etc., and includes the following:—Tensile testing machines, hydraulic compression machine (50-ton), specific gravity apparatus sieves for fineness tests, steaming apparatus, Vicat's and Gilmore's needles, metal moulds, mixers, rammers, balances, etc. Tanks are provided for the storage of briquettes and other test specimens and the equipment is supplemented by that of the Strength of Materials Laboratory in making tests on large-sized specimens.

## CHEMICAL LABORATORIES

Four large laboratories are provided for undergraduate instruction in elementary, analytical, organic, physical and colloid chemistry, with accommodation for about three hundred students.

These laboratories are particularly well lighted and have ample hood space.

Balance rooms, well equipped, are connected with each of the main laboratories.

The laboratories are provided where necessary with electricity, water and gas, and possess a good supply of apparatus for experimental work of a very varied character.

Smaller laboratories for special work are also available.

In the building are also laboratories for those undertaking research work in organic, inorganic, physical and colloid chemistry, as well as a number of smaller research rooms for one or two students each.

In the Biological Building a large laboratory for elementary teaching with facilities for about three hundred students, as well as research rooms for about a dozen students, belongs to the Chemistry Department.

The newly constructed building of the Pulp and Paper Research Institute provides some of the most modern laboratories on this continent for research in cellulose chemistry. Associated with McGill University in this building are also the Canadian Pulp and Paper Association and the Pulp and Paper Division of the Forest Products Laboratories of Canada.

## ELECTRICAL LABORATORIES

The Senior Laboratory is designed primarily for the study of alternating current phenomena and is equipped with motor-driven alternators of various types, giving a frequency range of from 25 to 360

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cycles per sec.; single and polyphase induction motors of the squirrel cage and wound rotor types; single phase series and repulsion motors; constant voltage and constant current transformers; mercury arc rectifier; rotary converters; potential regulators; meters for the measurement of current, voltage, power frequency, power factor, maximum demand and wave form; relays, rheostats, circuit breakers, static condensers, reactance coils, synchroscopes and other auxiliary apparatus. A travelling crane spans the laboratory and gives facilities for the rearrangement of the machines.

The above laboratory is also used by the Third Year electrical students for the study of current flow in circuits and of direct current machinery.

The Junior Electrical Laboratory on the third floor of the Electrical Engineering Building is used by the students of other departments who are taking an elementary electrical course, for the study of both direct and alternating current phenomena. The laboratory is equipped with shunt, compound and series wound direct current generators and motors of different types; constant current generators; are and incandescent lamps; meters for the measurement of current, voltage and power; rheostats, circuit breakers, starters and other auxiliary apparatus. Several alternators, transformers, rotary converters and induction motors along with the necessary instruments and control apparatus are provided for use by the students taking the general elementary course. A hand-operated travelling crane gives facility for the rearrangement of the machines.

The Electrical Measurements Laboratory on the fourth floor of the Electrical Engineering Building is equipped with apparatus for precision measurements of electrical quantities of all kinds.

This laboratory is used by the senior electrical engineering students and post-graduate students. It is also used by members of the staff for industrial testing and research. The most common industrial tests performed are:—Conductivity, insulation resistance, ratio and phase angle of current transformers, dielectric strength of transformer oil and other insulating materials, calibration of electrical meters, magnetic testing of iron, temperature coefficients of resistance, capacities of condensers, inductance of coils, light distribution curves of reflectors, and efficiency of transmission of light through globes.

The equipment includes :—a conductivity bridge with controlled temperature oil bath, Wheatstone bridges, standard resistances, Weston Standard Cells, precision potentiometer, Kelvin current and watt balances, Weston standard ammeters, voltmeters and wattmeters, frequency meters, current and potential transformers, D'Arsonval galvanometers, vibration galvanometers, thermo-galvanometers, dynamometers, wave meters, potential regulators, phase shifters, thermionic valves,

planimeter, precision photometer bar, with universal rotators, motordriven sector discs and screens, certified standard incandescent lamps, Sharp Millar portable photometer, Burrows permeameter, and Epstein iron tester, variable mutual inductances and condensers, etc.

The laboratory is supplied with direct currents up to 750 amperes, alternating currents up to 3,000 amperes, direct voltages up to 1,500 volts and alternating voltages up to 200,000 volts, variable audio-frequency oscillating generators provide power for bridge measurements.

The Communication Engineering Laboratory, on the fourth floor, is equipped with apparatus for building up oscillating, transmitting, detecting and amplifying circuits, and for radio measurements of all kinds. A certain amount of industrial testing and calibrating is carried on by the department, chiefly thermionic valve testing and measurements of inductance and capacity. The laboratory is also being equipped with apparatus for the study of telephone problems; transmission, inductive interference from power lines, measurements of noise on telephone lines, cross-talk, transpositions, and the use of repeaters, etc.

The High-voltage Laboratory contains the following equipment:— Four 200 to 50,000 volt transformers insulated so as to operate up to 200,000 volts; one 200 to 2,000 volt insulating transformer; one 110 to 20,000 volt testing transformer; standard spark gaps for oil and air; cathode ray tubes, electrostatic voltmeters and other auxiliary equipment. The transformers are provided with auxiliary voltage coils for direct voltage measurement and for connection to the oscillograph. The connections to this laboratory are such that any machine in the department may be used as a source of power and controlled directly from the transformer room, so that a wide range of frequency and of wave form is available for experimental work.

The Oscillograph Laboratory is equipped with a Blondel triple oscillograph, with both visual and photographic attachments, and is specially adapted for the study of transient phenomena.

Power is supplied to the above laboratories from the 220-volt, 3-wire, D.C. generators in the central power-house. The voltage is maintained approximately constant on the two sides of the system by a balancer set located in the Senior Laboratory, which is also equipped for supplying constant voltage circuits of 125 volts.

The department maintains a small machine-shop for instrument and machine repair and for the construction of special experimental apparatus.

## GEODETIC LABORATORY

The equipment of this laboratory consists of :--

(1) Linear instruments:—a Rogers comparator and a standard bar for investigating standards of length; a fifty-foot standard and com-

parator for standardizing steel bands, chains, tapes, rods, etc.; a Munro-Rogers linear dividing engine.

(2) Circular instruments :- a Rogers circular comparator.

(3) Time:—an astronomical clock and clock circuit in connection with the observatory clocks; chronometers running on mean and sidereal time; chronograph.

(4) Gravity:—a portable Bessel's reversible pendulum apparatus with special pendulum clock and telescopic apparatus for observing coincidence by beats.

(5) A water gauge apparatus for testing aneroid barometers; four level triers.

The laboratory and clock rooms are constructed with double walls and enclosed air spaces, and their heating is controlled by special thermostats, so that the temperature within may be brought to, and held at, any desired degree.

Astronomical Observatory.—The observatory equipment for the purpose of instruction in practical astronomy consists of :—a Bamberg prismatic transit with zenith attachment; six astronomical transits for meridian observations; two Troughton & Simms zenith telescopes; two 8" alt-azimuth instruments; sidereal and mean time clocks and chronometers, chronograph and electrical circuits by which observations and clock comparisons within or without the observatory may be made.

## HIGHWAYS LABORATORY

The Highways Laboratory is equipped for conducting physical and chemical tests of road-building materials, such as asphalts, tars, brick, stone, gravel, sand, etc. Among the more important items of equipment are Deval and Dorry machines; a standard rattler; an impact testing machine for rock; a diamond drill, lap and saw for preparing rock specimens; balances and scales; asphalt ductility machines; penetrometer; screens and screen shaker; extraction apparatus; drying ovens (gas and electric); viscosimeters; flash point testers; specific gravity apparatus, and melting point apparatus. There is also a large assortment of chemical glassware, etc.

Facilities for advanced work are greatly increased by the fact that this laboratory is operated in close connection with the Strength of Materials Laboratory.

## HYDRAULIC LABORATORY

In this laboratory the student studies experimentally the laws governing the flow of water through orifices, pipes, weirs, etc., and carries out experiments on the efficiency of centrifugal pumps and of various forms of water turbines.

The equipment includes:—apparatus for the measurement of the discharge of water from orifices, nozzles, weirs, etc., under varying conditions; arrangements for investigation of the loss of head by surface friction, by valves and diaphragms, and at curves and bends in pipes; Venturi meter for use at different discharges; centrifugal pumps of different types arranged for testing under varied conditions; various water turbines, including Pelton wheel, and reaction wheels of Francis and propeller types; apparatus for measurement of pressure due to impact of jets on surfaces of different forms; gauge testing appliances; Hele Shaw's apparatus for study of the stream lines in a perfect fluid, illustrating the flow round obstructions in a channel, and numerous magnetic problems; numerous calibrated tanks, weighing appliances, and measuring apparatus in connection with the above.

The water turbines are of the most modern type, and are arranged for testing so that complete characteristic curves can be obtained. Different types of draft tubes can be used, so that a thorough study can be made of the behaviour of various types of runner under different conditions.

## MECHANICAL ENGINEERING LABORATORIES

These laboratories are used in connection with the courses in Mechanical Engineering subjects. The smaller apparatus belonging to the laboratories includes the necessary equipment of weighing machines, ordinary and water dynamometers, steam calorimeters, thermometers, gauges, pyrometers, coal gas and oil calorimeters, indicators, planimeters, flue gas analysis, etc.

## 1. Mechanical Laboratory.

The equipment of this laboratory includes:—a Thurston railway pattern oil tester, fitted with water cooling and heating apparatus for varying the temperature of the brasses as desired; standard viscosimeters and other necessary apparatus for the physical testing of lubricants; a high-speed horizontal engine having a cylinder 6 inches diameter, 9 inches stroke, and operated by compressed air; a gas-fired preheater for the above engine; two standard 9½-inch Westinghouse airbrake pumps, fitted for testing and supplying compressed air for experimental and other purposes; a non-rotative Blake steam pump, having steam and water cylinders  $4\frac{1}{2}$  and  $2\frac{3}{4}$  inches diameter and  $4\frac{1}{2}$  inches stroke; apparatus for measuring the heat loss from pipe coverings and from radiators, on the efficiency of worm and other gearing, for governor testing, for testing fans and blowers.

## 2. Steam Engine Laboratory.

This laboratory is furnished with an experimental steam engine of 120 I.H.P., specially designed for investigating the behaviour of steam under varying conditions. The cylinders are 6½ inches, 9 inches, 13

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inches. The cylinders can be so connected as to allow of working as a single, compound, triple or quadruple expansion engine, either condensing or non-condensing, and with any desired rate of expansion. The inches and 18 inches in diameter, and the stroke of all the pistons is 15 jackets are so fitted as to permit of measuring independently the water condensed in the cover, barrel or bottom jacket of each cylinder, and the engine can be worked with any desired initial pressure up to 200 lbs. per square inch. The measurements of heat are made by means of large tanks, which receive the cooling water and the condensed steam. There is an independent surface condenser and air pump. Two hydraulic absorption brakes and an alternative friction brake serve to measure the mechanical power developed. This laboratory also contains the following machinery :--- a Robb automatic cut-off engine, having a cylinder 101/2 inches in diameter by 12 inches stroke, which is specially fitted up for the measurement of cylinder temperatures, and can be run at speeds up to 300 revolutions per minute; an automatic high-speed engine by Macintosh & Seymour, having a cylinder 12 inches in diameter by 121/2 inches stroke, in connection with which there is an automatic recording apparatus for registering the load on the brake; a Leonard horizontal engine, having a cylinder 8 inches diameter by 9 inches stroke, specially fitted for instructional work in valve setting and provided with an independent surface condenser; a two-stage air compressor (built in the workshops of the department) taking 40 H.P. and having cylinders 10 inches and 17 inches in diameter by 15 inches stroke (the compressor delivers its air into reservoirs placed beneath the floor of the machine shop, and is provided with an intercooler whose capacity can be varied as desired); a 15 K.W. Curtis steam turbo-generator with independent surface condenser, air pump, and a bank of lamps for varying the load; two 12-H.P. high-speed forced lubrication compound engines (built in the workshops of the department), one of which is used to drive a Hall 1-ton Co, ice machine.

Steam is supplied to this laboratory by the boilers in the Workman Building. These consist of one 100-H.P. locomotive boiler, Belpaire type, fitted with Howden oil burning furnace, two Babcock & Wilcox water tube boilers, each 60 H.P. These boilers are fitted with the necessary tanks, weighing machines and apparatus for carrying out evaporative tests. For the study of superheated steam, one of the B. & W. boilers is fitted with a superheater built by the Superheater Co., and there is also a B. & W. separately fired superheater.

## 3. Gas Engine Laboratory.

This laboratory contains a horizontal gas engine by the National Gas Engine Company, having a cylinder 12 inches diameter by 20 inches stroke and developing 40 B.H.P.; a suction type producer for the above with the necessary scrubbers and gas cleaning apparatus; a 10 B.H.P.

Otto type gas engine (built in the workshops of the department) having a cylinder 8½ inches diameter by 12 inches stroke; a 14 B.H.P. 2cylinder, 2-cycle Grey gasoline engine; a 4 H.P. Blackstone oil engine, a Ford automobile engine, a 9 H.P. Victory (Hvid) oil engine, a 9 H.P. crude oil engine built by Vickers & Co.

## 4. Machine Shop.

This shop contains lathes, shapers, milling machines, etc., and in addition to being used for shopwork instruction is used as a laboratory for time studies and routing, etc.

## METALLURGICAL AND ASSAYING LABORATORIES

These consist of a large furnace room of 2,000 sq. feet, for metallurgical operations, a furnace room for assaying of 1,000 sq. feet, a balance room, two small chemical laboratories, and parts of other rooms, which are utilized for pyrometric and photo-microscopic work. The furnace room is fitted with a water-jacket blast-furnace, 21 inches inside diameter, for smelting lead and copper ores, and a Bruckner roasting furnace.

In addition to this comparatively large-scale plant, apparatus has been provided to enable the students to study in detail the more important metallurgical operations, using quantities of ore or metallurgical products of usually not more than a few pounds in weight. For this small-scale work there are a number of crucible and muffle furnaces, heated by coke, gas, oil and electricity.

The electric furnace plant consists of a 50 H.P. motor and a 30 K.W. alternating current generator, together with transformers and measuring instruments. A number of electric furnaces have been installed for making steel, smelting ores, melting metals and making researches at high temperature. A low-voltage direct-current generator is employed for electrolytic operations, and an electrode rotator and storage battery has been added for electrolysis on a small scale. An electric muffle furnace, having carbon resisters and an alundum muffle, is in regular use for determining the melting temperature of refractory materials, measurements being made with an optical pyrometer and Seger cones; the furnace can be heated to 1800°C. A "surface combustion" gas furnace and an oxy-acetylene furnace are also available for high temperature work.

A Leeds and Northrup "hump" method electric furnace with recording pyrometer has been modified to give automatic time-temperature control and is now a most useful appliance for heat-treatment and pyrometric research. For heat-treatment and fire-assaying there is also a large electric muffle furnace with automatic temperature control, and a Freas electric oven suitable for constant temperature work up to 180°C.

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An oxy-acetylene cutting and welding outfit is in regular use and has proved both instructive and useful for repairs and new construction.

A powerful hydraulic press and a piece of apparatus for compressing gases by hydraulic power are available for experiments that have to be conducted under great pressure.

A small drop-testing machine, a Sankey metal-bending tester, and Shore, Brinell and Rockwell hardness testers have been installed for investigating the mechanical properties of metals.

The assaying laboratory is equipped with a number of crucible furnaces fired with coke, a large gas muffle furnace, several gas-fired crucible furnaces, a large oil-fired muffle furnace and the electric muffle furnace mentioned above.

Adjoining the assaying laboratory are the balance room and a small laboratory for chemical work. One of the chemical laboratories has been fitted up as a regular "works laboratory" in which students are trained in commercial metallurgical analysis.

The metallographic laboratory is well equipped with microscopes, including a standard works microscope with photographic attachment. It has also a dark room and two very satisfactory polishing machines for preparing metal specimens, which were built in the department.

## MINING AND ORE-DRESSING LABORATORIES

The Department of Mining Engineering has laboratories for oredressing, and a number of rooms of moderate size equipped for use as special laboratories, dark room, machine shop, etc. The effective floor space is about 10,000 square feet, in addition to which the departmental store rooms, ore bins, etc., have an area of 1,500 square feet.

The ore-dressing laboratory proper is built in two storeys about a central well and has about 6,500 square feet total floor space. The equipment comprises pieces of apparatus specially designed for individual work on a small scale. Many of these are for elementary investigation and demonstrations of a theoretical nature, others are working reproductions on a reduced scale of typical ore-dressing machines. Each machine is ordinarily used and tested independently, but, when expedient, a number of machines can be connected and thus complete plants of various kinds can be improvised. Special attention is paid to flotation and cyanidation. In flotation the plant is so arranged that continuous operation is secured and selective flotation of two or more minerals obtained, under conditions which closely approximate large scale operations in both practice and results obtained.

The chief pieces of apparatus in the main laboratory are a gyratory and both types of jaw rock crushers; gravity stamp mill of 600 lbs.; steel-tyred rolls; grinders for preparing samples, and ball mills, pebble mills and amalgamation pans for extremely fine grinding; Jones and

Brunton samplers; a Callow belt screen, a Tyler-Hummer screen, and power shaking screens for sizing the crushed ores; a Richards pulsator jig, and other small hand jigs for coarse and medium concentration; Wifley and Butchart riffled tables; magnetic separators, flotation apparatus of different types for both continuous and intermittent operations; a pachuca agitator, cyanidation vats and agitators, a Dorr thickener, an Oliver filter with the necessary tanks, pumps, etc., and several smaller vacuum and pressure filters; plates, pans and barrels for amalgamating gold and silver ores; settling and feeding cones, and various other special pieces of ore-dressing apparatus.

An hydraulic lift and the necessary centrifugal pumps, feeders, samplers, steam-jacketed drying tables, etc., are provided for use in continuous work. The power chiefly used is electricity, generated in the University power station and utilized through a number of independent motors aggregating 100 H.P. Two motor-driven vacuum pumps and air-compressors of 7½ and 4 H.P. serve the filters and provide an ample supply of compressed air. The department is equipped with suitable apparatus for electrical measurements, and is thus able to make continuous and accurate determination of the amount of power used by each machine.

In addition to the main laboratory, there are excellent facilities for advanced and research work—including a chemical and assay laboratory and a photographic room.

## THE PHYSICAL LABORATORIES

The equipment of the Macdonald Physical Laboratories comprises: (1) apparatus for illustrating lectures; (2) simple forms of the principal instruments for use by students in practical work; (3) various types of important instruments for exact measurements, to be used in connection with special work and research.

The basement contains a liquid air plant and two large and one small laboratories for research work, Stark effect, radioactivity, electrical measurements, spectroscopes, etc.

There is a constant temperature room, surrounded by double walls, which is fitted with Moll Recorder and Concave Grating.

The first floor contains the main electrical laboratory, which is a room 60 feet by 40, and is fitted with a number of brick piers, which come up through the floor, and rest on independent foundations, in addition to the usual slate shelves around the walls. This room contains a large number of electrometers, galvanometers, potentiometers, and other testing instruments of various patterns, and adapted for different uses. Three small research laboratories adjoin the electrical laboratory. A well-equipped workshop serves for the construction of research apparatus and repair work.

On the second floor of the building there is a heat laboratory for advanced work and research. This adjoins a private laboratory fitted for research work. On this floor is situated the main lecture theatre with adjoining preparation and apparatus rooms; also the Director's Office and laboratory.

The third floor contains two small lecture rooms, a library and reading room for the staff, and professors' rooms.

The fourth floor contains the large elementary laboratory, a room 60 feet square, devoted to elementary practical work in heat, sound, light, electricity and magnetism. There is a demonstrators' room adjoining, and an optical annex devoted to experiments with lenses, galvanometers, etc., which require a darkened room. On the other side of the building there is an optical laboratory for advanced and research work, a series of smaller optical rooms, and a dark room for photographic work.

On the fifth floor is a laboratory for properties of matter, and a students' lathe and workshop.

## STRENGTH OF MATERIALS LABORATORIES

These laboratories are equipped with apparatus for the determination of the physical properties of the materials of construction and for illustrating the fundamental laws of the strength of materials. The equipment includes:—

(a) Riehle testing machine of 60,000-lb. capacity, a Wicksteed 100ton, a Wicksteed 50-ton, an Emery 75-ton machine, and an Olsen machine of 10,000-lb. capacity, for testing the tensile, compressive and transverse strength of materials of construction. The 100-ton Wicksteed machine is equipped for testing the transverse strength of girders and beams up to 26 feet in length. Provision is also made for testing ropes, belts and textile fabrics, holding power of nails, strength of hose, etc.

(b) An accumulator, operated by an electrically driven pump, furnishes a pressure of 3,600 lbs. per square inch, which is transmitted to the several testing machines, to ensure a steady application of stress.

(c) Extensometers of the Bovey, Ewing, Unwin, Martens, Marshall and other types; portable cathetometers, and also a large cathetometer specially designed and constructed for the determination of the extensions, compressions and deflections of the specimens under stress in the testing machines.

(d) Apparatus for measuring the torsion of rods, deflection of springs, elongation of rods under tension; bending combined with torsion, etc.

(e) Numerous gauges, amongst which may be specially noticed an Emery pressure gauge, grāduated in pounds up to 2,500 lbs. per square inch. All the testing machines are on the same pressure circuit, and are connected with the Emery gauge and other standard gauges. This provides a practically perfect means of checking the accuracy of the testing.

(f) Apparatus for determining the hardness of materials of construction, including Shore scleroscope.

(g) Zeiss and other microscopes, and apparatus for microscopic study of metals.

(h) Delicate chemical and other balances. A very important part of the equipment is the Oertling balance, capable of indicating with extreme accuracy weights of from .00001 lb. up to 125 lbs.

(i) Micrometers of all kinds, including a 10-inch Howard gauge, and Berry strain gauges.

#### BOTANICAL LABORATORIES

The Department of Botany is housed on the first and ground floors of the newly-constructed Biological Building. The large and welllighted elementary laboratory will afford ample accommodation for large classes. There are, in addition, smaller laboratories for Phanerogamic and Cryptogamic Botany, special rooms for preparation, sterilization, chemistry and photography and research accommodation. Opening out of the large laboratory is a small conservatory for the culture and preservation of demonstration material. A room is also set apart as a departmental laboratory, reading room and demonstration museum.

The practical work in plant physiology, genetics, etc., is done in a special large physiological laboratory (20 ft. by 75 ft.), and three adjoining glass houses, each 60 feet long and 18 feet wide, with the exception of a section of the central house, which is 25 feet square.

## PETROGRAPHICAL LABORATORY

The Petrographical Laboratory, containing the chief rock collections of the University, is situated in the Chemistry and Mining Building. It is provided with a number of petrographical microscopes by Bausch and Lomb, Siebert, Grouch, and Fuess, as well as with models, sets of thin sections, electromagnets, heavy solutions, etc., for petrographical work.

A collection of typical rocks has been especially prepared for the use of students, and a complete equipment for cutting, grinding, and polishing rocks has been installed, which runs by electric power and gives excellent facilities for the preparation of thin sections for microscopic use.

For advanced work and petrographical investigation, Dr. Adams' extensive private collection of rocks and thin sections is available for purposes of study and comparison.

## THE PSYCHOLOGICAL LABORATORY

The psychological laboratory occupies fourteen rooms on the third floor of the Molson Hall in the Arts Building. It contains apparatus for the study and investigation of sensation, perception, ideas, memory, association, attention, volition, feelings, emotions and reaction. This equipment serves three purposes: First, it is adapted to research work in the various fields of experimental psychology, including physiological psychology, educational psychology, and applied psychology. Second, it is used to acquaint beginners with the methods of experimental psychology, both qualitative and quantitative. Third, it furnishes material for experimental demonstration in the elementary and advanced lecture courses.

## THE ZOOLOGICAL LABORATORIES

The zoological laboratories are situated in the new Biological Building, where ample provision is made for the accommodation of all classes.

The equipment includes microscopes and microtomes and accessories of different models for various requirements; fresh water aquaria, preparations, charts and apparatus for research. Specimens exhibited in the Peter Redpath Museum are available for study and illustration.

Arrangements can be made with the Biological Board of Canada for qualified students to take up some branch of original work at the Atlantic Biological Station, St. Andrews, N.B., during the summer months and to complete the investigation here during the session.

NOTE:-Theological students, although included in this list, are not members of McGill University but of the affiliated Theological Colleges. FACULTY AND YEAR ADDRESS

TEL. NO.

NAME	FACULTY AND Y	EAR	ADDRESS	TEL. NO.
Where two	addresses are give	ven, the second	d is the home ad	dress.
Abbott, Clark Warner Aber, David Peter	Arch. 4		St., Montreal enor Ave., We	Up. 9250 stmount,
Aber, David Peter Aboussafy, Raschid		Mont Ioli.	One.	
Abrahamson, David Lyon Abrahamson, Robert H	Arts 4		ner Ave., Montre	eal Up. 6540
Abrahamson, Sadie C Abramovitch, Harry Abramowitz, Richard Acena, J. Guillermo	Com. 4 Ap. Sci. 3 Ap. Sci. 3	4366 Laval 4516 Espla 1723 Ave. o 14 C.P No	Ave., Montreal nade Ave., Mont de L'Eglise, Mor o. 17A, Guetemal	Bel. 5669-J .realBel. 8727-W ttrealUp. 7913 a, Guite-
Adams, Aldeth E	Arts 4	405 Mt. Ro Magog, Qu	oyal Ave., Monti	realAt. 7154
Adams, Arnold Wilson		3460 Duroc	cher St., Montrea	
Adams, Gordon T	Med. 3		len Ave., Montre	ealPlat. 3966
Adams, Eric G	Ap. Sci. 4		ooke St. W., Mo	ntrealLan. 7141
Addie, Gordon R	Arts 3	1 Elgin St. 	rsity St., Montro	ealPlat. 0720
Adelstein, Harry M	Arts 1	Apt. 22, 50	10 Sherbrooke S	Que. t. W.,
Adelstein, Howard M Adney, Thomas Harvey	Arts 4	4239 Espla 3485 McTa	nade Ave., Mont	al Up. 9130
Affinito, Thomas	Med. 3	Vancouver, 3457 Shute 395 Ellswo Conn.	, B.C. r St., Montreal. rth Ave., New H	Plat. 0370 aven,
Agajeenian, Robert	Arts 4	1441 Drum	mond St., Mont	realUp. 6500
Aikin, Dorothy	Arts 3		ern Ave., Wes	tmount,
Aikman, E. Percy	Arts 1		therine Rd., Ou	tremont.
Aird, Dorothy M Aitken, R. Gordon	Ap. Sci 4		Ave., Montreal V	Plat. 1743
Alchin, Richard H	Arts 1	Sherbrooke	, Que. rsity St., Montre wne Rd., Bromle	eal
Alcorn, Douglas E	Med 3	England		
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Alexander, C. Walter	An Sci 4	Vernon, B.	C. rsity St Montre	al Un 0200
Alexander, John D. F	Arto 2	Campbellto	n, N.B.	ntreal Har 1743
Alexander, Isabel E		Huntingdos	n ()110	
Alexandor, Bernard M	Law 1	613 Victoria	a Ave., Westmou	int, Que.West. 1800
Alexandor, Huldah	Arts 1	613 Victori	a Ave., Westmou	int, Que.West. 1800
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NAME

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Allen, Alexander S	Med. 5		
Allen, John	Com. 2		ealUp. 3795
		Que. 11171 Dorchester St. W., Mo	West, 1899
Allendorf, Francis J		238 Bowood Ave., Toronto.	Ont.
		44 Carroll St., West Roxbur	y. Mass.
Allison, Joseph R	Arts 1		nt, Que. West. 2630 ontreal. Plat. 3624
Allo, Gordon F Alpert, Barnett B	Arts 1		lWal. 4393
		2038, 61st St., Brooklyn, N.	

Allo, Gordon Alpert, Barnet .... Cres. 0042 ham, Eng. Archibald, Thurston Davis...Arts 1.... Archibald, William F..... App. Sc. 4..... Gardenvale, Que.
Gardenvale, Que.
Gardenvale, Que.
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772 Sherbrooke St. W., Montreal... Lan. 1567 Argue, Charles W.....Grad. Sch.... Argue, Jr., John F..... Arts 1..... Ottawa, Ont.
 3637 University St., Montreal.
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 330 Kingsway Ave., Winnipeg, Man.
 3506 University St., Montreal.
 Up. 0290 Armstrong, Charles G..... App. Sc. 3..... Armstrong, Frederick S. ..... Arts 1..... Toronto, Ont. 380 Marlowe Ave., Montreal...... Wal. 0815-W 673 Wilson Ave., Montreal...... Wal. 8024-W R.R. No. 2, Danville, Que. 3506 University St., Montreal..... Up. 0290 Armstrong, John Edwin.....App. Sc. 1..... Armstrong, Lucy B.....Arts 3..... 

\* Left early in the Session.

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est. 2636

# NAME FACULTY AND YEAR ADDRESS TEL. NO.

Where two addresses are given, the second is the home address.

Arnoldi, Helen	Grad. Nurse	Apt. 31, 2077 St. Luke St., Montreal.
Aronovitch Michael	Arts 2	Apt. 4, Rideau Apts., Ottawa, Ont. 63 Dulith St. E., MontrealBel. 5997-W
Arrowsmith, Mervl K	Arts 1	133 Brøck Ave., Montreal West Wal. 7646
Ash, Frances G	Arts 3	490 Chmpagneur St., MontrealAt. 3042
	a the Barristan	624 King Edward Ave., Ottawa, Ont.
Ashdown, H. K.	. Theol. 3	821 Allani Ave., MontrealAt. 4490-J
Aspler, Isidore	Arts 4	4053 Eplanade Ave., MontrealBel. 5306
Aspler, Moses Mendal	Arts 1	4053 Eplanade Ave., MontrealBel. 5306
Astwood, E. Millard	. Med. 3	304 Prince Arthur St., MontrealPlat. 3624 Hamilton, Bermuda.
Automa Ann	Dha Ed a	3550 Lørne Ave., Montreal
Atkinson, Ann	. Pny. Ed. 2	88½ Oreen St., St. Catharines, Ont.
Atkinson, Robert	Arte P	3506 University St., Montreal Up. 0290
ALEINSON, RODELL		Edenderry, Portadown, Ireland.
Atkinson, Thomas,	App. Sc. 1	Apt. 21, 3025 Sherbrooke St. W.,
and the second sec	No. of a second second	Monreal
		39 Starley St., Simcoe, Ont.
Atto, Clayton, H	Arts 1	.3473 University St., Montreal Plat. 0720
		815 Stiart Ave., Montreal.
Auld, George E	.Arch. 1	.3433 Pel St., MontrealUp. 3140
		949 Cumberland Ave., Hamilton,
A 11 7 77	C 1 C 1	Ont.
Auld, Jean M	.Grad. Sch	.785 Hatland Ave., MontrealAt. 2130 Charlottetown, P.E.
Austin Francet P	Com 2	.772 Shirbrooke St. W., MontrealLan. 1567
Austin, Ernest K	. Com. 2	847 Deiman St., Vancouver, B.C.
Austin Evelyn R	Arts 1	Royal Victoria College, MontrealPlat. 0078
Autom, Dreijil Ic		Grand'Mere, Que.
Avlen, Peter	Arts 1	.1211 Nountain St., Montreal Up. 9655
Montreal	12 VICENCES ED	274 O'Connor St., Ottawa, Ont.

Bacal, Harry Lyon	5331 Janne Mance St., Montreal Cres. 9859 4161 Dorchester St. W., Westmount,
Baikie, Elizabeth IsabelArts 2	QueWest. 1494 Royal /ictoria College, MontrealPlat. 0078 262 Menkland Ave., Montreal.
Bailey, Alexander.    Lib. Sch.      Bailey, James A.    App. Sc. 1.      Bailey, Ralph Arthur.    Arts 2.	301 Balantyne Ave., Montreal WestWal. 1409 200 Regent Ave., MontrealWal. 1787
Baillie, Janet EllenArts 1      Bain, Archie MGrad. Sch	Rutherord, N.I.
Baird, Charles Calvin	300 Allany St., Winnipeg, Man.
Baird, Robert CecilCom. 4	3609 University St., MontrealPlat. 3464 18 Young St., Truro, N.S.
Baker, George PCom. 3           Baker, Howard M. ACom. 2	Willian St., Yarmouth, N.S.
Baker, Kenneth GArts 1 Baker, Phyllis MayArts 4	1231 Sissex Ave., MontrealUp. 7727-W 666 Vitoria Ave., Westmount, Que.West. 3045
	23 The Grove, Teddington, Middle- sex, England.
Baldwin, Dickson RArts 1	1469 D'ummond St., Apt., 90, Mont- realUp. 6112
Baldwin, William AlanApp. Sc. 4	3554 St Famille St., MontrealPlat. 0917 187 Patterson Ave., Ottawa, Ont.
Balinsky, Lawrence SArts 1Ball, Henrietta ElizabethArts 1	6082 Hutchison St., MontrealAt. 3153
Ball, Mildred A Arts 1	3454 University St., MontrealUp. 2534
Ball, Muriel HelenaArts 4	Magog, Que. Royal Victoria College Annex, Mont- realUp. 2534 Magog, Que.

NT.

NAME FACULIY AND YEA	R ADDRESS TEL. NO.
Where two addresses are given	n, the second is the home address.
Ball, Ralph HGrad. Sch	.3647 University St., MontrealPlat. 5070
Ball, William LArts 3Ballantyne, Gladys GLib. Sch	627 Carleton Ave., Westmount, Que. West. 2053 3426 McTavish St., Montreal.
Ballantyne, MurrayArts 3 Balmer, an ArgyleMed. 3	3047 University St., MontrealPlat. 5070 Kelowna, B.C. 627 Carleton Ave., Westmount, Que. West. 2053 3426 McTavish St., Montreal Gypsy Hill, Corlez'sland, B.C. 3484 Mountain St., MontrealUp. 3767 3535 Park Ave., MontrealPlat. 7316 Tuxford, Sask. Children's Memorial Hospital, Mont- real
Bancroft, Jane Cockburn, Grad. Nursel	Children's Memorial Hospital, Mont-
Banfield, A. FrederickArts 3	160 Grande Allée, Quebec, Que. 772 Sherbrooke St. W., MontrealLan. 1567
Banfill, Gladys MGrad. Sch	185 Home St., Winnipeg, Man. 5 Burton Ave., Westmount, QueWest. 3032
Banfill, Stanley MartinMed. 1	<ul><li>East Angus, Que.</li><li>5 Burton Ave., Westmount, Que West. 3032</li></ul>
Banks, Harold UCom. 4	418 Claremont Ave., Westmount, Oue. West, 5587-1
Barber, GilbertDent. 4	real
Barclay, Isabel M Arts 3	Pointe Gatineau, Que. 3625 Durocher St., Montreal
Barker, Charles Scott Med. 2. Barlow, Frank A Med. 4.	<ul> <li>3489 Shuter St., Montreal Plat. 5924</li> <li>Pointe Gatineau, Que.</li> <li>3625 Durocher St., Montreal Plat. 0778</li> <li>5417 Esplanade Ave., Montreal Val. 0899-M</li> <li>2028 Union Ave., Montreal Val. 0899-M</li> <li>2028 Union Ave., Montreal Lan. 1643</li> <li>53 Washington Place, Passaic, N.J.</li> <li>772 Sherbrooke St. W., Montreal Lan. 1567</li> <li>Crystal City, Manitoba.</li> <li>5826 Notre Dame St. E., Montreal. Pte aux Tr.</li> <li>131R2</li> </ul>
Barnes, Frederick GilbertApp. Sc. 4	53 Washington Place, Passaic, N.J. 772 Sherbrooke St. W., MontrealLan. 1567
Barnhill, Alexander BArts 1	5826 Notre Dame St. E., Montreal. Pte aux Tr. 131R2
Baron, Edgar AArts 2	710 McEachran Ave., Outremont, Oue
Barr, DonaldArts 4	3581 University St., Montreal Plat. 6979 2102 Scarth St., Regina, Sask.
Barr, Robt. M Arts 4	3516 Shuter St., MontrealPlat. 7472 2102 Scarth St., Regina, Sask.
Barron, Paul	3556 Hutchison St., MontrealPlat. 6979 Bhiladelphia Pa
Barrington, L. HopeArts 4	616 Victoria Ave., Westmount, Que.West. 3820
Barsha, JacobArts 4Bartlett, Leonard SMed. 1	131R2         710 McEachran Ave., Outremont, Que
Barza, David Med. 3	3666 Drolet St., Montreal
Barthett, Leonard S Med. 1 Med. 3	Royal Victoria College, MontrealPlat. 0078 350 Somerset St., Ottawa, Ont.
Basken, Olive AArts 4 Baskin, GertrudeSoc. Workers Bassen, Mildred RArts 4 Bates, Clarence LArts 2	920 Tupper St., Montreal
Bavitch, LazarusArts 2 Baxter, William JMed. 5	6619 Christopher Colomb St., Mont- real
Bazar, BernardArts 1Bean, Carol MArts 1	1035 St. Viateur St., MontrealCres. 5422 Royal Victoria College, MontrealPlat. 0078 Shawinigan Falls, Oue.
Beattie, Jessie	Shawinigan Falls, Que. 3483 Stanley St., MontrealUp. 0725 3506 University St., MontrealUp. 0290 Yokohama, Japan. 3539 Shuter St., Montreal Tweed, Ont. 404 Northcliffe Ave., N.D.G., Mont- realWal. 1168-M 404 Northcliffe Ave., N.D.G., Mont- realWal. 1168-M
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		.772 Sherbrooke St. W., Montreal Ketchikan Alaska	
Beeson, Paul Bruce	. Med. 1	772 Sherbrooke St. W., Montreal	.Lan. 1567
		Ketchikan, Alaska. .3485 McTavish St., Montreal	
Bell, Dorothy A. D	.Arts 3	63 Belvedere St., Sherbrooke, Que. Apt. 21, 271 Prince Arthur St. W Montreal. P.O. Box 280, Halifax, N.S.	"Plat 0022
Bell, Florence M. L Bell, George Maxwell	.Arts 1	P.O. Box 280, Halifax, N.S. 4489 Sherbrooke St. W., Montreal. 772 Sherbrooke St. W., Montreal. 3000 Victoria Ave., Regina, Sask. 2454 Box St. Montreal	West. 4456
Bell, Graham A	.App. Sc. 4	.3434 reel St., Montreal	.Up. 6788
		64 Delaware Ave., Ottawa, Ont. Apt. 21, 271 Prince Arthur St. W	martin
		Montreal	Diat 0022
Bell, John A	.Com. 2	P.O. Box 280, Halifax, N.S. .3454 Peel St., Montreal.	Up. 6788
Belloc, Hilary A. A.	Arts 4	.3875 Colonial Ave., Montreal	. Plat. 3743
		Shipley, Horsham, Sussex, England	
Belnap, Celeste V	Arts 2	.558 Roslyn Ave., Westmount, Que.	.West. 1909
benard, Frederick	.App. Sc. 3	Shipley, Horsham, Sussex, England 558 Roslyn Ave., Westmount, Que. 4877 Park Ave., Montreal Call del Ferrocarril 59, Mixcoa D F. Mexico	. Bel. 2568-W c
†Bennett, Almerin T	.App. Sc. 3	.1426 Pierce St., Montreal	•
Bennett, George F	ADD. Sc. 2	323 Davenport Rd., Toronto, Ont. Apt. 1, 1126 Sherbrooke St. W., Mon	t-
		real	Lan. 1752
Bennett M sobel	Artad	396 Lyon St., Ottawa, Ont. 119 Northcliffe Ave., Montreal	
Dennetts Richard Cariton	. Med. 1	317 Pine Ave. W., Montreal	. Up. 8731
Benning Paulette	Arted	Nevada City, California.	C 7062
Benning, Paulette Berchtold, Frieda	Arts 4	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal	. Cres. 7963 Bel 4839-W
Benning, Paulette Berchtold, Frieda Bercovici, Ethel	Arts 4	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal	. Cres. 7963 Bel. 4839-W
Bercovitch, Elise	Arts 4 Arts 1 Arts 2	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal. Apt. 7, 1620 Van Horne, Outremont Que. 337 Reduct Auto, Wastimount Out	.At. 1581-J
Bercovitch, Elise Bercovitch, Morris Robert	Arts 4 Arts 1 Arts 2 Arts 1 Pharm 1	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal Apt. 7, 1620 Van Horne, Outremont Que. 337 Roslyn Ave., Westmount, Que 3010 Clarke St. Montreal	West. 2300
Bercovitch, Elise Bercovitch, Morris Robert	Arts 4	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal Apt. 7, 1620 Van Horne, Outremont Que. 337 Roslyn Ave., Westmount, Que. 3919 Clarke St., Montreal. 4642 St. Urbain St. Montreal.	West. 2300
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Ruth Bercovitz, George D	Arts 4 Arts 1 Arts 2 Pharm. 1 Arts 4 Arts 2.	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 3919 Clarke St., Montreal. 4643 St. Urbain St., Montreal. 337 Roslyn Ave., Westmount, Que 77, Jourse Are., Mestercol.	West. 2300 Bel. 1507-F
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercovitz, George D Bercu, George.	Arts 4	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal. Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 3919 Clarke St., Montreal. 337 Roslyn Ave., Westmount, Que. 47 Joyce Ave., Montreal. 4458 DeRullion St. Montreal.	At. 5726 Bel. 2431 M
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercovitz, George D Bercu, George D Berenstein, Leslie	Arts 4 Arts 1 Arts 2 Pharm. 1. Arts 4. Arts 9. Arts 2. Arts 3. Arts 3.	Nevada City, California. 5619 Park Ave., Montreal Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 3919 Clarke St., Montreal 4643 St. Urbain St., Montreal 47 Joyce Ave., Westmount, Que 47 Joyce Ave., Montreal 4458 DeBullion St., Montreal 4458 DeBullion St., Montreal	At. 5726 Bel. 2431-M
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph. Bercovitch, Ruth Bercovitz, George D. Bercu, George. Berenstein, Leslie. Berger Bernard A.	Arts 4	Nevada City, California. 5619 Park Ave., Montreal 5016 St. Urbain St., Montreal. Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 3919 Clarke St., Montreal. 337 Roslyn Ave., Westmount, Que. 47 Joyce Ave., Montreal. 4858 DeBullion St., Montreal. 5826 Park Ave., Montreal.	At. 7587-J West. 2300 Bel. 1507-F At. 5726 Bel. 2431-M Cres. 4270
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph. Bercovitch, Ruth Bercovitz, George D. Bercu, George. Berenstein, Leslie. Berger Bernard A.	Arts 4	Nevada City, California. 5619 Park Ave., Montreal Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 3919 Clarke St., Montreal 4643 St. Urbain St., Montreal 47 Joyce Ave., Montreal 4458 DeBullion St., Montreal 5826 Park Ave., Montreal 76 Champagneur Ave., Montreal. 4176 City Hall Ave., Montreal. 18 Summerhill Ave., Montreal.	At. 7587-J West. 2300 Bel. 1507-F At. 5726 Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up 1071
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph. Bercovitch, Ruth. Bercovitz, George D. Bercovitz, George D. Bercu, George Berger, Bernard A. Berger, Eenard A. Berger, Edward S. Berger, Irvin J.	Arts 4	Nevada City, California. 5619 Park Ave., Montreal Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 3919 Clarke St., Montreal 4643 St. Urbain St., Montreal 47 Joyce Ave., Montreal 458 DeBullion St., Montreal 5826 Park Ave., Montreal 5826 Park Ave., Montreal 76 Champagneur Ave., Montreal. 18 Summerhill Ave., Montreal. 2701 Grand Concourse, New York	At. 7567-J West. 2300 Bel. 1507-F At. 5726 Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercovitz, George D Berenstein, Leslie. Berger, Bernard A Berger, Ernard A Berger, Edward S Berger, Irvin J Berger, Invin J	Arts 4 Arts 1 Arts 2 Pharm. 1 Arts 4. Arts 4. Arts 2 Arts 2 App. Sc. 3 App. Sc. 3 Arts 2 Arts 3 Arts 3 Arts 3 Arts 3 Arts 3 Arts 4 Arts 3 Arts 3 Arts 3 Arts 4 Arts 3 Arts 3 Arts 4 Arts 3 Arts 3 Arts 3 Arts 4 Arts 4 Arts 3 Arts 4 Arts 3 Arts 3 Arts 3 Arts 4 Arts 3 Arts 3 Arts 4 Arts 4 Arts 3 Arts 4 Arts 5 Arts 5 Arts 5 Arts 5 Arts 5 Arts 5 Arts 5 Arts 5 Arts 5	Nevada City, California. 5619 Park Ave., Montreal 5010 St. Urbain St., Montreal. Apt. 7, 1620 Van Horne, Outremont Que 337 Roslyn Ave., Westmount, Que 338 Noslyn Ave., Westmount, Que 337 Roslyn Ave., Westmount, Que 4643 St. Urbain St., Montreal. 337 Roslyn Ave., Westmount, Que 47 Joyce Ave., Montreal 458 DeBullion St., Montreal 5826 Park Ave., Montreal 5826 Park Ave., Montreal 176 Champagneur Ave., Montreal. 18 Summerhill Ave., Montreal. 18 Summerhill Ave., Montreal. 2701 Grand Concourse, New York N.Y.	Mc. 1567-J West. 2300 Bel. 1507-F Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph. Bercovitc, Ruth. Bercovitz, George D. Bercu, George. Berenstein, Leslie. Berger, Bernard A. Berger, Bernard A. Berger, Invin J. Berger, Invin J.	Arts 4 Arts 1 Arts 2 Pharm 1 Arts 2 Arts 3 Arts 4 Arts 2 Arts 2 Arts 2 Arts 3 App. Sc. 3 App. Sc. 3 Arts 2 Arts 3 Arts 2 Arts 2 Arts 2 Arts 3 Arts 2 Arts 2 Arts 3 Arts 4 Arts 4 Arts 4 Arts 4 Arts 4 Arts 4 Arts 2 Arts 4 Arts 2 Arts 2 Arts 2 Arts 2 Arts 2 Arts 2 Arts 4 Arts 2 Arts 3 Arts 3 Art	Nevada City, California. 5619 Park Ave., Montreal	At. 7587-J West. 2300 Bel. 1507-F At. 5726 Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph. Bercovitc, Ruth. Bercovitz, George D. Bercu, George. Berenstein, Leslie. Berger, Bernard A. Berger, Bernard A. Berger, Invin J. Berger, Invin J.	Arts 4 Arts 1 Arts 2 Pharm 1 Arts 2 Arts 3 Arts 4 Arts 2 Arts 2 Arts 2 Arts 3 App. Sc. 3 App. Sc. 3 Arts 2 Arts 3 Arts 2 Arts 2 Arts 2 Arts 3 Arts 2 Arts 2 Arts 3 Arts 4 Arts 4 Arts 4 Arts 4 Arts 4 Arts 4 Arts 2 Arts 4 Arts 2 Arts 2 Arts 2 Arts 2 Arts 2 Arts 2 Arts 4 Arts 2 Arts 3 Arts 3 Art	Nevada City, California. 5619 Park Ave., Montreal	At. 7587-J West. 2300 Bel. 1507-F At. 5726 Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph. Bercovitc, Ruth. Bercovitz, George D. Bercu, George. Berenstein, Leslie. Berger, Bernard A. Berger, Bernard A. Berger, Invin J. Berger, Invin J.	Arts 4 Arts 1 Arts 2 Pharm. 1 Arts 4. Arts 7. Arts 7.	Nevada City, California. 5619 Park Ave., Montreal	ML 1567-J West. 2300 Bel. 1507-F Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551 Up. 6377 West. 0377 West. 0377
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercourde, George D Berenstein, Leslie. Berger, Bernard A Berger, Bernard A Berger, Edward S Berger, Irvin J Berger, Julius Berger, Julius Bergithon, Carl Berlind, Evelyn Berlinguet, Lorne F. C	Arts 4	Nevada City, California. 5619 Park Ave., Montreal	Mt. 7587-7 West. 2300 Bel. 1507-F Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551 Up. 6377 West. 0377 Up. 4418
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercourde, George D Berenstein, Leslie. Berger, Bernard A Berger, Bernard A Berger, Edward S Berger, Irvin J Berger, Julius Berger, Julius Bergithon, Carl Berlind, Evelyn Berlinguet, Lorne F. C	Arts 4	Nevada City, California. 5619 Park Ave., Montreal	Mt. 7587-7 West. 2300 Bel. 1507-F Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551 Up. 6377 West. 0377 Up. 4418
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercourde, George D Berenstein, Leslie. Berger, Bernard A Berger, Bernard A Berger, Edward S Berger, Irvin J Berger, Julius Berger, Julius Bergithon, Carl Berlind, Evelyn Berlinguet, Lorne F. C	Arts 4	Nevada City, California. 5619 Park Ave., Montreal	Mt. 7587-7 West. 2300 Bel. 1507-F Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551 Up. 6377 West. 0377 Up. 4418
Bercovitch, Elise Bercovitch, Morris Robert Bercovitch, Myer Ralph Bercovitch, Ruth Bercourde, George D Berenstein, Leslie. Berger, Bernard A Berger, Bernard A Berger, Edward S Berger, Irvin J Berger, Julius Berger, Julius Bergithon, Carl Berlind, Evelyn Berlinguet, Lorne F. C	Arts 4	Nevada City, California. 5619 Park Ave., Montreal	Mt. 7587-7 West. 2300 Bel. 1507-F Bel. 2431-M Cres. 4270 At. 7914 Bel. 4960 Up. 1071 Wal. 2551 Up. 6377 West. 0377 Up. 4418

†Died early in the session.

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Bethune, Laura FPhys. Ed. 1		. West. 1189 . Plat. 5054
Bickle, John A. T Med. 5	1239 Drummond St. Montreal	.Up. 2879
Biggar, H. WilliamCom. 2	1	. Plat. 3464
Billette, RogerApp. Sc. 2	Vallaufold Que	.Har. 6704
Billingsley, L. WinstonArts 2		West 5102
Binnie, James CorneilArts 4		West. 5102
Binns, Eleanor Campbell Phys. Ed. 2.	223 Strathearn Ave., Montreal West	. west. 4124
Birnie, GarfieldCom. 2		. Wal. 1170
Bishop, Hazeldine SArts 4	Que	. West. 2203
Bishop, Marguerite RArts 3	Que	.At. 0911-W
Billette, Roger       App. Sc. 2         Billingsley, L. Winston       Arts 2         Binnie, James Corneil       Arts 4         Binns, Eleanor Campbell       Phys. Ed. 2         Birnie, Garfield       Com. 2         Bishop, Hazeldine S       Arts 4         Bishop, Marguerite R       Arts 3         Bishop, Ruth       Arts 4         Bishop, Ruth       Arts 3	Que. 454 Elm Ave., Westmount, Que 3506 University St., Montreal	. At. 0911-W . West. 4282 . Up. 0290
Bisson, Russell D. A		. Plat. 7316
Bissonnet, Mary ElizabethArts 2	1200 Sherbrooke St. W., Montreal.	.Up. 5942
Blachford, Henry EdmundApp. Sc. 3 Black, Catherine AArts 3		.West. 4755
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Black, George M Arts 1		. west. 5407
Black, James R Med. 1	1018 Grosvenor Ave., Westmount	111 0706
Blachford, Henry Edmund App. Sc. 3         Black, Catherine A         Black, Donald Harvey F         Black, George M         Black, George M         Arts 1         Black, James R         Black, Janet         Black, Mabel G         Grad. Nurses	Que	. West. 8780 . West. 0787 . Wal. 7672
Black, Ida Willa Arts 2		NZ 7000
Black, Maber G		. Plat. 0354
Bland, JohnArch. 1		.Up. 6227
Sch Blemer, John WMed. 4		. At. 7603 . Up. 8731
Blond, Harry H Med. 3		.Har. 6047
Bloom, JosephArts 3		.Lan. 9309
Blau, Abraham.       Med. 3 & G         Sch.       Sch.         Blemer, John W.       Med. 4.         Blond, Harry H.       Med. 3.         Blond, Irwin Bernard.       Law 1         Bloom, Joseph.       Arts 3.         Bloomfield, Dorothy Ruth.       Soc. Workers         Blumberg, Perry.       Med. 2.         Blumenthal, Estelle H.       Arts 1.         Blundell Stanley F.       Med. 1.	2. 4019 Dorchester St. W., Montreal. 	.West. 4432 .Lan. 1798
Blumenthal, Estelle H Arts 1 Blundell, Stanley F Med. 1		. Wal. 2073 Plat. 1818
Boak, Andrew CApp. Sc. 3 Bogante, Jack RalphLaw 3 Boggs, Robert KennethMed. 1		.West. 7525 .Cal. 4783-J .Lan. 7757
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Bolton, Arthur HamiltonArts 2		.West. 1057
Blumenthal, Estelle H.       Arts 1.         Blundell, Stanley F.       Med. 1.         Boak, Andrew C.       App. Sc. 3.         Boggante, Jack Ralph       Law 3.         Boggs, Robert Kenneth       Med. 1.         Boissonnault, Bertrand O.       App. Sc. 3.         Bolton, Arthur Hamilton       Arts 2.         Bonar, Jean Margaret       Arts 2.         Bondar, H. Kelliher       Med. 2.	Que. 	.West. 5962 .Up. 4250

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 Where two addresses are given, the second is the home address.

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 Bonner, Harold Chapman
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 Dent. 9130

 Booth, Leonard Noel
 Arch. 4
 2022 University St., Montreal
 Lp. 9130

 Boright, Gilbert W
 Com. 3
 3485 McTavish St., Montreal
 Lp. 9130

 Borland, Vera
 Phys. Ed. 2
 2022 University St., Montreal
 Up. 9130

 Borland, Vera
 Phys. Ed. 2
 3466 University St., Montreal
 Up. 3369

 Bowell, Henry Aird
 Med. 3
 Apt. 9, 3410 Atwater Ave., Montreal.
 Up. 3369

 Bouchard, Valmer, D
 Arch. 3
 3429 Peel St., Montreal
 Up. 5947

 Boucher, Paul Emile
 Arts 2
 145 Sherbrooke, Que.
 Boucher, Raymond A
 Arts 2
 145 Sherbrooke St. W., Montreal
 Plat. 6998

 Boucher, Raymond A
 Arts 2
 145 Sherbrooke St. W., Montreal
 Plat. 6998

 Boulton, A. Maxwell
 Arts 3
 3605 University St., Montreal
 Plat. 6998

 Boudreau, Eugene C
 Com. 1
 662 Old Orchard Ave., Montreal
 West. 2687

 Boulding, Henry N. F.
 Arts 1
 201 Grey Ave., Mon 

 Bowen, Shirley
 Grad. Nurses
 Apt. 22, 49 Encont Ave., Montreat. 01, 112

 South Roxton, Que.
 South Roxton, Que.

 Bowles, William Shedden
 App. Sc. 3
 44 Academy Rd., Westmount, Que. West. 7473

 Bowman, Robert T
 Com. 1
 3434 McTavish St., Montreal
 Up. 8633

 Cloverdale Rd., Rockcliffe, Ottawa,
 Cloverdale Rd., Rockcliffe, Ottawa,
 Cloverdale Rd., Rockcliffe, Ottawa,

 Ont Kingston, Jamaica, B.W.I. 1103 Laurier Ave. W., Montreal... At. 7454 256 Durocher Ave., Outremont, Que. 1015 Sherbrooke St. W., Montreal. Up. 2143 Braunstein, Moses M...... Med. 4..... Bray, Alton C..... Grad. Sch.... Breakey, Andrew..... Arts 2.....

West. 8849 Que..... Brierley, James G. ..... Law 3 & Grad. land 

TEL NO

642

P 「三」 NAME

Bronfman, RonaArts 1	
Brooks, Phyllis E. Arts 3	Que
Brooks, Paul L Med. 2	
Brooks Randall H Med 2	60 Cliuton St., Portland, Maine. 
2100k8, Kandan 11.,	Colebrook, N.H.
Brosseau, George App. Sc. 2	
Brouillard, Alphonse Armand. Arts 2	. 4244 St. Urbain St., Montreal
Brown Aller T	45 Robinson St., Woonsocket, R.I. 
Brown, A. GertrudeGrad. Nurses.	Carleton Place, Ont. Apt. 17, 105 Querbes Ave., MontrealCres. 1077 Paisley, Ont.
Brown, B. Stanley W. Arts 3	Paisley, Ont. 306 Wilson Ave Montreal Wal 0554
Brown, Dorothy BArts 1	242 Beaconsfield Ave., MontrealWal. 5121
Brown, Edward E App. Sc. 1 Brown George Arts 4	
Brown, George MayerArts 1	Paisley, Ont. .306 Wilson Ave., Montreal
Brown H I Campbell Med 5	mount, Que
Brown, James A., Jr App. Sc. 3	
Brown James Howard Com 1	mount, Que
brown, James HowardCom. I	Oue
Brown, John LCom. 2	
Brown, Kenneth HArts 4	761 Upper Lansdowne Ave., West. mount, Que
Brown, Lyla 1	
Brown, MonaLib. Sch	New Liskeard, Ont.
Brown, M. Gale Arts 2	261 Strathearn Ave Montreal West Wal 0013
Brown, Martha S Arts 4 Brown, Samuel Theo	. 55 Bruce Ave., Westmount, Que West 9151-W 3485 McTavish St., Montreal Up. 9130
	32 Albert Place Montreal
Brown, Walter F App. Sc. 4	
Brown, WilliamArts P	175 Villeneuve St. W., Montreal
Browne, J. S. Lyon	.5 Burton Ave., Montreal
Brownell, Harold RossApp. Sc. 4	.5 Burton Ave., Montreal
Brownrigg, Garrett MMed. 2	215 Chestnut St., Winnipeg, Man. . 1022 Sherbrooke St. W., Montreal. Lan. 0646
Promise Leslie W. Mad 2	St. Johns, Newfoundland
	Chamcook N B
Bruce, Alice SArts 1	
Bruce, Smirley DArts I	46 Whitney Ave., Sydney, N.S.
Bruger, Moses	
Bruneau, Mrs. EvelynSoc. Workers 1	
Brutinel, Pierre EugèneArts 1	Kent Apts., University St., Montreal
Budden, William HanburyCom. 4	<ul> <li>.3434 University SL, MontrealUp. 2334</li> <li>46 Whitney Ave., Sydney, N.S.</li> <li>4335 Clark St., MontrealBel. 6756-F</li> <li>.166 Villeneuve St. W., MontrealBel. 6816</li> <li>.3544 Park Ave., MontrealPla. 7317</li> <li>.Kent Apts., University SL, Montreal</li> <li>706 Blyd. Hausemann, Paris.</li> <li>.1509 Mackay St., MontrealUp. 2102</li> <li>3506 University St. Montreal</li> <li>Up. 0290</li> </ul>
Burk, C. Albert	Perth, Ont. 
Burke, George T Med. 3	
Burke, Irving WMed. 2	709 Gladstone St., Detroit, Mich. 72 Sherbrooke St. W., MontrealLan. 1567
Den Dalah M	Barbados, B.W.I. . 2022 Union Ave., MontrealLan. 9436
Burofsky, Nathan	.3388 Notre Dame St. W., Montreal. York 8963-W .3506 University St., Montreal Up. 0290 Ulverton, Que.
bursey, narold K ineo. 2	Ulverton, Que.
Burton, Garland GArts P	301 Fortune St., MontrealUp. 0290
buiton, Robert J Arts F	La Scie, Newfoundland.

		AR ADDRESS TEL. NO.
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		. 1200 Sherbrooke St. W., Montreal Up. 5942 Pelham Manor, N.Y.
		. 1200 Sherbrooke St. W., Montreal, .Up. 5942 3648 Matheson Ave., Cocoanut Grove,
	Butler, Albert AArts 2	Florida. .5683, 7th Ave., Rosemount, Mont-
	Butler, F. EltonArts 1 Butler, Howard ClaudeApp. Sc. 3	Florida. .5683, 7th Ave., Rosemount, Mont- realClair. 4348-J .817 Dunlop Ave., Outremont, Que. At. 0100 .3550 Shuter St., Montreal West Plat. 6452 48 Clarendon Ave., Ottawa, Ont. 34 Nelson St. Montreal West Wal 3207
	Butler, John A. T Arts 1 Butlin, Claude Marsh Arts 3	48 Clarendon Ave., Ottawa, Ont. .34 Nelson St., Montreal WestWal. 3207 .3637 University St., MontrealPlat. 2681
	Butt, Herbert M Dent. 2	.34 Arelson S., Montreal West Wat. 3207 3637 University St., Montreal Plat. 2681 Abasolo No. 8, Popotla, Mexico, D.F. 3506 University St., Montreal Up. 0290 Harbor Grace, Nfd.
	Buxton, Kenneth SGrad. Sch	Harbor Grace, Nfld. .3506 University St., Montreal
	Byers, A. RoddickArts 1	27 William St., Worcester, Mass. .74 Westmount Blvd., Westmount,
	Byers, John Nelson C Med. 4	Harbor Grace, Nfd. .3506 University St., Montreal 27 William St., Worcester, Mass. .74 Westmount Blvd., Westmount, 
	Calder, Alice DArts 2	.210 Westmount Blvd., Westmount, Que
	Calder, Frank	.186 Grand Boulevard, Montreal 4084 Tupper Ave., Westmount, QueWest. 3082 .210 Westmount Blvd., Westmount, Que
		QueWest. 2029 St. Peters, N.S.
	Calhoun E Kathleen Phys Ed 1	.0520 De Lanaudiere St., Montreal Cal. 9083-J
	Calhoun, Robert BArts 3	. 3483 Peel St., MontrealUp. 2264
	Call, Russell BCom. 2	. 3429 Peel St., MontrealUp. 5947 North Hatley, Que.
	Camerlain, Homer HGrad. Sch	.113 St. Lawrence Ave., St. Lambert,
	Cameron, A. James	.1940 Comte St., MontrealUp. 2690
	Cameron, John RossArts 2	.60 Hutchison St., Montreal
	Cameron, Kenneth NArts 2	.4787 Notre Dame St. E., Montreal. Clair. 2344
	Campbell, Chester RussellMed. 2	.113 St. Lawrence Ave., St. Lambert, Que
	Campbell, Herbert N App. Sc. 4	.609 Victoria Ave., Westmount, Que. West. 4475
	Campbell Mary I Arts 2	52 Ralph St., Ottawa, Ont.
	Campbell, Virginia J Lib. Sch.	.55 Westmount Blvd., Montreal
	Campbell, William BGrad. Sch Campbell, WesleyTheol. 1	.676 Harvard Ave., MontrealUp. 0652 Main St., Sydney Mines, C.B
	Cannell, M. HelenArts 2 Cantlon, Wm. NormanApp. Sc. 3	.117 Aberdeen Ave., Westmount, Que.West. 6406 .4400 Western Ave., Westmount, One West, 8593
	Cape, Gordon E App. Sc. 3 Caplan, Benjamin Arts 3	.45, 5th Ave., Lachine, QueLach. 120-J
	Caplan, Joseph SamuelLaw 3	.4583 Jeanne Mance St., Montreal Bel. 2702-J
	Card, Lorne CampbellMed. 3	Royal Victoria College, Montreal Plat. 0078 52 Ralph St., Ottawa, Ont. 609 Victoria Ave., Westmount, Que.West. 4475 .55 Westmount Blvd., Montreal Up. 0652 Main St., Sydney Mines, C.B Up. 0652 
		Melville, Sask. 4621 Hutchison St., Montreal
	Carlisle, Thomas Hildred Arts 2	Que
	Carlisie, Filomas FilidredArts 2	Que
2	Carison, Lesne A	Apt. 3, 1548 Stanley St., Montreal Up. 5551 1319 South Lincoln, Denver, Colorado. 
1	Carnen, Cyril DArts 1	.503 Harvard Ave., MontrealWal. 0579-W

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## NAME FACULTY AND YEAR ADDRESS TEL. NO. Where two addresses are given, the second is the home address. Čhalk, Henry Edwin Arts 1 4951 Western Ave., Westmount, Que. West. 2090 Challies, George Shaw Arts 2 8 Grove Park, Westmount, Que. West. 6562 Chalmers, George E. N Med. 1 3437 Peel St., Montreal Up. 2031-W South Devon, N.B. South Devon, N.B. Up. 2031-W Champagne, George A. App. Sc. 1 6700 St. Valier St., Montreal Cal. 0399 Chaput, André L Com. 2 3512 Durocher St., Montreal Plat. 1318 Chard, Harold Arts 1 241 Elm Ave. W. Montreal Plat. 3384 Chard, Harold Arts 1 152 Hurchison St., Montreal Plat. 3378 Grande Allée, Que. Heast St. Montreal Plat. 3378 Cheasley, Clifford H Grad. Sch 142 Joliette St., Montreal Clair. 6576-W Cheasley, Clifford H Grad. Sch 142 Joliette St., Montreal Clair. 6576-W Cheifetz, Harry Dickman Med. 3 5307 Esplanade Ave., Montreal Cres. 8812 Chennell, Alwyn C. Arts 4 142 Cote Des Neiges, Montreal Up. 8637 Chisholm, Colin B Med. 5 3745 Bassett St., Montreal Up. 8637 Chisholm, H. Winnifrede c/o John Chisholm, K.C., Ottawa, Ont. Christie, Lillian H......Phys. Ed. 2.....3466 University St., Montreal.....Up. 3369 179 St Paul Ave., Brantford, Ont. Christmas, William R.....Arts 4......65 Columbia Ave., Westmount, Que.West. 2526 Church, Athol C......Arts 1......1535 Sherbrooke St. W., Montreal. Up. 4541 Church, Chas. B. G......Med. 2......3637 University St., Montreal.....Plat. 2681

\*Left early in session.

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... Plat. 543.)

# FACULTY AND YEAR ADDRESS NAME Where two addresses are given, the second is the home address. Clarke, Charles William.....App. Sc. 2......3667 Jeanne Mance St., Montreal...Har. 5427

Clement, Eugenie. Arts 4. Apt. 5, 3529 Shuter St., Montreal. Plat. 4059 Angers, Que. Coates, Taylor. Theo. 221, 4th Ave., Longueuil, Que. Cobert, Stuart A. Com. 2. 499 Oxford Ave., Montreal. Wal. 0874 Coblent, Max. Arts 4. 5923 Clark St., Montreal. Cres. 8241 Cockerton, Egbert Earl. Arts 1. Springfield Park, Que. Cres. 8241 Cockerton, Egbert Earl. Arts 9. 1858 Dorchester St. W., Montreal. Cockram, Wm. E. Arts 9. 1858 Dorchester St. W., Montreal. Cockingon, Rupert D. Med. 4. 1648 Lincoln Ave., Montreal. Coddington, Rupert D. Med. 4. 1648 Lincoln Ave., Montreal. Code, Carman W. Arts 4. Royal Victoria College, Montreal. Plat. 0078 548 Gilmour St., Ottawa, Ont. Cohen, Abraham David. Com. 1. 4109A Esplanade Ave., Montreal. Bel. 4416-J Cohen, Abraham I. F. Com. 2. 4638 Jeanne Mance St., Montreal. Bel. 6214 Cohen, Arthur E. Arts 2. 571 Grosvenor Ave., Westmount, Que. West. 1544 Que......West. 1544 Cohen, Bernard Benno.....Law 1 & Grad. 

 Cohen, Kiva
 Que.
 West. 1544

 Cohen, Sylvia L.
 Arts 2.
 25 Rosemount Ave., Westmount, Que.

 West. 1544
 Que.
 West. 1544

 Cohen, William
 Arts 4 & Med. 1.3595 St. Famille St., Montreal
 Plat. 3718

 Coldwell, E. Wendell
 Arts 1.
 16 Selby St., Montreal
 West. 3520-J

 Cole, Thomas M.
 Med. 3.
 468 Sherbrooke St. W., Montreal
 Lan. 0646

 West. 1544 

 Cole, Thomas M.
 Med. 3.
 .468 Sherbrooke St. W., Montreal. .. Lan. 0646

 Newman, Georgia
 Newman, Georgia

 Collard, Edmund G.
 Arts 2.
 .390 West Hill Ave., Montreal. ... Wal. 1707

 Collie, Amy Milne.
 Arts 3.
 Royal Victoria College, Montreal. ... Wal. 1707

 Collins, Fred. Gordon.
 Com. 2.
 .453 Wiseman Ave., Outremont, Que.At. 2633

 Collins, Gerald, M.
 Com. 2.
 .454 Wiseman Ave., Westmount, Que.At. 2633

 Que.
 West. 3635

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P - Male TEL NO.

NAME FACULTY	AND YEAR	ADDRESS	TEL. NO,
Where two addresses	are given, the seco	ond is the home addr	ess.
Collins, Isabel R Arts 2	Royal Vi	ctoria College. Mont	realPlat. 0078
Coloubaun Densile D	15 Rosed	ale Ave., Ottawa, Or	it.
Coman, Dale Rex	231 St. N 240 Princ	laurice, Three River	s, Que.
Conklin Harold Emmett Com 2	Wakefield	I, Rhode Island.	A Que At 1061
Conklin, Harold EmmettCom. 2. Connell, F. RalphMed. 3.		Ave., Montreal	Up. 9173.
Conner, Howard	1 3485 Mc	Tavish St., Montreal	
Conroy, James BArts 2		aught Ave., Montrea	alWal. 6705
Conroy, PatriciaArts P.		ngton St., Montreal.	York 0659
Conner, Howard App. Sc. Conroy, James B. Arts 2. Conroy, Marcelle C. Arts 1. Conroy, Patricia Arts P. Consiglio, William Com, 4. Cooper, Lawrence O. App. Sc. Cooper, Blema Betty, Arts 1.		St., Montreal	Plat. 1904
Cooper, Blema BettyArts 1 Cooke, Howard HerbertArts 1	Schumaci 680 Outre	ner, Ont. emont Ave. Montrea	al At 3702
Cooks Harrowd Harbart Art. 1	4.7.4 177' 1		The states of the
Casha Emmanul	Arundel,	Que.	
Cooke, EmmanuelArts 1 Cooke, EmmanuelArts 4 Cooper, Alfred HArts 2		ke St., Montreal Ave. W., Montreal.	Bel. 6385-M
	129 Duff Sask.	erin St. E., Swift C	urrent,
Cooper, Douglas L. P Grad. So	h Y.M.C.A	, Drummond St., Mo	ontreal.
Copeman, Colin HArch. 4.		per Ave., Westmount	Que . West. 3814
Copian, LouisCom. 3.	116 York	St., Ottawa, Ont.	Up. 0943
Copping, Gordon A		Hall Ave., Montrea sdowne Ave., Westi	nlLan. 9904 mount,
Corbet, A. A. Gordon	Que 	nden Ave., Montreal	West. 5684
Cooper, Alfred H Arts 2 Cooper, Douglas L. P Grad. So Copeman, Colin H Arch. 4. Coplan, Louis Com. 3. Copnick, Irving Arts 4 Copping, Gordon A Med. 4. Corbet, A. A. Gordon Med. 3. Cornell, Evelyn R Com. 3.	64 Cobur 650 Gross	g St., St. John, N.B.	int
Corrigan Raymond M Com 1	Que	net Devel Arra Man	
Cornell, Evelyn RCom. 3. Corrigan, Raymond MCom. 1. Cosser, Walter GApp. Sc.	33578 Uni	versity St., Montreal	Up. 9109
Cosser, Walter G App. Sc. Costello, Herbert M Arts 2. Costom, David Med. 4. Cote, J. Reré App. Sc. Cotler, Nathan Law 2. Coulson, John G Grad. Sc	Schumach 	ner, Ont. nne Mance St., Mont	real Cres. 3734
Costom, David		ose Ave., Montreal.	Wal. 1417 Bel. 8970
Coulson John G. Grad Sc		ri Julien Ave., Mont	real
Concer In W Maren Anto 4 %	Unionvill	e, Ont.	and a state of the
Couper, Jr., W. MasonArts 4 & Courville, Albert LMed. 4.	Que.	r Koslyn Ave., westi	
Courville, Albert L	Cornwall	brooke St., W., Mor, Ont.	itrealLan. 0646
Cousens, Kingsley ECom. 2.		Tavish St., Montreal art St., Ottawa, Ont.	Up. 8663
Covert, KatherineGrad. N	ursesNurses' I	Iome, Royal Victoria	a Hos- Up 2620
Covicy, HarryPharm.			
Covshoff, SonnyArts 4			
Cowdry, Elizabeth H., Grad, N	urses 3560 Peel	St. Montreal	Up. 2620
Cowen, HaroldArts 2		Ave., Montreal	Cres. 6046
Cox Sarah Arts 4	1019 Sher	brooke St. W., Mont	treal. Up. 7913
Coyle, Edith TArts 2 Crabtree, Herbert KayCom. 1.		St., Montreal	
Crabtree Mona V Arts 3	46 Curzon	n St., Montreal West	Wal. 3009
Craft, GeorgeArts 1 Craick, Marion BArts 2		chison St., Montreal versity St., Montreal	At. 0647-W
Craig, BeulahCom. 1.			
cruig, oculat	Copper C	liff, Ont.	and the second second

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NAME FACULTY AND	YEAR ADDRESS TEL. NO.
Where two addresses are g	iven, the second is the home address.
Craig, CarletonArts 3	304 Prince Arthur St. W., Montreal.Plat. 3624
Craig, Gibson EdwardCom. 1	309 Somerset St., Ottawa, Ont. 1441 Drummond St., MontrealUp. 6500
Craig, Paul HApp. Sc. 1 Crain, Reginald AlbertApp. Sc. 2	Carleton Place, Ont. 20 Marsolais Ave., MontrealAt. 5637-M Apt. 2, 3554 St. Famille St., Mont-
	real
	Royal Victoria College, MontrealPlat. 0078
Cramp, William SApp. Sc. 4	250 1st Ave Ottawa Ont
Crawford, James Merrill App. Sc. 4 Creber, Mary V Arts 4 Creelman, Robert Currie Arts 4	<ul> <li>3554 Ste. Famille St., MontrealPlat. 0917</li> <li>250, 1st Ave., Ottawa, Ont.</li> <li>106 Lewis Ave., Westmount, QueWest. 7762 W.</li> <li>020 Terrebonne Ave., MontrealWal. 6466</li> <li>3485 McTavish St., MontrealUp. 9130</li> <li>Box 458, Truro, N.S.</li> <li>320 Prince Arthur St. W., Montreal Plat. 0761</li> </ul>
Creighton Corroll C Med 1	Box 458, Truro, N.S.
strates and a state of the states and states	1202E Thomas Rd., Phoenix, Ariz.
Crestohl, Abram Harold Com. 1 Criger, Samuel J Med. 2.	
Crighton, Marjorie E Arts 3 Cripps, Samuel. Arts 2	
Crombie, Annie MLib. Sch Cropper, James P. EApp. Sc. 2	
Cross, William HCom. 1	Kingston, St. Vincent, B.W.I. 772 Sherbrooke St. W. Montreal Lan. 1567
Crossland, Charles WApp. Sc. 2	Uplads, Victoria, B.C. 
	Barrie, Ont. 6643 St. Hubert St., MontrealCres. 1216 3485 McTavish St., MontrealUp. 9130
Cruickshank, George AGrad. Sch	
Cuddihy, Basil RMed. 4 Cullen, Bernard LMed. 3	92 Larch St., Providence, R.I. 
Cullen, MargaretGrad. Nurses Cummings, Vincent Paul Med 3	<ul> <li></li></ul>
Cunliffe Mary Arte 2	282 Do L'Erso Arro Outromont
Cunningham, Janet S Phys Ed 1	Que. At. 0991
Cunningham, Harold E App Sc 2	Que. Deterver, Outremont, Que. Deterver, Outremont, 4366 University St., Montreal Up. 3369 92 Sailly Ave., Plattsburg, N.Y. 455 Elm Ave., Westmount, Que West. 7708-W Sta Ame de Rellever, Oct.
Cunningham, J. Douglas LCom. 4 Cunningham, Mabel IGrad. Nurses	Ste. Anne de Bellevue, Que Ste. Annes 163 
	370 Monaghan Rd., Peterborough, Ont.
Curren, L. Addison	Ont. 
Currie, Ronald G App. Sc. 1	
Curtis, L. A. DonaldArts P	<ul> <li>125 Sherbrooke St. E., MontrealLan. 0671 Sorel, Que.</li> <li>3506 University St., MontrealUp. 0290 Black Head, Nfld.</li> </ul>
Cussans, Eileen Mary YPhys. Ed. 2	12B. Pullmer Apts., Wardlaw Ave
Cuthbertson, Arnold C Grad, Sch	Winnipeg, Man. 2047 Metcalf St., Montreal,Lan. 9509 49 Glen Ave., Ottawa. Ont.
Dahlgren, Carl A Med. 3	
Dainow, JosephLaw 3	
Dale, Elwrice RutherfordArts P Daley, Joseph McCTheo	
	Ulster, Ireland.

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# NAME FACULTY AND YEAR ADDRESS TEL. NO. Where two addresses are given, the second is the home address. Dancey, Travis E. Arts 3. 3661 Jeanne Mance St., Montreal... Har. 7389 Aylmer, Ont. Aylmer, Ont. 3661 Jeanne Mance St., Montreal... Up. 0290 Dangerfield, Gordon F. Arts 1. 3506 University St., Montreal... Up. 0290 Daniels, Eli Grad. Sch. 4065 Dorchester St., Westmount, Que Daniels, F. Ryland Com. 3. 4190 Avenue Rd., Westmount, Que West. 3447 Darwin, Theodore Edward Law 1 194 Grey Ave., Montreal. Wall 3160-W Davidovitch, Saul M. Arts 1. 3423 City Hall Ave., Montreal. West. 6836 Davidson, E. Jeannette. Arts 4. 626 Murray Hill, Westmount, Que. West. 6836 Davidson, John A. Med. 1. 626 Murray Ave., Westmount, Que. West. 6836 Davidson, John Ross. Med. 5. 320 Prince Arthur St. W. Montreal. Plat. 0761 Davidson, John Ross. Med. 5. 320 Prince Arthur St. Wontreal. Plat. 0761 Davidson, John Ross. Med. 5. 320 Prince Arthur St. Wontreal. Plat. 0761 Davidson, John Ross. Med. 5. 320 Prince Arthur St. Wontreal. Plat. 0761 Davidson, John Ross. Med. 5. 320 Prince Arthur St. Montreal. Plat. 0761 Davidson Davies, Thomas RTheo. 2Ste. Therese, Que.Westmount,<br/>Que.Davis, Charles Wesley.Arts 1630 Grosvenor Ave., Westmount,<br/>Que.West. 5449Davis, E. James.Theo. 13506 University St., Montreal.Up. 0290<br/>Freshwater, Nfld.Davis, Fred. E.Arch. 13473 University St., Montreal.Plat. 0720Davis, Fred. E.Arch. 13473 University St., Montreal.Plat. 0720Davis, Henry Weir.Law 14041 Dorchester St. W., Montreal.West. 5716Davis, Louis J. F.Arts P3506 University St., Montreal.Up. 3384Dave, Herven M.Arts 13506 University St., Montreal.Up. 0290Dawes, Chas. H.Grad. Sch.Ste. Anne de Bellevue, Que.Dawson, Katherine H.Med. 3Dawson, Katherine H.Med. 321 Bellevue Ave., Westmount, Que. West. 0746Dawson, Raymond JohnMed. 1750 Sherbrooke St. W., Montreal.Up. 6884Day, John J.Med. 3Apt. 6, 1442 Stanley St., Montreal.Up. 6884Day, John J.Med. 13566 Clarke St., Montreal.Up. 6884Daykin, Charles EdwardMed. 13586 Clarke St., Montreal.Up. 6290Stevenson Place, Ottawa, Ont.3505 Durocher St., Montreal.Up. 0290Dayin, Charles EdwardMed. 5409 Tupper St., Montreal.Wp. 6029Daykin, Charles EdwardMed. 5409 Tupper St., Montreal.Wp. 6029Daykin, Raphael.Med. 5403 Pupper St., Montreal.Wp. 0290Daykin, Charles EdwardMed. 5403 Pupper St., Montre Mexico.

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NAME FACULTY A	ND YEAR ADDRESS TEL. NO.
Where two addresses an	e given, the second is the home address.
Deskin, Sydney SCom. 3	
D'Esopo, Joseph Nicholas Med. 3	
Detlor, W. LyallArts 3	Que
	235 Somerville Ave., Westmount, Que., West. 8055 
Devitt, Harry BishopCom. 1	
Dezwirek, Louis ALaw 1	3062 Prince Arthur St. W. Mont-
Dick Ronald Roy	real. Plat. 5608 118 St. George St., Three Rivers, Que. 
Dick, R. Norman,	Arundel, Que. 
Dickenson G. Jean Arts 2	Britannia Beach, B.C. Chateauguay Basin, Oue
Dickey, Cecil HowardMed. 4	Britannia Beach, B.C. Chateauguay Basin, Que 772 Sherbrooke St. W., Montreal Lan. 1567 Perdue, Sask. 3559 University St. Montreal Plat. 3151
Dinan, John JMed. 1	
Dinovitzer, Oscar	39 D'Auteuil St., Quebec, Que. 
Dixon, Meredith Fred App. Sc.	
	Cowansville, Que. 131 Grey Ave., Montreal
Dobbin, Phyllis E Arts 3 Doberer, Cameron App. Sc	4
Doberer, DonaldCom. 3	1505, 25th Ave. W., Calgary, Alta. 1211 Mountain St., MontrealUp. 9655
Doble, Marjory AArts 4	
Dobridge, Donald WGrad. Sch	1505, 25th Ave. w., Calgary, Alta. 
Dobrofsky, Louis MArts 4	
Dodd, John GordonCom. 1	1
Doherty, D'Arcy M	
Doherty, FrankTheo	2937 University St., Montreal Tat. 2007 293 Russell Hill Rd., Toronto, Ont. 
Doherty, Thomas HughApp. Sc.	4 4704 Lafontaine St., Montreal Clair. 6045-W
Doig Melbourne A Arts 1	1911 Van Horne Ave., Outremont,
Donald, Henry GArts 4	QueAt. 1892 1523 Crescent St., MontrealUp. 1759
Donoghue, Kathleen EArts 2 Donovan Arthur L. Med 5	
Donovan, menar D	Rothsay Ave., St. John, N.B.
Dooley, William FArts P	Que
Doolittle, Doris HelenArts 3 Doran, Harold JamesArch. 3 Dorfman, DorahArts 2 Dorken, Robert WalterArts 2 Doubilet, HenryMed. 5	
Doucet, J. LyellArts 1	455 Elm Ave., Westmount, Que West. 2708-W Thetford Mines, Que.
Doull, Alexander KeithCom. 4	

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NAME FAC	ULTY AND YEAR	ADDRESS	TEL. NO.
Where two addr	esses are given, the seco	ond is the home address.	
Doull, Margaret D. CAr	ts 2Royal Vi	ctoria College Annex, Mor	it-
Daull Robert Mana	Vernon,	B.C.	Up. 2534
Doull, Robert MorseAp			
Dow, Ruth P Art Dowd, James Lewiston Me	ed. 3	versity St., Montreal	West. 0905 Lan. 1041
Dowling, Louis AArt Downing, John CArt	s 3	Ave., Westmount, Que versity St., Montreal	West. 5179
Downing, John CArt Dowle, Margaret EArt Draper, Herbert LGra	Windsor, s 242, 32nd	N.S. Ave., Lachine, Que	Lach. 534
Draper, Leslie MArt Drew, Charles RMe	Elm Grov s 29 Highlar	ve, Manitoba. ad Ave., Montreal	. Wai. 4444-W
Drew, Charles RMe	d. 1	ocher St., Montreal	Plat. 3265
Dryden, Reginald NArt	s P	versity St., Montreal ra Rd., Malvern, Johanne	.Up. 0290 s-
Drysdale, Harold RaymondMe	d. 1	avish St., Montreal	.Up. 9130
DuBois, Anne Marie M Art	253 Rosed s 1488 Argyl	dale St., Rochester, N.Y. le Ave., Westmount, Que.	.West. 6686-W
Drysdale, Harold RaymondMe DuBois, Anne Marie MArt DuBois, J. H. EdwardCo Dubois, Joseph GeraldMe Dubuc, GerardCou Dugan, Doris EArt Dugdale, Frederick EarleMe	n. 1	le Ave., Westmount, Que. St., Montreal	.West. 6686-W .Plat. 7056
Dubuc, GerardCon	n. 3	, N.B. Zotique Ave., Montreal	. Cres. 4379
Dugan, Doris EArt Dugdale, Frederick EarleMe	s 2	St., Montreal	.Cres. 6025 .Up. 2031-W
Duiat Alvin Cabriel Ma	d 5 11/11 Den	mmand Ct Mantenal	IT- CEOO
Duke, Denis de SCor	n. 3	versity St., Montreal	.Plat. 1352
Duke, Denis de S	20	versity St., Montreal	.Up. 0290
Dumaresq, Frances MArt	Winchest s 210658 Del	er, Ont. lorimier Ave., Montreal	Cal. 2888-J
Dumaresq, Frances MArt. Dumbell, George HCor Duncan, John A., JrMe	n. 2	ne Mance St., Montreal. prooke St. W., Montreal.	. Cres. 6783 . Plat. 7987
Dunlop, George HArt	s 3 3506 Univ	versity St., Montreal	.Up. 0290
Dunlop, J. RussellApp	Shedden, Sc. 2Apt. 1,	Ont. 1126 Sherbrooke St. W	.,
Line Main I have build in	Montre 184 Prim	al	.Lan. 1752
Dunlop, Robert J. FApr	o. Sc. 1Apt. 5, 1 Montre	445 McGill College Ave	
Dunlop, J. RussellApp Dunlop, Robert J. FApp Dunn, Arthur FrederickMee	St. Agnes d. 43524 Univ	de Dundee, Que. versity St., Montreal	.Up. 7253
Dunn Richard B Mo	d 1 222 Dring	Author Ct W. Montree	1 Uan 1041
Dunn, W. KennethArt	18 Cook A s 41441 Drui	Ave., Jamestown, N.Y. mmond St., Montreal	.Up. 6500
	1752 Eucl D.C.	lid St., N.W., Washington	A result in the second
Dunne, Charles VArts	s 1Apt. 4, 20 56 College	75 Comte St., Montreal. e Ave., Ottawa, Ont.	- desine produced
Dunne, Margaret GLib Dunning, Herbert AMed	. SchWindsor Montre	Castle, Decarie Blvd	Part Mary
Dunning, Herbert A	27 Melgur 1.1 & Arts 4.1090 Beav	nd Ave., Ottawa. er Hall Hill, Montreal	Lan. 7947
Dunwell, Rev. L. The	91 Florence 3473 Univ	rersity St. Montreal	Plat 0720
Dunnhy John Mar	19 Carber	ry Rd., Leeds, England.	Han 1041
Dupont, Charles TApp Duret, AdelaideGra	1039 Gille Sc. 2	spie, Schenectady, N.Y. St., Montreal	.Up. 2143
Duret, AdelaideGra	c/o Royal d. Nurses3478 Hutc	Trust Co., Victoria, B.C. chison St., Montreal	Supplie average
Duval, Henry PArts	1	a St., St. Johns, Que.	. Raya Same

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Fakin William Pohart Arts 2 572 Dealers Arts Westmannet	
Eakin, William RobertArts 2572 Roslyn Ave., Westmount, 4 Eaman, Stanley GMed. 3	Vork 1004
Eardley, Kenneth J. R. Arts 2. 3661 Jeanne Mance St., Montr 270 MacLaren St., Ottawa, On	eal Plat. 5437 t.
270 MacLaren St., Ottawa, On Eaves, F. EnidArts 2635 Murray Ave., Westmount, Eaves, Gladys, LArts 2198 Cote St. Antoine Rd., 1	Que. West. 1879 West-
mount, Que. 	
Ebbett, George H Arts 1	ount,
Eborta Edmond Howard Law 1 2575 D. 16. March	West. 5907
Eberts, Hermann Livingstone. App. Sc. 4 3575 Peel St., Montreal.	Up. 1493
Echlin, Francis Asbury Med. 3	Up. 1493
347 Daly Ave Ottawa Ont	Flat. 0354
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Edington, Archibald M Arts 1 91 Grand Blvd Montreal	Wal 4108
Edson, Doris AArts 3	Wal. 0326
Edson, Doris A	Wal. 0326
ElDel, Philip,	A+ 5125 137
Ein, CeliaArts 2	ount,
Ein, Myer T	West. 8572
Einh myer 1	ue West. 5903
Eisenstat, Jack	Bel. 9500
Elbert, Ir. Samuel George Med 5 3566 Lorge Ave Monte	Diet E056
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Elbert, Jr., Samuel George Med. 5	West 3325
Elkin, SeymourArts 345 Chesterfield Ave., Westma	ount,
Elkin, Seymour. Arts 3. 45 Chesterfield Ave., Westma Que. Elliot, Howald L. Med. 5. 540 Cote St. Antoine Rd., Mont	West. 6095
Elliott, Harold W Arts 2	real. West. 2795-W
Por 106 Cooks Day Ort	
Elliott, Kathleen Mansfield Arts 3 Box 106, Cache Bay, Ont. 1091 Decarie Blyd Montreal	
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Elliott, Kathleen Mansfield. Arts 3       Box 106, Cache Bay, Ont.         Elliot, Javid E.       App. Sc. 2       3434 McTavish St., Montreal.         Ellis, Harold Spencer.       Med. 4       35 Lakeside Ave., Ottawa, Ont.         Embree, John F.       Arts 2       3434 Pel St., Montreal.	Up. 2031-W Wal. 1265 Up. 8633 
Elliott, Kathleen Mansfield. Arts 3	Up. 2031-W Wal. 1265 Up. 8633  Up. 2143 cago,
Elliott, Kathleen Mansfield. Arts 3	Up. 2031-W Wal. 1265 Up. 8633  Up. 2143 cago,
Elliott, Kathleen Mansfield. Arts 3       Box 106, Cache Bay, Ont.         Elliot, Kathleen Mansfield. Arts 3       1091 Decarie Blvd., Montreal.         Ellis, David E.       App. Sc. 2       3434 McTavish St., Montreal.         Stakeside Ave., Ottawa, Ont.       35 Lakeside Ave., Ottawa, Ont.         Ellis, Harold Spencer.       Med. 4       Lashburn, Sask.         Embree, John F.       Arts 2       3433 Peel St., Montreal.         Homan and Arthington Sts., Chi Ill.       Ill.         Embregts, John A.       App. Sc. 3       Apt. 5, 3504 Park Ave., Montreal	Up. 2031-W Wal. 1265 Up. 8633  Up. 2143 cago, alPlat. 6402
Elliott, Kathleen Mansfield. Arts 3       Box 106, Cache Bay, Ont.         Elliot, Kathleen Mansfield. Arts 3       1091 Decarie Blvd., Montreal.         Ellis, David E.       App. Sc. 2       3434 McTavish St., Montreal.         Ellis, Harold Spencer.       Med. 4       35 Lakeside Ave., Ottawa, Ont.         Embree, John F.       Arts 2       3433 Peel St., Montreal.         Homan and Arthington Sts., Chi Ill.       Homan and Arthington Sts., Chi Ill.         Embregts, John A.       App. Sc. 3       App. 5, 3504 Park Ave., Montreal.         Epstein, Elsie       Grad Sch       38 Macloura Ave. Montreal.	Up. 2031- W Wal. 1265 Up. 8633  Up. 2143 cago, al Plat. 6402
Elliott, Kathleen Mansfield. Arts 3       Box 106, Cache Bay, Ont.         Elliot, Kathleen Mansfield. Arts 3       1091 Decarie Blvd., Montreal.         Ellis, David E.       App. Sc. 2       3434 McTavish St., Montreal.         Ellis, Harold Spencer.       Med. 4       35 Lakeside Ave., Ottawa, Ont.         Embree, John F.       Arts 2       3433 Peel St., Montreal.         Homan and Arthington Sts., Chi Ill.       Homan and Arthington Sts., Chi Ill.         Embregts, John A.       App. Sc. 3       App. 5, 3504 Park Ave., Montreal.         Epstein, Elsie       Grad Sch       38 Macloura Ave. Montreal.	Up. 2031- W Wal. 1265 Up. 8633  Up. 2143 cago, al Plat. 6402
Elliott, Kathleen Mansfield       Arts 3       Box 106, Cache Bay, Ont.         Elliot, Kathleen Mansfield       Arts 3       1091 Decarie Blvd., Montreal.         Ellis, David E       App. Sc. 2       3434 McTavish St., Montreal.         St Lakeside Ave., Ottawa, Ont.       35 Lakeside Ave., Ottawa, Ont.         Ellis, Harold Spencer       Med. 4       Lashburn, Sask.         Embree, John F       Arts 2       3433 Peel St., Montreal.         Homan and Arthington Sts., Chi       III.         Embregts, John A       App. Sc. 3       Apt. 5, 3504 Park Ave., Montreal.         Epstein, Elsie       Grad. Sch       38 Marlowe Ave., Montreal.         Epstein, Harry H       Med. 4       2039 University St., Montreal.	Up. 2031-W Wal. 1265 Up. 8633  Up. 2143 cago, ealPlat. 6402 Wal. 5465 Lan. 5325
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NAME FACULTY AND YEAR ADDRESS TEL. NO.

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### Where two addresses are given, the second is the home address.

Folkins, Frances MGrad. Nurses Foran, Philip FLaw 2	
Ford, R. GraemeArts 1	
Ford, William MArts 3	Portneuf Station, Que. 203 Lesperance St., St. Lambert,
Forsyth, Birdie JArts 4	QueSt.Lam. 409- 13 Beverley Road, Town of Mount
Forsyth, G. LyleArts 2	Royal, QueAt. 6191-J 772 Sherbrooke St. W., MontrealLan. 1567
Forth, John WArts 2	
Fosberry, Eileen FArts 3 Fournier, Claude JMed. 2	2026 Darling St., Montreal, Que. 84 Grand Blvd., MontrealWal. 8342-F 3652 Durocher St., MontrealPlat. 2755
Fowler, Hanford McKeeArts 2	Sudbury, Ont. 1528 Crescent St., MontrealUp. 8083
the second second second second second second	279 Regent St., Fredericton, N.B.
Fraid, DorothyArts 2	Truro, N.S. 438 Strathcona Ave., Westmount,
Francis, John BApp. Sc. 3	QueWest. 8166 419 Mount Stephen Ave., West-
Frank, HaroldArts 4 Fraser, Archibald DArts 2	4088 St. Hubert St., Montreal Truro, N.S. 438 Strathcona Ave., Westmount, Que
Fraser, Allan DArts 1 Fraser, Robin BArts 1	Fredericton, N.B. 1239 Van Horne Ave., MontrealAt. 3313 772 Sherbrooke St. W., MontrealLan, 1567
Fraser, William G Med. 2	Richmond, Que. Wontreal Up. 5551 812 Summer St., Lynn, Mass. 
Freedman, Bertram J Com. I	
Freedman, H. Jack Dent. 2 Freedman, Hyman M Arts 3 Freedman, Joseph H Arts 3 Ereedman Louis	Que
Friedman, Jack	
Froats, E. BaskenArts 1	Brome, Que. 413 Argyle Ave., Westmount, Que. West. 4631 3506 University St., MontrealUp. 0290
Frost, A. C. GardnerMed. 2	130 Hinton Ave., Ottawa, Ont. 
Frost, Clifford EApp. Sc. 3 Fulcher, J. GordonCom. 1	417 St. Joseph St., Lachine, Que Lach. 1401-J 772 Sherbrooke St. W., Montreal Lan, 1567
Fulford, G. LloydArts 2	
Huller Harold   Med 1	Arnprior, Ont. 798 Baldwin Ave., MontrealClair. 6331-W 3410 Hutchison St., MontrealPlat. 1649
Fyfe, Andrew M Arts 1 Fyshe, Thomas GArts 2	16 May St., Needham, Mass. 
Gage, John EdwardCom. 1	892 Sherbrooke St. W., MontrealLan. 8505 555 Wellington Crescent, Winnipeg, Man.

\*Left early in the Session.

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Gaillard, Milton T Med. 2	.3410 Hutchison St Montreal Plat 1640
Galbraith, Francis O	.3410 Hutchison St., MontrealPlat. 1649 147 Rogers Ave., Brooklyn, N.Y. .320 Prince Arthur St. W., Montreal.Plat. 0761 914 3rd Ave South Lethbridge Alex
Colos David I Arts 1	914 3rd Ave. South, Lethbridge, Alta.
Gallay, WilfredGrad. Sch	.320 Prince Arthur St. W., Montreal.Plat. 0761 914 3rd Ave. South, Lethbridge, Alta. Apt. 1, 1500 St. Mark St., Montreal. Up. 1771 .3467 Shuter St., Montreal
Gamble, Chas. Sevright Med. 1	. 4620 Jeanne Mance St., Montreal
Gamble, FredArts 1	.2077 St. Catherine St. W., Montreal. Up. 0740
Gamble, John M. C Com. 4 Gammell, Robert G Law 2 Gardiner, Ruth A Grad. Sch	.9 Summerhill Ave., MontrealUp. 0386
Gammell, Robert G Law 2	267 Somerset St. W., Ottawa, Ont. 3712 Park Ave Montreal Plat 2825
Gardiner, Ruth AGrad. Sch	.350 Markham Road, Town of Mt.
Gardner, Campbell McG Med. 3	<ul> <li>.350 Markham Road, Town of Mt. Royal. A. A. 2898-W</li> <li>.340 Olivier Ave., Westmount, Que., West. 6351</li> <li>.3506 University St., Montreal. Up. 0290</li> <li>Lower Island Cove, Nfld.</li> <li>.4671 St. Urbain St., Montreal Cres. 8291</li> <li>.4691 Jeanne Mance St., Montreal Clair. 4695-M</li> <li>.5151 Jeanne Mance St., Montreal. Lan. 2845</li> <li>Martinville, Que.</li> <li>.3529 University St., Montreal Plat. 7665</li> <li>Des Moines, Iowa.</li> </ul>
Garland, Sydney GGrad. Sch	.3506 University St., Montreal Up. 0290
Garmaise, FlorenceArts 2	.5471 St. Urbain St., Montreal Cres. 8291
Gavin, Thomas McN App. Sc. 4	.4691 Jeanne Mance St., Montreal. Bel. 6043-J 1672 Aird Ave Montreal Clair 4605 M
Gelfand, MyerArts 4	.5151 Jeanne Mance St., Montreal., Cres. 1993
Gemmell, Kenneth Roderick. Arts 1	Apt. 10, 2028 Victoria St., Montreal Lan. 2845
George, Everett M	.3529 University St. Montreal Plat 7665
And the second states and the second second	Des Moines, Jowa. 12 Park Place, Westmount, QueWest. 8239
Gerhard, Charles ADent. 1	12 Park Place, Westmount, Que West. 8239
Germard, Charles HDent. I	65 Shephard Ave., Newark, N.I.
German, Dewart IrwinCom. 1 Gerson, Harold SGrad. Sch Gersovitz, BenArts 4. Gersovitz, FrankApp. Sc. 1	.3506 University St., MontrealUp. 0290
Gerson, Harold S Grad, Sch.	Campbellton, N.B. 3469 De Bullion St. Montreal Lan 6651
Gersovitz, BenArts 4	.4119 St. Urbain St., Montreal Bel. 8830
Gersovitz, Frank App. Sc. 1	457 Argyle Ave., Westmount, Que. West, 3579
Gibbons, Morton Raymond,	.3981 waverly St., MontrealCres. 4/11
Jr	4119 St. Urbain St., Montreal
	3919 Washington St., San Francisco,
Gibson, Robert MArts P	Cant. Up. 2631-W 3437 Peel St., Montreal Up. 2631-W 58 Waterloo Row, Fredericton, N.B. 3530 Durocher St., Montreal Plat. 0316 44 Elein St. Comput. Out
Giddings, Reginald K Com. 4	58 Waterloo Row, Fredericton, N.B. 3530 Durocher St. Montreal Plat 0316
Giguere, H. CamilleDent. 1	44 Elgin St., Granby, Que.
Giguere, H. CamilleDent. 1	424 St. Joseph Blvd. E., Montreal.
Gilbert, DavidArts 4 Gill, Francis E. TCom. 3	.3605 University St., Montreal Plat, 0354
Gill, MacLean J	Woodsville N.H.
Gillard, Leander G Theo. 2	3506 University St., Montreal Up. 0290
Gillean, Watson, Arts 1 Gillespie, Alexander R. Com. 3 Gillespie, Thomas MacD. Arts 1 Gillies, Donald J. Arts P. Arts P.	Englee, Nfld. 604 Clarke Ave., Westmount, Oue West, 2722
Gillespie, Alexander R Com. 3	.610 Pine Ave. W., Montreal Up. 4125
Gillespie, Thomas MacDArts 1	610 Pine Ave. W., Montreal Up. 4125
Gillies, MalcolmArts P	15 Main St., St. Kilda, Scotland.
Gillies, MalcolmArts P	3485 McTavish St., MontrealUp. 9130
Gillies, Margaret I. DArts 4	Apt. 19, 2039 University St., Mont-
	realLan. 7351
Gillies, Winnifred MLib. Sch	260 Prince Arthur W., Montreal
Gillingham, Allan GeorgeArts 3 Gillson, C. GraceArts 3 Gilman, Albert Eric Gordon . Com. 2 Gilman, Helen BryantLaw 1	Port Daniel Centre, Que.
Ghingham, Allan GeorgeArts 3	Golf Ave., St. John's, Nfld.
Gillson, C. GraceArts 3	1237 Guy St., MontrealUp. 5813
Gilman, Albert Eric Gordon Com. 2	Apt. 6, 3542 Shuter St. Montreal Plat 6478
	105 Fair Oaks Park, Boston, Mass. 89 Gladstone Ave., Montreal
Gilmore, Alice EArts 2	.89 Gladstone Ave., Montreal York 4847-W

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TEL. NO.

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Where two addresses are give	en, the second is the home address.
Gilroy, Geoffrey S Arts 1.	.772 Sherbrooke St. W. Montreal Lan 1567
	.772 Sherbrooke St. W., Montreal Lan. 1567 Smith Falls, Ont. . Royal Victoria College, Montreal Plat. 0078
Gilroy, Hilda EArts 4	Smith Falls, Ont.
Ginsberg, Hilliard Law 1	Smith Falls, Ont. .5432 St. Urbain St., MontrealCres. 6772 .1022 Sherbrooke St. W., MontrealLan. 0646
Giovando, Lorenzo	.1022 Sherbrooke St. W., Montreal. Lan. 0646 Ladysmith B.C.
Girard, Voligny	.922 Sherbrooke St. E., MontrealEast 0166
Girdwood, Charles PApp. Sc. 1	Ladysmith, B.C. 922 Sherbrooke St. E., Montreal East 0166 2071 University St., Montreal 321 Belleville St., Victoria, B.C. Royal Victoria College Montreal Plat 0078
Girvan, Madeleine LArts 4	Royal Victoria College, Montreal Plat. 0078
Gitnick, Philip	114 Mecklenburg St., St. John, N.B. 4313 St. Dominique St. Montreal Bel 9001-M
Giulianelli, Leonard S Med. 2	114 Mecklenburg St., St. John, N.B. .4313 St. Dominique St., Montreal Bel. 9991-M .5568, 1st Ave., Rosemount, Mont-
Glasgow, Paul I. W. Law, 2	Acadia Apts Montreal Up 7511
Glass, D. KearnsCom. 1	.280 Westhill Ave., MontrealWal. 1460-J
Glassco, Meredith G	78 Ash St., Winnipeg, Man. 3637 University St. Montreal Plat 2681
Channe William C M 1 5	2 Evergreen Place, Winnipeg, Man.
Glassco, William G Med. 5	.5568, 1st Ave., Rosemount, Mont- real
Godfrey, John Edward App. Sc. 3	.825 Wilder Ave., Outremont, Que. At. 0641
Godinsky, SamuelLaw 2	.11 Souvenir Ave., Montreal Up. 0006 .5294 St. Lawrence Blvd., Montreal. Cres. 5853
Gold, NaamonArts 3	.3591 St. Urbain St., Montreal Plat. 5347
Goldberg, Joseph	.4596 Clarke St., Montreal
Goldberg, Marie M	.16 Cuthbert St., Montreal
Boldenberg, Annie AArts 5	11 Souvenir Ave., Montreal.       (p). 0006         5294 St. Lawrence Blvd., Montreal.       Plat. 5347         4596 Clarke St., Montreal.       Bel. 7507-J         3498 De Bullion St., Montreal.       Lan. 5786         16 Cuthlert St., Montreal.       Plat. 3309         417 Mount, Stephen Ave., West.       Plat. 3309         417 Mount, Stephen Ave., West.       West. 2426         mount, Que.       West. 2426         417 Mount, Stephen Ave., Westmount,       Que.         Que.       West. 2426         325 Melrose Ave., Montreal.       Wal. 1199         325 Melrose Ave., Montreal.       Wal. 1199         4650 Esplanade Ave., Montreal.       Bel. 7677-M         5940 Sherbrooke St. W., Montreal.       Bel. 7677-M         5435 Grosvenor Ave., Westmount,       West. 6158         435 Grosvenor Ave., Westmount,       West. 6158
Goldenberg, EvaArts 1	.417 Mount Stephen Ave., West-
Goldenberg, H. CarlGrad. Sch	.417 Mt. Stephen Ave., Westmount,
Coldner Isidore Arts 1	Que
Goldner, Stanley Arts 4	.325 Melrose Ave., Montreal
Goldstein, Ernest	.4650 Esplanade Ave., Montreal Bel. 7677-M
Gonzalez, George AlbertApp. Sc. 3	.435 Grosvenor Ave., Westmount West. 6158
Gonzalez, Louis Charles App. Sc. 3	.435 Grosvenor Ave., Westmount,
Good, Margaret WolseyArts 3	Que
Good, Robert Arts P	mount, QueWest. 8575
	Dutton, Ont. 1806 Ducharme Ave., MontrealAt. 2676-M
Goodall, Ernest LorneApp. Sc. P	.1806 Ducharme Ave., MontrealAt. 2676-M 60 Buena Vista Rd, Ottawa Ont
Goodeve, Edward ACom. 1	1806 Ducharme Ave., Montreal At. 2676-M 60 Buena Vista Rd., Ottawa, Ont. 
Goodman, Harold HCom, 1	Norwood, Man. 317 Durocher Ave. Outremont Que Cres 8776
Goodman, Hyman B App. Sc. 2	.4882 Esplanade Ave., MontrealBel. 1750-J
Goodstone, Gerald LArts 1	.4439 Clarke St., Montreal
rordon, Nell D Grad. Sch	.31/ Pine Ave. W., Montreal Up 8731
Forrell, Douglas Sterling Arts P	317 Pine Ave, W., Montreal
oth Ceo William Arta 2	2302 Cornwall St., Regina, Sask.
Autor Dedation of the state	Billings Bridge, Ont.
Gottneb, RudolfGrad. Sch	Vienna, Austria.
ough, Roger WhitfieldArts 4	<ul> <li>Solo University St., MontrealUp. 0290</li> <li>Billings Bridge, Ont.</li> <li>6300 St. Denis St., MontrealCres. 5245</li> <li>Vienna, Austria.</li> <li>S506 University St., MontrealUp. 0290</li> <li>Elliston, Nfd.</li> <li>S609 University St., MontrealPlat. 3464</li> </ul>
raham, Edwardo ALaw 1	3609 University St., Montreal Plat 3464
TERS STER	Managua, Nicaragua, C.A.

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NAME

NAME FACULTY AND YEAR ADDRESS TEL. NO.

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Grant, Alex. J. J	2570 11.
C	183 Ontario St., St. Catharines, Ont 183 Ontario St., St. Catharines, Ont 1850 Shuter St., Montreal
Grant, EastonCom. 2	
Grant, L. Fraser Phys. Ed. 1	41 Grosvenor Arthur St. W., Montreal. Plat. 6452 41 Grosvenor Ave., Ottawa, Ont. .308 Prince Arthur St. W., Montreal. Plat. 5054
Gravel, Maurice GArts 1 Graveline, Theodore JArts 4	<ul> <li>.308 Prince Arthur St. W., Montreal Plat. 5054</li> <li>41 Grosvenor Ave., Ottawa, Ont.</li> <li>19 Barat Road, Westmount.</li> <li> West. 5837</li> <li>.2063 Union Ave., Montreal.</li> <li> Har. 8785</li> <li>Newport, Vermont.</li> <li>.1012 Sherbrooke St. W., Montreal.</li> <li>.62 Carrington Ave., Providence, R.I.</li> <li>.8023 Western Ave., Montreal West. Wal. 6712</li> <li>.8023 Western Ave., Montreal West.</li> <li>Plat 0078</li> </ul>
Gray, Anna ELib. Sch	Newport, Vermont. .1012 Sherbrooke St. W., Montreal.
Gray, James D	62 Carrington Ave., Providence, R.I. .8023 Western Ave., Montreal West., Wal. 6712 .Royal Victoria College, Montreal., Plat. 0078
Gray, Nelson M	. Royal Victoria College, Montreal West. Wal. 6712 Royal Victoria College, Montreal, Plat. 0078 72 Leinster St., St. John, N.B. 1433 Chomedy St., Montreal Up. 3668 .3661 Jeanne Mance St., Montreal Har. 7389
Greaves Harold L. Dont 4	500 Victoria Ave., Westmount, Que. West. 4164
Green, Elise H Arts 2	. Koyal Victoria College. MontrealPlat. 0078 Box 186, Barbados, B.W.I. .3 Winchester Ave., Montreal West. 0761 43 Balmorel Place Winning Mar
Creenblett P. P. M. Lo.	43 Balmoral Place, Winnipeg, Man. .30 Marlowe Ave., MontrealWal. 7233-J
Greene, Harry S. N	.30 Marlowe Ave., Montreal
Crangenoon U Fli	Slatersville, R.I.
Greenspoon, n. EltArts 5	QueAt. 1897-F
Greenwell, DoraArts 1	1528 Mackay St., MontrealUp. 4521
Greer, Ida IsabelSoc. Workers 2.	.4296 Dorchester St., Westmount,
Gregory, Robert A Med. 3	<ul> <li>3512 Shuter St., Montreal</li> <li>Statersville, R.I.</li> <li>778 Bloomfield Ave., Outremont, Que</li></ul>
Greig, Howard GArts 1	Apt. 7, 1476 Closse St., Montreal Up. 2504
Griffith, WilberforceArts 4 Med. 1.	.219 Milton St., Montreal
Griffiths, Eugene B Med. 3	219 Milton St., Montreal
Griffiths, Wm, E App. Sc. 3	772 Sherbrooke St W Montreal Lan 1567
Grimes-Graeme Rhoderick C Arts 3	110 Indian Kd., Toronto, Ont.
Grimm, Jay John	8 Harrow View, Harrow, Middlesex,
Grimm, Jay John	.3547 Durocher St., Montreal
Groper, Morris J	.3555 University St., MontrealPlat. 0753
Gross, Helen EArts 2	1544 Mansfield Place, Brooklyn, N.Y. .377 Beaconsfield Ave., Montreal, Wal. 3293
Gross, Isidore Edward Pharm. 3	.147 Laurier Ave. W., Montreal,, Cres. 3227
Grossman, Allan A Arts 4	.258 St. Joseph Blvd. W., Montreal Bel. 1925-M
Gruchy, A. GarfieldGrad. Sch	1585, 11th Ave. West, Vancouver,
Gruggel, J. Stuart	.317 Pine Ave W., MontrealUp. 8731 29th St. and 16th Ave., Beechhurst.
Grundy, Harry EdwardLaw 2	.3485 McTavish St., MontrealUp. 9130
Guiton, Rev. G	.1198 Seymour Ave., Montreal Un 1273
Gurvitch, Samuel M Med 2	115, 2nd St., New Westminster, B.C.
Gustaison, Carl JArts 2	.3506 University St., MontrealUp. 0290 Waterville, Que.
Gutelius, Phoebe AnnArts 2	341 Kensington Ave., Westmount,
Guze, Max	3506 University St., MontrealUp. 0290 Waterville, Que. 341 Kensington Ave., Westmount, Que
on june, jean m	. 111 Ditch Ave., St. Lambert, Que St. Lam. 185

## NAME FACULTY AND YEAR ADDRESS TEL. NO.

### Where two addresses are given, the second is the home address.

where two addresses are give	n, the second is the nome address.
Haas, Harry	.1813 St. James St., MontrealUp. 9197 .4520 Hutchison St., MontrealAt. 7735-J .West Bathurst, N.B.
Hackett, Mrs. Linda H Grad Sch Hadwin, Marjorie E Arts 2 Haemmerlé Anatole A Arts P.	<ul> <li>Asto St. James St., Montreal</li></ul>
Haines, Dorothy IGrad. Sch Haines, Julius HolmesApp. Sc. 3	. Royal Victoria College, Montreal Plat. 0078 345 Spadina Rd., Toronto, Ont.
Haines, Stanley B Arts 1	.1 Parkside, Montreal West, Que Wal. 3108 .3473 University St., Montreal Plat 0720
Hall, Martin 1 Med. 2	Abercorn, Que. .5333 Hutchison St., MontrealCres. 6366 .2325 St. Luke St., MontrealUp. 2914 Edmundston N B
Halperin, DavidArts 3 Ham Helen E Arts 2	.4063 Clarke St., Montreal
Hambly, Annie LArts 2	North Hatley, Que. 458 Victoria Ave., MontrealWest. 4568-M
Hamel Jules Dont 1	Montenal Are Montenal At 4500
Hamilton, Douglas VArts 1	Maplewood Ave., Mointeal
Hamilton, James S Arts 1 Hamilton, Robert A Arts 1	realAt. 1958 1225 Mountain St., Montreal 17 Sources Rd., Strathmore, QueLach. 511-2
Hamilton, Robert A Arts I Hamilton, Robert W App. Sc. 4 Hanbridge, Harry G Theo	Abbotsford, Que. 113 Brock Ave. South, Montreal
Hanbridge, Harry G Theo	West, Que
Hanbury, Bruce ACom. 1	772 Sherbrooke St. W., Montreal Lan. 1567
	375 Aberdeen Ave Hemilton Ont
Hand, Charles Wiltrid,, Arts 1	2047 Metcalfe St Montreal Lan 0500
Hand, William RossArts P Handfield, J. Beaudoin Law 3	772 Sherbrooke St. W., Montreal Lan. 1567 375 Aberdeen Ave., Hamilton, Ont.
Handfield, J. Beaudoin Law 3 Hands, C. H. BLaw 3	156 St. Catherine Road, Outremont, QueAt. 0638
Haulin Man Film Arts 4	narrow, England
Hanlon, Francis W	3434 McTavish St., MontrealUp. 8633
Hankin, Mary Ellen. Arts 1. Hanlon, Francis W. Med. 3. Hanny, Edwin S. Arts 4. Hanson, Frank K. Arts P.	3637 University St., MontrealPlat. 2681 Unionville, Conn.
Hanson, Frank KArts P	615 Harvard Ave., Montreal Wal. 6670
Harano, SusumuTheo. 3	3506 University St., Montreal Up. 0290 Methodist Church, Nippori, Tokyo, Japan,
Hare, Charles MApp. Sc. 4	3543 Lorne Ave., Montreal
Harkins, Michael J Med. 2	315 Pine Ave. W., MontrealUp. 9173 28 Union St. Lewiston Maine
Harkness, Andrew RGrad. Sch	2028 Victoria St., MontrealLan. 5501 445 Wellington St., Sarnia, Ont.
Harkness, Harold WGrad. Sch	Methodist Church, Nippori, Tokyo, Japan. 3543 Lorne Ave., MontrealPlat. 7406 295 Lancaster St. W., St. John, N.B. 315 Pine Ave. W., MontrealUp. 9173 28 Union St., Lewiston, Maine. 2028 Victoria St., MontrealLan. 5501 445 Wellington St., Sarnia, Ont. 110 Columbia Ave., Westmount, Que
Harkness, JamesArts 1	301 Sherbrooke St., Lachine, Que Lach. 836-W
Harris, Archie Mackenzie,, Med. 3	320 Prince Arthur St. W., Montreal Plat 0761
Harris, Harold WCom. 2	27 Daremus Ave., Ridgewood, N.J. Apt. 16, 1228 Crescent St., Montreal. 150 Lisgar St., Renfrew, Ont.

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Harris, Harry H Arts 3 Apt. 10, 3610 Durocher	St., Mont-
Harris, George Irving Arts 4	alBel. 1883
Harris, Florence Ritchie Phys. Ed. 2	
Harris, Theodore HerbertLaw 3	Outremont,
Harris, W. MarionArts 1Royal Victoria College, N	At. 1018 MontrealPlat. 0078
Harris, W. MarionArts 1Royal Victoria College. Harrison, A. HTheo. 1	ncouver, B.C. htrealPlat. 0720
Harrison, Ruth E Arts 4	Ont. ount Que West 2707
Harrison, Ruth E       Arts 4	Montreal Up. 3265
D W Daily St., Kingston	i, Jamaica,
Hart Isidore Raymond Arts 1 4840 Hutchison St Mon	trealAt. 4708
Hart, Lawrence. Law 1	eal
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Harvey-Jellie, Reginald CLaw 1	nt, Que West. 6586
Harvey-Jellie, Reginald C Law 1	nt, QueWest. 6586
Que	
Hatfield Albert Richard Med 3 Springfield, P.E.I.	Montreal IIn 4419
Hatfield, Albert Richard Med. 3 1025 Sherbrooke St. W., 2709 Genesee St., Utica, Hawley, Eric F	N.Y.
Hawley, Eric FApp. Sc. 2 10415 St. Hubert St., Mo Ormstown, Oue.	ontrealCal. 4555-F
Ormstown, Que. Hay Shaw, Cecil LSoc. Workers 2. Apt. 25, 276 Pine Ave.W.	, Montreal. Up. 3235
Hayden, Robert SheldonMed. 3	og Springs
THEOREM AND RESERVED AND N.Y.	ALL T. D DROUDSH STER
Hayes, HarryArts P	Ireland.
Hayes, HenriettaArts 17 Winchester Ave., V	Westmount, West 5503
Hayes, Harry     Arts P	Westmount,
Heavysege Bruce Reid Arts 1 330a St. Joseph St. Lach	ine Oue Lach 700-W
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Hecht, Sol. S	ontrealBel. 9014-F
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Man.	
Heitin, BenjaminCom. 24278 City Hall Ave., Mo Held, Albert EdwardMed. 4460 Wiseman Ave., Outre	mont, Oue At. 3933
Held Irene S Arts 1 460 Wiseman Ave Outre	emont Que At 3033
Heller, Hilda B Arts 1	ealAt. 6476
Heller, Helena, Arts 4, 850 Davaar Ave, Montro	At. 6476
Heller, Helena. Arts 4	ntrealBel. 7091-J
Helwig, Gerald V, Grad. Sch772 Sherbrooke St. W., M Alexandria P.O., Jamaica	BWI
Henderson Donald George Med. 3	real Plat 5033
Henderson, I. Margaret Arts 1 Mount Royal Park. Mon	trealUp. 0873
Huntingdon, Que. Henderson, J. MargaretArts 1Mount Royal Park, Mon Henderson, Roberta LArts 2Royal Victoria College, M	trealUp. 0873
Morrisburg, Ont.	
Henderson, William ECom. 1253 Clifton Ave., Montre	
Hendry, James R Com. 3 6981 Bloomfield Ave., Mo	
Henneman, IsidoreArts 2	
Henniger, Charles FApp. Sc. 1 Apt. 15, 2019 Stanley St. Smith Falls, Ont.	, Montreal.

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Henwood, Robert WApp. Sc	51 	35 Sherbrooke St. W., Montrea	1 West. 6982
Henry, Hugh George		42 Park Ave., Montreal	Ont. Plat. 1547
Henniger, Jas. PerryApp. So Henwood, Robert WApp. So Henry, Hugh GeorgeMed. 5. Henry, Karl Houston Jackson.Arts P. Herdt, Jacques ALaw 1. Herman, Blanche GGrad. N		77 Lorne Ave., Montreal	 da
Herdt, Jacques ALaw 1		B.W.I. 28 Sherbrooke St. W., Westmou	int.
Herman, Blanche GGrad. N	urses 1 Ni	Que. urses' Residence, Montreal G	West. 7059 en-
The second second second second	Lı	eral Hospital, Montreal	Lan. 4101
Herman, HarryArts 4 Herman, Michael CharlesArts 4		00 Clarke St., Montreal 6 St. Joseph Blvd. W., Montreal	Cres. 6489 I Bel. 1750-W
Herman, HarryArts 4 Herman, Michael CharlesArts 4 Herscovitch, JuliusArts 4.& Hervey, Jean ElizabethCom. 1. Heywood, Fred. A., JrApp. Sc Hewitt, Frank SpencerArts 3	Med. 1 46	15 Park Ave., Montreal 6 Easton Ave., Montreal We	Bel. 4340-W
Heywood, Fred. A., JrApp. Sc	. 125	Que 6 Kensington Ave., Westmou	Wal. 1499-J nt,
Hewitt, Frank SpencerArts 3		06 University St., Montreal	West. 1721 Up. 0290
Hickey, Charles HArts 1		1 Ballantyne Ave. N., Montr	eal
Hickey, Malcolm AllanArts 3		1 Ballantyne Ave. N., Montr	eal
Hicks, Frederick GArts 2		55 University St., Montreal	Wal. 0941
Higgins, Alton R Med. 2.		0 Prince Arthur St. W., Montre	eal.Plat. 0761
Higginson, Mildred EArts 1		5 Wolseley St., Montreal	Wal. 0397
Hill, Kathleen BGrad. N	urses 1 Ro	yal Victoria Hospital, Montreal	Up. 2620
Hill, Malcolm C. TCom. 4.		6 Claremont Ave., Westmou	nt,
Hickey, Charles H.       Arts 1         Hickey, Malcolm Allan.       Arts 3         Hicks, Frederick G.       Arts 2         Higgins, Alton R.       Med. 2.         Higginson, Mildred E.       Arts 1         Hill, Allan C.       Grad. Sc         Hill, Kathleen B.       Grad. N         Hill, Malcolm C. T.       Com. 4.         Hill, Olive Mary.       Arts 2         Hill, William J.       Theo         Hill, W. H. Philip.       Arts 3         Hills, Leo G. W.       Arts 1         Hinds, H. Ewart G.       Arts 4         Hingston, M. Elizabeth       Arts 2         Hirsch, Richard Joseph       App. Sc.         Hise, Fred.       Med. 4.         Hobbs, Helen R.       Phys. Edition		7 Beatty Ave., Verdun, Que 85 McTavish St., Montreal	West. 3130 York 9067 Up. 9130
Hill, W. H. PhilipArts 3	Dr 144	umaness Co., Dunn, Ireland. 45 Mackay St., Montreal.	
Hilts, Leo G. WArts 1		11 Mountain St., Montreal Lauder Ave., Toronto, Ont	
Hinds, H. Ewart GArts 4 Hines, William SApp. Sc.		3 Western Ave., Westmount, Qu ara Hall Ave., Montreal.	ie. West. 2586 Plat. 1908
Hingston, M. Elizabeth Arts 2		00 Sherbrooke St. W., Montreal	Lan. 0379
Hise, Fred		8 Victoria St., Montreal.	York 6399-W Lan. 1643
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Levine, Theodore 1Arts 3349 Northcliffe Ave., MontrealWal. 8391-W Levinson, MartinCom. 3306a Prince Arthur St. W., Mont- realPlat. 5608
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LIUYU, RODELL. Arts I	S Selby St Montreal
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Lyster, Norman C Med 4	. STO Hingston Ave., Montreal Wal. 6028
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NAME

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McKay, Chipman O Med. 4	
McKay, Chipman O. Med. 2. 1022 Sherbrooke St. W., Montreal. Lan. 0646 Mortague, P.E.I. McKay, Chipman O. Med. 4. 3516 Shuter St., Montreal. Plat. 7472 28 Wright St., St. John, N.B. 725 Rockland Ave, Montreal. At. 1075 McKay, J. W. Goldwin Arts 2. 1025 Sherbrooke St. W., Montreal. Up. 4418 3030 Victoria Ave, Montreal. Up. 4418	
Mackay, Margaret EGrad. Sch	
Mackay, R. de WolfGrad. Sch37 The Linton AptsUp. 9552	
McKelvey, Morley Alexander, Med. 1	
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McKenzie, J. Keith Arts 2	
MacKenzie, Phyllis L.       Arts 1.       Flat River, P.E.I.         McKergow, Alfred T.       .4223 Dorchester St., Montreal.       West. 7856         McKergow, Alfred T.       .1aw 1.       .772 Sherbrooke St. W., Montreal.       Lan. 7820         Waterloo, Que.	5
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MacLellan, William L	Arts 1	Vancouver, B.C. .1426 Pierce St., Montreal	pik, procest
McLennan, Angus Roderick.	.Arts 1	. 1426 Pierce St., Montreal R.R. 2, New Glasgow, N.S. 3487 Durocher St., Montreal Vancouver, B.C. 1426 Pierce St., Montreal. R.R. 2, New Glasgow, N.S. Y.M.C.A., Drummond St., Mont- real.	.Up. 6500
MacLennan, David Alexande	er.Med. 5	447 Clendenan Ave., Toronto, Ont. .772 Sherbrooke St. W., Montreal.	.Lan. 1567
MacLennan, Helen B MacLennan, Malcolm	Med .1 Law 3	<ul> <li>447 Clendenan Ave., Toronto, Ont.</li> <li>447 Clendenan Ave., Toronto, Ont.</li> <li>447 Clendenan Ave., Montreal.</li> <li>447 Campbellton, N.B.</li> <li>67 Holton Ave., Westmount, Que.</li> <li>3629 Oxenden Ave., Montreal.</li> <li>Societown Qua</li> </ul>	.West. 8949 .Plat. 5033
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McMaster, David Ross McMaster, Mary F		Que 43 MacGregor St., Montreal 3741 Basset St., Montreal	.West. 0870 .Up. 0103
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McNamee, Kenneth F McNamee, Thomas Foster	.Arts 2	302 Sask. Crescent., Saskatoon, Sask .281 Querbes Ave., Outremont, Que .281 Ouerbes Ave., Outremont, Oue	At. 1497
McNaughton, Edith E	. Phys. Ed. 1	.3466 University St., Montreal Thetford Mines, Que. .4565 Sherbrooke St. W., Westmount	.Up. 3369
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Miller, LindsayA	rts 1	36 Melrose Ave., Montreal	Wal. 1435-J
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		Que	At. 1412

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Millward, James Bert Arts 1 Minett, J. Audrie Phys. Ed. 2 Minnes, Harold E Med. 3		· · · · · · · · · · · · · · · · · · ·
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Minnes, James FArts 2		eal Plat 0354
Mirabile, Charles S	183 Metcalfe St., Ottawa, C 	Dnt. Plat. 0087
Mitashefsky, Abe Arts 3 Mitchell, Charles L. Arts 1 Mitchell, Isabelle B. Arts 1	3506 University St., Montra Sound Island, Nfld. 1444 St. Matthew St., Mon	ealUp. 0290 treal
Mitchell Maria DI DI	11 MOOIE St., Sherbrooke, 9	zue.
Mitchell, Marjorie EArts 3 Mitchell, Norma LArts 2	1736 Superior Ave., Clevela 6 Trafalgar Place, Westmou 6 Trafalgar Place, Westmou	nd, Ohio. ant, Que. West. 0174 ant, Que. West. 0174
Mitchell, Marjorie E		At. 5537-W ontrealCres. 8360 Plat. 7472
Mode, George StuartArts 1 Moffat, Agnes KMed, 3	Semans, Sask. 2087 Union Ave., Montreal	Har. 8698
Moffat, Agnes KMed. 3		Plat. 4935
Moffatt, Donald WMed. 1	516a Drummond Ave., Mor	itrealUp. 0308
Moffat, Agnes K Med. 3 Moffatt, Donald W Med. 1 Mollot, Edward Elgin Dent. 1 Mollot, Wilfred Arts 1		n, Que York 0983 n, Que York 0983 Up, 6433
Montgomery, Harriet RoseArts 4	Sawyerville, Que. 5742 Waverley St., Montrea	alCres. 1978
Montgomery, Hugh RApp. Sc. 4.	3429 Peel St., Montreal	Up. 5947
Montgomery, Robert AArch 3	Philipsburg, Que. 3429 Peel St., Montreal	Up. 5947
Montgomery, Thomas RCom. 1 Montgomery, Wallace Osgood.Com P		a Lach 288
Montour, Enos TTheo. 3		
Mooney, Geo. StuartArts P	Box 492, Hagersville, Ont. 1441 Drummond St., Montr	ealUp. 6500
Mooney, Malcolm CedricArts 2	3601 University St., Montrea	alPlat. 5540
Moore, Arthur BruceTheo. 2	3506 University St., Montre B. B. No. 3 Month of Keswi	alUp. 0290
Moore, Charles EApp. Sc. 4.		Up. 6788
Moore, Charles EApp. Sc. 4. Moore, Kathleen MSoc. Worker Moore, Ruth EvelynArts 4	rs 14318 Montrose Ave., Wes	stmount, West 2100
Moore, Ruth Evelyn, Arts 4	359 Querbes Ave., Outremot	at, Que.At. 2345
Moran, Vera M. TArts 4	4840 Western Ave., Westmol	unt, Que. West. 3883
Morazin, I. Gaston, Grad Sch	3404 Durocher St Montrea	1' Plat 6764
Morehouse, Oscar E		Plat. 7472
Morehouse, Wm. H. ThomasCom. 1		itrealPlat. 3384 nt.

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Morgan, George L	.Arts P	
Morgan, Oliver M	. Grad. Sch	
Morris Lindson C	Cam 1	Acipicy, Onc.
Morris, Samuel A	Med. 5	.83 Columbia Ave., Westmount, Que. West. 9071 .3570 Shuter St., Montreal
Morrison, Claude Wilson	App. Sc. 2	559 Belmont Ave., Brooklyn, N.Y.
Morrison, Gordon M	. Med. 1	.772 Sherbrooke St. W., MontrealLan. 1567
Morrison, Janet Stewart	.Arts 1	San Mateo, Calif. .875 McEachran Ave., Outremont
Morrison, Jessie M	Arto 1	.772 Sherbrooke St. W., Montreal Lan. 1567 San Mateo, Calif. 875 McEachran Ave., Outremont, QueAt. 2064 . Royal Victoria College, Montreal Plat. 0078
Manian The T		Sutton, Que.
Morrison, Thomas Jack Morrissy, M. Kathleen C	.App. Sc. 3	Sutton, Que. .447 Victoria Ave., Westmount, Que. West. 9974 .Royal Victoria College, MontrealPlat. 0078
Morrow Corl F I	C 1 C 1	Newcastle, N.B. .3657 Oxenden Ave., MontrealPlat. 5052
Monow, Carl E. L	.Grad. Sch	.3657 Oxenden Ave., Montreal Plat. 5052 Metcalfe. Ont.
Morton, Agnes D	Arts 4	.3657 Oxenden Ave., MontrealPlat. 5052 Metcalfe, Ont. .334 Metcalfe Ave., Westmount, Que.West. 8286 .1122 Sherbrooke St. W., MontrealLan. 4573
		St. Albans, Vt. .1831 Dorchester St. W., Montreal. Up. 3950
Matt End 11 D		Red Deer, Alta.
Mott, Frederick D	. Med. 2	
Mount, Hilda E.	Arts 4	.134 St. Charles St., Longueuil, Que Longueuil 232
Mountford, K. Marjorie	Arts 4	.308 Sherbrooke St. E., MontrealHar. 9733 .26 Crescent St., St. Lambert, Oue., St. Lam. 69
Mowat, Glenford A Moxon, Henry Wilding	Med. 5	.306 Sherbrooke St. E., Montreal Har. 9733 26 Crescent St., St. Lambert, Que St. Lam. 69 .3431 Jeanne Mance St., Montreal
Moynan, Jeffrey S.	Arts 1	B.C. 262 West Hill Ave., Montreal
		Waterloo, Que. .451 Grand Trunk St., Montreal York 1892
Wildin, Joy	Soc. Workers 1.	.451 Grand Trunk St., Montreal, York 1892 Compton, Oue.
Muller, Peter Paul	App. Sc. 4	Compton, Que. 449 Claremont Ave., Westmount,
Munn, Daniel J	Arts P	QueWest.0844 .4273 Dorchester St., Westmount,
		Que. .3535 Park Ave., MontrealPlat. 7316
Munroe Devrid C	Card Cal	Dixonville, Penna.
Mullioe, David C	Grad. Sch	Dixonville, Penna. 3647 University St., Montreal Wal. 4792 235 Strathearn Ave., Montreal West. 235 Strathearn Ave., Montreal West.Wal. 4792
Murnen, William G. C.	Arts 2	235 Strathearn Ave., Montreal West. Wal. 4792
Main and Street Prederick	Dent. 1	809 Morris St., Ogdensburg, N.Y.
Murphy, Horace Murphy, Robert G.	Com. 1 Med. 1	.620 Victoria Ave., Westmount, Que. West. 8854 1012 Sherbrooke St. W. Montreal, Lan. 9632
Murray B S	Theo	<ul> <li>235 Strathearn Ave., Montreal West, Wal. 4792</li> <li>3745 Basset St., Montreal Plat. 2851</li> <li>809 Morris St., Ogdensburg, N.Y.</li> <li>620 Victoria Ave., Westmount, Que. West. 8854</li> <li>1012 Sherbrooke St. W., Montreal Ana. 9632</li> <li>195 Morris Ave., Providence, R.I.</li> <li>3473 University St., Montreal Plat. 0720</li> <li>3506 University St., Montreal Up. 0290</li> </ul>
Murray, Charles C	Arts 1	.3506 University St., Montreal Up. 0290
Murray, George	Arts P	3485 McTavish St., MontrealUp. 0290 3485 McTavish St., MontrealUp. 9130 24 South Dell Ness, Stornaway,
this the investigated	The C. Huger, Aver	24 South Dell Ness, Stornaway,
Murray, Margaret E	Arts 1	Scotland, 51 Belvedere Rd., Westmount, Oue, West, 0911
Murray, Prescott Wm	Theo. 2	Scotland. 51 Belvedere Rd., Westmount, Que. West. 0911 Apt. 3, 1422 Pierce St., Montreal Up. 4775-J Harvey Station, N.B. 370 Flm Are Westmount One West (201
Murray, William MacGregor	Arts Z	Apt 36 1509 Sherbrooke St W
in a contract	Catheret St.	MontrealUp. 4845
Myers, Marion S	Grad. Nurses	Montreal
		realLan. 4101 19 Oak Terrace, Dorchester, Mass. Royal Victoria College, MontrealPlat. 0078
Naismith, Mildred L	Com. 1	Royal Victoria College, Montreal Plat. 0078
		195 Powell Ave., Ottawa. Ont.

NAME FACULTY AND YEAR ADDRESS TEL. NO.

		n, the second is the nome address.
Nairn, A. Gordon	Law 2	.3555 Shuter St., Montreal
Napier, M. Kathleen K	Arts 1	63 Oak Ave St Lambert Que St Lam 620
Nason, Stanley S	Grad Sch	68 Hillcrest Ave Montreal West Wal 2888-1
Nathanson, Jack	Com. 3	18 Summerhill Ave Montreal Up 1071
The state of the s		7 Park St. Sydney, N.S.
Nation, Frederick S	App. Sc. 3	3637 University St Montreal Plat 2681
		179 Albert St., Belleville, Ont.
Navlor, Lois A. E.	Arts 3	.1423 Bennett Ave., MontrealClair. 7913-J
Neol Hdith (	Arto 1	274 Ressonated Ave Montreal Wal 2025
Neamtan Solomon	Com 2	4804 Hutchison St Montreal At 7541 W
Negru, John Harvey	Arts 3	1527 Burnside Place, Montreal Up. 1808-W .670 Durocher Ave., Outremont, Que.At. 5079 .2021 Peel St., Montreal Lan. 8877
Neiderhoffer, Stoney Louis,	Med. 5	670 Durocher Ave Outremont Oue At 5079
Nelson, Robert I.	Med. 2	2021 Peel St. Montreal Lan 8877
	anO m	Box 462, Campbelltown, N.B. 41 Forden Ave., Westmount, Que., West. 2162 377 West Hill Ave., Montreal, Wal. 5136 3417 Shuter St., Montreal, Plat. 0041 79 Stanley Ave., St. Lambert, Que. St. Lam.483-M 5422 Fifth Ave., Montreal, Cher. 6657 29 Cote de Neiges Rd., Montreal Up. 4553 2028 Victoria St., Montreal, Lan. 5501 Strathrov, Ont.
Nesbitt, A. Deane		.41 Forden Ave., Westmount, Oue, West, 2162
Nesbitt, Dorothy E	Arts 1	.377 West Hill Ave., Montreal
Neville, H. Russell		.3417 Shuter St., Montreal
Nevins, Patrick John	Arts 1	.79 Stanley Ave., St. Lambert, Oue, St. Lam, 483-M
Newman, Laura L	Arts 2	.5422 Fifth Ave., Montreal Cher. 6657
Nicholls, George Van Vliet.		.29 Cote de Neiges Rd., Montreal., Up. 4553
Nicholls, John Van Vliet	Arts 3	.29 Cote de Neiges Rd., Montreal., Up. 4553
Nicholson, Hugh R.	Dent. 2	2028 Victoria St., Montreal, Lan, 5501
Web and designed the		Strathroy, Ont.
Nickerson, Samuel Harold.	. Arts 4 & Med.1	Strathroy, Ont. .4412 Henri Julien Ave., MontrealBel. 9204-M
Nickle, Altred Nelson	Dent 1	204 Marlowe Ave Montreal Wal 1570
Nieghorn, Gertrude	Arts 3	4878 Westmount Ave., Westmount
mediate No.		4878 Westmount Ave., Westmount, Que
Nimmo, Alexander		.3485 McTavish St., Montreal,, Up. 9130
		730 Indian Rd., Toronto, Ont.
Nixon, John S	Arts 1	730 Indian Rd., Toronto, Ont. .647 Belmont Ave., Westmount, Que.West. 4808 .7017 Sherbrooke St. W., Montreal. Wal. 8471
Noble, Otto A	ADD. Sc. 4	.7017 Sherbrooke St. W., Montreal, Wal, 8471
	Oxin Ave. Mo	137 Cameron St., Moncton, N.B. 1211 Mountain St., Montreal Up. 9655 777 Potomac Ave., Buffalo, N.Y. 1006 Sherbrooke St. W., Montreal Lan. 9632
Nolan, Clinton W	App. Sc. 3	.1211 Mountain St., Montreal Up. 9655
	16	777 Potomac Ave., Buffalo, N.Y.
Nolan John F	Med 2	1006 Sharbrooks St. W. Montrool Lan 0632
		. TOOD SHELDTOOKE SL. W., WORLIgal Lan. 9052
		505 Brooks St., Bridgeport, Conn.
Normington, James B	Arts 3	505 Brooks St., Bridgeport, Conn. .39 Windsor Ave., Westmount, Que., West. 6615
Normington, James B Norris, John Lawrence	Arts 3	505 Brooks St., Bridgeport, Conn. 39 Windsor Ave., Westmount, Que., West. 6615 .3650 Lorne Crescent, Montreal
Normington, James B Norris, John Lawrence	Arts 3	<ul> <li>Stor Brooks St., Bridgeport, Conn.</li> <li>Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>SUS Brooks St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li> <li>5 Washburn Ave., Needham, Mass.</li> </ul>
Normington, James B Norris, John Lawrence	Arts 3 Med. 3	<ul> <li>1000 Sherbrooke St., Bridgeport, Conn.</li> <li>39 Windsor Ave., Westmount, Que., West. 6615</li> <li>3650 Lorne Crescent, Montreal</li></ul>
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R. Nusselman, Barney. Nutik, Harry. Nutik, Oscar.	Arts 3 Med. 3 Arts 4 Arts 3 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         305 Windburn Ave., Needham, Mass.         3516 Shuter St., Montreal.         339, Sth Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal.       Plat. 0720         63 Mary Ann St. W., Montreal.       Pel. 1195-J         4908 Sherbrooke St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R. Nusselman, Barney. Nutik, Harry. Nutik, Oscar.	Arts 3 Med. 3 Arts 4 Arts 3 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         305 Windburn Ave., Needham, Mass.         3516 Shuter St., Montreal.         339, Sth Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal.       Plat. 0720         63 Mary Ann St. W., Montreal.       Pel. 1195-J         4908 Sherbrooke St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R. Nusselman, Barney. Nutik, Harry. Nutik, Oscar.	Arts 3 Med. 3 Arts 4 Arts 3 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         305 Windburn Ave., Needham, Mass.         3516 Shuter St., Montreal.         339, Sth Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal.       Plat. 0720         63 Mary Ann St. W., Montreal.       Pel. 1195-J         4908 Sherbrooke St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R. Nusselman, Barney. Nutik, Harry. Nutik, Oscar.	Arts 3 Med. 3 Arts 4 Arts 3 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         505 Lorne Crescent, Montreal.         305 Windburn Ave., Needham, Mass.         3516 Shuter St., Montreal.         339, Sth Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal.       Plat. 0720         63 Mary Ann St. W., Montreal.       Pel. 1195-J         4908 Sherbrooke St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R Nurse, T. E. R Nurse, T. E. R Nutik, Harry Nutik, Harry Nutik, Oscar Oatman, Homer C., Jr O'Connell, Francis Joseph O'Connell, Francis Joseph	. Arts 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que., West. 6615         3650 Lorne Crescent, Montreal         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R Nurse, T. E. R Nurse, T. E. R Nutik, Harry Nutik, Harry Nutik, Oscar Oatman, Homer C., Jr O'Connell, Francis Joseph O'Connell, Francis Joseph	. Arts 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que., West. 6615         3650 Lorne Crescent, Montreal         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nurse, T. E. R         Nurse, T. E. R         Nurse, T. E. R         Nutik, Harry         Nutik, Oscar         Oatman, Homer C., Jr         O'Connell, Francis Joseph         O'Connor, Maurice N         ODowd, Cyril Gerard	Arts 3 Med. 3 Arts 4 Arts 3 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 App. Sc. 1.	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal         5 Washburn Ave., Needham, Mass.         3516 Shuter St., MontrealPlat. 7472         Perth, Ont.         339, Sth Ave., Verdun, QueVork 8521-W         Bryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         QueWest. 5300         3473 University St., MontrealPlat. 0720         63 Mary Ann St. W., MontrealPlat. 0727         4908 Sherbrooke St. W., MontrealWest. 6357         4908 Sherbrooke St. W., Montreal
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nurse, T. E. R         Nurse, T. E. R         Nusselman, Barney         Nutik, Harry         Nutik, Oscar	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 Med. 4	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave, Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         516 Shuter St., Montreal         SWashburn Ave., Needham, Mass.         3516 Shuter St., Montreal         339, Sth Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal       Bel. 1195-J         4908 Sherbrooke St. W., Montreal       West. 6357         4908 Sherbrooke St. W., Montreal       West. 6357         317 Pine Ave. W., Montreal       Up. 8731         2437, 2nd St., San Diego, Calif.       1187 St. Charles St., Montreal       York 4215-W         359 Shuter St., Montreal       Plat. 6742         Wellsville, N.Y.       227 De L'Epée Ave., Montreal       At. 2335         102 Oct de Daviers Ed Westmount       102 Oct de Daviers Ed Westmount
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nurse, T. E. R         Nurse, T. E. R         Nusselman, Barney         Nutik, Harry         Nutik, Oscar	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 Med. 4	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave, Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         516 Shuter St., Montreal         SWashburn Ave., Needham, Mass.         3516 Shuter St., Montreal         339, Sith Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal       Bel. 1195-J         4908 Sherbrooke St. W., Montreal       West. 6357         4908 Sherbrooke St. W., Montreal       West. 6357         317 Pine Ave. W., Montreal       Up. 8731         2437, 2nd St., San Diego, Calif.       1187 St. Charles St., Montreal       York 4215-W         359 Shuter St., Montreal       Plat. 6742         Wellsville, N.Y.       227 De L'Epée Ave., Montreal       At. 2335         102 Oct de Naime Ed Westmount       102 Cot de Naime Ed       Montreal
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nurse, T. E. R         Nurse, T. E. R         Nusselman, Barney         Nutik, Harry         Nutik, Oscar	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 Med. 4	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave, Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         516 Shuter St., Montreal         SWashburn Ave., Needham, Mass.         3516 Shuter St., Montreal         339, Sith Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal       Bel. 1195-J         4908 Sherbrooke St. W., Montreal       West. 6357         4908 Sherbrooke St. W., Montreal       West. 6357         317 Pine Ave. W., Montreal       Up. 8731         2437, 2nd St., San Diego, Calif.       1187 St. Charles St., Montreal       York 4215-W         359 Shuter St., Montreal       Plat. 6742         Wellsville, N.Y.       227 De L'Epée Ave., Montreal       At. 2335         102 Oct de Naime Ed Westmount       102 Cot de Naime Ed       Montreal
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nurse, T. E. R         Nurse, T. E. R         Nusselman, Barney         Nutik, Harry         Nutik, Oscar	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 Med. 4	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave, Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         516 Shuter St., Montreal         SWashburn Ave., Needham, Mass.         3516 Shuter St., Montreal         339, Sith Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal       Bel. 1195-J         4908 Sherbrooke St. W., Montreal       West. 6357         4908 Sherbrooke St. W., Montreal       West. 6357         317 Pine Ave. W., Montreal       Up. 8731         2437, 2nd St., San Diego, Calif.       1187 St. Charles St., Montreal       York 4215-W         359 Shuter St., Montreal       Plat. 6742         Wellsville, N.Y.       227 De L'Epée Ave., Montreal       At. 2335         102 Oct de Naime Ed Westmount       102 Cot de Naime Ed       Montreal
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nurse, T. E. R         Nurse, T. E. R         Nusselman, Barney         Nutik, Harry         Nutik, Oscar	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal         39, Sith Ave., Verdun, Que.         Yorants Cove, Harbour Grace, Nfld.         322 Grosvenor Ave., Westmount,         Que.         Yoryants Cove, Harbour Grace, Nfld.         323 Grosvenor Ave., Westmount,         Que.         Yoryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         Que.         West, S300         3473 University St., Montreal         4908 Sherbrooke St. W., Montreal.         4908 Sherbrooke St. W., Montreal.         4908 Sherbrooke St. W., Montreal.         3539 Shuter St., Montreal.         437 Dei Key K., Montreal.         437 Dei L'Epée Ave., Montreal.         437 De L'Epée Ave., Montreal.         437 De L'Epée Ave., Montreal.         437 De L'Epée Ave., Montreal.         442         3534 Shuter St., Montreal.         442         354 Shuter St., Montreal.         4524 Ave.         4524 Ave.         4524 Ave.         4524 Ave.         4526 Shuter St., Montreal.
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nussel, T. E. R.         Nusselman, Barney.         Nutik, Harry.         Nutik, Oscar         Oatman, Homer C., Jr	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 3 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 2 Arts 2 Arts 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal         39. yindsor Ave., Westmount, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357         317 Pine Ave. W., Montreal.       Up. 8731         2437, 2nd St., San Diego, Calif.       187 St. Charles St., Montreal.       York 4215-W         3539 Shuter St., Montreal.       York 4215-W         3539 Shuter St., Montreal.       Plat. 6742         Wellsville, N.Y.       327 De L'Epée Ave., Montreal.       At. 2335         102 Cote de Neiges Rd., Westmount, Que.       Up. 4242         3524 Shuter St., Montreal.       Plat. 5068         5 Belfrage Rd., Westmount, Que.       West. 2429         Royal Victoria College, Montreal.       Plat. 0078
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nussel, T. E. R.         Nusselman, Barney.         Nutik, Harry.         Nutik, Oscar         Oatman, Homer C., Jr	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 3 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 2 Arts 2 Arts 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal         39. yindsor Ave., Westmount, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357         317 Pine Ave. W., Montreal.       Up. 8731         2437, 2nd St., San Diego, Calif.       187 St. Charles St., Montreal.       York 4215-W         3539 Shuter St., Montreal.       York 4215-W         3539 Shuter St., Montreal.       Plat. 6742         Wellsville, N.Y.       327 De L'Epée Ave., Montreal.       At. 2335         102 Cote de Neiges Rd., Westmount, Que.       Up. 4242         3524 Shuter St., Montreal.       Plat. 5068         5 Belfrage Rd., Westmount, Que.       West. 2429         Royal Victoria College, Montreal.       Plat. 0078
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nussel, T. E. R.         Nusselman, Barney.         Nutik, Harry.         Nutik, Oscar         Oatman, Homer C., Jr	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 3 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 2 Arts 2 Arts 3	505 Brooks St., Bridgeport, Conn.         39 Windsor Ave., Westmount, Que West. 6615         3650 Lorne Crescent, Montreal.         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal         39. yindsor Ave., Westmount, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       York 8521-W         Bryants Cove, Harbour Grace, Nfld.         32 Grosvenor Ave., Westmount,         Que.       West. 5300         3473 University St., Montreal       Plat. 0720         63 Mary Ann St. W., Montreal.       West. 6357         4908 Sherbrooke St. W., Montreal.       West. 6357         317 Pine Ave. W., Montreal.       Up. 8731         2437, 2nd St., San Diego, Calif.       187 St. Charles St., Montreal.       York 4215-W         3539 Shuter St., Montreal.       York 4215-W         3539 Shuter St., Montreal.       Plat. 6742         Wellsville, N.Y.       327 De L'Epée Ave., Montreal.       At. 2335         102 Cote de Neiges Rd., Westmount, Que.       Up. 4242         3524 Shuter St., Montreal.       Plat. 5068         5 Belfrage Rd., Westmount, Que.       West. 2429         Royal Victoria College, Montreal.       Plat. 0078
Normington, James B         Norris, John Lawrence         Norris, Kenneth E         Noseworthy, Nathan         Noyes, Harriette E         Nussel, T. E. R.         Nusselman, Barney.         Nutik, Harry.         Nutik, Oscar         Oatman, Homer C., Jr	Arts 3. Med. 3. Arts 4. Arts 3. Arts 3. Theo. 3. Law 1. Con. 1. Med. 3. Med. 3. Med. 3. Med. 4. App. Sc. 3. Arts 2. Arts 2. Arts 2. Arts 3. Arts 4. App. Sc. 1. Arts 4.	30 Windsor Ave., Westmount, Que West. 6615         36 Windsor Ave., Westmount, Que West. 6615         36 Sol Lorne Crescent, Montreal         5 Washburn Ave., Needham, Mass.         3516 Shuter St., Montreal         339, Sth Ave., Verdun, Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         332, Grosvenor Ave., Westmount,         Que.         York 8521-W         Bryants Cove, Harbour Grace, Nfld.         332 Grosvenor Ave., Westmount,         Que.         Gosvenor Ave., Westmount,         Que.         4008 Sherbrooke St. W., Montreal         4908 Sherbrooke St. W., Montreal.         437, 2nd St., San Diego, Calif.         187 St. Charles St., Montreal       York 4215-W         539 Shuter St., Montreal       Plat. 6742         Wellsville, N.Y.       237 De L'Epée Ave., Montreal       Plat. 6742         3524 Shuter St., Montreal       Plat. 5068       5 Belfrage Rd., Westmount, Que.       West. 2429         Royal Victoria College, Montreal       Plat. 5068       5 Belfrage Rd., Westmount, Que.       West. 2429         Royal Victoria College, Montreal
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R Nusselman, Barney Nutik, Oscar Oatman, Homer C., Jr O'Connell, Francis Joseph O'Connell, Francis Joseph O'Connor, Maurice N O'Connor, Maurice N O'Connor, Maurice N O'Connor, Maurice N O'Condus R Ogulnik, F. Victor O'Halloran, Eleanor K Olesker, Josephine M Olesker, Josephine M	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 3 Arts 3 Arts 4 App. Sc. 1 Dort 1	30 Windsor Ave., Westmount, Que West. 6615         36 Windsor Ave., Westmount, Que West. 6615         36 Sol Lorne Crescent, Montreal         50 Washburn Ave., Needham, Mass.         .516 Shuter St., Montreal
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R Nusselman, Barney Nutik, Oscar Oatman, Homer C., Jr O'Connell, Francis Joseph O'Connell, Francis Joseph O'Connor, Maurice N O'Connor, Maurice N O'Connor, Maurice N O'Connor, Maurice N O'Condus R Ogulnik, F. Victor O'Halloran, Eleanor K Olesker, Josephine M Olesker, Josephine M	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 3 Arts 3 Arts 4 App. Sc. 1 Dort 1	30 Windsor Ave., Westmount, Que West. 6615         36 Windsor Ave., Westmount, Que West. 6615         36 Sol Lorne Crescent, Montreal         50 Washburn Ave., Needham, Mass.         .516 Shuter St., Montreal
Normington, James B Norris, John Lawrence Norris, Kenneth E Noseworthy, Nathan Noyes, Harriette E Nurse, T. E. R Nusselman, Barney Nutik, Oscar Oatman, Homer C., Jr O'Connell, Francis Joseph O'Connell, Francis Joseph O'Connor, Maurice N O'Connor, Maurice N O'Connor, Maurice N O'Connor, Maurice N O'Condus R Ogulnik, F. Victor O'Halloran, Eleanor K Olesker, Josephine M Olesker, Josephine M	Arts 3 Med. 3 Arts 4 Arts 3 Theo. 3 Law 1 Con. 1 Med. 3 Med. 3 Med. 4 App. Sc. 3 Med. 4 Arts 2 Arts 2 Arts 3 Arts 3 Arts 4 App. Sc. 1 Dort 1	30 Windsor Ave., Westmount, Que West. 6615         36 Windsor Ave., Westmount, Que West. 6615         36 Sol Lorne Crescent, Montreal         50 Washburn Ave., Needham, Mass.         .516 Shuter St., Montreal
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Pacaud Charles F	ArtaA	674 Poelun Ave Westmount Que West 3022
Pacaud Charles F	ArtaA	674 Poelun Ave Westmount Que West 3022
Pacaud, Charles E Packer, Henry	.Arts 4 .Med. 1	. 674 Roslyn Ave., Westmount, Que., West. 3022 . Apt. M, 17 De L'Epée Ave., Mont- real
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Packer, Henry Packer, Henry Padber, Max N Painter, Gilbert W	. Arts 4 . Med. 1	.674 Roslyn Ave., Westmount, Que., West. 3022 . Apt. M, 17 De L'Epée Ave., Mont- real
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Packer, Henry Padber, Max N Painter, Gilbert W Paimer, Russell A	.Arts 4 .Med. 1 .Com. 2 Arts 1 .Med. 3	. 674 Roslyn Ave., Westmount, Que., West. 3022 . Apt. M, 17 De L'Epée Ave., Mont- real
Pacaud, Charles E Packer, Henry Padber, Max N Painter, Gilbert W Palmer, Russell A Palmer, Russell F Pangman, Arthur Henry	Arts 4	. 674 Roslyn Ave., Westmount, Que. West. 3022 . Apt. M, 17 De L'Epée Ave., Mont- real
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Pacaud, Charles E Packer, Henry Padber, Max N Painter, Gilbert W Palmer, Russell A Palmer, Russell F Pangman, Arthur Henry	Arts 4	. 674 Roslyn Ave., Westmount, Que. West. 3022 . Apt. M, 17 De L'Epée Ave., Mont- real
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Pacaud, Charles E. Packer, Henry Padber, Max N Painter, Gilbert W. Palmer, Russell A Palmer, Russell F Pangman, Arthur Henry Panos, George S. M Paquet, Arthur Parfitt, Horace U Parish, Charles E	Arts 4 Med. 1 Arts 1 Med. 3 Arts 1 App. Sc. 4 Theo App. Sc. 1	.674 Roslyn Ave., Westmount, Que., West. 3022         .Apt. M, 17 De L'Epée Ave., Mont- real.
Pacaud, Charles E. Packer, Henry. Padber, Max N. Painter, Gilbert W. Palmer, Russell A. Palmer, Russell A. Palmer, Russell F. Pangman, Arthur Henry Panos, George S. M. Paquet, Arthur. Parfitt, Horace U. Parish, Charles E. Park, Francis William.	Arts 4	. 674 Roslyn Ave., Westmount, Que., West. 3022 Apt. M, 17 De L'Epée Ave., Mont- real., At. 1700-W 6102 Woodland Ave., Cleveland, Ohio. . 3441 St. Dominique St., Montreal., Lan. 5739 2001 Peel St., Montreal., Lan. 5739 2001 Peel St., Montreal., Lan. 5770 1054 Balfour Ave., Vancouver, B.C. 63 Oak Ave., St. Lambert, Que., St. Lam. 629 1109 Queen Mary Rd., Westmount, Que., Westmount, Que., Westmount, Bar Milton St., Montreal, UP, 9130 121 Vale Terrace, Fredegar, South Wales. 3434 McTavish St., Montreal, Up, 8633 30 Cliffe Ave., Hamilton, Ont. . 3601 University St., Montreal, Plat, 5540 Newcastle, N.B.
Pacaud, Charles E. Packer, Henry. Padber, Max N. Painter, Gilbert W. Palmer, Russell A. Palmer, Russell F. Pangman, Arthur Henry. Panos, George S. M. Paquet, Arthur. Parfitt, Horace U. Parfitt, Horace U. Parish, Charles E. Park, Francis William. Parker, Mariorie H.	Arts 4	.674 Roslyn Ave., Westmount, Que., West. 3022 Apt. M, 17 De L'Epée Ave., Mont- realAt. 1700-W 6102 Woodland Ave., Cleveland, Ohio. .3441 St. Dominique St., Montreal. Lan. 5739 2001 Peel St., MontrealPlat. 5070 1054 Balfour Ave., Vancouver, B.C. .63 Oak Ave., St. Lambert, QueSt. Lam. 629 1109 Queen Mary Rd., Westmount, Que
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Parton, Eileen MArts 1	30 Phillip St., Lowell, Mass.         30 Phillip St., Lowell, Mass.         Royal Victoria College, Montreal Plat. 0078         238 Harvard Ave., Winnipeg, Man.         2.3 Laviolette Ave., Montreal At. 6326-J         772 Sherbrooke St. W., Montreal Lan. 1567         75 Constable St., Malone, N.Y.         2. 459 Sherbrooke St. W., Montreal Lan. 0564         92 Leinster St., St. John, N.B.         18 Winchester Ave., Westmount,         Que       West. 3899         4311 Montrose Ave., Westmount,         Que       West. 3899         4311 Montrose Ave., Westmount,         Que       West. 3899         541       Winchester Ave., Westmount,         Que       West. 3899         54. John, N.B.       Winchester Ave., Hamilton, Ont.         33. 3rd Ave., Ottawa, Ont
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Pratt, John JAr	ts 4	2586 Hutchison St., Outremont, Que.Cres. 3590
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Robertson, Thomas D Robin, Percival Albert	Arts 3 Med. 2	Almonte, Ont. 4144 Dorchester St. W., Montre 1484 Sherbrooke St., W. Montre 119th St. and Morningside,	alWest.5919-W alUp.4250 New
Robinett, Jr., James Bradley	Med. 2	119th St. and Morningside, York, N.Y. 317 Pine Ave. W., Montreal Houston, Texas.	Up. 8731
Robinson, C. Wensley Robinson, Stewart Alton		Houston, Texas. 110 Wolseley Ave., Montreal We 629 Murray Hill, Westmount, Q 772 Sherbrooke St. W., Montrea Hammond, N.Y.	ue. West. 5374
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Rosenbloom, William J	App. Sc. 4	Que. 1484 Sherbrooke St. W., Montre	At. 3042 alUp. 4250
Rosenfeld, Jacob M Rosengarten, William	Arts P Ap. Sc. 2	1226 Lajoie Ave., Montreal Brodeur St., Montreal	At. 0918-F Wal. 8315-J
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Ross, Donald R	App. Sc. 2	112 Grey Ave., Montreal	Wal. 5274
Ross, H. Russell	Arts P	441 Argyle Ave., Westmount, Q New Haven, Conn.	ueWest. 1464

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Ross, Howard I.	Arts 31	345 Bronson Ave., Ottawa, Ont. 34 Cote des Neiges Rd., Montre	al. Up. 8085
Ross, Malcolm MacGregor.	Med. 51	022 Sherbrooke St. W., Montrea 4377, 11th Ave., Vancouver, B.C.	l Lan. 0646
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Ross, Thomas W	App. Sc. 15	<ul> <li>40 Clanranald Ave., Montreal</li> <li>729 Park Ave., Montreal</li> <li>739 Park Ave., Montreal</li> <li>67 Metcalfe Ave., Westmount, Q</li> <li>550 Lorne Ave., Montreal</li> <li>552 E. 179th St., New York, N.Y</li> <li>15 Girouard Ave., Montreal</li> <li>153 Dirocher St., Wontreal</li> <li>128 Redfern Ave., Westmount, Q</li> <li>57 Dorchester St. W., Montreal</li> <li>80 Wiseman Ave., Outremont, Q</li> </ul>	Cres. 5943
Ross, W. Bruce Rostenberg, Adolph, Jr	Arts 3	67 Metcalfe Ave., Westmount, Q	ue.West. 0678
Roston, Bram	Arts 1 2	52 E. 179th St., New York, N.Y	
Roth, Harold A Rothschild, Cedric H	Med. 4	Apt. 7, 3563 Durocher St., Montr	real.Plat. 6490
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Rountree, G. Meredith	Arts 2 4	45 Mt. Stephen Ave., Westmou	ue. int,
Routtenberg, Constance	Arts 14	<ol> <li>Dorchester St. W., Montreal</li> <li>Wiseman Ave., Outremont, Q</li> <li>Mt. Stephen Ave., Westmou Que.</li> <li>908 Hutchison St., Montreal.</li> <li>437 Park Ave., Montreal.</li> <li>485 McTavish St., Montreal.</li> <li>98 Tower Rd., Halifax, N.S.</li> </ol>	West. 2883
Rowan-Legge, C. Kingsley	Med. 2	437 Park Ave., Montreal 485 McTavish St., Montreal	Cres. 6420
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Rowe, Sydney	Arts P	<ol> <li>McTavish St., Montreal</li> <li>Tower Rd., Halifax, N.S.</li> <li>Lansdowne Ave., Westmou Que</li> <li>Lansdowne Ave., Westmou Que</li> <li>Lansdowne Ave., Westmou Que</li> <li>Lansdowne Ave., Westmou Que</li> <li>University St., Montreal.</li> <li>Hunter St., Toronto, Ont.</li> </ol>	West. 4096
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Silverman, EddieArts 4	
Silverman, Gertrude Med 5	4871 St. Lawrence Blvd. Montreal Bel 0805 M
Silverman Joseph Louis Arts 2	
Siminovitch Jack	5115 Faplanda Are Montreel Ore 7052
Simpson Coorgo Albert Med A	
Simpson, George AlbertMed. 4	
C'	105 Victoria St. N., Sarnia, Ont.
Simpson, Virginia DArts 3	105 Victoria St. N., Sarnia, Ont. 375 Beaconsfield Ave., MontrealWal. 0682
Sinclair, HarryCom. 4	
	70a King St., Kingston, Jamaica. 
Singer, Hyman O Arts 4	4269 Esplanade Ave Montreal Bel 8060
Skazin Leo Grad Sch	
Situani, Deo	Oue Oue
Shally Dataiak I Are Co. 0	Que.
Skeny, Fatrick JApp. Sc. 2.	50 Coursol St., Montreal Up. 5526-J
Skeiton, Cech Hastings App. Sc. 3.	
Skinner, Norman S Med. 1	3549 Hutchison St., Montreal Plat. 2788
and the second se	19 Coburg St., St. John, N.B.
Slapack, MaxArts 4	19 Coburg St., St. John, N.B. 6020 Esplanade Ave., MontrealCres. 2917
Slatkoff William R Arts 4	5331 Park Ave., MontrealCres. 8429
Charles A thind in Account of the second	Cres. 8429
Slotin, GabrielArts 1	5158 Jeanne Mance St., Montreal., Cres. 4444
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	ven, the second is the home address.
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Smit. John S Med 2	Arundel, Que. 
a light soll. Non to all the second solutions	Oue.
Smith, Beatrice AArts 3	Que. 6025 St. Michel Rd., Montreal, Clair, 1705
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	QuePointe aux Tremb. 199
Smith, Freda G Lib. Sch Smith, F. McIver Med. 4	
Smith, George H	Que       Pointe aux Tremb. 199         .1668 St. Luke St., Montreal.       Tremb. 199         .55 Clandeboye Ave., Westmount, Que       West. 4396         .102 Bishop St., Montreal.       Up. 7225         .476 Mountain Ave., Westmount, Que       West. 6729         .99 Grande Allée, Quebec, Que.       West. 6729         .3434 McTavish St., Montreal       Up. 8633         15 Buena Vista Rd., Ottawa, Ont.       Wal. 3168         .3578 University St., Montreal       Up. 9109         246 Oxford Ave. W., Moose Jaw, Sask.       Sask.
	QueWest. 6729
Smith, Hamilton LarrattLaw 3	
Smith, Jack CArts 1	
Sinith, L. DouglasApp. Sc. 2	
Smith, Margaret StuartArts 3 Smith, Mavis BArts 4	Sask. 230 Wood Ave., Westmount, Que West. 7975 6025 St. Michel Rd., Montreal Clair. 1705 Upper Bedford, Que. 573 Lansdowne Ave., Westmount, Que
Smith, Mina H Arts 4	Upper Bedford, Que. 573 Lansdowne Ave. Westmount
Smith Deal C	Que
Smith, Paul SLaw 3	
Smith R. Douglas Arts 4	
Smith, Robert E	
Smith, Ronald HArts 1	
Margarian Manual Languages	realLan. 7351
Smyth, Desmond HGrad Sch	Hawkesbury, Ont. 
Smyth, J. Norman Arts 1 Smyth, Kenneth GCom. 1	<ul> <li>Apt. 19, 2039 University St., Montreal Lan. 7351 real</li></ul>
Smyth, Margaret LArts 4	1039 Gladstone Ave., Ottawa, Ont. 
Smyth, Margaret LSoc. Workers 1 Smyth, Muriel Phys. Ed. 2	
Snegireff, Leonid S	. 483a Duluth St. E., Montreal
Snowdon, Virginia CArts 1	401 Hamilton St., Syracuse, N.Y. .337 Grosvenor Ave., Westmount,
Snyder, Eugene RalphMed. 5	401 Hamilton St., Syracuse, N.Y. 
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Compare III. Toole II. M. A.C. D.	Hemmingford, Que. .631 Carleton Ave., Westmount, Que.West. 0725 .2055 Comte St. Montreal
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Sparkes lack Dent 1	15 Inglewood Drive, Hamilton, Ont. 2052 Frontenac St., MontrealAm. 4688 3468 Park Ave., MontrealPlat. 5416
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Spooner, Raymond HMed. 2	.5010 Sherbrooke St. W., Montreal. West. 9217 .2050 Victoria St., MontrealLan. 1798 Brimfield, Mass.
Spriginge John F H Arte 2	43 Nelson Ave. Outroment Oue At 0315
Spurrell, StephenArts P	772 Sherbrooke St. W., Montreal Lan. 1567 6 Wesbter St., Nashua, N.H. .3506 University St., Montreal Up. 0290
Stadler, John Charles App. Sc. 3	.4334 Westmount Ave., Westmount,
Stairs, Amie CArts P Stanfield, KathrynArts 2	
Stanley, G. NormanArts 1	.559 Lansdowne Ave., Westmount,
Stansfield, Ellen E. G Arts 4	.82 Westmount Blvd., Westmount
Starkey, D. Hugh	.3506 University St., Montreal Up. 0290         Dunfield, Trinity Bay, Nfd.         .4334 Westmount Ave., Westmount, Que
Stein, Albert LouisArts 4 Stein, Norman OGrad. Sch	257 Princess St., Saint John, N.B. .5506 Hutchison St., MontrealCres. 3670 .3469 Shuter St., Montreal
Steinberg, NettyeArts P Stephens, Florence EPhys. Ed. 2	3466 University St., MontrealUp, 3369 221 Poplar Crescent, Saskatoon,
*Stephens, Sidney AllanApp. Sc. 2	Sask. .3429 Peel St., MontrealUp. 5947
Stevens, Molly NSoc. Workers 2.	Swathmore, Pa. .1156 Bishop St., MontrealUp. 6460
	Amherst, N.S. .240 Prince Arthur St. W., Montreal.Plat. 7357
Stevenson, Robert H Med. 2	Rumford, R.I. .3578 University St., MontrealUp. 9109
Stewart, Flora MArts 3	Danville, Que.
	.148 Cote St. Antoine Rd., Montreal.West. 5693
Stewart, John Bert	.4034 Marquette St., MontrealAm. 5800 .772 Sherbrooke St. W., MontrealLan. 1567 Campbelltown N B
Stewart, John Bert	.4034 Marquette St., MontrealAm. 3800 .772 Sherbrooke St. W., MontrealLan. 1567 Campbelltown, N.B. .464 Wood Ave, Westmount, QueWest. 0901
Stewart, John Bert	.4034 Marquette St., MontrealAm. 3800 .772 Sherbrooke St. W., MontrealLan. 1567 Campbelltown, N.B. .464 Wood Ave, Westmount, QueWest. 0901
Stewart, John Bert	.4034 Marquette St., MontrealAm. 3800 .772 Sherbrooke St. W., MontrealLan. 1567 Campbelltown, N.B. .464 Wood Ave, Westmount, QueWest. 0901
Stewart, Hugh Miller       Arts 4.         Stewart, John Bert       Med. 1.         Stewart, Robert de Grey       Com. 3.         Stewart, William A.       Med. 1.         Stilwell, L. Hamilton       Dent. 4.         Stiliwell, L. Hamilton       Dent. 4.         Stobart, Walter Turner       App. Sc. 4.         Stokart, Walter Turner       App. Sc. 3.         Stocking, Mary F. S.       Grad Sch         Stockton, Margaret I.       Arts 2.	<ul> <li>Auge Marquette St., MontrealAm. 5806</li> <li>Arz Sherbrooke St. W., MontrealLan. 1567</li> <li>Campbelltown, N.B.</li> <li>464 Wood Ave, Westmount, Que West. 0901</li> <li>3506 University St., Montreal Up. 0290</li> <li>R.R. No. 1, Kinburn, Ont.</li> <li>1250 St. Matthew St., Montreal Up. 2040</li> <li>772 Sherbrooke St. W., Montreal Lan. 1567</li> <li>1031 Terrace Ave., Victoria, B.C.</li> <li>4048 Lanouette St., Verdun, Que</li> <li>4038 Dorchester St., Westmount, Que</li></ul>
Stewart, Hugh Miller       Arts 4.         Stewart, John Bert       Med. 1         Stewart, Robert de Grey       Com. 3.         Stewart, William A.       Med. 1         Stilwell, L. Hamilton       Dent. 4.         Stilwell, L. Hamilton       Dent. 4.         Stobart, Walter Turner       App. Sc. 4.         Stocking, Mary F. S.       Grad Sch         Stockton, Margaret I       Arts 2.         Stockwell, Walter C.       Arts 2	<ul> <li>Adoly Marquette St., MontrealAm. 5806</li> <li>Arz Sherbrooke St. W., Montreal Lan. 1567</li> <li>Campbelltown, N.B.</li> <li>464 Wood Ave, Westmount, Que West. 0901</li> <li>3506 University St., Montreal Up. 0290</li> <li>R.R. No. 1, Kinburn, Ont.</li> <li>1250 St. Matthew St., Montreal Up. 2040</li> <li>772 Sherbrooke St. W., Montreal Lan. 1567</li> <li>1031 Terrace Ave., Victoria, B.C.</li> <li>4045 Lanouette St., Verdun, Que</li> <li>4043 Borchester St., Westmount, Que</li></ul>
Stewart, Hugh Miller       Arts 4	<ul> <li>Adota Marquette St., MontrealAm. 5806</li> <li>Arz Sherbrooke St. W., Montreal Lan. 1567</li> <li>Campbelltown, N.B.</li> <li>464 Wood Ave, Westmount, Que West. 0901</li> <li>3506 University St., Montreal Up. 0290</li> <li>R.R. No. 1, Kinburn, Ont.</li> <li>1250 St. Matthew St., Montreal Up. 2040</li> <li>772 Sherbrooke St. W., Montreal Lan. 1567</li> <li>1031 Terrace Ave., Victoria, B.C.</li> <li>4045 Lanouette St., Verdun, Que</li> <li>4048 Dorchester St., Westmount, Que</li></ul>
Stewart, Hugh Miller       Arts 4	<ul> <li>Adota Marquette St., MontrealAm. 5806</li> <li>Arz Sherbrooke St. W., Montreal Lan. 1567</li> <li>Campbelltown, N.B.</li> <li>464 Wood Ave, Westmount, Que West. 0901</li> <li>3506 University St., Montreal Up. 0290</li> <li>R.R. No. 1, Kinburn, Ont.</li> <li>1250 St. Matthew St., Montreal Up. 2040</li> <li>772 Sherbrooke St. W., Montreal Lan. 1567</li> <li>1031 Terrace Ave., Victoria, B.C.</li> <li>4045 Lanouette St., Verdun, Que</li> <li>4048 Dorchester St., Westmount, Que</li></ul>
Stewart, Hugh Miller       Arts 4.         Stewart, John Bert.       Med. 1         Stewart, Robert de Grey.       Com. 3.         Stewart, William A.       Med. 1         Stilwell, L. Hamilton.       Dent. 4.         Striling, Hugh J. M.       App. Sc. 4.         Stobart, Walter Turner.       App. Sc. 3.         Stocking, Mary F. S.       Grad Sch         Stockton, Margaret I.       Arts 2.         Stockwell, Walter C.       Arts 2.         Stone, Fred. Victor.       Arts 2.         Stoner, J. Richard.       Med. 1.	<ul> <li>Adoly Marquette St., MontrealAm. 5806</li> <li>Arz Sherbrooke St. W., Montreal Lan. 1567</li> <li>Campbelltown, N.B.</li> <li>464 Wood Ave, Westmount, Que West. 0901</li> <li>3506 University St., Montreal Up. 0290</li> <li>R.R. No. 1, Kinburn, Ont.</li> <li>1250 St. Matthew St., Montreal Up. 2040</li> <li>772 Sherbrooke St. W., Montreal Lan. 1567</li> <li>1031 Terrace Ave., Victoria, B.C.</li> <li>4045 Lanouette St., Verdun, Que</li> <li>4043 Borchester St., Westmount, Que</li></ul>

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C	Salilla, Kalisas.
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Supple, Jeffrey H App. Sc. 2	Que
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Tanner, Lorraine L.Arts 4.Tansey, J. Gordon.Com, 2.Com, 2.Com, 2.	1080 Lajoie Ave., Outremont, Que. At. 6925 106 Westmount Blvd., Westmount, Que
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Tarr, Hugh L. AGrad. Sch      Tarshis-Batshaw, AnneArts P	Montana. * .1113 Greene Ave., Westmount, Que.West. 8888 240, 10th St. E., North Vancouver, B.C.

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Thom, Alexander T.       Arts 4 & Med. 1. 478 Cote St. Antoine Rd., Montreal.West. 9593         Thomas, William F.       App. Sc. 3       5910 Hutchison St., Montreal.       Cres. 2958         Thompson, Dorothy W.       Arts P.       247 Strathearn Ave., Montreal.West. Wal. 1616         Thompson, Ernest D.       Med. 2.       2050 Victoria St., Montreal.       Lan. 1798         68 Poccasset Ave., Providence R.I.       492 Grosvenor Ave., Westmount,       Que.       West. 2147         Thompson, Winnifred.       Arts 2       157, 17th Ave., Lachine, Que.       Lach. 203-M         Thomson, Elihu.       App. Sc. 2       695 Grosvenor Ave., Westmount,       Que.         Thornton, Robert L.       Arts 3       Rosemere, Que.       St. Thérèse         608-12       Gosvenor Ave., Westmount,       Gue.       St. 1678
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Wallace, Keith BA	DD. Sc. 3	195 Belgrave Ave Montreal	Wal. 6589
		Hamiota, Man. 3588 Jeanne Mance St., Montreal 6 Long Ave., Granby, Que.	
Wallack, SamuelC Waller, ClaraSo Walsh, Edward FrancisM	om 2	5176 Hutchison St., Montreal 59 Sanford Ave., St. Lambert, Qu 464 Sherbrooke St. W., Montreal Waterbury, Conn.	Cres. 6714 eSt. Lam. 751
Wardleworth, Eleanor S	rts 1	168 Cote St Antoine Rd Westmo	At. 1840
Warhaft, AbieC	om. 1	Que. 42a Duluth Ave. W., Montreal. 1530 Bernard Ave., Outremont, Q 1530 Bernard Ave., Outremont, Q	Bel. 5303-J
Warren, Kathleen H A Warson, Samuel R	rts 1 rts 3	1530 Bernard Ave., Outremont, Q 3555 University St., Montreal 188 Prince Edward St., St. Jol	ue.At. 4525 Plat. 0753
	rts 4 heo. 1	N.B. 93 Villeneuve St. W., Montreal 3473 University St., Montreal Breeze Side, Porthleven, Cornwa	Bel. 5507-W
Waterston, GraceLi		England. 4468 St. Catherine St., Westmour Que.	
		4169 Dorchester St. W., Montreal 3485 McTavish St., Montreal	
	ts P	Box 71, Windsor Mills, Que. 3485 McTavish St., Montreal Mansion House Rd., Camedon, F kirk, Scotland.	al-
Watt, Alastair McAA Webb, Arthur GottoA	rts 3 pp. Sc. 4	331 Laurier St. E., Montreal 1122 Sherbrooke St. W., Montreal Redlands, Randalstown, North I	Bel. 4018-J ILan. 4573 re-
Webster Holen F	to A	land, 3656 City Hall Ave., Montreal, 57 Hallowell St., Westmount, Que 772 Sherbrooke St. W., Montreal.	TTT+ AFOO
Webster, Lorne StuartCo Webster, R. HowardAn	om, 3	Swift Current, Sask. 7 Edgehill Rd., Westmount, Que. 7 Edgehill Rd., Westmount, Que.	West. 4110 West. 4110
Webster, Richard CCo Weidman, William HaroldM	om. P ed. 3	7 Edgehill Rd., Westmount, Que. 622 Dorchester St. W., Montreal. 245 Cattell Ave., Collingswood, N	West. 4110 Up. 9201
Weiner, FlorenceAn Weiner, HymanAn Weiner, SydneyAn	ts 2 ts 4 ts 4	<ul> <li>463 Old Orchard Ave., Montreal</li> <li>4548 Esplanade Ave., Montreal</li> <li>463 Old Orchard Ave., Montreal</li> </ul>	. Wal. 3248 . Bel. 5948-J . Wal. 3248
Weinstein, Anna P An Weinstein, I. Reuben	ts 4 om. 4 om. 2 ed. 3	<ul> <li>Analowen St., Westmount, Que,</li> <li>YiZ Sherbrocke St. W., Montreal.</li> <li>Swift Current, Sask.</li> <li>7 Edgehill Rd., Westmount, Que,</li> <li>463 Old Orchard Ave., Montreal.</li> <li>464 Sherbrocke St. W., Montreal.</li> <li>474 Sherbrocke St. W., Montreal.</li> <li>474 Skelly St., New York, N.Y.</li> <li>474 Selly St., New York, N.Y.</li> <li>474 Selly St., New York, N.Y.</li> <li>474 Suprchester St. W., Montreal.</li> <li>474 Dorchester St. W., Montreal.</li> <li>474 Sherbrocke St. W., Montreal.</li> <li>475 Orchester St. W., Montreal.</li> <li>476 Orchester St. W., Montreal.</li> <li>477 Orchester St. W., Montreal.</li> <li>478 Kelly St., New York, N.Y.</li> <li>478 St., New York, N.Y.</li> <li>479 Durchester St. W., Montreal.</li> <li>470 Prummond Court Apts., Montreal.</li> <li>470 Purphysical St.</li> <li>471 Purphysical St.</li> <li>472 Sherbrocke St. W., Montreal.</li> <li>473 Sherbrocke St. W., Montreal.</li> <li>474 Sherbrocke St. W., Montreal.</li> <li>475 St.</li> <li>476 St.</li> <li>476 St.</li> <li>477 St.</li> <li>478 St.<!--</td--><td>ue.Cres. 0996 Bel. 1645-M ie.Cres. 0996 Up. 4250</td></li></ul>	ue.Cres. 0996 Bel. 1645-M ie.Cres. 0996 Up. 4250
Weiss, Herbert SM	ed. 2	11 Orr Square, Revere, Mass. 724 Sherbrooke St. W., Montreal	.Up. 4250
Weiss, Selig OCo Weissenburger, PeterCo	m. 35 m. 21	748 Kelly St., New York, N.Y. 345 Jeanne Mance St., Montreal. 824 Dorchester St. W., Montreal.	. Cres. 7839 . Up. 1549-W
Weldon, Frederick EAp	p. Sc. 47	19 Drummond Court Apts., Mon	t- Up 2276
Wener, SeymourCo	m23	real	. Wal. 4357

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NAME FACULTY AND YEAR ADDRESS TEL. NO. Where two addresses are given, the second is the home address. Wetmore, Katherine S.....Arts 4.....Royal Victoria College, Montreal...Plat. 0078 Truro, N.S. 

 Wexler, Lillian E.
 Arts 2.
 435 Lansdowne Ave., Westmount, Que.

 •Whalen, Harold Joseph.
 Dent. 4.
 3543 Lorne Ave., Montreal.
 Plat. 7406 359 Flower City Park, Rochester, N.Y.

 .Up. 2264 Ont. 657 Belmont Ave., Westmount, Que.West. 0780 254 Vendome Ave., Montreal......Wal. 6126 1019 Sherbrooke St. W., Montreal...Up, 7913 Birch Hills, Sask. 3506 University St., Montreal..... "Homere House," Worting Rd., Birch Hills, Sask.White, Alexander F.Theo. 3.3506 University St., Montreal.Up. 0290"Homere House." Worting Rd.,Basingstoke, Eng.White, Angela.Library Sch.3723 Jeanne Mance St., Montreal.Plat. 0979St Le Marchant Rd., St. John's, Nfd.3609 University St., Montreal.Plat. 3464147 Victoria St., Sherbrooke, Que.White, F. Jean.Arts 2.312 Brock Ave., Montreal.Plat. 0853Grand Falls, N.B.White, Thomas Nash.Grad. Carls.Grad. Aures2023 Kimberley St., Montreal.White, Ruth M.Arts 3.3559 Park Ave., Montreal.Lan. 5761White, Thomas Nash.Grad. Sch.100 Easton Ave., Montreal.Lan. 5761Whitehead, Ursula.Grad. Nurses2023 Kimberley St., Montreal.Lan. 5761Whitey, Ruth M.Arts 4.22 Perreault Ave., Ste. Anne de<br/>Bellevue, Que.Ste. Anne 483Whitmore, Herbert R.Theo.3506 University St., Montreal.Up. 0290Wight, Murray E.Arts 1.9 Cotte St. Antoine Rd., Montreal.West. 8897Wilcock, James Thompson.App. Sc. 1.203 Kins, Gladys M.Arts 9.320 University St., Montreal.Nuest. 4452Wilkins, Gladys M.Arts 9.320 Prince Arthur St. W., Montreal.West. 7432-JWilkins, Moses.Arts 9.Wilkins, Moses.Arts 9.320 University St., Montreal.Up. 0290Wilkins, Gladys M.Arts White, Alexander F..... Theo. 3... Up. 0290 14 W. Mass. UI 

 Wilson, Wallace Leonard
 Arts 2
 3520 Clinkerstry St., Montreal.
 Op. 5500

 Brownsburg, Que.
 Brownsburg, Que.
 1840 Sherbrooke St. W., Montreal.
 Up. 9682

 Wise, Peter S.
 Com. 4.
 4547 Park Ave., Montreal.
 Bel. 5947

 Wiseberg, Max.
 Med. 5.
 .3670 Colonial Ave., Montreal.
 Plat. 6637

 Wiseman, Irene.......Arts P......427 Wood Ave., Montreal.....Bel. 8549-J 

NAME	FACULTY AND Y	EAR ADDRESS	TEL. NO.
Where two	addresses are giv	en, the second is the home address.	
Wölever, John K			nt.
		Que St. Thérèse Que	West. 3006
Wolff, Charles E. F	.Arts 1	Que St. Thérèse, Que. 	Plat. 0720
Walfare Ch. 1	and the second	17 Palace Sq., Norwood, Lond S.E. 19, England.	on,
Wolstein, Edward	.Law 3		Bel. 4615
Wood, H. Elizabeth	Arts 2	412 Nelson St., Ottawa, Ont.	West 0440
Wood, Stuart Benjamin	.Com. 3		Plat. 6979
Woodlay Flair C	A	minanores, Linna, Feru, S.A.	
Woods, Robert Murray Woodwark, Kenneth H	.Arts 1	216 Girouard Ave., Montreal 23, 56th Ave., Dixie, Que 3506 University St., Montreal Ste Rose Oue	Lach. 1437-F
Woolley Fric S	Com 2	Ste. Rose, Que.	
Woollven, James Aird	.App. Sc. 1	Ste. Rose, Que. 222 Addington Ave., Montreal 317 Elm Ave., Westmount, Que. 772 Sherbrooke St. W., Montreal. 1560, 8th St., San Diego, Calif. 3530 Durocher St., Montreal	Wal. 4218-F West. 0217
worthington, Robert L	. Med. 1		Lan. 1567
Wright, Aylesworth R	.Com. 4	.3530 Durocher St., Montreal	Plat. 0316
Wright, Charles Burton	. Med. 5	.96 Pine Ave. W., Montreal.	Har. 4924
Wright, Edward N	. Med. 5	R. R. No. 3, Moncton, N.B. .3605 University St., Montreal	
Wright, John Pattison	Com 2	60 Crescent Rd., Toronto, Ont.	A Burdenic I
Wright Robert U	Cred Cd	.3605 University St., Montreal 60 Crescent Rd., Toronto, Ont. 4400 Western Ave., Westmour Que	West. 8593
Wilgit, Robert 11	. Grad. Sch	.3506 University St., Montreal 3837 Alexandra Ave., Vancouve B.C.	Up. 0290 er.
Wurtele, Campbell	App. Sc. 3	3837 Alexandra Ave., Vancouve B.C. St. Thérèse de Blainville, Que. .864 Church Ave., Verdun, Que.	
Wykes, Eric Robinson	App So 2	St. Thérèse de Blainville, Que. .864 Church Ave., Verdun, Que	
Wylde, Edmund W	. Med. 3	.3660 Lorne Crescent, Montreal.	. Plat. 5/5/
and the second second second		1613, 46th Ave. S. W., Seatt	le,
Wyman, Harold R	Grad. Sch	Wash. .772 Sherbrooke St. W., Montreal. Yarmouth, N.S.	Lan. 1567
		rarmouth, 14.5.	
Yaı dley, Barbara	Grad. Nurses	.Nurses' Home, Montreal Gener	al
Yeates, Evelyn Yelin, Gabriel	Arts 3	<ul> <li>Hospital, Montreal.</li> <li>89 Montrose St., Glasgow, Scotlam</li> <li>14 Willow Ave., Westmount, Que.</li> <li>3507 St. Famille St., Montreal.</li> <li>3507 F. Eamille St. Montreal.</li> </ul>	.West. 1439
Yelin, Moses Samuel	Law 1	.3507 St. Famille St., Montreal.	.Plat. 1187
Yeomans, Richard Henry	Ann Sc 3	55 Wolcolory Ave., Montreal.	'TTT 1 20000 TTT
York, Florence J	Arts 3	.541 Rockland Ave., Outremont, Que .3661 Jeanne Mance St., Montreal.	e.At. 0429
Young, Donald Alexander	Arta 1	560 Driveway, Montreal.	. F lat. 5457
			Winner (G. Brein
	App. Sc. 3	626 University Drive, Saskatoo	1.
Young, Harold Graham	Arts 2	Sask. 3485 MoTovich St. Montreel	TT. 0120
Voung John M	Crad Cab	Maryland, Que.	
Yuen, Henry B.	Arts 1	.1051 Clarke St., Montreal	. Wal. 3524-J .Lan. 5881
r une, Margaret	Arts 3	.3540 Ontario Ave., Montreal	.Up. 2182

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NAME	FACULTY AND YEAR	ADDRESS	TEL. NO.
Where two :	addresses are given, the se	cond is the home addres	55.
Zaritsky, Alexander Zimmerman, Clark B Zimmerman, George Zlotnik, Mortimer. Zobel, Jerome F Zoll, Samuel Howard Zuck, Zelda Jean Zwisler, Frederick F	Med. 5	De Bullion St., Montr Sophie, Terrebonne Ane Ave., W., Montreal V. Ave., Mt. Carmel, P. Hutchison St., Montreal Park Ave., Montreal Juiversity St., Montrea ake St., San Francisco, McTavish St., Montrea upolds Ave., Everett, 1	ealBel. 5525 County, Up. 9173 ICres. 2575 Up. 6540 Calif, IUp. 9130 Mass. ntrealBel. 0056 Har 7638

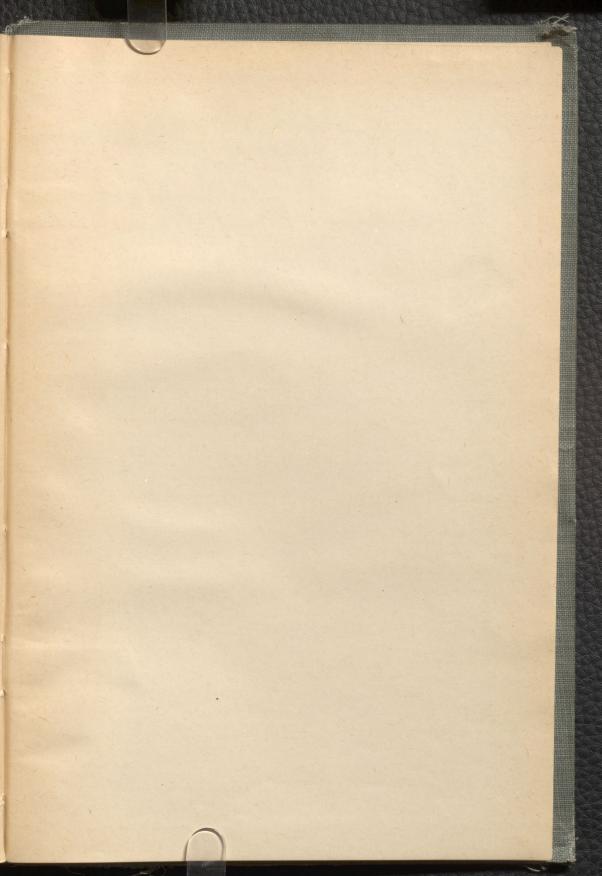
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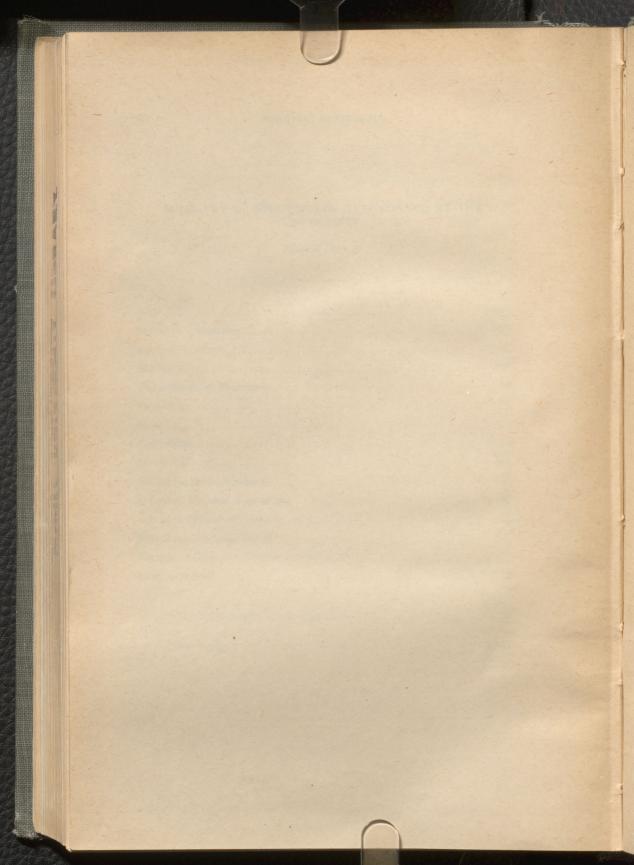
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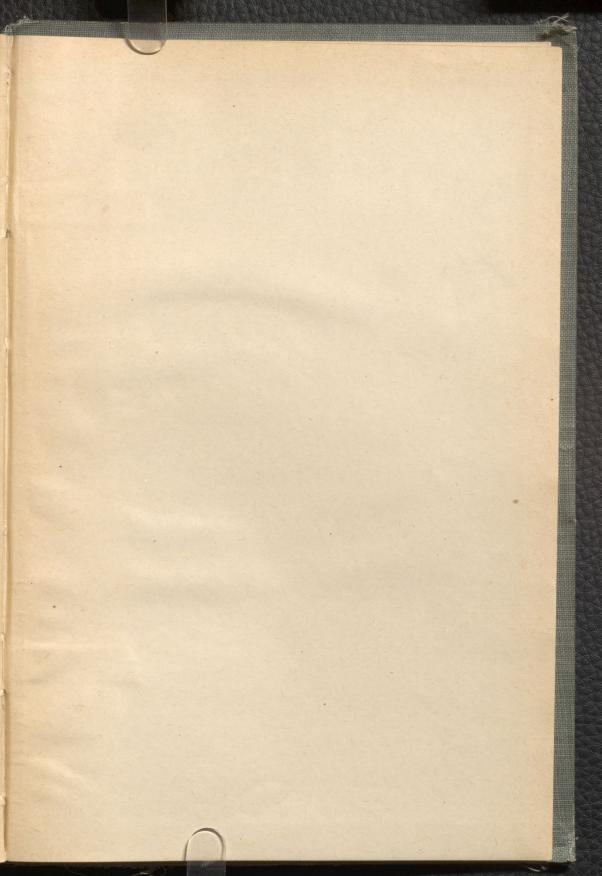
# SUMMARY OF STUDENTS IN ATTENDANCE AT THE UNIVERSITY

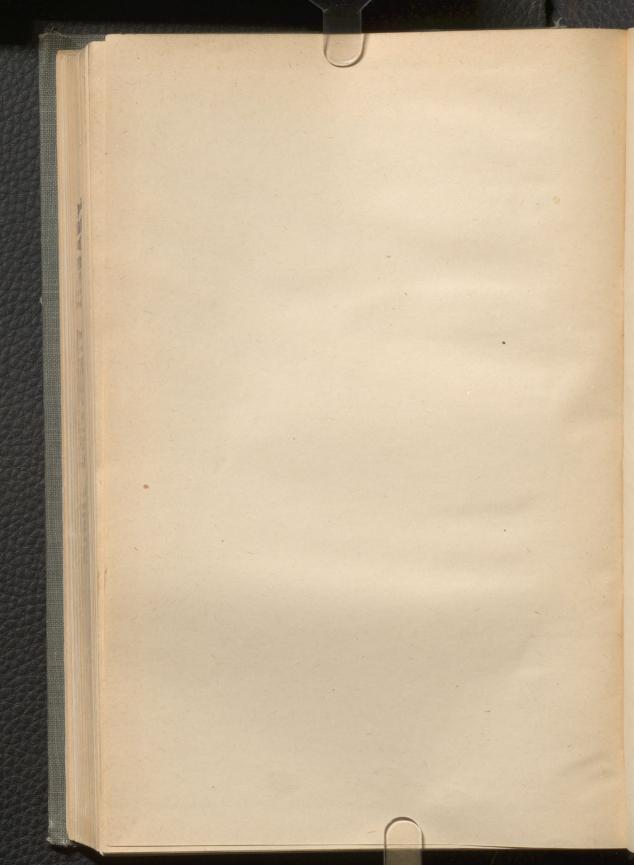
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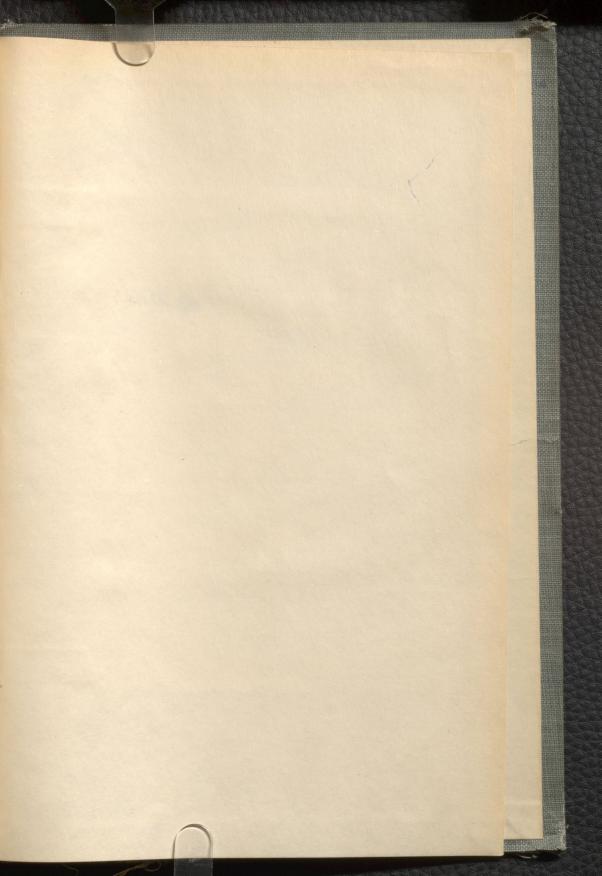
Arts	1,104
School of Commerce	215
Applied Science	311
Medicine	460
Department of Pharmacy	38
Dentistry.	36
Law	65
Agriculture	136
Music	188
School for Social Workers	34
School of Physical Education	49
School of Household Science	75
School for Graduate Nurses	27
Faculty of Graduate Studies and Research	179
Library School.	
Less registered in more than one Faculty	2,945 28
Grand total	2.917











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