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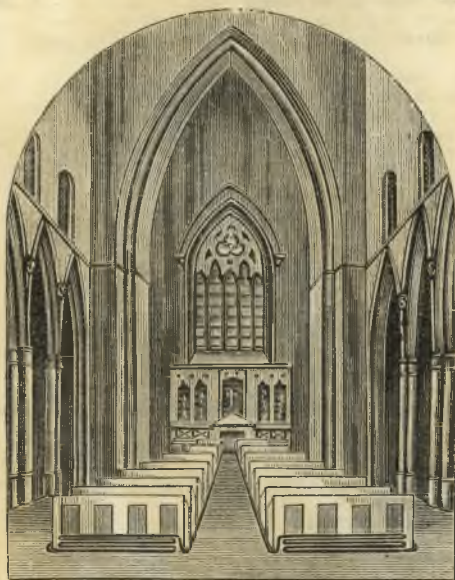
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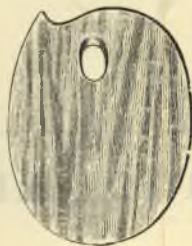
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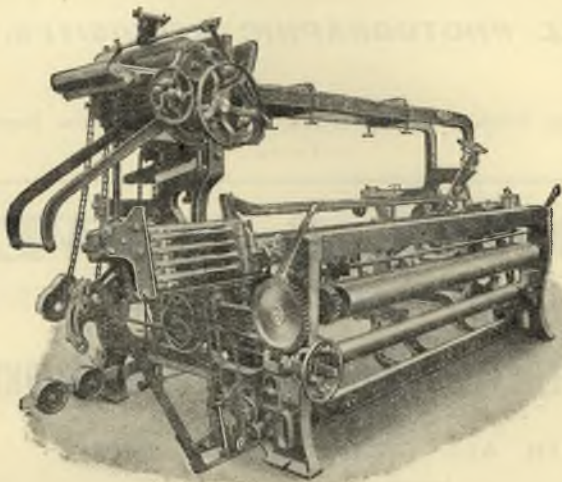
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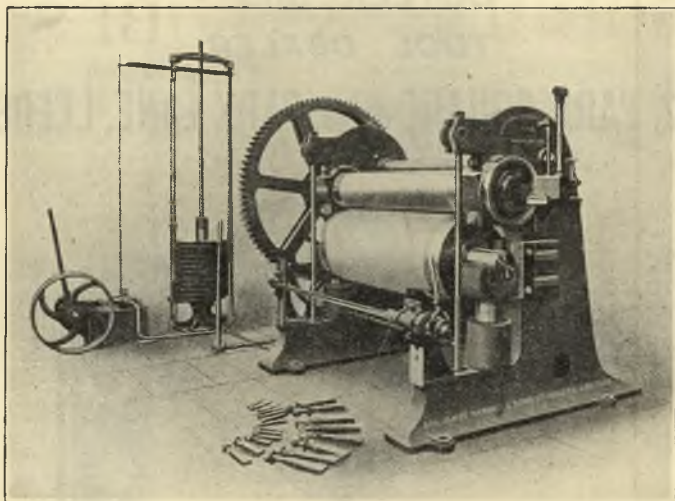
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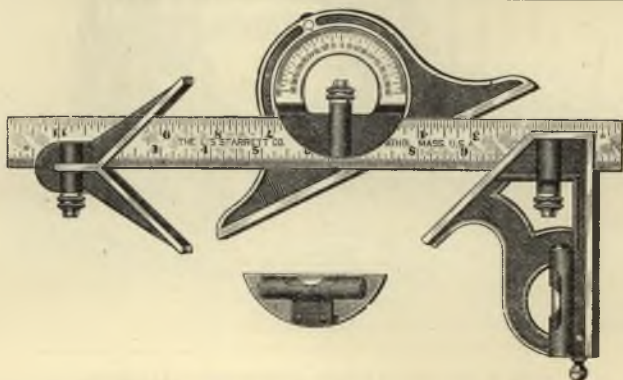
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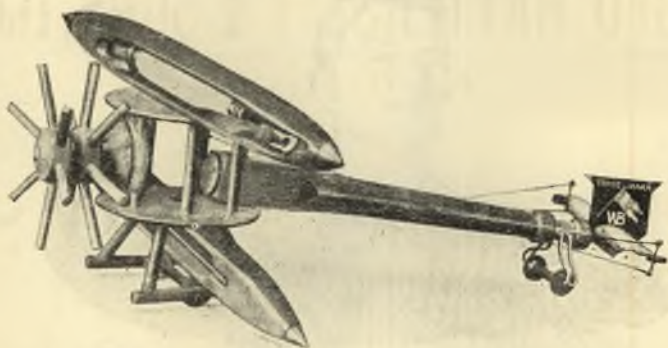
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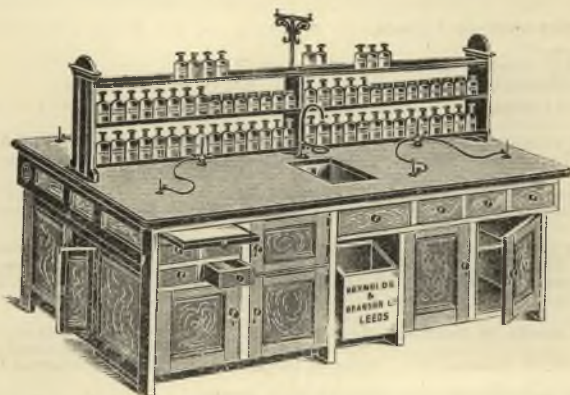
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## ALMANAC, 1919-20

SEPTEMBER, 1919

1	M	
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	S	
8	M	
9	Tu	
10	W	
11	Th	
12	F	
13	S	
14	S	
15	M	
16	Tu	
17	W	
18	Th	
19	F	
20	S	
21	S	
22	M	Evening Class session (First Term) begins.
23	Tu	
24	W	
25	Th	
26	F	
27	S	
28	S	
29	M	
30	Tu	

## OCTOBER, 1919

1	W	<b>First Term in Faculty of Medicine begins.</b> Meeting of Senate.
2	Th	
3	F	
4	S	
5	S	
6	M	<b>First Term in Faculties of Arts, Science and Technology begins.</b> Admission of students.
7	Tu	Admission of students.
8	W	Meeting of Finance Committee.
9	Th	
10	F	
11	S	
12	S	
13	M	Winter course in Agriculture (First Term) begins.
14	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
15	W	Meeting of Council.
16	Th	
17	F	
18	S	
19	S	
20	M	
21	Tu	Meeting of Board of Faculty of Arts.
22	W	
23	Th	
24	F	
25	S	
26	S	
27	M	
28	Tu	Meeting of Board of Faculty of Medicine.
29	W	
30	Th	Meeting of Board of Faculties of Science and Technology.
31	F	

## NOVEMBER, 1919

1	S	
2	S	
3	M	
4	Tu	
5	W	Meeting of Senate.
6	Th	
7	F	
8	S	
9	S	
10	M	
11	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
12	W	Meeting of Finance Committee.
13	Th	
14	F	
15	S	
16	S	
17	M	
18	Tu	Meeting of Board of Faculty of Arts.
19	W	Meeting of Council.
20	Th	
21	F	
22	S	Last day of entry and payment of fees for Second and Final M.B., for D.P.H., and for Final and First Professional L.D.S. examinations.
23	S	
24	M	
25	Tu	Meeting of Board of Faculty of Medicine.
26	W	
27	Th	Meeting of Board of Faculties of Science and Technology.
28	F	
29	S	
30	S	

## DECEMBER, 1919

1	M	
2	Tu	
3	W	Meeting of Senate.
4	Th	
5	F	
6	S	
7	S	
8	M	Second and Final M.B and D.P.H. examinations, and Final and First Professional L.D.S. begin.
9	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
10	W	Meeting of Finance Committee.
11	Th	
12	F	
13	S	
14	S	
15	M	
16	Tu	Meeting of Board of Faculty of Arts.
17	W	Meeting of Council.
18	Th	<b>First Term in all Faculties ends.</b>
19	F	Evening Class Session (First Term) ends.
20	S	Degree Day at School of Medicine. Winter course in Agriculture (First Term) ends.
21	S	
22	M	
23	Tu	
24	W	
25	Th	CHRISTMAS DAY.—University closed.
26	F	University closed.
27	S	University closed.
28	S	
29	M	
30	Tu	
31	W	

## JANUARY, 1920

1	Th	Library re-opened.
2	F	
3	S	
4	S	
5	M	
6	Tu	
7	W	
8	Th	Evening Class Session (Second Term) begins. <b>Second Term in all Faculties begins.</b>
9	F	
10	S	
11	S	
12	M	Winter course in Agriculture (Second Term) begins.
13	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
14	W	Meeting of Finance Committee.
15	Th	
16	F	
17	S	
18	S	
19	M	
20	Tu	Meeting of Board of Faculty of Arts.
21	W	Meeting of Council.
22	Th	
23	F	
24	S	
25	S	
26	M	
27	Tu	Meeting of Board of Faculty of Medicine.
28	W	
29	Th	Meeting of Board of Faculties of Science and Technology.
30	F	
31	S	Last day of entry for Clothworkers' Scholarships.

## FEBRUARY, 1920

1	S	
2	M	
3	Tu	
4	W	Meeting of Senate
5	Th	
6	F	
7	S	
8	S	
9	M	
10	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
11	W	Meeting of Finance Committee.
12	Th	
13	F	
14	S	
15	S	
16	M	
17	Tu	Meeting of Board of Faculty of Arts.
18	W	Meeting of Council.
19	Th	
20	F	
21	S	
22	S	
23	M	
24	Tu	Meeting of Board of Faculty of Medicine.
25	W	
26	Th	Meeting of Board of Faculties of Science and Technology.
27	F	
28	S	Last day of application for the 1851 Exhibition Scholarship.
29	S	

## MARCH, 1920

1	M	Last day of entry and of payment of fees for the June Degree examinations, for City and Guilds Institute examinations, for M.A. and M.Sc. examinations, for Diplomas in Commerce, Social Organisation, and for Teachers of French and German.
2	Tu	Meeting of Senate.
3	W	
4	Th	
5	F	
6	S	
7	S	Meeting of Library Committee. Meeting of Committee on Applications. Meeting of Finance Committee.
8	M	
9	Tu	
10	W	
11	Th	
12	F	Meeting of Board of Faculty of Arts. Meeting of Council.
13	S	
14	S	
15	M	
16	Tu	
17	W	Winter course in Agriculture (Second Term) ends. <b>Second Term in all Faculties ends.</b>
18	Th	
19	F	
20	S	
21	S	
22	M	
23	Tu	
24	W	
25	Th	
26	F	
27	S	
28	S	
29	M	
30	Tu	
31	W	

Evening Class session (Second Term) ends.

## APRIL, 1920

1	Th	
2	F	GOOD FRIDAY. University closed.
3	S	University closed.
4	S	EASTER DAY.
5	M	University closed.
6	Tu	University closed.
7	W	
8	Th	
9	F	
10	S	
11	S	
12	M	
13	Tu	
14	W	Meeting of Finance Committee.
15	Th	
16	F	
17	S	
18	S	
19	M	
20	Tu	<b>Third Term in all Faculties begins.</b>
21	W	Meeting of Council. Summer course in Agriculture begins.
22	Th	
23	F	
24	S	Last day of entry for July Matriculation examination and for Entrance Scholarships.
25	S	
26	M	
27	Tu	Meeting of Board of Faculty of Medicine.
28	W	
29	Th	Meeting of Board of Faculties of Science and Technology.
30	F	

## MAY, 1920

1	S	
2	S	
3	M	Last day of entry for the Leighton and Salt Scholarships, and for sending in Gladstone and Ripon Prize Essays.
4	Tu	
5	W	Meeting of Senate.
6	Th	
7	F	
8	S	
9	S	
10	M	
11	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
12	W	Meeting of Finance Committee.
13	Th	
14	F	
15	S	
16	S	
17	M	
18	Tu	Meeting of Board of Faculty of Arts.
19	W	Meeting of Council.
20	Th	
21	F	
22	S	
23	S	WHIT-SUNDAY.
24	M	University closed.
25	Tu	University closed.
26	W	
27	Th	Meeting of Board of Faculties of Science and Technology.
28	F	
29	S	
30	S	
31	M	

## JUNE, 1920

1	Tu	
2	W	Meeting of Senate.
3	Th	Last day of entry for the Ch.M. examination, and for the Infirmary Scholarship.
4	F	
5	S	Last day of entry and payment of fees for Second and Final M.B., for First Professional and Final L.D.S., and for D.P.H. examinations.
6	S	
7	M	Degree examinations in Faculties of Arts, Science, and Technology begin.
8	Tu	Meeting of Library Committee. Meeting of Committee on Applications.
9	W	Meeting of Finance Committee.
10	Th	
11	F	
12	S	
13	S	
14	M	
15	Tu	
16	W	Meeting of Council.
17	Th	
18	F	
19	S	
20	S	
21	M	
22	Tu	Second M.B., Final M.B., and L.D.S. and D.P.H. examinations begin.
23	W	
24	Th	
25	F	
26	S	
27	S	
28	M	
29	Tu	Meeting of Board of Faculty of Medicine..
30	W	

## JULY, 1920

1	Th	Meeting of Fellowship and Scholarships Committee.
2	F	Meeting of Board of Faculties of Science and Technology.
3	S	<b>Third Term in all Faculties ends.</b> Degree Day. Summer course in Agriculture ends.
4	S	
5	M	
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	S	
12	M	
13	Tu	
14	W	Meeting of Finance Committee.
15	Th	
16	F	
17	S	
18	S	
19	M	
20	Tu	
21	W	Meeting of Council.
22	Th	
23	F	
24	S	
25	S	
26	M	
27	Tu	
28	W	
29	Th	
30	F	
31	S	Library closed until September 1st.

## AUGUST, 1920

1	S	
2	M	BANK HOLIDAY. University closed.
		Last day of entry for the Supplementary Intermediate examination in Arts and Science, for the First M.B. and B.Ch.D. examinations (Parts I and II), and for the Preliminary examination in Science (L. D.S.).
3	Tu	
4	W	
5	Th	
6	F	
7	S	
8	S	
9	M	
10	Tu	
11	W	
12	Th	
13	F	
14	S	
15	S	
16	M	
17	Tu	
18	W	
19	Th	
20	F	
21	S	
22	S	
23	M	
24	Tu	
25	W	
26	Th	
27	F	
28	S	
29	S	
30	M	
31	Tu	

## SEPTEMBER, 1920

1	W	
2	Th	
3	F	
4	S	
5	S	
6	M	
7	Tu	
8	W	
9	Th	
10	F	
11	S	
12	S	Supplementary Intermediate examinations in Arts and Science, First M.B. and B.Ch.D. examinations, and Preliminary examination in Science (L.D.S.) begin.
13	M	
14	Tu	
15	W	
16	Th	
17	F	
18	S	
19	S	
20	M	
21	Tu	
22	W	
23	Th	
24	F	
25	S	
26	S	
27	M	
28	Tu	
29	W	
30	Th	

## THE UNIVERSITY OF LEEDS

### THE CHARTER

EDWARD VII, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith. To all to whom these presents shall come, greeting.

Whereas by Charter of Her Late Majesty Queen Victoria, dated 20th April, 1880, the Victoria University was founded and constituted having its seat in the City of Manchester.

And whereas the Owens College, Manchester, was thereby constituted a College in the University and provision was made that other Colleges might from time to time be admitted as Colleges in the University in the manner and subject to the conditions therein prescribed.

And whereas the University College, Liverpool, was by resolution of the Court of the University admitted as a College of the University on the 5th November, 1884, and The Yorkshire College, Leeds, was by resolution of the said Court admitted as a College in the University on the 3rd November, 1887, but no other College has been so admitted.

And whereas the said University College, Liverpool, has presented to Us in Our Council a humble Petition under the Common Seal of that College praying us to erect a University within the City of Liverpool.

And whereas the Owens College, Manchester, has presented to Us in Our Council a humble Petition under the Common Seal of that College praying that a new or supplemental Charter may be granted so as to constitute and continue the Victoria University as a University in Manchester without association with any College except the Owens College.

And whereas the Yorkshire College, Leeds, has presented to Us in Our Council a humble Petition under the Common Seal of that College, praying Us to erect a University having its seat in Leeds.

And whereas we have taken the said Petitions into Our Royal consideration and are minded to accede thereto.

Now therefore know ye that We, by virtue of Our Royal Prerogative and all other powers in that behalf enabling us of Our Special Grace certain knowledge and mere motion by these presents Do for Us, Our Heirs and Successors, grant, will, direct, and ordain as follows :

I. There shall be from henceforth for ever in Our said City of Leeds a University of the name and style of "The University of Leeds," which shall be and continue one body politic and corporate with perpetual succession and a common seal and with full power and capacity by and in such name to sue and be sued and to do all other lawful acts whatsoever and with full power and capacity, subject to the restrictions herein set forth, without any further licence to all persons and corporations to assure and to the University to take, by gift or otherwise purchase and hold and also to grant demise or otherwise dispose of real and personal property.

II. The University shall have the powers following :

1. To grant and confer Degrees and other academic distinctions to and on persons who shall have pursued an approved course of study in the University and shall have passed the examinations of the University under conditions laid down in its Statutes or Ordinances. Provided that degrees representing proficiency in technical subjects shall not be conferred without proper security for testing the scientific or general knowledge underlying technical attainments.

2. To admit graduates of other Universities to Degrees of equal or similar rank in the University.

3. To confer Degrees of the University on any persons who hold office in the University as Professors, Readers, Lecturers, or otherwise, or who shall have carried on independent research therein, or on any persons who, at the date of this Our Charter, are Associates of the Yorkshire College.

4. To grant Diplomas, Licentiateships, Certificates, or other distinctions to persons who have pursued a course of study approved by the University under conditions laid down by the University.

5. To confer Honorary Degrees, or other distinctions on approved persons.

Provided that all Degrees and other distinctions shall be conferred and held subject to any provisions which may be made in reference thereto by the Statutes, Ordinances, or Regulations of the University.

6. To provide for instruction in such branches of learning as the University may think fit, and also to make provision for research and for the advancement and dissemination of knowledge.

7. To examine and inspect schools and other educational institutions, to grant Diplomas and other Certificates, and to provide such lectures and instruction for persons not members of the University as the University may determine.

8. To accept the examinations and periods of study passed by students of the University at other Universities or places of learning as equivalent to such examinations and periods of study in the University as the University may determine, and to withdraw such acceptance at any time.

Provided that in no case shall the University confer a Degree in Medicine or Surgery upon any person who has not attended in the University during two years at least courses of study recognised for such Degree, or for one of the other Degrees of the University.

9. To affiliate other Colleges or institutions or branches or departments thereof, or to admit the members thereof to any of the privileges of the University, and to accept attendance at courses of study in such Colleges or institutions in place of such part of the attendance at courses of study in the University, and upon such terms and conditions and subject to such regulations as may from time to time be determined by the University.

10. To co-operate by means of joint boards or otherwise, with other Universities and Authorities for the

conduct of Matriculation examinations, for the examination and inspection of schools and other academic institutions and for such other purposes as the University may from time to time determine.

11. To enter into any agreement with the Yorkshire College for the incorporation of that College in the University, and for taking over its property and liabilities, and, if necessary, to promote a Bill in Parliament to confirm or carry out any such agreement.

12. To enter into any agreement with any other institution for the incorporation of that institution in the University and for taking over its property and liabilities, and for any other purpose not repugnant to this Our Charter.

13. To enter into any agreement with the Victoria University of Manchester or with the University of Liverpool for the division or apportionment of any of the moneys, endowments, or property of the Victoria University, with due regard to the local origin of any particular foundation, to the wishes of the Donors, and other special circumstances, and for reference to an Arbitrator in case of difference.

14. To institute Professorships, Assistant Professorships, Readerships, Lectureships, Teacherships, and any other offices required by the University, and to appoint to such offices. Also to institute and award Fellowships, Scholarships and Exhibitions and Prizes.

15. To license Halls for the residence of students.

16. To do all such other acts and things whether incidental to the powers aforesaid or not, as may be requisite in order to further the objects of the University as a Teaching and Examining Body, and to cultivate and promote Arts, Science, and Learning.

III. It shall be the duty of the University to co-operate, by means of a Joint Board or otherwise, with the Victoria University of Manchester and the University of Liverpool for the regulation and conduct of Matriculation examinations, including the conditions of exemption therefrom. Statutes of the University shall prescribe and regulate the constitution

and duties of the said Joint Board, the appointment and continuance in office of the members thereof, the filling of vacancies among the members, and all other matters relative to the Joint Board which it may be thought are proper to be so regulated and prescribed.

*Visitor*

IV. We, Our Heirs and Successors, Kings and Queens of the Kingdom and Dominions aforesaid, shall be and remain the Visitor and Visitors of the University through the Lord President of our Council for the time being, and in the exercise of the Visitorial Authority We and Our Heirs and Successors shall have the right from time to time and in such manner as We or They shall think fit to direct an inspection of the University, its buildings, laboratories, and general equipment, and also of the examination, teaching, and other work done by the University.

*Authorities of the University*

V. The Authorities of the University shall be the Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the Court, the Council, the Senate, the Faculties, the Boards of Faculties, and the Convocation. There shall be a Treasurer and other proper officers of the University.

*The Chancellor*

VI. The Chancellor shall be the Head and Chief Officer of the University and President of its Court, Council, and Convocation, and shall, except as otherwise hereby provided, confer Degrees. He shall hold office during his life or until his resignation or until his removal for good cause by the Visitor at the instance of the Court.

Our right trusty and entirely beloved Cousin and Councillor, George Frederick Samuel, Marquis of Ripon, Knight of Our Most Noble Order of the Garter, Doctor of Laws, shall be the first Chancellor of the University.

His successors from time to time shall be elected by the Court on the nomination of the Council of the University.

*The Pro-Chancellor*

VII. In the absence of the Chancellor, or pending a vacancy in the office of Chancellor, or during the Chancellor's inability to act, the Pro-Chancellor shall exercise all the functions of the Chancellor, except the conferring of Degrees, and shall, if present, preside at any meetings of the Court and Council. Our trusty and well-beloved Arthur Greenhow Lupton, Chairman of the Council of the Yorkshire College, shall be the first Pro-Chancellor of the University, and shall hold his office for one year. Subsequent appointments to the said office shall be made annually by the Court on the nomination of the Council.

*The Vice-Chancellor*

VIII. The Vice-Chancellor shall be ex-officio Chairman of the Senate. In the absence of the Chancellor the Vice-Chancellor shall confer Degrees, except as otherwise hereby provided.

Our trusty and well-beloved Nathan Bodington, Principal of the Yorkshire College, Doctor of Letters, shall be the first Vice-Chancellor of the University, and shall hold such office for such term or terms and subject to such conditions as may from time to time be determined by the Council.

His successors from time to time shall be appointed by the Court on the nomination of the Council and shall hold such office for such term or terms and subject to such conditions as may from time to time be determined by the Council.

*The Pro-Vice-Chancellor*

IX. Subject to the Statutes and Ordinances of the University, and in the absence of the Vice-Chancellor, the Pro-Vice-Chancellor may act as Vice-Chancellor. The Pro-Vice-Chancellor shall from time to time be appointed by the Council from among the members of the Senate.

*The Court*

X. The Court shall be the governing body of the University and shall direct the form, custody, and use of the Common Seal, and shall have power to regulate and

determine all matters concerning the University, and generally shall exercise all the powers and discretions of the University, except as otherwise provided by this Our Charter or by the Statutes.

The Court shall have power by Statute to increase or diminish the number of its members, by increasing or diminishing the number to be nominated or appointed by the persons or bodies possessing the right of nomination or appointment, or by adding representatives of other bodies, or in any other manner.

The Statutes set forth in the Schedule hereto annexed shall be the first Statutes of the University under this Our Charter. The Court may amend, add to, or repeal the Statutes for the time being in force (including those set forth in the Schedule hereto), but no such amendment, addition, or repeal shall be valid or operative until allowed by Us or by a Committee of Our Council.

Ordinances may be made by the Court for the regulation of all matters not required by this Our Charter to be dealt with by Statute.

Provided (1) that it shall not be lawful for the Court, by any Statute or otherwise, to adopt or impose on any person any test whatever of religious belief or profession in order to entitle him to be admitted as a Professor, Teacher, Student, or Member of the University, or to hold office therein, or to graduate thereat, or to enjoy or exercise any privilege thereof.

Provided (2) that any Statute or Ordinance made by the Court be not repugnant to the laws of this Realm or to the general objects of this Our Charter.

Provided (3) that Statutes or Ordinances relating to Degrees, studies, and examinations shall not be adopted without report from the Senate.

Provided (4) that no change shall be made in any Statute or Ordinance altering the status, powers, or constitution of any of the Authorities of the University until such Authority shall have had an opportunity of pronouncing an opinion upon the proposed change

The Court shall have power to confer Degrees in absentia by a resolution of the Court, but save as aforesaid all Degrees shall be conferred by the Chancellor or in his absence by the Vice-Chancellor or Pro-Vice-Chancellor.

The Court shall have power to deprive any Graduate of the University who shall have been convicted of a crime or offence, or shall, in the opinion of the Court, have been guilty of scandalous conduct, of any Degree or Degrees conferred by the University and of all privileges enjoyed by him as such Graduate aforesaid.

The acts of the Court shall not be invalidated by any vacancy among its Members.

XI. Every Statute or alteration of a Statute, and every Ordinance or alteration of an Ordinance relating to any of the matters following, that is to say :

- (a) The titles of Degrees,
- (b) The establishment of new Degrees,
- (c) The periods of residence and study in the University or in any affiliated or recognised institution required for Degrees,
- (d) The conditions under which Degrees higher than the Degree of Bachelor in any faculty are to be granted,
- (e) The courses for medical Degrees and the subjects of examinations,

shall before such Statute or alteration of a Statute shall be allowed and before such Ordinance or alteration of an Ordinance shall become operative and have effect be communicated to the Victoria University of Manchester and the University of Liverpool, and if within one month after the receipt of such communication notice of objection thereto shall have been given by the said Universities or either of them the question so arising shall be considered by a Joint Committee of the three Universities, and in default of agreement any of the said Universities may within one month make a representation in regard thereto to Us or to a committee of Our Council, and, in the event last mentioned, such Statute or Ordinance or alteration therein shall not become operative and have effect until allowed by Us or by such Committee.

Statutes of the University shall prescribe and regulate the constitution and appointment of the said Joint Committee and all other matters relating to the said Committee which it may be thought are proper to be so prescribed and regulated.

### *The Council*

XII. The Council shall be the Executive Body of the University and may exercise and do such of the powers, authorities, and things by this Our Charter granted to or authorised to be done by the Court, as are, or shall from time to time be assigned to the Council by Statute or by the Court, except the election of Members of the Court to be Members of the Council.

The Court shall have power by Statute to increase or diminish the number of the Council, by increasing or diminishing the number to be nominated, elected, or appointed by the persons or bodies possessing the right of nomination or appointment, or by adding representatives of other bodies, or in any other manner.

The Council shall have power to draft Statutes and Ordinances as and when they see fit, and to submit the same to the Court for consideration and enactment.

The acts of the Council shall not be invalidated by reason of any vacancy among its members.

### *The Senate*

XIII. The constitution of the Senate shall be determined by Statute.

The Senate shall, subject to the Statutes and Ordinances of the University, and subject also to review by the Court, have the control and general regulation of the instruction and education within the University and shall have power to discuss and pronounce an opinion on any matter whatsoever relating to the University and such other powers and duties as may be conferred upon it by Statute or Ordinance.

### *Faculties*

XIV. The University shall include the Faculties of Arts, Science, Medicine and Technology, and such other Faculties

(whether formed by the sub-division of an existing faculty or by the creation of a new faculty or otherwise) as may from time to time be constituted by Statute.

The constitution and powers of the several Faculties shall be determined by Statute.

Such Boards of Faculties shall be appointed by the Council as the Council may from time to time determine; the members of each Board (the numbers of whom shall be in the discretion of the Council) shall be appointed by the Council from among members of one or more Faculties, or from among the External Examiners of the University.

### *Convocation*

XV. The Convocation shall consist of the Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the Members of the Senate, the Lecturers, and the registered Graduates of the University.

The Court shall have power to fix the conditions of registration and to prescribe the annual or other fees, or a composition therefor which shall be necessary for registration.

The Chancellor, if present, shall preside at the Meetings of Convocation.

### *Powers of Convocation*

XVI. Convocation shall have the following powers:

To elect its own Chairman, who shall, in the absence of the Chancellor, preside at its Meetings.

To elect representatives as Members of the Court and Council.

To discuss and pronounce an opinion on any matter whatsoever relating to the University, including any matters referred to them by the Court or the Council.

To prescribe the mode of conducting the proceedings of Convocation and of registering the same, and of reporting the same to the Court, Council, or Senate, or any of them.

To enter into communication directly with the Court, Council, or Senate on any matter affecting the University.

*Regulations as to Procedure*

XVII. The Court, the Council, the Senate, the Faculties, the Boards of Faculties, and Convocation respectively may from time to time make regulations for governing their respective proceedings, subject to this Our Charter and to the Statutes and Ordinances of the University.

*The Treasurer*

XVIII. Our trusty and well-beloved Sir John Barran, Baronet, Treasurer of the Yorkshire College, shall be the first Treasurer of the University, and shall hold his office for one year. Subsequent appointments to the said office shall be made annually by the Court.

*Members of the University*

XIX. The Members of the University shall be the Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the Treasurer, the Members of the University Court, the Professors, Emeritus Professors, Assistant Professors, Readers, Lecturers and Demonstrators, and such other Teachers of the University as the Court may determine, the Members of the Faculties, the holders of such other University offices as the Council may from time to time determine, the Wardens or other chief officers of Halls of Residence licensed by the University, Fellows, Graduates, and Undergraduates of the University.

The Undergraduates of the University shall be such persons attending lectures, or receiving instruction in the University as shall have matriculated under the Statutes.

*Advisory Committees*

XX. The Council may from time to time appoint Advisory Committees, consisting of members of the University, and also if the Council shall think fit, of persons who are not members of the University, and may delegate to such Committees such duties as it thinks fit as regards financial, administrative, or other matters affecting the University or any particular Faculty or Department, or the management or supervision of any buildings or property of the University

*Examiners and Examinations*

XXI. All examinations held by the University shall be conducted in such manner as the Statutes and Ordinances shall prescribe, provided that at least one external and independent examiner shall be appointed by the Council for each subject or group of subjects forming part of the course of studies required for University degrees, but this proviso shall not apply to examinations for admission or entrance to the University.

Provided that in case of a vacancy occurring in or during any examination or of other emergency the Vice-Chancellor shall have power to appoint a substitute for that examination.

*General Provisions*

XXII. All the Degrees and courses of study of the University shall be open to women, subject to such conditions and regulations as the Court may prescribe, and women shall be eligible for any office in the University and for membership of any of its constituent bodies, and in the present Charter words implying the male sex shall be held to include the female, unless the context clearly shows the meaning to be otherwise.

XXIII. The University may from time to time found and endow Fellowships, Scholarships, Exhibitions, and other Prizes for which funds or property may, by bequest, donation, grant, or otherwise be provided, and may make regulations respecting the same and the tenure thereof, but, except as aforesaid, and except by way of prize, reward, special grant, or remuneration for services rendered or to be rendered, in the past, present, or future respectively, the University shall not make any gift, division or bonus in money unto or between any of its members.

XXIV. In addition to the buildings, lands, and premises of the University for the time being used and occupied for the immediate purposes thereof, the University shall have power to hold lands, tenements, and hereditaments of an annual value not exceeding in the aggregate, at the time or respective times of the acquisition of the same, the sum of £50,000.

XXV. The University may demand and receive such fees as the Court may from time to time appoint.

XXVI. The Court may from time to time alter, amend, or add to these presents by a Special Resolution in that behalf, and such alteration, amendment or addition shall, when allowed by Us, our Heirs, or Successors, or by any Committee of our Most Honourable Privy Council, or other wise as We or They shall think fit, become effectual so that these presents shall thenceforward continue and operate as though they had been originally granted and made as so altered, amended, or added to. This Article shall apply to this Charter as altered, amended, or added to in any manner aforesaid.

XXVII. A Special Resolution is a Resolution passed at one meeting of the Court and confirmed at a subsequent meeting, held not less than one calendar month, nor more than three calendar months after the former, provided that the Resolution be passed at each meeting by a majority of not less than three-fourths of the Members of the Court present and voting thereon.

XXVIII. In this Our Charter "Statutes" means the Statutes set forth in the Schedule hereto and any Statutes altering, amending, adding to, or repealing the same or any of them which may hereafter be made and may be allowed by Us in Council, or by a Committee of Our Council.

"Ordinances" means Acts of the Court under the powers conferred by this Our Charter to which Our further sanction is not hereby or by Statute required.

"Regulations," except when otherwise required by the context, means Regulations made pursuant to this Our Charter or the Statutes.

XXIX. Our Royal Will and pleasure is that this Our Charter shall always be construed and adjudged in the most favourable and beneficial sense for the best advantage of the University, and the promotion of the objects of this Our Charter as well in all our Courts as elsewhere notwithstanding any non-recital, mis-recital, uncertainty or imperfection herein.

## THE SCHEDULE

## STATUTES

## I.

*The University Court*

## (a)

The University Court (hereinafter called the Court) shall consist of the following persons, viz. :

1. *Ex-officio* members, The Chancellor, the Pro-Chancellor, the Vice-Chancellor, and the Treasurer.

2. All present members of the Council of the Yorkshire College; all future members of the University Council, during their tenure of office; all present Perpetual and Life Governors of the College; and all future Donors of £1,000 to the University. If a donation of £1,000 be made by a company, society, or partnership firm, one member thereof may be nominated by the Donors as a member of the Court.

Six representatives of the Clothworkers' Company of London.

One representative of the Skinners' Company of London.

One representative of the Drapers' Company of London.

One representative of the Trustees of William Akroyd's Foundation.

One representative of the West Yorkshire Coal Owners' Association.

One representative of the Yorkshire Board of Legal Studies.

3. Representatives of Public Authorities, viz. :

Six from the County Council of the West Riding of Yorkshire.

Two from the County Council of the North Riding of Yorkshire.

Two from the County Council of the East Riding of Yorkshire.

Four from the Council of the County Borough of Leeds.

Two from the Council of the County Borough of Bradford.

One from the Council of the County Borough of York.

One from the Council of the County Borough of Hull.

One from the Council of the County Borough of Halifax.

One from the Council of the County Borough of Huddersfield.

One from the Council of the County Borough of Middlesbrough.

One from the Council of each of such other County Boroughs to be created in future as may be approved by the Court.

4. Representatives of the University :

Ten from the Faculties.

Representatives (not exceeding five in all) of the Convocation, viz :—one representative for every hundred members up to 500.

5. Representatives of other Institutions, viz. :

Representatives of such Affiliated Institutions as the Court may determine, and

One representative of the Victoria University of Manchester.

One representative of the University of Liverpool.

One representative of such other English University as the Court may determine.

6. Representatives of Schools :

Eight representatives of the Head Masters and Mistresses of Secondary Schools in Yorkshire, such representatives to be appointed by the Court.

7. Other Governors :

Three persons appointed by the Crown.

Ten persons elected by co-optation by the Court.

Except as otherwise by the Charter provided, and subject to the Statutes of the University, the Court may determine all matters relating to the nomination, appointment, and election of members of the Court and Council, and their respective periods or terms of office, and all other matters relating to the constitution of the Court and Council.

(b)

The Court shall have power to delegate its functions to the Council except as otherwise provided, and to delegate to the Senate the power to award Degrees other than *ad eundem* Degrees, Degrees conferred on persons who hold office in the University, and Honorary Degrees.

The periods during which members of the Court respectively shall hold office shall be as follows :

The Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Treasurer, and all future members of the University Council shall hold office during the time they occupy the positions named respectively.

All present members of the Council of the Yorkshire College, and all present Perpetual and Life Governors of the Yorkshire College, and all future donors of £1,000 to the University, and the persons nominated by the donors in the case of donations of £1,000 made by a company, society, or partnership firm, shall hold office for their respective lives, or until resignation.

All other members mentioned in clause (a) 2 above, and all members mentioned in clause (a) 3 above, shall hold office for one year from the date of appointment. Of the members mentioned in clause (a) 4, the ten representatives of the Faculties shall hold office for two years from the respective dates of appointment, and five of such members, to be selected by lot or otherwise as the Court shall determine, shall retire in each year ; provided that if a representative of a Faculty ceases to be a member of that Faculty he shall cease to be a member of the Court. The representatives of Convocation shall hold office for two years from the date of appointment. Members mentioned in clause

(a) 5 and 6, shall hold office for two years from the respective dates of appointment. Members mentioned in clause (a) 7 shall hold office for five years from the respective dates of appointment, but of the members appointed by co-optation two, to be selected by lot or otherwise as the Court shall determine, shall retire each year.

All retiring members shall be eligible for re-appointment or re-election.

Appointees or representatives need not be members of the bodies appointing.

Any member of the Court may resign such membership at any time by letter addressed to the Registrar of the University.

Any casual vacancy occurring by resignation, incapacity, or death among the appointed or representative or co-opted members shall be filled up as soon as convenient by the person or body which appointed or co-opted the member whose place has become vacant. If such member was a member for a term of years the person appointed to supply his place shall be a member of the Court for the remainder of that term.

Fifteen members of the Court shall form a quorum, and, until the above-mentioned representative members have been appointed, the other members shall form the Court.

## II.

### *The University Council*

(a) The University Council (hereinafter called the Council) shall consist of the following persons, namely:—

The Chancellor, the Pro-Chancellor, the Vice-Chancellor, and the Treasurer.

Two representatives of the West Riding County Council.

One representative of the North Riding County Council.

One representative of the East Riding County Council.

Two representatives of the County Borough of Leeds.

One representative of the County Borough of Bradford.

One representative of the Council of the County Borough of York.

One representative of the Council of the County Borough of Hull.

One representative of the Council of the County Borough of Halifax.

One representative of the Council of the County Borough of Huddersfield.

One representative of the Council of the County Borough of Middlesbrough.

Two representatives of the Clothworkers' Company of London.

Five representatives to be elected by the Faculties of the University.

One member to be elected by Convocation.

One member to be nominated by the Crown.

Twelve members to be elected by the Court. Provided nevertheless, that at first such of the present members of the Council of the Yorkshire College as have been elected thereto by the Board of Governors of the College shall take the place of the said twelve members; and of such members of the Council of the Yorkshire College four, to be selected by lot or otherwise as the Council may determine, shall retire every three years until the number of such members has been reduced to twelve or less; and on the number of such members being reduced to less than twelve the Court shall have power to appoint any other person or persons to make up such number to twelve. So soon as the number of such members shall have been reduced to twelve or less, the members of the Council of the Yorkshire College who at that time remain members of the Council, together with such appointee or appointees of the Court as aforesaid, shall hold office for the period and be subject to the provisions as to retirement hereinafter mentioned, as if all such members and appointees as aforesaid had been elected members of the Council by the Court on the day when such number as aforesaid was reduced to twelve or less.

The members of the Teaching Staff who are members of the Council, however elected (including the Vice-Chancellor), shall not exceed one fifth of the whole Council.

(b) The periods during which the members of the Council respectively shall hold office shall be as follows :

The Chancellor, the Pro-Chancellor, the Vice-Chancellor and the Treasurer shall hold office for the time during which they occupy the positions named respectively.

All other members of the Council shall hold office for one year from the date of appointment, except as otherwise hereinbefore provided and except members elected by the Court, who shall hold office for three years (four, to be selected by lot or otherwise as the Council shall determine, retiring each year), and except the person appointed by the Crown, who shall hold office for five years.

All retiring members shall be eligible for re-appointment or re-election.

Appointees or representatives need not be members of the bodies appointing.

Any member of the Council may resign such membership at any time by letter addressed to the Registrar of the University.

Any casual vacancy occurring by resignation, incapacity, or death among the appointed or representative members shall be filled up as soon as convenient by the person or body which appointed the member whose place has become vacant. If such member was a member for a term of years the person appointed to supply his place shall be a member of the Council for the remainder of that term.

Seven members of the Council shall form a quorum, and until the above named representative members have been elected, the other members shall form the Council.

## III.

*Powers of the Council*

Subject to the provisions made in the Charter and Statutes, the Council shall have the following powers :

To nominate the Pro-Chancellor and the Vice-Chancellor.

To elect Professors of the University, and either to elect or to delegate to the Senate the election of any academic officers of the University other than Professors.

To elect a Registrar and other officers of the University for such periods and under such conditions as may be determined by the Council.

To institute Professorships, Assistant Professorships, Readerships, Lectureships, or other teaching offices, after giving the Senate the opportunity of reporting thereon.

To abolish or hold in abeyance, after giving the Senate the opportunity of reporting thereon, any Professorship, Readership, or other academic office in the University.

To draft Statutes and Ordinances as and when it sees fit and submit the same to the Court. Provided that any Statute or Ordinance relating to courses of study shall not be adopted without giving the Senate the opportunity of reporting thereon.

To make regulations for any purposes for which regulations are or may be authorised to be made.

To govern, manage, and regulate the finances, accounts, investments, property, business, and all affairs whatsoever of the University, and for that purpose to appoint Bankers, Deputy-Treasurers, and any other officers or agents whom it may seem expedient to appoint.

To invest any moneys belonging to the University, including any unapplied income in such stocks, funds, fully paid shares or securities as the Council shall from time to time think fit, whether authorised by the general law for the investment of trust moneys or

not, and whether within the United Kingdom of Great Britain and Ireland or not or in the purchase of freehold, copyhold, or leasehold hereditaments in the United Kingdom, including rent charges, or chief rents, with the like power of varying such investments from time to time by sale and re-investment or otherwise.

To sell, buy, exchange, lease, and accept leases of real and personal property on behalf of the University.

To provide the buildings, premises, furniture, and apparatus and other means needed for carrying on the work of the University.

To enter into, vary, carry out, and cancel contracts on behalf of the University. Any contract entered into on behalf of the University may be made in any manner authorised by law for the making of contracts by or on behalf of Companies incorporated under the Companies' Acts, 1862 and 1867.

#### IV.

##### *Powers of the Vice-Chancellor*

The Vice-Chancellor shall have the sole power of suspending or dismissing any offending student, subject to the right of appeal to the Visitor. He shall exercise general supervision over the educational arrangements of the University, regulate the admission of students, and maintain the discipline of the University, for which he shall be responsible to the Council.

#### V.

##### *The Senate*

The Senate of the University shall consist of the Vice-Chancellor and the Professors of the University, and of such other members of the Boards of Faculties hereinafter mentioned as the Court may, after report from the Senate, appoint, provided that the number of such other members appointed shall not exceed three, and that they shall hold office for such term only as the Court shall determine.

The Professors of the University within the meaning of the Charter shall include those persons who shall be appointed by the Council as such, and also the Professors of the Yorkshire College at the date of the Charter, who

shall hold their Professorships upon the same conditions as those upon which they held them at the date of the Charter, until such conditions shall be modified or altered by the Council.

The Senate shall have the following powers :

To make and submit to the Council, after report from the Board or Boards of Faculties concerned, all regulations for giving effect to the Statutes and Ordinances of the University relating to courses of study.

To appoint Internal Examiners after report from the Board or Boards of Faculties concerned.

To recommend External Examiners for appointment by the Council after report from the Board or Boards of Faculties concerned.

To report to the Council, after report from the Board or Boards of Faculties concerned, on all Ordinances relating to courses of study.

To report to the Council on Statutes or Ordinances or proposed changes of Statutes or Ordinances.

To report on any matter referred to or delegated to them by the Court or the Council.

To discuss and declare an opinion on any matter whatsoever relating to the University.

To appoint on delegation of the Council, Readers, Lecturers, and other academic officers of the University not being Professors.

To formulate and modify or revise, subject to the control of the Council, schemes for the organisation of Faculties of Arts, Science, Medicine, Technology, and any other Faculties of the University, and to assign to such Faculties their respective subjects ; also to report to the Council as to the expediency of the establishment at any time of other Faculties, or as to the expediency of the abolition, combination, or subdivision of any Faculties.

To fix, subject to any conditions made by the Founders which are accepted by the Court, the times

and mode and conditions of competition for Fellowships, Scholarships, and other Prizes, and to award the same.

To do such other acts and things as the Court shall authorise.

No new Degree shall be established or other distinction of Honour or Merit adopted until the Senate has had an opportunity of reporting thereon.

## VI.

### *Faculties*

Each of the Faculties shall respectively consist of:—

1. The Professors assigned thereto by the Council.
2. Such Lecturers, Assistant Lecturers, and other teachers of the University as may be appointed to the Faculty by the Council on the recommendation of the Senate.
3. Such other persons as may be appointed by the Council of the University on the recommendation of the Senate.

Each of the Faculties shall have the power of electing a representative or representatives on the Court and Council of the University, but in the event of the number of Faculties being so increased that the members of the staff elected by them would exceed the proportion limited as hereinbefore expressed, the Council shall decide by what Faculties or combinations of Faculties the election shall be made.

Each Faculty shall have the power of presenting recommendations and reports to the Senate upon all matters connected with the subjects of study embraced by the Faculty.

The Faculty of Arts shall, until otherwise provided by Statute, include Economics and Law.

The Faculty of Technology shall, until otherwise provided by Statute, include Agriculture, Dyeing, Engineering, Leather Industries, Mining, and Textile Industries.

The Vice-Chancellor shall be a member of each of the several Faculties and Boards of Faculties.

There shall be a Dean of each Faculty elected by that Faculty, or otherwise as the Council shall direct. He shall preside at the meetings of the Faculty and hold office during such period and with such powers as shall be determined by Statute or Ordinance, and shall be eligible for re-election.

## VII.

### *Powers of the Boards of Faculties*

The Boards of Faculties respectively shall have the powers following :—

To regulate, subject to the control of the Senate, the teaching and study of the subjects assigned to the Board in question.

To make recommendations as to the appointment of Examiners.

To report to the Senate on Ordinances and Regulations dealing with courses of study for degrees and other distinctions, and on any questions relating to the work of the respective Faculties.

To deal with any matter referred or delegated to them by the Senate.

## VIII.

### *Convocation*

A Register shall be kept containing the names of all persons who are members of Convocation according to the provision made by the Charter.

The Register shall be conclusive evidence that any person whose name appears therein at the time of claiming to vote in Convocation is entitled to vote, and that any person whose name does not appear therein is not so entitled.

A meeting of Convocation shall be summoned at least once in every year and at such other times as Convocation may by its by-laws determine.

A meeting of Convocation may be called by the direction of the Chairman, and shall also be called on the requisition in writing of at least twenty members.

## IX.

*Auditor*

The Court shall annually appoint an Auditor, who shall be a member of the Institute of Chartered Accountants of England and Wales, or of the Incorporated Society of Accountants and Auditors, in the active practice of his profession, who shall receive such remuneration as may from time to time be determined by the Court.

Acceptance of office by an Auditor shall be deemed to carry with it an undertaking by the Auditor to the University that every certificate given by him, or passing of accounts by him, implies that he has satisfied himself by full and careful investigation (made by himself or agents, for whom he undertakes to be responsible) by every reasonable means within his power, and after the exercise of due professional skill, that the statements in the certificate are true and accurate, and that any accounts certified or passed are complete, true, and accurate.

## X.

*Committee for considering objections by the Universities at Manchester and Liverpool*

The Joint Committee to be constituted pursuant to Clause XI of the Charter for considering objections made by the Victoria University of Manchester and the University of Liverpool to proposed Statutes and Ordinances, shall consist of nine members, three to be appointed by each University.

The Joint Committee shall be convened by the Registrar of the Victoria University of Manchester.

## XI.

*Committee for considering objections to proposed Statutes and Ordinances of the University of Sheffield*

Any Committee to be constituted for considering objections made by any of the Universities in Manchester, Liverpool and Leeds to proposed Statutes and Ordinances of the University of Sheffield shall consist of twelve members, three to be appointed by each of the said Universities.

Such Committee shall be convened by the Registrar of the Victoria University of Manchester.

## XII.

### *Regulation and conduct of the Matriculation examination*

The Matriculation examination which must be passed by students before entering on the degree courses in the University shall be regulated and conducted by a Joint Board constituted as hereinafter prescribed.

The Joint Board shall determine the conditions and subjects of the examination, together with the exemptions and conditions of exemption from it, provided that the Senate of each University shall have power to exempt from the Matriculation examination such persons as it may judge suitably qualified by higher study or research to enter upon a course for a degree.

The Board shall, with the consent of the five Universities concerned, have power to prescribe particular subjects to be passed in the examination as a condition of admission into particular Faculties, provided that at any time after any regulation to that end shall have been prescribed by the Board any of the five Universities shall have power to cause it to cease to be operative, on the expiration of two years from the date of notice to be given to the Board, so far as concerns such University.

The regulations of the Board regarding the Matriculation examination shall not affect the power of each University (a) to require a standard higher than that of the Matriculation examination in any subject or subjects as a condition of admission into any Faculty or School; (b) to require candidates as a condition of admission into its several Faculties and Honours Schools and courses leading to a particular degree to have passed in such of the optional subjects of the Matriculation examination as the University may determine; (c) to admit unmatriculated students to such classes as it may think fit; or (d) to determine how far the examinations recognised by the Joint Board as exempting from the Matriculation examination shall be accepted by the University concerned as satisfying the

requirements made by the University under sections (a) and (b) of this clause.

The Joint Board shall consist of twenty members, four to be elected annually by each of the Universities in Manchester, Liverpool, Leeds, Sheffield, and Birmingham, with power to co-opt persons of educational experience to the number of six.

When any change in the regulations regarding the Matriculation examination is carried in the Joint Board by a majority consisting of less than two-thirds of the members who are present, the question at issue shall, if any four members present and voting so require, be referred to each of the five Universities, who shall each then nominate two additional members of the Board for the purpose of dealing with such question. The decision of the Board so constituted shall be final.

The Board shall send annual reports to each University.

The five Universities shall contribute to the expenses of the Joint Board in such proportions as may be hereafter determined.

### XIII.

#### *Periods of Study before Graduation*

The period of study necessary to qualify any student for graduation shall not be less than three years, all of which shall be subsequent to the date at which the student passes the Matriculation examination

*[provided that during the present War and for a period of twelve months thereafter, the Senate shall have power to waive the conditions of this Section in such a way as will prevent, as far as possible, any person from being placed at a disadvantage through undertaking or having undertaken active service or other approved duties in connection with national defence or with the defence of the States, at the time of such service, in alliance with Great Britain. Any action taken by the Senate under this Clause shall be reported to the Council.]\**

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\*The proviso printed in italics was allowed by the Privy Council on September 11th, 1918.

This Clause shall come into operation not later than October 1st, 1906.

In the case of the Yorkshire College, and in the event of any other College or Institution, or any branch or department thereof, becoming affiliated to the University within six months from the date of the Charter, the University may accept attendance which commenced on or subsequent to the First day of October, 1903, at courses of study in the Yorkshire College or in such other College or Institution in place of attendance at courses of study in the University for the same period.

#### XIV.

##### *Definitions*

In these Statutes—

“Statutes” means the Statutes of the University.

“Ordinances” means Ordinances made pursuant to the Charter or Statutes.

“Regulations” means Regulations made pursuant to the Charter or Statutes.

In witness whereof We have caused these Our Letters to be made Patent.

Witness Ourself at Westminster the twenty-fifth of April in the Fourth Year of Our Reign.

By Warrant under the King's Sign Manual.

MUIR MACKENZIE.



## AN ACT

To merge the Yorkshire College in the University of Leeds and to transfer all the property and liabilities of the Yorkshire College to the University of Leeds and for other purposes.

*(Royal Assent, 24th June 1904.)*

WHEREAS the Yorkshire College was in the year one thousand eight hundred and seventy-eight constituted and incorporated under the Companies Acts 1862 and 1867 as an Association not for profit with the object of founding endowing and maintaining in the county of York a College or Colleges and by means thereof and otherwise of promoting the education of persons of both sexes and in particular of providing instruction in such sciences and arts as are applicable or ancillary to the manufacturing mining engineering and agricultural industries of the county of York and in ancient and modern languages history and literature medicine surgery law logic moral philosophy and other branches of education and with such other subordinate objects as are in the Memorandum of Association of the said College mentioned : Preamble.

And whereas by Royal Charter dated the twentieth day of April one thousand eight hundred and eighty the Victoria University was constituted and founded having its seat in the city of Manchester with power to confer degrees and other distinctions except in medicine or surgery unless and until authority in that behalf should be given by further Charter or by Act of Parliament which authority was given by a supplemental Charter dated the twentieth day of March one thousand eight hundred and eighty-three :

And whereas in the year one thousand eight hundred and eighty-seven the Yorkshire College was admitted as a College in the Victoria University :

And whereas by Royal Charter dated the fifteenth day of July one thousand nine hundred and three it is provided that the Victoria University shall henceforth be called and known as the Victoria University of Manchester and (among

other things) that on the grant of a Charter establishing a university having its seat in Leeds or elsewhere in Yorkshire the Yorkshire College shall cease to be a College of the Victoria University of Manchester :

And whereas on the Petition of the Yorkshire College a Charter was on the twenty-fifth day of April one thousand nine hundred and four granted by His Majesty constituting in the city of Leeds a university by the name and style of the University of Leeds with faculties of Arts Science Medicine and Technology and such other faculties as may from time to time be constituted by the statutes of the University and with power to grant degrees and to do all acts and things which may be requisite in order to further the objects of the University as a teaching and examining body and to cultivate and promote art science and learning :

And whereas the Yorkshire College has consequently ceased to be a College in the Victoria University of Manchester and the governing body of the Yorkshire College are desirous and it is expedient that the College should be merged in the University of Leeds and that all its property and liabilities should be transferred to and vested in the last-named University :

And whereas it is expedient to empower the University of Leeds to hold examinations under Section 3 of the Medical Act 1886 and to elect a representative on the General Council mentioned in Section 7 of the same Act :

And whereas the objects of this Act cannot be attained without the authority of Parliament :

**MAY IT THEREFORE PLEASE YOUR MAJESTY**

That it may be enacted and be it enacted by the King's Most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by the authority of the same as follows (that is to say) :

1. This Act may be cited as the "University of Leeds Act, 1904."

2. On the passing of this Act the Yorkshire College shall be by virtue of this Act dissolved and cease to exist and all property real and personal of every description (including things in action) and all rights and privileges of the Yorkshire College which immediately before that date belonged

Short title.

Dissolution  
of Yorkshire  
College and  
transfer of  
property to  
University of  
Leeds.

to or were vested in that College shall be by virtue of this Act without any conveyance or other instrument transferred to and vested in the University of Leeds for all the estate and interest therein of the Yorkshire College and shall be applied to the objects and purposes for which the University of Leeds is incorporated.

3. On the passing of this Act all debts and liabilities of the Yorkshire College shall by virtue of this Act be transferred and attached to the University of Leeds and shall thereafter be discharged and satisfied by that University.

Transfer of liabilities.

4. All agreements awards contracts deeds and other instruments and all actions and proceedings and causes of action or proceedings which immediately before the passing of this Act were existing or pending in favour of or against the Yorkshire College shall continue and may be carried into effect enforced and prosecuted by or in favour of or against the University of Leeds to the same extent and in like manner as if the University of Leeds instead of the Yorkshire College had been party to or interested in the same respectively.

Saving for agreements deeds actions &c.

5. (1) The Council of the Victoria University of Manchester the Council of the Owens College Manchester and the Council of the University of Liverpool or any of them may by agreement with the Council of the University of Leeds adjust and settle all questions arising with respect to any endowments property powers privileges authorities debts liabilities obligations or expenses in which the parties to the agreement are interested and also with respect to any examinations degrees and other University and College matters.

Adjustment of property and liabilities, &c.

(2) An agreement under this section may provide for the transfer retention division apportionment or commutation of any endowments property debts liabilities or obligations and for a payment being made by any party to the other or others in respect of any such transfer retention division apportionment or commutation or in respect of the salary or remuneration of any officer or person and generally may make as between the parties to the agreement any provisions necessary or proper for carrying into effect the purposes of this Act.

(3) In default of agreement on any such question as aforesaid or so far as such agreement does not extend the question shall be referred to a single arbitrator to be nominated by the Lord President of His Majesty's Council on the application of any party and his award may provide for any matter for which an agreement might have provided. And subject as aforesaid the provisions of the Arbitration Act 1889 shall apply.

Saving for existing officers of Yorkshire College.

6. All professors and other members of and persons attached to or associated with the teaching staff of the Yorkshire College and all salaried or paid officers and servants of the Yorkshire College shall hold as nearly as practicable the same offices and places in the University of Leeds as they held in the said College immediately before the passing of this Act and upon the same terms and conditions unless and until the Council of the University shall otherwise decide.

Transfer of powers to nominate members of certain governing bodies.

7. Any power or right of the Yorkshire College or of the Council Senate or other members of that College as such to appoint or nominate a member of the governing body of any educational charitable or other institution shall on the passing of this Act be transferred to and may be exercised by the Council of the University of Leeds.

Power of University of Leeds to hold examinations under 49 and 50 Vict. c. 48.

8. The University of Leeds is hereby empowered to hold qualifying examinations in medicine surgery and midwifery for the purpose of registration under the Medical Acts as if the University had been a University in the United Kingdom legally qualified at the passing of the Medical Act 1886 to grant diplomas in medicine and surgery and the provisions of Part I of that Act shall be read and have effect accordingly.

Power of University of Leeds to choose representative on General Medical Council.

9. The Council of the University of Leeds shall be entitled to choose one representative to be a member of the General Council constituted by the Medical Acts and Section 7 of the Medical Act 1886 shall be read and have effect as if the University of Leeds had been expressly included therein.

Application of Section 7 of Mortmain &c. Act 1888 (51 and 52 Vict. c. 42)

10. Section 7 of the Mortmain and Charitable Uses Act 1888 shall be read and have effect as if the words "and the University of Leeds" were therein inserted after the words "Victoria University."

11. Any will deed or other document whether made or executed before or after the passing of this Act which contains any bequest gift or trust in favour of the Yorkshire College shall on and after the passing of this Act be read and have effect as if the University of Leeds were therein named instead of the Yorkshire College.

Construction  
of bequests  
in favour of  
Yorkshire  
College.

12. The Charitable Trusts Acts 1853 to 1894 shall not extend to the University of Leeds or to any college or hall therein.

As to the  
Charitable  
Trusts Acts.

13. The Council of the University of Leeds shall deliver to the Registrar of Joint Stock Companies a printed copy of this Act and he shall retain and register the same and if such copy is not so delivered within three months from the passing of this Act the University of Leeds shall incur a penalty not exceeding two pounds for every day after the expiration of those three months during which the default continues and any member of the said Council who knowingly and wilfully authorises such default shall incur the like penalty. Every penalty under this section shall be recoverable summarily.

Copy of Act  
to be  
registered.

There shall be paid to the Registrar by the University of Leeds on such copy being registered the like fee as is for the time being payable under the Companies Act 1862 on registration of any document other than a Memorandum of Association.

14. The costs charges and expenses of and incidental to preparing and obtaining this Act shall be defrayed by the University of Leeds out of income or of the capital of the property by this Act transferred to the University or if the Council of the University think fit out of money to be raised by sale or mortgage of some part of the said property.

Costs of  
Act.

## AN ACT

## To extend the privileges of the Graduates of the University of Leeds.

*(Royal Assent, 15th August, 1904.)*

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

Extension of privileges of graduates of Leeds University.

1. Wherever any office is or shall be open to graduates of the Universities of Oxford, Cambridge, and London, and of the Victoria University of Manchester, or wherever any privilege or exemption has been or shall be given by any Act of Parliament or regulation of any public authority to graduates of the Universities of Oxford, Cambridge, and London, and the Victoria University of Manchester, graduates of the University of Leeds having the degree which would be a qualification if it had been granted by the University of Oxford, Cambridge, or London, or the Victoria University of Manchester, may become candidates for and may hold any such office and shall be entitled to all such privileges as fully as graduates of any of the last-mentioned universities.

Short title.

2. This Act may be cited as the Leeds University Act, 1904.

**ORDINANCES**

**made by the Court in accordance with the provisions of  
Clauses X and XI of the Charter**

**I. AFFILIATED COLLEGES AND INSTITUTIONS**

1. Colleges and Institutions, or parts thereof, may be admitted to affiliation after report by the Senate. The Senate, before recommending the affiliation of any such College or Institution, shall satisfy itself:

- (a) That the College or Institution has attained a satisfactory standard of educational efficiency for the purposes for which affiliation is sought, and is established on a permanent basis.
- (b) That the majority of regular students in such College or Institution are of the age of sixteen years.

2. In the case of any affiliated College or Institution, or of any part of such College or Institution recognised for the purposes of this clause, students who have attained the age of seventeen years, and have passed the Matriculation examination of the University, or are exempt therefrom, shall be allowed to attend at any such College or Institution a part or the whole of a course of study, approved by the Senate of the University as exempting from such courses of study in the University as the Council may approve, provided that in no case shall the University confer a degree upon any person who has not attended in the University during two years at least the courses of study which have been recognised for such degree.

3. The Council shall, after a report from the Senate, determine the privileges to which the students of any such affiliated College or Institution shall be admitted.

4. Any College or Institution desiring to avail itself of the foregoing Ordinance shall

- (a) Make provision for the representation of the University on the body which determines the annual plan of study, in so far as it concerns the courses submitted for the approval of the University ;

- (b) Submit for the approval of the Senate of the University day courses of study, whose duration, scope, and standard shall be equivalent to the corresponding courses of the University.

5. The University shall inspect from time to time the buildings and equipment for teaching provided in any such College or Institution, and shall satisfy itself as to the qualifications of any teacher therein appointed to conduct the courses offered in place of University courses.

6. The Council, after a report from the Senate, shall be entitled at any time to withdraw any privileges which may have been granted to any College or Institution under these Ordinances, and to remove the said College or Institution from affiliation.

#### **Affiliated Colleges**

THE COLLEGE OF THE RESURRECTION, MIRFIELD (May 18, 1904). By resolution of the Council the students of this College are exempt from attendance at the University upon the first of the three years of study required for the B.A. Ordinary or Honours degree.

THE TECHNICAL COLLEGE, HUDDERSFIELD. (March 2, 1906). By resolution of the Council, attendance upon certain classes in this College is recognised as exempting from attendance upon classes in the University in the first year of the courses required for the degrees of B.A., B.Sc. (including Engineering), and M.B. and Ch.B.

RAWDON COLLEGE, RAWDON. (May 17, 1916). By resolution of the Council (October 1, 1915), attendance upon certain courses of study in this College is recognised as exempting from attendance upon courses in the University in the first of the three years of study required for the B.A. (Ordinary and Honours Degree).

### **II. DEGREES IN ARTS**

1. The degrees in Arts shall be:

Bachelor of Arts (B.A.)  
Master of Arts (M.A.)  
Doctor of Philosophy (Ph.D.)  
Doctor of Letters (Litt.D.).

**Degree of Bachelor of Arts**

(See pp. 128-129)

**Degree of Bachelor of Arts with Honours**

(See pp. 138-140)

**Degree of Master of Arts**

(See pp. 152-154)

**Degree of Doctor of Philosophy**

(See pp. 160-161)

**Degree of Doctor of Letters**

(See pp. 161-162)

**III. DEGREE IN COMMERCE**

Bachelor of Commerce (B. Com.).

(See pp. 196-198)

**IV. DEGREES IN LAW**

1. The degrees in Law shall be :

Bachelor of Laws (LL.B.)

Master of Laws (LL.M.)

Doctor of Philosophy (Ph.D.)

Doctor of Laws (LL.D.).

**Degree of Bachelor of Laws**

(See pp. 207-209)

**Degree of Master of Laws**

(See p. 210)

**Degree of Doctor of Philosophy**

(See p. 210)

**Degree of Doctor of Laws**

(See pp. 210-211)

**V. DEGREES IN SCIENCE**

1. The degrees in Science shall be :—

Bachelor of Science (B.Sc.)

Master of Science (M.Sc.)

Doctor of Philosophy (Ph.D.)

Doctor of Science (D.Sc.).

**Degree of Bachelor of Science**

(See pp. 224-232)

**Degree of Bachelor of Science with Honours**

(See pp. 234-237)

**Degree of Master of Science**

(See pp. 256-258)

**Degree of Doctor of Philosophy**

(See p. 260)

**Degree of Doctor of Science**

(See pp. 260-261)

**VI. DEGREES IN MEDICINE AND SURGERY**

The degrees in Medicine and Surgery shall be :

Bachelor of Medicine and Bachelor of Surgery  
(M.B. and Ch. B.)

Doctor of Philosophy (Ph.D.)

Doctor of Medicine (M.D.)

Master of Surgery (Ch.M.)

**Degrees of Bachelor of Medicine and  
Bachelor of Surgery**

(See pp. 404-408)

**Degree of Doctor of Philosophy.**

(See p. 412)

**Degree of Doctor of Medicine**

(See pp. 411-412)

**Degree of Master of Surgery**

(See pp. 412-413)

**VII. DEGREES IN DENTAL SURGERY**

1. The degrees in Dental Surgery shall be :

Bachelor of Dental Surgery (B.Ch.D.)

Master of Dental Surgery (M.Ch.D.)

**Degree of Bachelor of Dental Surgery**

(See pp. 432-435)

**VIII. RECOGNITION OF VICTORIA UNIVERSITY  
COURSES AND EXAMINATIONS**

(a) The Senate, or any Committee of the Senate appointed for that purpose, is hereby empowered to recognise courses of study pursued and examinations passed by students of the Yorkshire College or of the University of Leeds in the Victoria University or the Victoria University of Manchester prior to January 1, 1905, as equivalent to corresponding courses and examinations in the University of Leeds.

(b) The Senate, or any Committee of the Senate appointed for that purpose, is hereby also empowered to make such concessions in exemption from examinations and from attendance on courses of study, as may be required to place a past or present student of the University or of the Yorkshire College, who has been admitted thereto before 1st October, 1904, in as favourable a position in the above respects as if he had become or had continued to be a student of the Victoria University or of the Victoria University of Manchester.

(c) A student of the Yorkshire College, who before December 31, 1904, has passed a Final examination of the Victoria University or of the Victoria University of Manchester, for the Bachelor's degree in the Faculty of Arts, Science, Law, or Medicine shall be entitled to be

admitted to the Bachelor's degree of the University of Leeds; and if he has been admitted to the Bachelor's degree of the Victoria University or the Victoria University of Manchester he shall be entitled to proceed to the higher degrees of the University of Leeds on the same conditions as if he had graduated in this University.

#### **IX. RECOGNITION OF COURSES AND EXAMINATIONS OF OTHER RESIDENTIAL UNIVERSITIES**

(a) Subject to the provisions of the Charter and Statutes, the Senate, or any Committee of the Senate appointed for that purpose, is hereby empowered to allow members of any University, in which residence is required as a condition of graduation, or members of any University who have attended courses of study at some College or other place of learning which is affiliated or associated with such University, after Matriculation at the University of Leeds, and presentation of certificates of conduct satisfactory to the Senate or Committee, to count such periods of residence passed by them at such other University as equivalent to such periods of residence at the University of Leeds as the Senate or Committee may determine, provided that no degree of this University shall be conferred on any such person unless he shall have pursued an approved course of study in this University extending over at least two years, and shall have passed the Final examination for such degree.

(b) Undergraduates of other Universities who have been admitted, under this Ordinance, as members of this University may be allowed to count examinations passed by them at such other Universities as equivalent to such examinations or portions of examinations other than the Final examination of this University as the Senate, or any Committee of the Senate appointed for that purpose, may from time to time determine.

(c) Undergraduates of the University of Leeds who are pursuing an approved course of instruction in any of the Honours Schools of the University may be allowed to count such periods of residence passed by them at other Universities during their undergraduate course as equivalent to such

periods of residence at the University of Leeds as the Senate, or any Committee appointed for that purpose, may from time to time determine, provided that no degree of this University shall be conferred upon any such undergraduate unless he shall have pursued an approved course of study in this University extending over at least two years, and shall have passed the Honours examination for such degree.

#### **X. CONFERMENT OF DEGREES UPON FORMER STUDENTS OF THE YORKSHIRE COLLEGE**

1. As to conferment of *ad eundem* degrees on students who have attended full courses of study at the Yorkshire College and have graduated at various Universities, but who have not been admitted to the College Associateship :

Graduates of the Victoria University shall be offered the same degrees in the University of Leeds as those which they have received from the Victoria University.

Graduates in Medicine of other Universities shall be admissible on application to the M.B. degree of the University of Leeds.

Applications from non-medical graduates of other Universities who have been students of the Yorkshire College shall be considered on their merits.

In every case of admission under the above conditions a fee of 10s. 6d. shall be charged.

2. As to Associates of the Yorkshire College :

Graduates of the Victoria University shall be offered the same degrees in the University of Leeds as those which they have received from the Victoria University.

Graduates of other Universities shall be offered the degree of Bachelor in this University in the Faculties in which they graduated elsewhere.

All Associates of the Yorkshire College admitted to degrees of the University of Leeds under these conditions shall be admitted without fee.

3. All persons admitted to degrees of the University of Leeds under the foregoing conditions shall be admissible as life members of the Convocation of the University.

4. No graduate admitted under the above conditions to a lower degree shall be precluded from proceeding in the University of Leeds to a higher degree in his particular faculty.

#### **XI. STANDING OF CERTAIN GRADUATES IN PROCEEDING TO HIGHER DEGREES**

1. Graduates of other Universities who have been admitted to degrees of equal or similar rank in this University shall be allowed, in proceeding to higher degrees, to count their standing as graduates from the date of their graduation in such other Universities.

2. Associates by examination of the Yorkshire College who have been admitted to degrees in this University shall be allowed, in proceeding to higher degrees, to count their standing as graduates from the date of admission to the Associateship.

#### **XII. AWARD OF DEGREES BY SENATE**

The Senate is hereby empowered to award degrees other than (1) *ad eundem* degrees, (2) degrees conferred on officers of the University, and (3) honorary degrees, in accordance with the provision in that behalf contained in Statute I. b.

#### **XIII. AWARD OF DEGREES BY COUNCIL**

1. The Council is hereby authorised to grant to any Professor of the University, or to any Lecturer who is the head of any department in the University, a degree not higher than that of Master in the Faculty in which he has graduated, or, in the case of a Professor or Lecturer holding no degree, such degree, not higher than that of Master, as the Council may determine.

2. The Council is authorised, if it thinks fit, to grant to any other officer of the University such degree, not higher than that of Master, as it may determine, but no such degree shall be conferred until a report thereon has been received from the Senate.

3. No Medical degree shall be conferred under either of the above provisions (1) and (2) upon a person who does not already possess a registrable medical qualification ; and no person, in virtue of a degree conferred under either of these provisions, shall be allowed to proceed to a degree higher than that to which he has been admitted.

#### **XIV. JOINT MATRICULATION BOARD AND JOINT COMMITTEES**

The Council is hereby empowered to elect annually, or as may be required :

1. Five members of the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield.
2. Three members of a Joint Committee of the Universities of Manchester, Liverpool, and Leeds, to consider objections which may be raised by one or more of those Universities, to Statutes or Ordinances proposed by any of them, or by the University of Sheffield.

#### **XV. DIPLOMAS**

Diplomas shall be granted by the University, in such subjects as the Council may from time to time determine, to students who pursue the courses of study and pass the examinations prescribed.

The Council is empowered to make from time to time Regulations under which such diplomas shall be awarded.

The award of diplomas under the provisions of this Ordinance is delegated to the Senate.

#### **XVI. REGULATIONS FOR PROCEDURE**

The Council, Senate, Faculties, Boards of Faculties, and Convocation are hereby empowered to enact Regulations for the conduct of their business and that of their Committees, subject to the provisions of the Charter and Statutes

**XVII. FEES**

The Council is hereby empowered, after giving the Senate an opportunity of reporting thereon, to appoint such Registration, Examination, Class, Laboratory, and other fees to be paid by students and others as the Council may from time to time determine, and to increase, reduce, or abolish the same.

**XVIII. REGULATIONS FOR EXAMINATIONS**

Subject to the provisions of the Charter, Statutes, and Ordinances of the University, the Council is hereby empowered to adopt regulations, or to delegate to the Senate the making of regulations, as to the subjects, times, modes, and standards of the examinations.

**XIX. ADMISSION TO EXAMINATIONS**

Before admission to any examination candidates must pay the examination fee. The admission of all students to the examinations of the University shall be subject to the approval of the Vice-Chancellor.

**XX. EXTERNAL EXAMINERS**

The Council is hereby empowered to appoint, on the recommendation of the Senate, such External Examiners on such conditions as to tenure of office, remuneration, and otherwise as it may from time to time determine.

**XXI. PRIZES**

The Council is hereby empowered, upon report from the Senate, to institute such class and other prizes as it may from time to time determine, and to vary their value and to abolish the same.

**XXII. EXAMINATION OF SCHOOLS, AND  
EXTENSION LECTURES**

The Senate is hereby empowered to examine and inspect schools and other educational institutions, and to provide lectures and instruction for persons not members of the University under such Regulations as the Council may from time to time adopt. The Senate is empowered to award certificates in connection with lectures and instruction for persons not members of the University.

### **XXIII. TENURE OF OFFICE OF DEANS OF FACULTIES**

Deans of Faculties shall be elected for periods not exceeding two years at a time.

### **XXIV. TENURE OF OFFICE OF ADDITIONAL MEMBERS OF THE SENATE**

Such additional Members of the Senate of the University as may be appointed by the Court under Statute V. shall be appointed for one year only, but shall be re-eligible at the end of each year.

### **XXV. REGISTER OF CONVOCATION**

1. The Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the members of the Senate and the Lecturers shall be registered as members of Convocation without payment of any fee, and their names shall be continued upon the Register so long as they retain their qualifying offices.

2. Graduates who have been admitted to degrees of this University by reason of their having pursued courses of study in the Yorkshire College, and having been admitted to degrees of other Universities or to the Associateship of the Yorkshire College, shall be entitled to be registered immediately as life members of Convocation without payment of any further fee.

3. All graduates of this University shall be entitled to be registered as members of Convocation upon payment of a fee of 10s. 6d.

### **XXVI. COMMUNICATIONS FROM COUNCIL TO CONVOCATION**

Convocation shall receive from the Council the draft of any Ordinance proposed which, in the opinion of the Council, would affect the status, position, rights, or privileges of Convocation or the members thereof, and further Convocation, if it so desires, may record its opinion on any draft Ordinance so submitted within one month from the date at which it has been received, and such opinion when recorded shall be taken into consideration by the Council.

**XXVII. WAIVING OF PRESENT REQUIREMENTS  
AS TO CERTAIN UNIVERSITY EXAMINATIONS  
IN THE CASE OF APPROVED STUDENTS ON  
NATIONAL SERVICE**

During the continuance of the present war, or for such further period as the Lords of the Committee of Council shall allow the amendment to Statute XIII to remain in force, it shall be within the power of the Senate, acting on the recommendation of the Heads of Departments concerned, to waive, in the case of approved candidates going on active service, or undertaking other approved duties in connection with national defence, any requirement prescribed by the existing Ordinances of the University as to the passing of (1) any examination for the degree of Bachelor in any Faculty other than that of Medicine; (2) the First Examination for the Degrees of M.B., Ch.B., and B.Ch. D. Any action taken by the Senate under this Ordinance shall be reported to the Council.

# THE UNIVERSITY OF LEEDS

## Visitor

His Majesty THE KING

## Chancellor

His Grace THE DUKE OF DEVONSHIRE, K.G., G.C.M.G.,  
G.C.V.O., LL.D.

## Pro-Chancellor

ARTHUR GREENHOW LUPTON, LL.D.

## Vice-Chancellor

Sir MICHAEL ERNEST SADLER, K.C.S.I., C.B., LL.D.,  
Litt.D.

## Pro-Vice-Chancellor

Professor CHARLES M. GILLESPIE, M.A.

## Treasurer

The Hon. RUPERT E. BECKETT

## Dean of the Faculty of Arts

Professor CHARLES M. GILLESPIE, M.A.

## Dean of the Faculty of Science

Professor WALTER GARSTANG, M.A., D.Sc.

## Dean of the Faculty of Technology

Professor ALDRED F. BARKER, M.Sc.

## Dean of the Faculty of Medicine

Professor JOHN KAY JAMIESON, M.B., C.M.

## Accountant

GEORGE R. BRENCH

## Clerk to the Senate

FRED. T. BAINES, B.A.

## Secretary

ARCHIBALD E. WHEELER

## THE COURT

The CHANCELLOR  
The PRO-CHANCELLOR  
The VICE-CHANCELLOR  
The TREASURER

### Members Nominated by the Crown

The Right Hon. LORD AIREDALE, London  
The Right Rev. The LORD BISHOP OF RIPON, M.A., D.D., Ripon  
THOMAS EDMUND HARVEY, B.A., Leeds

### Members Elected by the Court

The Most Rev. THE LORD ARCHBISHOP OF YORK, LL.D., Bishop-  
thorpe  
The Rev. WILLIAM ERNEST BLOMFIELD, B.A., B.D., Principal of  
Rawdon College  
ALBERT WELLSLEY BAIN, Harrogate  
EDWIN KITSON CLARK, M.A., Leeds  
HERBERT DENISON, Leeds  
WILLIAM BONNALIE GORDON, Bradford  
Mrs. FRANK GOTT, Leeds  
THOMAS W. PAUL, Leeds  
Professor ARTHUR SMITHELLS, C.M.G., B.Sc., F.R.S., Leeds  
CHARLES T. WHITMELL, M.A., Leeds

### Members for Life

The Right Hon. the THE EARL OF MEXBOROUGH, Helmsley  
The Right Hon. THE EARL OF HAREWOOD, K.C.V.O., LL.D.,  
Harewood  
The Right Hon. VISCOUNT COWDRAY, London  
The Right Hon. VISCOUNTESS COWDRAY, London  
The Right Rev. THE LORD BISHOP OF GLOUCESTER, D.D.,  
Gloucester  
The Right Hon. LORD FABER, Harrogate  
The Right Hon. LORD SOMERLEYTON, K.C.V.O., Somerleyton,  
Lowestoft  
The Right Hon. LORD WITTENHAM, C.B., London  
The Hon. EDWARD FREDERICK LINDLEY WOOD, M.A., M.P.,  
Temple Newsam  
The Hon. RICHARD CLERE PARSONS, M.A., London  
The Right Hon. ARTHUR HERBERT DYKE ACLAND, M.A., LL.D.,  
London

The Hon. WILLIAM GERVASE BECKETT, M.P., Leeds  
The Hon. RUPERT EVELYN BECKETT, Leeds  
The Hon. FRANCIS STANLEY JACKSON, B.A., M.P., London  
Sir JOHN NICHOLSON BARRAN, Bart., B.A., Ripon  
Sir FREDERICK WILLIAM FISON, Bart., M.A., Hurst Green, Sussex  
Sir THOMAS LANE DEVITT, Bart., London  
Sir JAMES ROBERTS, Bart., Birgley.  
Sir JOHN ARTHUR BROOKE, Bart., M.A., Huddersfield  
Prof. Sir THOMAS CLIFFORD ALLBUTT, K.C.B., M.A., M.D.,  
LL.D., D.Sc., F.R.S., Cambridge  
Colonel Sir JAMES DIGBY LEGARD, K.C.B., Malton  
Sir WILLIAM EDWIN BRIGGS PRIESTLEY, Bradford  
Sir GEORGE JACK COCKBURN, Leeds  
Sir WILLIAM EDWARD GARFORTH, LL.D., M.Inst.C.E., Normanton  
Sir WILLIAM MIDDLEBROOK, M.P., Morley  
Sir ROWLAND HIRST BARRAN, Leeds  
Sir ERNEST MARTIN, Huddersfield  
WILLIAM ACKROYD, Huby, near Leeds  
GEORGE APPELEYARD  
THOMAS WADE APPELEYARD  
JOHN W. ARCHER, Bournemouth  
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### D. Teachers' Registration Council

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M.A., are accepted.

**Philosophy**

*Professor :* C. M. GILLESPIE, M.A., *Trinity  
College, Oxford.*

*Assistant Lecturer :* H. F. HALLETT, M.A.,  
*Edinburgh.*

**Economics**

*Professor :* J. HARRY JONES, M.A., *Wales.*

*Lecturer :* A. N. SHIMMIN, M.A., *Manchester.*

*University Lecturers in Social Organisation :*  
HENRY CLAY, B.A., *University College,  
Oxford.*

ROBERT S. DOWER, M.A., *St. John's  
College, Cambridge : Fellow of the Royal  
Society of Economic Studies.*

**Geography**

*Lecturer :* C. B. FAWCETT, B.Litt., *Oxford,  
M.Sc., London.*

**Education**

*Professor of Education :* JOHN STRONG,  
M.A., *London, LL.D., St. Andrew's,  
C.B.E.*

*Lecturer in Education and Master of Method :*  
W. P. WELPTON, B.Sc., *London.*

*Tutor of Women Students and Mistress of  
Method :* MISS HANNAH ROBERTSON,  
B.A., *London.*

*Assistant Lecturer in Education :* A. J.  
MONAHAN, M.A., *Leeds.*

*Assistant Master of Method :*

*Assistant Lecturer in Education and Assistant  
Mistress of Method :* MISS E. M. BLACK-  
BURN, M.A., *Leeds.*

**Education***Assistant Lecturers in Education :*Miss R. F. SHOVE, M.A., *Dublin.*Miss URSULA IRONS, M.A., *Dublin.**Teacher of Music, Reading and Elocution :*T. J. HOGGETT, Mus.B., *Durham.**Teacher of Needlework :* Miss E. M. WALL.*Teacher of Art :* Miss EDITH A. FOSTER,  
A.T.C.**Law***Professor :* J. D. I. HUGHES, B.C.L., *Balliol College, Oxford.**Lecturer :* ARTHUR E. CHAPMAN, M.A.  
LL.D., *Christ's College, Cambridge.**Lecturer in Law at Hull :*WILLIAM H. OWEN, LL.B., *London.***FACULTY OF SCIENCE****Dean of the Faculty**

PROFESSOR GARSTANG.

**Mathematics***Professor :* W. P. MILNE, M.A., D.Sc.,  
*Aberdeen, M.A., Clare College, Cambridge.**Lecturer in Applied Mathematics :*S. BRODETSKY, M.A., *Cambridge,*  
Ph.D., *Leipzig.**Assistant Lecturer :***Physics***Cavendish Professor :* R. WHIDDINGTON,  
M.A., D.Sc., Fellow of St. John's College,  
*Cambridge.**Lecturer in Optics :* A. O. ALLEN, M.A.,  
B.Sc., *London, A.R.C.Sc.**Assistant Lecturer and Demonstrator :*S. A. SHORTER, B.Sc., *Victoria, D.Sc.,*  
*Leeds.**Demonstrators :*Miss CLARA E. WATSON, B.Sc., *Leeds.*  
GORDON MORTON, B.Sc., *Leeds.**Honorary Fellow for Research in Physics :*NORMAN R. CAMPBELL, M.A., Sc.D.,  
*sometime Fellow of Trinity College, Cam-*  
*bridge.***Chemistry***Professor :* ARTHUR SMITHELLS, B.Sc.,  
*London and Victoria, C.M.G., F.R.S.**Lecturer in Physical Chemistry :* HARRY M.  
DAWSON, B.Sc., *London, D.Sc., Leeds,*  
Ph.D., *Giessen.*

- Chemistry** . . . *Lecturer in Analytical Chemistry:*  
W. LOWSON, B.Sc., London and Leeds,  
F.I.C.  
*Assistant:* H. WHITAKER, M.Sc., Leeds.
- Organic Chemistry** . . . *Professor:* JULIUS B. COHEN, B.Sc.,  
Victoria, Ph.D., Munich, F.R.S.  
*Demonstrator:* P. K. DUTT, M.A., Calcutta,  
M.Sc., Leeds, A.I.C. 59  
*Research Assistant:* RUFUS GAUNT, M.Sc.,  
Leeds, Ph.D., Berlin.
- Zoology** . . . *Professor:* WALTER GARSTANG, M.A.,  
D.Sc., late Fellow of Lincoln College,  
Oxford.  
*Assistant Lecturers and Demonstrators:*  
Mrs. W. O. REDMAN KING, B.Sc., Leeds.  
E. PERCIVAL, B.Sc., Leeds.  
*Assistant and Keeper of the Insect Collections:*  
MISS M. SIMPSON.  
*Research Assistant:* Miss EDITH WORSNOP,  
M.Sc., Leeds.
- Botany** . . . *Professor:* JOSEPH H. PRIESTLEY, B.Sc.,  
London, F.L.S.  
*Honorary Lecturer in Mycology:*  
HAROLD WAGER, D.Sc., F.R.S.  
*Lecturer in Plant Morphology:*  
NORMAN WALKER.  
*Assistant Lecturer and Demonstrator:*  
W. H. PEARSALL, M.Sc.  
*Honorary Demonstrator:*  
Mrs. J. H. PRIESTLEY.  
*Demonstrator:*  
Miss A. F. C. EVERSHED, Nat. Sci.  
Tripos, Cambridge.  
*Research Assistant:*
- Physiology** . . . See page 97.
- Geology** . . . *Professor:* PERCY F. KENDALL, M.Sc.,  
Leeds, F.G.S.  
*Lecturer in Economic Geology:*  
A. GILLIGAN, D.Sc., Leeds, F.G.S.  
*Demonstrator:* H. C. VERSEY, M.Sc., Leeds.

**FACULTY OF TECHNOLOGY****Dean of the Faculty**

Professor BARKER.

**Civil and Mechanical****Engineering** . Professor : JOHN GOODMAN, M.Inst.C.E.,  
M.I.Mech.E.*Lecturer in Civil Engineering :*JAMES GILCHRIST, B.Sc., *Edinburgh*,  
A.M.Inst.C.E.*Assistant Lecturer :*T. M. NAYLOR, B.Sc., *Manchester*,  
A.M. Inst. C.E., A.M. Inst. M.E.*Demonstrators :*

H. A. HAMILTON.

A. SOMERSCALES.

W. COWAN.

S. G. RICHARDSON.

**Electrical****Engineering** . *Lecturer and Acting Head of Department :*  
WALTER E. FRENCH, A.M.Inst.C.E.*Assistant Lecturer and Demonstrator :*D. CRAIG, B.Sc., *Leeds*.**Mining** .Professor : ERNEST L. HUMMEL, B.Sc.,  
*Victoria and Leeds*, M.E., *Austria*.*Assistant Lecturer and Demonstrator :***Coal Gas and Fuel  
Industries  
with Metallurgy***Livesey Professor of Coal Gas and Fuel Industries:*  
JOHN WILLIAM COBB, B.Sc., *Leeds*  
and *London*, C.B.E., F.I.C.*Lecturer in Gas Chemistry :*H. J. HODSMAN, M.Sc., *Leeds*, F.I.C.*Research Assistant and Assistant Lecturer in  
Refractory Materials :*H. S. HOULDSWORTH, M.Sc., *Leeds*.*Assistant Lecturer and Demonstrator in  
Metallurgy :* P. F. SUMMERS.*Research Chemists :*J. W. WOOD, M.Sc.Tech., *Manchester*.

A. PARKER, D.Sc.

*Research Assistants :*

HORACE KERR.

FRANK S. TOWNEND, B.Sc., *London*.**Textile Industries**Professor : ALDRED F. BARKER, M.Sc.,  
*Leeds*.*Lecturer in Textile Industries :*

HOWARD PRIESTMAN

*Lecturer in Yarn Manufacture :*

THOMAS HOLLIS.

- Textile Industries**    *Engaged on Special Research :*  
                                  S. A. SHORTER, B.Sc., Victoria, D.Sc.,  
                                  Leeds.  
                                  *Assistant Lecturer and Demonstrator :*  
                                  ALEXANDER YEWDALL.  
                                  *Textile Designer and Assistant Lecturer :*  
                                  W. LAW.  
                                  *Assistant Lecturer and Demonstrator in Textile*  
                                  *Materials and Testing :*    FOSTER  
                                  PICKLES.  
                                  *Museum Assistant and Assistant Designer for*  
                                  *Figured Fabrics :* MISS C. BENTON.  
                                  *Demonstrator :*  
                                  *Art Teacher :* WILFRED A. FARLEY.

- Colour Chemistry  
 and Dyeing**    *Professor :* ARTHUR G. PERKIN, F.R.S.,  
                                  F.I.C.  
                                  *Lecturer and Research Chemist :*  
                                  J. B. OESCH, Ph.D., Zurich.  
                                  *Lecturer in Dyeing and Research Assistant :*  
                                  PERCIVAL E. KING.  
                                  *Assistant Lecturer and Demonstrator in Colour*  
                                  *Chemistry :* H. G. CRABTREE.  
                                  *Demonstrator :* E. J. CROSS.  
                                  *Museum Curator :* MISS M. CASSON.

- Leather Industries**    *Professor of Applied Chemistry (Chemistry of*  
                                  *Leather Manufacture) :*  
                                  DOUGLAS McCANDLISH, M.Sc.,  
                                  Leeds.  
                                  *Assistant Lecturers and Demonstrators :*  
                                  W. R. ATKIN, M.Sc., Leeds.  
                                  F. C. THOMPSON, M.Sc., Leeds.  
                                  *Demonstrator :* D. BURTON, M.Sc., Leeds.  
                                  *Laboratory Assistant :* P. HAMPSHIRE.

- Procter International  
 Research Labor-  
 atory**    *Honorary Director :* Emeritus Professor HENRY  
                                  R. PROCTER, D.Sc., Leeds, F.I.C.  
                                  *Research Assistant :* F. C. THOMPSON,  
                                  M.Sc., Leeds.

**Agriculture**

*Professor:* ROBERT S. SETON, B.Sc.,  
*Edinburgh.*

*Professor of Agricultural Chemistry:*

*Lecturers in Agriculture:* RICHARD W.  
HAYDON.  
CHARLES F. ARCHIBALD.

*Assistant Lecturers and Demonstrators:*

J. H. FAULDER, B.Sc., *Durham.*

C. G. A. ROBERTSON, M.A., B.Sc.,  
*Aberdeen.*

*District Lecturers in Agriculture:*

ROBERT BOUTFLOUR, B.Sc., *Durham.*  
HERBERT THOMPSON, B.Sc., *Leeds*  
and *Victoria.*

D. B. JOHNSTON-WALLACE, B.Sc.,  
*Durham.*

JAMES STRACHAN, M.A., B.Sc.,  
*Aberdeen, N.D.A.*

*Assistant Lecturers in Agricultural Chemistry:*

\*W. GODDEN, B.Sc., *London, A.R.C.S.,*  
*F.I.C.*

N. M. COMBER, B.Sc., *London, A.R.C.S.*

J. A. HANLEY, Ph.D., *Munich, A.R.C.S.*

*Lecturer in Agricultural Botany and Forestry:*

\*W. A. MILLARD, B.Sc. *Bristol.*

*Assistant Lecturer in Agricultural Botany:*

Miss LORNA I. SCOTT, B.Sc., *London.*

*Lecturer in Agricultural Zoology:*

\*T. H. TAYLOR, M.A., *Royal University*  
*of Ireland.*

*Assistant:* H. W. THOMPSON, M.Sc., *Leeds.*

*Lecturer in Veterinary Hygiene:*

H. G. BOWES, F.R.C.V.S.

*Lecturer and Demonstrator on Poultry Keeping:*

FRED W. PARTON.

*Assistant Instructor:*

*Lecturer in Farm Economics:*

A. G. RUSTON, B.A., B.Sc., *London,*  
*M.Sc., Leeds.*

*Lecturer and Organiser in Horticulture:*

ALEXANDER S. GALT.

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\* Members of the Staff having special duties in relation to the provision of Technical Advice to Farmers in view of a Grant for that purpose from the Board of Agriculture and Fisheries.

- Agriculture** . . . *Instructors in Practical Horticulture:*  
                                   J. W. EVES.  
                                   J. J. GREEN.  
                                   W. LODGE.  
*Assistant Instructor:* FRANK REDINGTON.  
*Instructress in Dairy Work:* Miss ANNIE  
                                   D. McKERROW.  
*Assistant Instructress:* Miss ELSIE E. JONES.

## FACULTY OF MEDICINE

**Dean of the Faculty**

Professor JAMIESON.

**Academic Sub-Dean:**

**Clinical Sub-Dean:** HAROLD COLLINSON.

- Anatomy** . . . *Professor:* J. KAY JAMIESON, M.B., C.M.,  
                                   *Edinburgh.*  
*Demonstrator:* S. D. LODGE, M.R.C.S.,  
                                   L.R.C.P.  
*Honorary Demonstrator:*  
                                   W. CUTHBERT MORTON, M.A.,  
                                   M.D., *Edinburgh.*

- Physiology and  
                   Histology** *Professor of Physiology and Bio-Chemistry:*  
                                   HENRY S. RAPER, C.B.E., D.Sc.,  
                                   M.B., Ch.B., *Leeds.*  
*Lecturer in Experimental Physiology:*  
                                   BRYAN A. McSWINEY, M.B., Ch.B.,  
                                   *Dublin.*  
*Lecturer in Physiology and Bio-Chemistry:*  
                                   GEORGE WINFIELD, M.A., *Cambridge*  
*Demonstrator in Physiology:*  
                                   W. GIBBS LLOYD, M.Sc., M.B., Ch.B.  
                                   *Victoria and Liverpool.*  
*Demonstrator in Bio-Chemistry:*  
                                   H. D. KAY, B.Sc., *Manchester.*  
*Demonstrator in Experimental Physiology:*  
  
*Demonstrator in Histology:*  
  
*Hon Demonstrator:*  
                                   E. R. FLINT, M.B., Ch.B., *Leeds*  
                                   F.R.C.S.

**Pathology and  
Bacteriology***Professor*: MATHEW J. STEWART, M.B.,  
Ch.B., Glasgow, M.R.C.P.*Lecturer in Bacteriology*: J. W. McLEOD,  
M.B., Ch.B., Glasgow.*Lecturer in Pathology*:W. MACADAM, M.A., B.Sc., M.D.,  
Ch.B., Glasgow, M.R.C.P., D.P.H.,  
Cambridge.*Demonstrator in Pathology*:*Demonstrator in Bacteriology and Public Health*:*Honorary Fellow in Pathology*: ROBERT  
CATTLEY, M.B., C.M., Edinburgh,  
B.Sc., D.P.H., Cambridge.*Honorary Demonstrator in Medical Pathology*:  
R. A. VEALE,\* B.A., Oxford, M.D.,  
B.S., London, M.R.C.P.*Honorary Demonstrator in Surgical Pathology*:  
L. R. BRAITHWAITE,\* M.B., Ch.B.,  
Victoria, F.R.C.S.*Honorary Demonstrator in Clinical Pathology*:*Research Assistant*:*Honorary Demonstrator in Pathology*:**Medicine***Professor*: T. WARDROP GRIFFITH,\*  
M.D., C.M., Aberdeen, C.M.G., F.R.C.P.*Honorary Demonstrator*: G. W. WATSON,\*  
M.D., London, F.R.C.P.**Clinical Medicine***Professor*: A. G. BARRS, M.D., Edinburgh,  
F.R.C.P.*Medical Tutor*: J. Le FLEMING C.  
BURROW, M.B., Edinburgh, M.R.C.P.**Surgery***Professor*:*Honorary Demonstrator*: J. A. COUPLAND,\*  
M.B., B.S., London, F.R.C.S.

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\* See note under heading "Clinical Lecturers" on p. 100.

- Clinical Surgery** . *Professor:* Sir BERKELEY G. A. MOYNIHAN,\* M.S., London, K.C.M.G., C.B., F.R.C.S.  
*Surgical Tutor:* A. RICHARDSON, M.B., B.S., London, F.R.C.S.
- Practical Surgery** *Lecturer:* J. F. DOBSON, M.S., London, F.R.C.S.
- Operative Surgery** *Lecturer:* H. COLLINSON, M.B., M.S., London, C.M.G., D.S.O., F.R.C.S.
- Obstetrics** . *Professor:* E. O. CROFT, M.D. Durham, M.R.C.S., L.R.C.P.  
*Honorary Demonstrator in Clinical Obstetrics:* W. GOUGH, B.Sc., M.B., B.S., London, F.R.C.S.
- Gynæcology** . *Lecturer:* C. OLDFIELD, M.D., London, M.R.C.P., F.R.C.S.  
*Honorary Demonstrator in Obstetrics and Gynecology:*
- Therapeutics,  
 Pharmacy and  
 Materia Medica** *Professor of Therapeutics:*  
*Demonstrator of Pharmacy and Materia Medica:* J. H. GOUGH.  
*Honorary Demonstrator in Pharmacology:* C. W. VINING,\* M.D., M.R.C.P., D.P.H.
- Public Health** . *Professor:*  
*Honorary Demonstrators:*
- Forensic Medicine** *Professor:* F. W. EURICH, M.D., C.M., Edinburgh.  
*Honorary Demonstrator in Toxicology:*
- Ophthalmology** *Lecturer:* A. L. WHITEHEAD,\* M.B., B.S., London, M.R.C.S., L.R.C.P.
- Otology** . *Lecturer:* E. W. BAIN\*, M.B., B.S., London, F.R.C.S.
- Mental Diseases** . *Professor:* J. SHAW BOLTON, M.D., D.Sc., London, F.R.C.P.
- Vaccination** . *Instructor:* A. T. BACON, L.R.C.P.E., M.R.C.S.

\* See note under heading "Clinical Lecturers" on page 100.



**University Hall (*Residential*)**

*Warden:*

Miss BARBARA E. GWYER, *Lady Margaret Hall, Oxford.*

*Sub-Warden:*

Miss ROSAMOND F. SHOVE, M.A., *Dublin.*

---

**Lyddon Hall (*Residential*)**

*Warden:*

Miss AGNES B. MARCHBANK.

*Sub-Warden:*

---

**College Road Hall (*Residential*).**

*Warden:*

Miss URSULA IRONS, M.A., *Dublin.*

---

**Weetwood Hall (*Residential*).**

*Warden:*

Mrs. W. O. REDMAN KING, B.Sc., *Leeds.*

---

**Administrative Staff.**

*Vice-Chancellor:* Sir MICHAEL E. SADLER, K.C.S.I., C.B.,  
LL.D., Litt.D.

*Secretary:* A. E. WHEELER.

*Assistant Secretary:* J. J. ILETT.

*Accountant:* G. R. BRENCH.

*Clerk to the Senate:* F. T. BAINES, B.A., *Cambridge.*

*Assistants:*

J. BELL, Miss G. ILLINGWORTH, Miss N. S. BENNETT,  
A. BATT, Miss L. WESTON, Miss M. ILLINGWORTH,  
Miss D. BOOTH, Miss H. M. NOXON.

---

**University Library**

*Honorary Librarian:* Professor J. B. COHEN, B.Sc.,  
Ph.D., F.R.S.

*Librarian:* R. OFFOR, B.A., *London.*

*Assistants:* Miss F. M. EKINS.

Miss F. E. WRIGHT.

J. THOMPSON.

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**University Parliamentary Constituency**

*Registration Officer:* F. T. BAINES, B.A., *Cambridge.*

**External Examiners****Faculty of Arts**

*Greek*: R. D. HICKS, M.A., Fellow of Trinity College, Cambridge.

*Latin*:

*English Language*:

*English Literature*:

} To be appointed.

*French*: O. H. FYNES CLINTON, M.A., Professor of French and Roman Philosophy, University College, Bangor.

*German*: To be appointed.

*Russian*: G. A. BIRKETT, M.A., Lecturer in Russian, University of Sheffield.

*Spanish*: J. N. BIRCH, Esq., Sheffield.

*Hebrew*: Rev. L. S. THORNTON, M.A., College of the Resurrection, Mirfield.

*History*: T. F. TOUT, M.A., Professor of Mediæval and Modern History, Victoria University of Manchester.

*Philosophy*: H. J. W. HETHERINGTON, M.A., Professor of Philosophy, University College of South Wales, Cardiff.

*Economics*: E. J. URWICK, M.A., Professor of Economics, London School of Economics and Political Science.

*Education*: To be appointed.

*Music*: T. HENDERSON, Mus.Bac.

*Law*: C. SCRIVEN, LL.B.

**Faculty of Science**

*Mathematics*: G. H. LIVENS, M.A., Professor of Mathematics, University of Sheffield.

*Physics*: To be appointed.

*Chemistry*: A. HARDEN, D.Sc., F.R.S., Lister Institute of Preventive Medicine.

*Zoology*:

*Botany*:

*Geology*:

} To be appointed.

**Faculty of Technology**

*Engineering:*

*Electrical Engineering:*

} To be appointed.

*Mining:* G. R. THOMPSON, B.Sc., A.R.S.M.

*Leather Industries:* To be appointed.

*Fuel and Metallurgy:* D. G. BENGOUGH, M.A., D.Sc., A.R.S.M.,  
The University, Liverpool.

*Gas Engineering:*

*Colour Chemistry and Dyeing:*

} To be appointed.

*Agriculture:*

**Faculty of Medicine**

*Anatomy:*

*Physiology:*

} To be appointed.

*Materia Medica and Pharmacy,  
Pharmacology and Therapeutics:*

*Pathology and Bacteriology  
and Aetiology of Disease:*

} To be appointed.

*Forensic Medicine and Toxicology:* W. A. BREND, M.A., M.B.,  
Charing Cross Hospital, London.

*Public Health:* Dr. F. J. H. COUTTS.

*Medicine and Mental Diseases:*

*Surgery:*

*Obstetrics and Gynaecology:*

*Psychological Medicine:*

*Dental Subjects:*

} To be appointed.

THE  
UNIVERSITY OF LEEDS

Session 1919-1920

Faculties of Arts (including Commerce and Law),  
Science and Technology\*

UNIVERSITY TERMS

The University session, or academic year, is divided into three terms. The first term begins on Monday, October 6, 1919, and ends on Thursday, December 18, 1919; the second term begins on Thursday, January 8, 1920, and ends on Saturday, March 20, 1920; the third term begins on Tuesday, April 20, 1920, and ends on Saturday, July 3, 1920.

ADMISSION OF STUDENTS

The classes and laboratories are open to men and women on the same terms. Special arrangements are made to meet the convenience of women students.

No day students are admitted under the age of sixteen years. Students under seventeen years of age are required to pass an entrance examination unless they submit an approved certificate of general education.

All candidates for admission to the University who are under 19 years of age are required to give a reference of whom enquiry may be made. Those who are under 19 years of age and have been at a school or other educational institution within one year of their application for admission are required to produce a certificate of good conduct and of fitness for entrance to the University from the Head Master or Head Mistress of the School, or from the Head of the Institution which they have last attended.

In all cases students are urged to consult their Head Master or Head Mistress before presenting themselves for admission to the University. Premature entry upon a University course is greatly to be deprecated. While the University has not thought fit to raise the minimum age for

admission at the present time, such action may be taken in future years, and in the meantime applications from students below 17 will be considered with special care and power is retained to refuse admission on grounds of immaturity even in the case of those who have passed the Matriculation Examination.

Applications for admission to the University from persons residing out of the United Kingdom, must in all cases be accompanied by certificates of good conduct duly authenticated. Indian students are, in addition, required to produce certificates of identity. It is generally desirable that such certificates should be furnished by all students from foreign countries.

Students are required, prior to admission, to sign a declaration that they will observe the statutes, ordinances, and regulations of the University for the time being in force.

The Vice-Chancellor will admit students on MONDAY, OCTOBER 6th, from 9.30 a.m. to 12.30 p.m., and on TUESDAY, OCTOBER 7th, during the same hours. The Professors and Lecturers will be present to confer with intending students and to give them advice respecting their courses of study. Women students are requested to consult the Tutor of Women Students as to their studies before presenting themselves to the Vice-Chancellor. The Accountant will be in attendance to receive the fees and to register students whose courses of study have been duly approved.

All students (excepting those entering the department of Agriculture) are expected to register their names on one of the days mentioned above.

#### **REGULATIONS TO BE OBSERVED BY STUDENTS**

1. All students in regular attendance who are not living with their parents, or with relatives or personal friends, will be required to reside either at some Hall of Residence or Hostel approved by the University, or in registered lodgings, or in lodgings which, if not registered when taken by the student, shall receive the approval of the University. Students taking lodgings which have not been registered are required to report immediately to the Office the address of such lodgings.

2. Students who do not return punctually at the beginning of the term are liable to be refused permission to keep the term. In case of delay in entering, due to illness or other unavoidable cause, a communication must be made to the Vice-Chancellor.

3. When a student is absent through illness or other unavoidable cause a written explanation must at once be sent to the Vice-Chancellor, who will communicate it to the heads of the departments concerned. Students desiring leave of absence must obtain it from the Vice-Chancellor.

4. Students are required to keep the Secretary informed of their addresses. Any alteration of address must be communicated without delay.

5. Students are required to provide themselves with the books used in the classes which they attend, and with a copy of the University Calendar.

6. A student dismissed for idleness or misconduct will forfeit all fees and privileges.

7. Students are required to replace or repair any apparatus or other property destroyed or damaged by their fault.

8. The Students' Common Rooms are under the management of the University Union, and the Committee of the Union are empowered to impose fines in case of damage done to the property in their charge. An appeal against any decision of the Union may be made to the Senate.

9. All students of the University who are reading for degrees are required to enter their names in the Matriculation Register. On attending at the Office for this purpose, students must produce a certificate of having passed the Matriculation examination or of having been exempted therefrom.

10. No student is permitted, except with the leave of the Vice-Chancellor, to attend any lecture course or laboratory work until he has received from the Accountant his class ticket, which must be presented, before his course of study is begun, to the heads of the departments which he enters.

11. All students are required to present themselves for the class examinations in the subjects which they have been taking, and if they fail in these examinations they may be required to repeat their courses of study. In cases of repetition of courses the full fees will have to be paid for the repeated course.

12. Students will not ordinarily be permitted, while attending courses at the University in any Faculty except that of Law, to keep terms at the Bar during their courses of study.

13. Students are not at liberty to publish, except with the specific consent of the head of the department, the results of research work done in the University, or to publish any matter given in the lectures.

#### **Vacation Study**

The Senate desire it to be understood that study is expected from students during vacations. Arrangements are made by which the laboratories are open during a portion of the Long Vacation to students capable of independent work. Application for admission must be made to the heads of departments, with whom the decision as to the suitability of students for admission rests.

In many cases the vacation time of students in technical departments can be most profitably employed in obtaining practical experience in works. Assistance to obtain admission to works will, so far as practicable, be given by the Professors. In other cases, before the vacation begins, Professors and Lecturers will be prepared to make recommendations to students as to the private study which should be carried on during the vacation in preparation for the next session.

### **ENTRANCE EXAMINATIONS**

#### **1. For Degree Students**

All students who intend to present themselves as candidates for a degree in the University of Leeds are required, before entering upon their degree course, to produce a certificate of having passed the Matriculation examination conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield

and Birmingham, or a certificate of exemption therefrom. The conditions which entitle a student to exemption from the Matriculation examination are fully set forth in the Matriculation syllabus. Such applications for exemption from the Matriculation examination, as are based on special grounds and are not met by the conditions set forth in the Matriculation syllabus, are considered by the Joint Board through its Applications Committee.

The Matriculation examination is held at each University in July and September. Candidates are required to satisfy the examiners in: (1) English Composition and Literature. (2) English History. (3) Mathematics. (4) *Three* of the following, *one* of which must be a language: (i) Greek; (ii) Latin; (iii) French; (iv) German; (v) Some other Language approved by the Board; (vi) *Either* Mechanics *or* Physics; (vii) Chemistry; (viii) Geography (Physical, Political and Commercial); (ix) *Either* Natural History (Plants and Animals) *or* Botany; (x) General Experimental Science.

Candidates will not be admitted to the courses of study for the degree of Bachelor of Arts unless they have (1) passed the Matriculation examination in Latin, or (2) given evidence of possessing a knowledge of Latin equivalent to that required at the Matriculation examination.

A complete syllabus of the examination may be obtained from the Secretary, the Joint Matriculation Board, 315, Oxford Road, Manchester, to whom also should be addressed all applications for exemption from the Matriculation examination.

The conditions governing entrance to the Faculty of Medicine will be found in subsequent pages.

## 2. For other Students

Students under seventeen years of age who wish to pursue a course of study in the day classes of the University without proceeding to a degree are required, before entering, to have satisfied *one* of the following requirements:

- (a) To have passed the Matriculation examination.
- (b) To have passed some other public examination approved by the Vice-Chancellor.

- (c) To have gained a scholarship or exhibition awarded by the University after open competition.
- (d) To have passed the special examination for entrance to the Engineering departments (see below), including English Composition and Dictation.
- (e) To have passed an Entrance examination in each of the following subjects: Arithmetic, including decimals and proportion; Algebra, to simple equations; Geometry, the first book of Euclid or its equivalent; English Composition and Dictation.

This examination will be held on Tuesday, October 7th, 1919, the English subjects at 10 a.m., and the Mathematical subjects at 2 p.m.; and no subsequent examination for entrance will be held during the session. No candidate can be examined whose name has not been notified to the Clerk to the Senate by the morning of Monday, October 6th.

The Vice-Chancellor may dispense with the requirement of an entrance examination in the case of students who are presenting themselves for one or two lecture courses only.

Candidates for admission to the departments of Civil, Mechanical, Electrical, or Gas Engineering, Fuel or Mining are required *either* to have passed the Matriculation or some other approved examination, including Mathematics, *or* to pass a special entrance examination. This examination is not imposed, however, in the case of students who have taken a satisfactory position in the Evening Class examinations. For particulars of subjects, dates, and conditions of this examination see Courses in Technology (Engineering).

### DEGREE COURSES

Candidates for degrees in Arts, Commerce, Law and Science are ordinarily required (a) to have completed not less than three years of study in the University, all of which must be subsequent to the date of passing the Matriculation examination, and (b) to have passed prescribed examinations in the subjects of study. Full particulars of the requirements of the University in these respects will be found in subsequent pages.

## FEES

*All Fees are payable to the Accountant. Cheques should be made payable to "The University of Leeds," and crossed "Beckett & Co."*

## 1. Library Fee

Students who have paid a composition fee for the year, or have paid class fees of £2 10s. or upwards, are entitled to the use of the Library during the session without further payment. All other day students will be admitted to the use of the Library on payment of 2s. 6d. a term or 5s. a session, in addition to their class fees.

## 2. University Union Fee

Students attending the University for more than six hours a week, who have not paid the composition fee for the year will, except in special cases to be determined by the Vice-Chancellor, be required to pay to the Accountant at the beginning of each session a subscription of £1 1s. to the University Union. This subscription entitles students to the use of the Common Rooms (which are supplied with daily papers, periodicals, &c.), to free instruction in the University gymnasium, and to the use of the athletic grounds, fives courts and tennis courts.

## 3. Lecture and Laboratory Fees

*(a) General Regulations*

The fees for lecture and laboratory courses are payable in advance. On presentation of a form signed by the Dean of the Faculty authorising attendance upon courses of study, and upon payment of fees, the Accountant will supply a class ticket entitling the student to attend such courses. This class ticket must be presented by the student, before commencing attendance, to the Professors or Lecturers whose classes or lectures he is authorised to attend.

In the case of the withdrawal from the University of any student during the session, no claim to a return of fees is recognised.

*(b) Composition Fees for Complete Courses*

N.B.—Any student attending a degree course, or any other course which is regarded as a full course, will be required to pay the composition fee appropriate to the Faculty in which he is a student.

Students who have paid a composition fee of £19 11s. or upwards will be admitted without further charge to any additional classes for their attendance at which they have obtained the sanction of the Vice-Chancellor and the Head of the Department.

*Arts.* £19 11s. each session.

*Science.* £27 11s. each session.

*Technology.* £31 11s. each session.

The composition fees payable by students pursuing the prescribed courses of study for the degree of B.Sc. with Honours in Mathematics are as follows: First year, £27 11s.; Second year, £27 11s.; Third year, £19 11s.; Fourth year, £15 11s.

In the case of students who have paid a composition fee for three successive years, the fee for a fourth year, in the same Faculty, will be reduced as follows:—

*Arts.* £15 11s.

*Science.* £21 11s.

*Technology.* £25 11s.

These fees include the subscription to the University Union.

Students in the Faculty of Arts who take classes or laboratory work or both in the Faculty of Science for more than nine hours a week will be charged the composition fee for Science.

The composition fee for Applied Science (Technology) will be applicable to all students whose courses of study entail an average attendance of six hours a week or more per session in one or more of the Technological departments.

Students who have paid the composition fee, and who have been allowed to work in one of

the laboratories during the vacation, will be charged an additional fee of 5s. per month or any part of a month.

*Law* (excluding Union Fee).

(1) Degree of LL.B.

Intermediate Course. \*£9 9s. for the session.

Final Course. £15 15s., to be paid at the beginning of the first year of the Final Course.

\*£7 7s. in the case of students exempt from the Arts subject on the ground of having graduated at this University.

(2) Final examination of the Law Society.

£15 15s. to be paid at the beginning of the first year of the Final Course.

Students may enter for both the Final LL.B. Course and the Final Course for the Law Society's examination on payment of one composition fee of £15 15s., to be paid at the beginning of the first year of the Final Course in either case.

*Agriculture.* Special Winter Course, £10.

Summer Course, £5.

Agricultural students who are preparing for the B.Sc. degree will be charged the Science Composition Fee.

*First Examination in Medicine and First Examination in Dental Surgery.* (Parts 1 and 2.) £27 11s.

*Conjoint Board First Examination.* £27 11s.

*Preliminary Examination in Science for the Diploma in Dental Surgery.* £15 11s. for first and second terms. Students who elect to continue attendance in the third term will be charged an additional fee of £4.

*Diploma in Education (excluding Union fee)* £15.

*Doctor of Philosophy (Ph.D.)* Fees for supervision: £8 in the Faculty of Arts, and £12 in the Faculties of Science and Technology, per session.

(c) *Fees for lectures and laboratory work when paid for separately.*

The following fees will be charged for lectures and laboratory work when paid for separately, except in the case of classes for which a special fee has been fixed.

For a class meeting 1 hour per week... £2 10s. each session.

" " 2 hours " .. £3 10s. "

" " 3 " " ... £4 10s. "

" " 4 " " ... £5 10s. "

The fees payable for laboratory and for practical work are at the uniform rate of £3 a session for each half-day per week, a half-day being reckoned as three hours in either the morning or afternoon of any one day.

For two terms three quarters of these amounts will be charged. For one term half of these amounts will be charged.

Students who are deemed by the head of the department concerned to be capable of independent work may be admitted to work in vacations only (during such times as the laboratories are open), on the following scale of fees:—

1 day a week	...	...	£1	1	0	per month
2 days "	...	...	£1	11	6	"
3 " "	...	...	£2	2	0	"
4 " "	and upwards		£2	12	6	"

(d) *Fees for Research Students*

Persons desiring to pursue original research may be admitted as research students to any of the University laboratories upon the following conditions:—

(1) Applications for admission as research students must be made to the head of the department concerned. The admission is subject to the approval of the Senate.

(2) Graduates and advanced students will, if admitted as research students, be charged a fee of seven guineas for the session (including the portions of the vacations for which the respective laboratories are open); if admitted for shorter periods they will be charged £2 12s. 6d. a term, or one guinea a month (4 weeks or any part of a week). This scale will in no case apply to students preparing for a Bachelor's degree unless they have completed the third year course of study in the University.

(3) Persons prosecuting private industrial investigations will, if admitted as research students, be charged ordinarily at the rate of two guineas a month.

(4) Research students who attend for short periods only will not be charged the library fee unless they wish to use the library. They will not be entitled to the use of the students' Common Rooms except on payment of the subscription of £1 1s. to the Students' Union.

(5) Students who are engaged in research work may be admitted as research students in vacations as well as in term time at £1 1s. a month (4 weeks or any part of a week).

#### 4. Examination Fees

No fee will entitle to admittance to more than *one* examination. Unless otherwise stated, the fee for a second or subsequent examination is the same as that for the first.

For the Matriculation examination, £2; but a candidate who has failed in the July examination in any year will be admitted to the September examination in the same year for £1 10s.

For the Intermediate examination for the degree of B.A., or B.Sc., or LL.B., or B.Com., £1.

For the Final examination for the Ordinary or Honours degree of B.A. or B.Sc., or LL.B., or B.Com., £1.

For the Final examination for the Honours degree of B.A. or B.Sc., in cases where no fee has been paid for the Intermediate examination, £2.

For the Final examination for a degree in Honours when the Ordinary Final examination has previously been taken, £1.

For the examination or report upon dissertation for the degree of M.A. or M.Sc. or LL.M., £1.

For the examination or report upon dissertation for the degree of Litt.D., or D.Sc., or LL.D., or Ph.D., £5.

For the examination in Education for the Government Certificate, 5s.

For the Final examination for any Diploma in the Faculties of Arts, Science and Technology (including

the final terminal examination in cases where students are not taking any special examination in the main subject of study), £1.

Candidates who are allowed to take any examination in two or more parts will be required to pay the full fee for such examination when entering for the first part.

Candidates who, having failed at an Intermediate or Final examination or an examination for a Diploma in Arts or Science, present themselves again for examination will be charged the same fee as that for the first examination. This rule is subject to the following conditions for special cases :—

When the regulations allow a candidate to take part of an Intermediate or Final examination separately, the following fees will be charged for re-examination, viz. :—

- (a) For the additional subject at Intermediate stage for B.A. or B.Sc., 5s.
- (b) For a subsidiary subject at Final stage for B.A. or B.Sc., 5s.
- (c) For the Essay for B.Sc., 5s.
- (d) For a principal subject at Final stage for B.Sc., £1, except in the case of an Honours Candidate who is taking a principal subject as a part of such Honours examination, in which case the fee will be 10s.

Students who have graduated in the Faculties of Arts or Science will be required to pay an additional fee of 10s. when a Diploma is granted without further examination consequent upon the attainment of their degree.

#### 5. Degree Fees

On the conferment of any degree in the Faculties of Arts (including Commerce and Law) and Science, £5.

### ENTRANCE SCHOLARSHIPS

The following Scholarships, tenable from the commencement of the session 1920-21, at day classes in the University of Leeds, will probably be offered for competition to candidates who have not been registered students of the University.

Attendances on University classes or laboratories not exceeding three hours a week in any session will not be held to preclude a student from becoming a candidate for an Entrance Scholarship under this regulation. The latest date of entry for these Scholarships is *April 25th*, after which no application will be received. In most instances they are awarded in connection with the July Higher Certificate examination. Particulars of conditions, &c., may be obtained on application to the Clerk to the Senate.

### 1. Awarded on Results of Examinations held by the Joint Matriculation Board

Name of Scholarship.	Number offered.	Annual Value of each.	Periods for which tenable.	Departments in which tenable.
Emsley .. ..	One ..	£20	2 years	Arts, Sci., Tech. exc. Tex.
Edward Baines ..	One ..	£20	2 years	Arts, Sci., Tech. exc. Tex.
Charles Wheatley ..	One ..	£25	3 years	Arts.
William Sumners ..	One ..	£35	3 years	Arts.
Brown .. ..	One ..	£40	2 years	Science, Tech.
Akroyd .. ..	Two ..	£40	and renewable 2 years	Science, Tech.
Craven .. ..	One ..	£25	and renewable 3 years	Tech. (Engineering).
Medical .. ..	One ..	Fees for complete course (excluding clinical instruction).		Medicine

### 2. Awarded by Special Examination or Selection

Corbet Woodall ..	One ..	£50	3 years	Tech. (Gas Engineering)
William Cooke & Co.	One ..	£21	and renewable 3 years	Tech. (Mining)
*Thos. Broadbent and Sons Ltd. ..	One ..	Fees, &c., main- tenance allowance	3 years	Tech. (Engineering)

In addition to the above Scholarships the University offers a certain number of Advanced or Senior Scholarships, full particulars of which are given in subsequent pages.

Scholarships tenable at the University of Leeds in scientific and technical subjects, (including Agriculture) as well as in Arts subjects, are also offered by the Leeds City

\*The Scholar must have attended evening classes at the Huddersfield Technical College for at least 2 years in succession and completed at least the third year course.

Council and the County Councils of the North, East, and West Ridings of Yorkshire. In the West Riding, Exhibitions are also offered in Coal Mining and Free Studentships tenable at the University.

In certain cases assistance is offered to students in Evening Classes.

For further information application should be made as follows :—

For Leeds City Council Scholarships: To The Director of Education (Higher Section), Education Department, Leeds.

For West Riding Scholarships and Free Studentships: To The Education Department, County Hall, Wakefield. Applicants should ask for Section X of Part II. of the Handbook of the Education Committee.

For North Riding Scholarships: To The Secretary, Education Offices, County Hall, Northallerton.

For East Riding Scholarships: To The Clerk, East Riding County Council, Beverley.

### OFFICERS' TRAINING CORPS

A contingent of the Senior Division of the Officers' Training Corps was formed at the University in January, 1910, and was accepted by the War Office.

Information as to conditions of membership, &c. may be obtained from the Secretary of the University.

### UNIVERSITY LIBRARY

*Honorary Librarian:* Professor J. B. COHEN.

*Librarian:* R. OFFOR, B.A.

*Assistants:*

Miss F. M. EKINS

Miss F. E. WRIGHT

Mr. THOMPSON.

The Library is open (*a*) daily during term and the months of July and September from 9 a.m. to 5.30 p.m. (on Saturday from 9 a.m. to 1 p.m.); (*b*) during the Christmas and Easter vacations from 10 a.m. to 1 p.m.

It is closed during August, one week at Christmas, Good Friday, and the following Saturday, Monday, and Tuesday, and Whit-Monday and Tuesday.

### General Regulations

1. No book shall be removed from the Library unless the borrower shall have first filled in the form provided and handed it to a member of the Library staff.

2. No mark of any kind may be made in the Library books or periodicals. Any loss of, or injury to, a book shall be reported to the Honorary Librarian, who shall require the person responsible to pay a sum not exceeding that which will be required to make the loss or injury good.

3. The Honorary Librarian has power to suspend the Library privileges of any person who breaks the rules of the Library.

4. No atlases, dictionaries, or other books with special labels shall be taken out of the Library, except in so far as provided in subsequent paragraphs.

5. No person shall be allowed to take a book out of the Library if he has in his possession any book which he has kept beyond the time allowed by the regulations, or if any fine or charge which he has incurred has not been paid.

6. Persons not members of the University who are engaged in special studies may be given the right to use the Library by the Honorary Librarian on payment of 2s. 6d. per session. Unless in special cases, this does not include the right to take out books.

7. The Honorary Librarian shall be at liberty to grant special facilities for the use of books during a limited time to any person entitled to the use of the Library.

### Regulations affecting Members of the Academic Staff

8. Any member of the Academic Staff shall be entitled to take out such books as he requires and to retain them until the end of term, unless he receives a notice that any of these books are overdue, in which case such book or books shall be returned without delay to the Library. A book shall be regarded as overdue when it has been in the possession of the borrower for a fortnight and is required by some other person. This regulation shall apply, *mutatis mutandis*, to books taken out at the beginning of, or during, any of the vacations.

9. A book which is not overdue according to Rule 8 may be renewed for the vacation on application in writing to the Librarian.

10. All books must be brought back to the Library at the end of the third term, but books not required by any other person may be renewed on presentation.

11. Current University Calendars and current serials may be taken out of the Library for one night only, and not before 5 p.m. Other unbound serials may be taken out of the Library for a period not exceeding 48 hours.

12. At the close of each session, *i.e.*, between June 15th—20th, notice shall be sent to each member of the Academic Staff of the books which at that date he has still in his possession, and a day named on or before which they must be returned to the Library. In case they are not returned by that day, a second notice shall be sent to the borrower; and, in case the books are not returned within three days after the sending of this notice, he shall be liable to a fine of 2s.6d. for each volume, or, if there be further delay, to be charged with the sum required for the replacing of the missing volume or volumes.

### Regulations affecting present and past Students of the University

13. All graduates of the University and Associates of the Yorkshire College are entitled to the free use of the Library.

14. Students who have paid a composition fee for the year, or have paid class fees of £2 10s. or upwards, are entitled to the use of the Library during the session without further payment. All other day students will be admitted to the use of the Library on payment of 2s. 6d. a term or 5s. a session, in addition to their class fees.

15. All evening students, and all past students who are not graduates are entitled to the use of the Library on payment of a fee of 2s. 6d. per session.

16. Not more than three volumes, whether of the same or of different works, may be entered to the same person at one time.

17. Every book must be returned to the Library on or before the Saturday in the week following that in which it was taken out. A book may, however, be renewed from week to week until four weeks have elapsed since its first issue, provided that no application for the use of the book by another person has been received in the meantime.

18. All books must be brought to the Librarian for renewal, except when an application for renewal has been made and granted on the day before that on which the return of the book falls due. Applications for renewal may be made personally or by post.

19. At the end of each term all books must be returned to the Library.

20. Books of reference and books which, owing to their constant use, are temporarily placed on the list of books of reference, may not be removed from the Library (except under Rule 21), until after 4 p.m., and then only on condition that they be returned before 10 o'clock on the following morning.

21. Students provided with a written recommendation from a Professor or Lecturer shall be entitled to take out books of reference, but books taken out under this rule must be returned to the Library before the person using them leaves the University buildings.

22. Any person borrowing a book under Rule 20 or Rule 21, and failing to return it by the time therein specified, shall be fined 4d. a day, and any person who does not comply with Rule 17, shall be fined 2d. a day for every day a book is kept out after it ought to have been returned.

A notice shall be posted to the borrower on the business day following that on which the return of the book was due, informing him that a fine is being incurred.

23. Books may, subject to the provision of regulation 24, be taken out at the beginning of, or during, any of the vacations, and may be retained until the borrower receives notice that they are overdue. A book shall be regarded as overdue when, having been in the possession of the borrower for a fortnight, it is required by some other person. All books taken out at the beginning of the long vacation shall be returned not later than the first of September.

24. Students desiring to borrow books for the vacation are required to procure a recommendation signed by the Head of the Department concerned or his deputy. Printed forms for this purpose may be obtained from the Librarian.

25. No volume which, in the opinion of the Head of the Department concerned, should be included in a special list of out-of-print, or especially valuable books, may be taken out of the Library except by the permission of that Head of Department.

### Regulations respecting Seminar Rooms.

1. *General status of Seminar rooms.*—Seminar rooms, being departments of the University Library, are subject to the Regulations of the University Library, except in so far as modified by the following rules.

2. *Hours of opening.*—Seminar rooms shall be open during the hours in which the University Library is open to readers.

3. *Admission to Seminar rooms.*—The use of a Seminar room is restricted, except as provided in Rule 9, to persons recognised by the Head of the Department as members of the Seminar. A list of such members shall be posted at the beginning of each session in the Seminar room by the Head of the Department, who shall supply the Librarian with a copy of the list. Any additions during the session should be notified at once to the Librarian.

4. *Seminar Libraries.*—A Seminar library shall consist of books selected by the Head of the Department, in consultation with the Honorary Librarian, and approved by the Library Committee. A special catalogue of each Seminar library shall be prepared in duplicate, of which one copy shall be kept in the Seminar room and one in the General Library.

5. *Books confined to a Seminar.*—A list of books which must not be removed from a Seminar room, except for purposes of consultation in the General Library under Rule 8, shall be drawn up by the Head of the Department in consultation with the Honorary Librarian.

6. *Use of Seminar libraries by members.*—(a) Members of a Seminar may, subject to the provisions of paragraph 5, borrow books from a Seminar library under the Regulations of the University Library. (b) An issue-slip must be filled in when books are taken out of the

General Library for use in a Seminar room. The member who takes out books for this purpose must return them to the Librarian before leaving the Library.

7. *Use of Seminar libraries by non-members.*—Persons who are not members of a Seminar may, subject to the provisions of paragraph 5, (a) consult in the General Library, (b) borrow, under the Regulations of the Library, books kept in a Seminar room, upon filling in an issue-slip and presenting it to the Librarian, who will cause the books applied for to be brought into the General Library. Such books whether consulted or borrowed must be returned to the Librarian when done with.

8. *Use of Seminar libraries by members of the staff.*—Members of the Academic staff shall have access to any Seminar room for the purpose of consulting books kept in it, except at times when teaching is proceeding in the Seminar room. They may borrow books from a Seminar library under the Regulations of the University Library applicable to members of the Academic staff, subject to the restrictions under paragraph 5; but they are not entitled to borrow reference books kept in a Seminar room except after 5 p.m. (12 noon on Saturday), and then only on condition that the books be returned before 10 a.m. on the following day.

### ACADEMIC DRESS

All Hoods are to be of a Green shade, combined with Black, White, Scarlet, or with one another, to produce the variations required for the several Degrees, namely:

B.A., a self-coloured Hood of Dark Green shade.

B.Com., a Light Green Hood, lined with Dark Green.

B.Sc., a self-coloured Hood of Middle Green shade.

LL.B., a self-coloured Hood of Light Green shade.

M.B. and Ch.B., a Hood of Dark Green, lined with Light Green.

B.Ch.D., a Hood of Dark Green, lined with Middle Green.

M.A., a Dark Green Hood, with White Lining.

M.Sc., a Middle Green Hood, with White Lining.

LL.M., a Light Green Hood, with White Lining.

M.Ch., a Dark Green Hood, edged with Light Green, and lined with White.

M.Ch.D., a Dark Green Hood, edged with Middle Green and lined with white.

All Bachelors' Hoods are to be lined, and all Bachelors' and Masters' Hoods are to be of the single or Oxford pattern.

The Doctor's Gown is to be of Scarlet, with facings and sleeve linings of the shade of Green distinctive of his faculty. The Hood is to be of Scarlet, lined with the distinctive shade or shades of Green. The Full Dress Cap is to be of the usual pattern, with a Gold Cord, and a lining of the shade of Green distinctive of the faculty.

### **ROBEMAKERS TO THE UNIVERSITY**

Ede, Son & Ravenscroft, 93 and 94, Chancery Lane, London.

Representatives of the firm attend on Degree Days to robe those who are to be presented for degrees.

### **ARMS OF THE UNIVERSITY**

The Arms of the University are "Vert an open Book proper edged and clasped Gold inscribed with the words 'Et Augebitur Scientia' between in chief three Mulletts Argent and in base a Rose of the last seeded proper, and for the Crest on a Wreath of the Colours A Greek Sphinx sejant Gules."

### **STUDENTS' SOCIETIES**

The University Union comprises the Cricket, Football (Rugby and Association), and Tennis Clubs, and undertakes the management of the Gymnasium, the Fives Courts and the Debating Society. Among other University Societies are the Women's Representative Committee, the Literary and Historical Society, the Debating Society, the Education Society, the Cavendish Society, the Natural History Society, the Engineering Society, the Textile Society, the Agricultural Society, the Society for Social Study, the Women's Discussion Society, and the Christian Union.

The sanction of the Senate is required to the Rules and Regulations of any new Society which it is proposed to establish.

### **GYMNASIUM**

*Instructor:* MR. MASON CLARKE.

The Gymnasium is free to all members of the University Union. It is reserved for the use of women students at suitable hours, which, together with those arranged for other classes, will be announced at the beginning of the session.

**LOCKERS FOR COATS AND BOOKS**

The use of a coat locker during the whole or part of one session may be obtained for the session, or a part of it, by depositing 5s. with the Hall Porter, who will lend the student a key, which will, however, remain the property of the University. A charge of 3s. per session will be made, the balance of the deposit money being repaid when the key is returned, provided the return be made not later than one week after the end of the session.

Smaller lockers, for books, &c., are also provided, and the use of one of these may be obtained on a deposit of 3s. for the session or term, 2s. of which will be repaid on the above conditions being complied with.

A student will be charged for any damage done to the lockers while in his possession, or for loss of keys. The loss of a key should be immediately reported to the Hall Porter.

**LODGING AND BOARDING HOUSES**

A Register of approved lodging-houses is kept at the University, and printed lists can be sent at any time to parents, guardians, or students who desire to take lodgings.

If a student takes lodgings which are not already on the register, he must immediately apply to the Secretary for a form of application for registration of lodgings. This form must be filled in and returned at once, when the lodgings will be visited on behalf of the University, and if they do not satisfy the prescribed conditions the student will be required to leave them.

No back-to-back houses will be regarded as fulfilling the prescribed conditions.

All communications with regard to lodgings should be addressed to The Supervisor of Lodgings, The University, Leeds.

**UNIVERSITY HALL**

DE GREY ROAD, LEEDS

**Resident Warden :** Miss BARBARA E. GWYER

**LYDDON HALL**

VIRGINIA ROAD, LEEDS

**Resident Warden :** Miss AGNES B. MARCHBANK

**COLLEGE ROAD HALL**

COLLEGE ROAD, LEEDS

**Resident Warden:** Miss URSULA IRONS**WEETWOOD HALL****Resident Warden:** Mrs. W. O. REDMAN KING.

These Halls provide residence for women students attending the University. Women on the teaching staff of the University, students studying outside the University and others approved by the Committee are also eligible for admission if there are vacancies. At present there is accommodation for about 135 residents.

The Prospectus may be obtained from the Secretary of the University.

**REFECTORY**

For the convenience of students, dinners are served daily in the University Refectory, from 12.30 to 2 p.m. Cold meats may also be obtained after the latter hour; tea, coffee, and other light refreshments up to 6 p.m. The Refectory is closed on Saturdays at 2 p.m.

Term tickets may be had on application to the Accountant, entitling students to dine at the Refectory, College Road, daily (except Saturdays) during the session. The cost of these tickets will be as follows:—

For men students—

£7 per session, or £2 15s. per term for the first and second terms, and £2 5s. for the third term; and

For women students—

£6 per session, or £2 10s. per term for the first and second terms, and £2 for the third term.

Places will be reserved for those who pay for their dinners by the term.

**CECIL DUNCOMBE OBSERVATORY***Curator:* A. GILLIGAN, B.Sc.

The Cecil Duncombe Observatory was opened on May 4th, 1906, by Dr. H. H. Turner, Savilian Professor of Astronomy in the University of Oxford. It is built on a site

in Woodhouse Moor contributed by the Leeds City Council. The telescope, an  $18\frac{1}{4}$  inch reflector of the Newtonian type, was given to the University by Major Duncombe, of Nawton Grange, and formerly belonged to his father, the late Hon. Cecil Duncombe. Its large mirror, made by Mr. G. Carver, of Walpole, Sussex, for Dr. Common, was the first successful large glass mirror made in England. In addition to the large equatorial there are a 3 inch transit instrument and a sidereal clock.

The Observatory is administered by a Committee representing the University, the Leeds Astronomical Society, and the Leeds City Council.

### Regulations

1. The Observatory and instruments shall be under the control of the Curator, and no person shall be allowed to go into the Observatory or to use the instruments unless he is present, except as provided for in Rule 6.

2. The Curator will attend at the Observatory, on an average, two nights per week during the session of the University, when persons eligible under Rule 4 may attend. All arrangements as to classes and observing nights must be made with the Curator.

3. Not more than twelve persons shall be admitted to the Observatory at any one time.

4. The following will be allowed to use the Observatory under Rule 2 :

(a) Members of the University staff ;

(b) Students of the University, on the recommendation of heads of departments ;

(c) Members of Astronomical Societies ;

(d) Teachers in the schools of the Leeds Education Committee, in groups of not more than six persons ;

(e) Senior scholars from schools of the Leeds Education Committee, if accompanied by a teacher, who should, if possible, be one interested in the subject ;

(f) Teachers in Leeds schools other than those of the Leeds Education Committee, by special arrangement with the Curator ;

(g) Such other persons as the Observatory Committee may from time to time determine.

5. Persons wishing to use the Observatory under Rule 4, sections (d) and (e), must apply for a recommendation to the Leeds Education Committee.

6. Permission to use the Observatory for research work in the absence of the Curator may be granted by the Observatory Committee (1) to Professors and Lecturers of the University teaching Physical Geography

or Surveying, who may, subject to Rule 3, use the Observatory for class purposes, (2) to such persons as may be specially recommended by the Committee of an Astronomical Society as competent to use the instruments, it being understood that the permission will apply to the authorised person only, who may not admit any other person, and (3) to other persons approved by the Observatory Committee.

7. A list of persons authorised to use the Observatory under Rule 6 shall be supplied to the Hall Porter at the University, who will issue a key of the Observatory to the authorised observer on personal application.

The key must be returned immediately on leaving the Observatory, or before noon on the day following.

8. Permission to use the Observatory under Rule 6 may be withdrawn by the Committee at any time; and the Observatory will only be available under that rule when it is not required for class purposes.

9. Persons using the instruments under Rule 6 shall be held responsible for their proper use during the time they or their students may occupy the Observatory, and shall be liable to make good any damage they or any of them may do to the instruments.

They will also be responsible for the safe closing and locking of the building on leaving it.

10. A book shall be kept in the Observatory in which all persons using the instruments will be expected to enter their names, with the hours during which they have been present, and the nature of the work upon which they have been employed.

11. The Curator is empowered to refuse admission to any person, or to require him to withdraw from the Observatory, without giving any reason to the person concerned; but any such action shall be reported to the Committee at its next meeting.

## MATRICULATION EXAMINATION

*All communications relating to this examination should be addressed to "The Secretary to the Board, Joint Matriculation Board, 315, Oxford Road, Manchester."*

The Matriculation examination is conducted by a Joint Board representing the Victoria University of Manchester, the University of Liverpool, the University of Leeds, the University of Sheffield, and the University of Birmingham. Candidates for degrees in any one of these Universities are required to have passed this examination, or to have obtained exemption therefrom, before beginning a degree course. Any application for exemption must be addressed to the Joint Matriculation Board, and must be accompanied by the certificate or certificates upon which the application is based. Grants of exemption will be subject to and conditional upon the payment of the registration fee of £2. The conditions which entitle a student to exemption from the Matriculation examination are fully set forth in the Matriculation syllabus. The examination is held in July and September of each year in the buildings of each University. The July examination is held at such other centres as the Board may authorise. Information as to the conditions may be obtained from the Secretary to the Joint Board.

The fee for the examination is £2; but a candidate who has failed in the July examination in any year will be admitted to the September examination in the same year for a fee of £1 10s. Cheques and postal and money orders should be made payable to "The Secretary, Joint Matriculation Board," and crossed "Williams Deacon's Bank, Ltd., Chorlton-on-Medlock Branch."

## DEGREES IN ARTS

- Ordinance. 1. The degrees in Arts shall be :
- Bachelor of Arts (B.A.)
  - Master of Arts (M.A.)
  - Doctor of Philosophy (Ph.D.).
  - Doctor of Letters (Litt.D.).

### DEGREE OF BACHELOR OF ARTS

2. The degree of Bachelor of Arts shall be conferred either as an Ordinary degree or as a degree with Honours.

3. All candidates for the degree of Bachelor of Arts shall be required to have passed the Matriculation examination, and thereafter to have pursued approved courses of study for not less than three academic years.

- Regulation. Candidates will not be admitted to the courses of study for the degree of Bachelor of Arts unless they have
- (1) passed the Matriculation examination in Latin, or
  - (2) given evidence of possessing a knowledge of Latin equivalent to that required at the Matriculation examination.

### Ordinary Degree of Bachelor of Arts

- Ordinance. 4. The complete course of study for the Ordinary degree of Bachelor of Arts shall be divided into two parts, called respectively the Intermediate course and the Final course.

5. Every candidate shall be required to pass two examinations, the Intermediate and the Final.

6. The Intermediate and Final examinations shall ordinarily be held in June of each year. There shall also be a supplementary Intermediate examination in September, at which those candidates only may present themselves who have obtained the permission of the Senate.

7. Candidates who have failed at an Intermediate examination in June, and have obtained permission to present themselves at the following supplementary examination, may be excused such part of the supplementary examination as

the combined examination committee, on report from the separate examination committee concerned, may determine.

8. All candidates shall be required, before presenting themselves for the Intermediate or Final examination, to furnish to the Registrar certificates testifying that they have regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturer, in each of the subjects which they offer at the examination. Some modification of the amount of attendance required may, in exceptional cases, be made by the Vice-Chancellor, on the recommendation of the head of the department concerned.

N.B.—In 1920 the latest date of entry and of payment of fees for the Intermediate and Final examinations in June will be MONDAY, MARCH 1st.

#### Intermediate Course and Examination

9. Every candidate shall be required, after passing the Matriculation examination, to attend during one academic year approved courses of study in four subjects, and to pass in each of the subjects selected, viz. :

- i, ii. Two languages from the following list : Greek ; Latin ; French ; German ; Hebrew ; Russian ; Spanish ; one of which must be Greek or Latin.
- iii. *Either* (a) English Literature ; *or* (b) History (Ancient or Modern) ; *or* (c) Political Economy.
- iv. *Either* (a) Logic ; *or* (b) Mathematics ; *or* (c) Preparatory Military Science ; *or* (d) any subject under i, ii, iii, not already selected, provided that no candidate may take both Ancient and Modern History.

10. Every candidate is further required, at some time during his course, to attend an approved course of study and pass in an additional subject at the Intermediate standard, selected from the following : Logic, Mathematics, Physics, Chemistry, Zoology, Botany, Geology, Preparatory Military Science. Except that when Preparatory Military Science be taken as a subject under Group iv. (Article 9.), then the additional subject shall be one of the other subjects named in Group iv.

The examination in each modern language shall include an oral examination.

Regulations. *Detailed subjects of study and of examination.*

## GREEK :

Prose composition. Translation at sight from Greek into English.  
Prescribed books : portions from two authors, one prose and one verse, to be studied in their literary and linguistic aspects.

*Books prescribed for 1919-20*

Plato, *Apology* and *Phaedo*, chapters 63 to end ; Sophocles, *Ajax*.

*Books prescribed for 1920-21*

Demosthenes, *Phormio*, *Lacritus*, *Pantaenetus* ; Euripides, *Trojan Women*.

## LATIN :

Prose composition. Translation at sight from Latin into English.  
Prescribed books : portions from two authors, one prose and one verse, to be studied in their literary and linguistic aspects.

*Books prescribed for 1919-20*

Livy, v, chapters 15 to end ; Horace, *Odes* i, ii.

*Books prescribed for 1920-21*

Cicero, *pro Roscio Amerino* ; Virgil, *Aeneid* iv.

## FRENCH :

Prose composition. Syntax of the French language. Translation at sight from French into English. Prescribed books : at least two texts, including both prose and verse, to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in French.

*Books prescribed for 1919-20*

Paul et Victor Margueritte, *Le Désastre* ; Victor Hugo, *Les Châtiments*, livre vi.

*Books prescribed for 1920-21*

Théophile Gautier, *Trois Grotesques* (Clarendon Press) ; Vigny, *Poems* (Manchester University Press).

## GERMAN :

Prose composition. Syntax of the German language. Translation at sight from German into English. Prescribed books : two texts, one prose and one verse, to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in German.

*Books prescribed for 1919-20*

Heine, *Harzreise* (as contained in Heines *Prosa*, ed. Buchheim, Clarendon Press) ; Poems by Burger, Goethe, Uhland in Buchheim, *Balladen and Romanzen* (Macmillan).

*Books prescribed for 1920-21*

P. Rosegger, *Das Holzknechtshaus*, ed. M. Goebel (N.Y. Oxford Univ. Press) ; Hebbel, *Agnes Bernauer*, ed. v. Klenze (N.Y. Oxford Univ. Press).

HEBREW :

Accidence. Easy translation from short set portion of Old Testament, and re-translation. Easy composition. Vocabulary to be given so far as not taken from the set portion. Pointing passages from set portion.

*Book prescribed for 1919-20*  
Book of Jonah.

RUSSIAN :

Prose composition. Grammar of the Russian Language. Translation at sight from Russian into English. Prescribed books : at least two texts to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in Russian.

SPANISH :

Prose composition. Grammar of the Spanish Language. Translation at sight from Spanish into English. Prescribed books : at least two texts to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in Spanish.

ENGLISH LITERATURE :

*Books prescribed for 1919-20*

Chaucer, *Knight's Tale* ; Marlowe, *Dr. Faustus* ; Spenser, *Faerie Queene*, Book I ; Shakespeare, *First Part of Henry IV*, *Julius Caesar*, *The Tempest* ; Bacon, *Essays* ; Milton, *L'Allegro*, *Il Penseroso*, *Lycidas* ; Dryden, *Absalom and Achitophel* ; Gray, *Elegy*, *The Progress of Poesy*, *The Bard* ; Collins, *Ode on Popular Superstitions* ; Burke, *On Conciliation* ; Crabbe, *Peter Grimes* ; Wordsworth, *Lines composed above Tintern Abbey*, *Laodamia* ; Coleridge, *Kubla Khan*, *Ancient Mariner*, *Christabel* ; Scott, *The Bride of Lammermoor* ; Byron, *Childe Harold*, Canto iii, *The Vision of Judgment* ; Palgrave's *Golden Treasury*, Book IV, and Additional Poems.

[NOTE.—Most of the poems in the above list are contained in Dixon and Grierson's *English Parnassus* (Clarendon Press).]

*Books prescribed for 1920-21*

Chaucer, *Prologue to Canterbury Tales* ; the Wakefield *Second Shepherd's Play* ; *Everyman* ; Shakespeare, *Midsummer Night's Dream*, *Macbeth* ; Spenser, *Epithalamium* ; Hakluyt, *Voyages* (ed. Payne) ; Milton, *Paradise Lost*, Book I ; Pope, *The Rape of the Lock* ; Goldsmith, *Vicar of Wakefield* ; Burke, *Speech on American Taxation* ; Wordsworth, *Lines composed above Tintern Abbey*, *Michael* ; Shelley, *Adonais* ; Keats, *The Eve of St. Agnes*, *Isabella* ; Short Stories, ed. Hugh Walker (World's Classics) ; Golden Treasury, *Additional Poems* ; English Essays, ed. Peacock (World's Classics) ; *Poems of To-day*.

ANCIENT HISTORY :

Introduction to Ancient History, with special reference to selected periods of Greek and Roman History.

*Special Subjects for 1919-20*

Plutarch's *Lives of Lykurgus*, *Solon*, *Perikles*, *Alkibiades*, *Fabius Maximus* and *Aemilius*.

*Special Subjects for 1920-21*

Plutarch's *Lives of Pelopidas, Aristides, Kimon, Marcus Cato, Marius, Sulla.*

## MODERN HISTORY :

A selected period of Modern History.

*Period prescribed for 1919-20 and 1920-21*

Modern European History from 1763.

## POLITICAL ECONOMY :

The physical geography of industry and trade. The occupations and earnings of the chief classes of the community.

## LOGIC :

The elements of Deductive and Inductive Logic.

## MATHEMATICS :

Trigonometry to the solution of triangles. The first principles of Analytical Geometry and the elements of the Differential Calculus, as applied to the tracing of graphs and the determination of maxima and minima ordinates. The Algebra required for the above subjects.

## PHYSICS :

The properties of matter. The chief phenomena of Sound, Heat, Light, Electricity and Magnetism, treated in an elementary manner. Practical Physics.

## CHEMISTRY :

The general principles of Inorganic Chemistry and their application. The elements of Organic Chemistry. Practical Chemistry.

## ZOOLOGY :

The structure and life-history of animals as exemplified by a progressive series of selected types. Outlines of embryology. Practical Zoology.

## BOTANY :

The structure and mode of life of a flowering plant. The naming of plants with the help of a flora. Fruits and vegetables. Spring buds and branches. The mechanism of flowers. The sexual process in plants. The transmission of characters to the offspring. Mendelism. The evolution of plants. The origin of species. Bacteria and disease. Practical Botany.

## GEOLOGY :

General Physical and Stratigraphical Geology, and Geology in relation to the study of Geography. Practical Geology.

**Final Course and Examination**

**Regulation.** No candidate shall be permitted to enter on the Final Course, or any part thereof, until he has passed the Intermediate Examination.

**Ordinance.** II. Every candidate shall be required to attend approved courses of study in three principal subjects and one subsidiary subject, and to pass in each of the subjects

selected. The same subject may not be taken both as a principal and as a subsidiary subject. An essay paper shall be set for all candidates at the Final examination.

12. The course of study in each principal subject shall extend over two academic years, and the course of study in the subsidiary subject shall extend over one academic year.

13. The principal subjects shall be selected from the following list: Greek, Latin, French, German, English Language and Literature, Hebrew, Russian, Spanish, History, Philosophy, Social Science, Economics, Education, Pure and Applied Mathematics. Every candidate shall be required to take as a principal subject one of the following: Greek, Latin, French, German. The examination in each modern language shall include an oral examination.

14. The subsidiary subjects shall be selected from the following list: English Literature, History, Ecclesiastical History, Philosophy, Social Science, Economics, Education, Pure Mathematics, Applied Mathematics. The course of study in a subsidiary subject may be taken either in the first or second year of the Final course.

15. Candidates who have attended, during the first year of their Final course, the prescribed course of study in a subsidiary subject, may present themselves in June of that year for examination in such subsidiary subject. Part of the examination in Education, to be defined by Regulation, may also be taken at the end of the first year of the Final course.

*Detailed subjects of study and of examination*

Regulations.

*1. Principal Subjects, studied for Two Years*

GREEK:

Prose composition. Translation at sight from Greek into English. The study of portions from various authors, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination.

*Books prescribed for 1919-20*

Thucydides vii; Aeschylus, *Agamemnon*; Aristophanes, *Birds*.

*Books prescribed for 1920-21*

Herodotus viii; Homer, *Iliad* i, vi, xviii; Sophocles, *Antigone*.

LATIN:

Prose composition. Translation at sight from Latin into English. The study of portions from various authors, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination.

*Books prescribed for 1919-20*

Tacitus, *Histories* i; Horace, *Epistles* i; Virgil, *Aeneid* vi.

*Books prescribed for 1920-21*

Tacitus, *Histories* iii; Virgil, *Aeneid* vi; Juvenal i, iii, iv, x.

## FRENCH :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Translation at sight from French into English. Principles of Phonetics and Principles of Historical Grammar. Composition and the study of style. A period or periods of French Literature. Dictation, reading aloud and conversation in French.

*Books prescribed for 1919-20*

Victor Hugo, *Notre Dame de Paris*; Corneille, *Polyeucte*; Racine, *Britannicus*.

*Periods prescribed for 1919-20*

(a) The French Novel from 1820 to 1850.

(b) French Classical Tragedy to the end of the 17th Century.

*Books prescribed for 1920-21*

Rousseau, *Extraits* (Hachette); Corneille, *Polyeucte*; Racine, *Britannicus*.

*Periods prescribed for 1920-21*

(a) Rousseau's Life and Works.

(b) French Classical Tragedy to the end of the 17th Century.

## GERMAN :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Translation at sight from German into English. Principles of Phonetics and Principles of Historical Grammar. Composition and the study of style. A period or periods of German Literature. Dictation, reading aloud, and conversation in German.

*Books prescribed for 1919-20*

Schiller, *Wilhelm Tell*, ed. Breul (Pitt Press); Keller, *Zwei Novellen*, ed. Kip (Clarendon Press); Goethe, *Faust* i, ed. Thomas (Heath & Co.).

*Period prescribed for 1919-20*

German Writers of the 18th Century before Goethe and Schiller.

*Books prescribed for 1920-21*

Goethe, *Faust* i, ed. Thomas (Heath and Co.); Lessing, *Hamburgische Dramaturgie*, ed. Lyon (Velhagen and Klasing); Lessing, *Nathan der Weise*, ed. J. G. Robertson (Pitt Press); Heine, *Über Deutschland* (as contained in *Heines Prosa*), ed. Buchheim (Clarendon Press).

*Periods prescribed for 1920-21*

Goethe and Schiller in Weimar.

ENGLISH LANGUAGE AND LITERATURE :

English Language

This course is pursued, in the last year of their studies for the B.A. Degree, by those who take English as a principal subject. It consists of a study of Old and Middle English (Language and Literature) with prescribed books (prose and verse) and unseen translation.

*Books prescribed for 1919-20*

Sweet, *Anglo-Saxon Primer* ; Sweet, *Anglo-Saxon Reader*, extracts vi, vii, viii, xxv ; *Havelok* ; Chaucer, *Knight's Tale*.

*Books prescribed for 1920-21*

Sweet, *Anglo-Saxon Primer* ; Sweet, *Anglo-Saxon Reader*, extracts ii, viii, xxv ; Langland, *Piers Plowman*, B. version, Prologue and Passus i-v ; Chaucer, *Knight's Tale*.

Candidates may, with the consent of the Board of the Faculty of Arts, be permitted to substitute a further study of English Literature for the above course in English Language.

English Literature

In each year the study of a selected period of English Literature, with a knowledge of prescribed books and questions of literary history and criticism arising from them.

*Period prescribed for 1919-20*

1557-1637.

*Books prescribed for 1919-20*

Dixon and Grierson, pp. 77-124 ; Palgrave, *Golden Treasury*, Book i ; Spenser, *Shepherd's Calendar* ; Marlowe, *Edward II* ; Shakespeare, *Richard III*, *Macbeth*, *A Winter's Tale* ; Ben Jonson, *Every Man in his Humour* ; Webster, *The Duchess of Malfi* ; Bacon, *Essays* ; Raleigh, *Last Fight of the Revenge* ; Sidney, *Defence of Poetry*. Also Chaucer, *Nun's Priest's Tale* ; Dryden, *Absalom and Achitophel* ; Swift, *Tale of a Tub* ; Coleridge, *Christabel* ; Byron, *The Vision of Judgment* ; Palgrave, *Golden Treasury*, Book iv.

*Period prescribed for 1920-21*

1637-1700.

*Books prescribed for 1920-21*

Palgrave, *Golden Treasury*, Book ii ; Milton, *Comus*, *Paradise Lost*, Books i, ii, *Samson Agonistes*, *Areopagitica* ; Sir Thomas Browne, *Religio Medici* ; Dryden, *Absalom and Achitophel*, Part i ; Macflecknoe, *Essay on Dramatic Poetry*, *Preface to the Fables*, *All for Love* ; Cowley, *Essays* ; Bunyan, *Grace Abounding* ; Congreve, *The Way of the World*.

RUSSIAN :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Grammar of Russian Language. Translation at sight from Russian into English. Outlines of Russian History including study of Russian Institutions. Composition and the study of style. A period or periods of Russian literature. Dictation, reading aloud and conversation in Russian.

## SPANISH :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Grammar of Spanish Language. Translation at sight from Spanish into English. Composition and the study of style. A period or periods of Spanish literature. Dictation, reading aloud and conversation in Spanish.

## HEBREW :

- (i) Translation, exegēsis, re-translation, pointing, and grammar of specified portions of the Old Testament (one paper).
- (ii) Two of the following sections, one of which must be (a), and either (b) or (c), at the choice of the candidate (one paper):—
  - (a) Introduction and subject-matter of the books from which the specified portions are taken.
  - (b) General questions on the contents of the Old Testament ; history, religious and moral development. General introduction to the following books : Pentateuch, Isaiah, and the Books of Psalms. In case Isaiah be one of the specified portions of the Old Testament under (i) above, Jeremiah to be substituted therefor, and if Psalms be one of the set books, Job to be substituted therefor.
  - (c) Unprepared translation and pointing from narrative portions of the Old Testament. Hebrew Syntax and Composition.

*Note.*—Candidates are required to satisfy the Examiners in each paper.

*Prescribed Books for 1919-20*

The Book of Judges, chapters 1-18, and the Book of Job, chapters 1-21.

## HISTORY :

*First Year Course :* A general sketch of European History from the third century A.D., or a special period.

*Second Year Course :* Two prescribed periods of History, studied in connection with some of the original authorities and selected from the following : Greek, Roman, English, Constitutional, Economic History.

*Periods prescribed for 1919-20*

*First Year Course :* Either European History with special reference to Italy, or English Constitutional History.

*Second Year Course in 1919-20 :* Greek History, 371-300 B.C. ; Roman History, 31 B.C.-180 A.D. ; English History, 1529-1603 ; European History, The Thirteenth Century.

*Periods prescribed for 1920-21*

*First Year Course :* As for 1919-20.

*Second Year Course :* Greek History to 445 B.C. ; Roman History to 134 B.C. ; English History, 1327-1485 ; European History, The Sixteenth Century.

PHILOSOPHY :

Two of the following :

History of Ancient Philosophy : general outlines of Greek Philosophy, with the special study of selected works.

History of Modern Philosophy : general outlines of Modern Philosophy from Bacon to Kant, with the special study of selected works.

Psychology : systematic Psychology, with more detailed study of some part of the subject.

Ethics : the general principles of Ethics, with the special study of selected ethical systems.

Theory of Knowledge : general outlines with the special study of selected works.

SOCIAL SCIENCE :

Elements of Political Theory.

Elements of Sociology.

ECONOMICS :

*First Year Course* : General principles of Economics, together with the outlines of recent economic history.

*Second Year Course* : More advanced treatment of economic principles, with *either* description of industrial and commercial organisation *or* social economics.

EDUCATION :

The course extends over three years, and is divided into two parts, Part I., Theory of Education, extending over two years, with an examination at the end of the second year ; and Part II., History of Education, extending over one year. Candidates presenting themselves for examination in Part II. must present their other principal subjects at the same examination. Candidates ordinarily attend the courses of instruction in Part I. during the year of their attendance on the Intermediate Course for the degree, and the first year of their attendance on the Final Course.

Part I. Theory of Education.

Functions and agents of Education. The ethical, logical, and psychological bases of mental and moral Education. The general principles of teaching, with application to the primary school curriculum. The general principles of discipline, with applications to school life. School organisation. The general principles of physical training with reference to the work of the school ; school hygiene.

Part II. History of Education.

General outline of the history of educational thought in Europe from the Renaissance to the present time, with special reference to England and special emphasis on the Nineteenth Century. A prescribed book or subject.

**MATHEMATICS :**

## Pure Mathematics :

Analytical Geometry up to but not including the general equation of the second degree. The more elementary portions of the Differential and Integral Calculus.

## Applied Mathematics :

Statics and Dynamics as far as they can be taken without the Integral Calculus. Hydrostatics.

*II. Subsidiary Subjects, studied for One Year.***ENGLISH LITERATURE :**

A selected period of English Literature, with a knowledge of prescribed books and questions of literary history and criticism arising thereon. Also Outlines of English Literature.

*Periods and books prescribed for 1919-20*

The same as for English Literature as a principal subject (including Outlines of English Literature).

**HISTORY :**

European History with special reference to Italy.

**ECCLESIASTICAL HISTORY :**

History of the Christian Church to A.D. 451 (general paper).

**PHILOSOPHY :**

One of the subjects prescribed for Philosophy taken as a principal subject.

**SOCIAL SCIENCE :**

*Either* Elements of Political Theory *or* Elements of Sociology.

**ECONOMICS :**

General principles of Economics, together with the outlines of recent economic history.

**EDUCATION :**

Part I. of the course prescribed for Education taken as a principal subject.

**PURE MATHEMATICS :**

Analytical Geometry up to but not including the general equation of the second degree. The more elementary portions of the Differential and Integral Calculus.

**APPLIED MATHEMATICS :**

Statics and Dynamics as far as they can be taken without the Integral Calculus. Hydrostatics.

**Degree of Bachelor of Arts with Honours**

- Ordinance.** 1. Candidates for the degree of Bachelor of Arts with Honours shall, except as hereinafter stated, be required to furnish certificates of having attended courses of instruction approved by the University and extending over not less than three academic years in one of the Honours Schools of the University hereafter enumerated.

2. Every candidate for the degree of Bachelor of Arts with Honours shall be required to present himself for examination at the end of the third or fourth academic year from the time when he has entered upon one of the courses of instruction approved by the University for such degree, unless he shall present a medical certificate of illness satisfactory to the Senate. This examination shall ordinarily be held in June of each year.

3. Candidates for the degree of Bachelor of Arts with Honours may present themselves for examination in any of the following Honours Schools on furnishing certificates of having pursued, to the satisfaction of the Senate, the courses required for such Honours Schools in the University, viz. :

Classics

English Language and Literature

Modern Languages and Literatures

Russian Language and Literature

History

Philosophy

Economic and Political Science

4. Candidates who have passed the Final examination for an Ordinary degree of Bachelor of Arts may, with the sanction of the Senate and on furnishing certificates of having attended, during the academic year following such Final examination for the Ordinary degree, the third year's, or, during the two academical years following such Final examination, the second and third years' course approved by the University for any one of its Honours Schools, present themselves for examination for the degree of Bachelor of Arts with Honours in such School.

5. No candidate for a degree of Bachelor of Arts with Honours shall be admitted more than once to examination in the same Honours School ; but students who have passed the Final examination in any of the Honours Schools may be admitted to the Final examination in any other Honours School after the expiration of one or two years, on presenting certificates of having attended, during the period in question, courses approved by the University.

Provided that in the said other Honours School selected, candidates shall not present themselves for the Final examination more than two academic years after the Final

examination in Honours already passed by them, and also that no candidate be admitted to examination in any Honours School after a longer period than five years has elapsed since the date of his first entrance upon a prescribed course of study for an Honours School.

6. Names of candidates who have passed the examination for the degree of Bachelor of Arts with Honours shall be published in such form as to distinguish the Honours School in which severally they may have passed; the names of those who have passed in Honours being drawn up in three classes, and each class being arranged in alphabetical order.

7. Candidates who have not acquitted themselves so as to deserve Honours may be excused the whole or such part of the examinations for the Ordinary degree as the combined examination committee may determine.

N.B.—In 1920 the latest date of entry and of payment of fees for the examinations in the Honours Schools will be MONDAY, MARCH 1st.

### Classics

**Regulations.** Candidates for the degree of Bachelor of Arts with Honours in Classics shall be required to pursue courses of study and to submit themselves for examination in the following subjects:

Translation from prescribed Greek and Latin books.

Translation at sight from Greek and Latin authors.

Greek and Latin Composition.

Greek and Latin Literature.

*Two* of the following:

Ancient History

Ancient Philosophy

A special subject connected with Greek or Latin literature.

Attendance in the subjects of the school shall be required as follows: Not less than ten hours a week in the first and second years, and eight hours a week in the third year. Attendance on the full course for the Intermediate examination for the Ordinary degree of Bachelor of Arts may be accepted as the required attendance for the first year of the Honours course, provided that the subjects chosen by the candidate are substantially and to the satisfaction of the

Board of the Faculty of Arts those required for the first year's course of the Honours School of Classics.

*Examination*

Greek Prose Composition, one paper.

Latin Prose Composition, one paper.

Greek Unprepared Translation, one paper.

Latin Unprepared Translation, one paper.

Translation from prescribed Greek books, with questions on grammar and subject matter, two papers.

Translation from prescribed Latin books, with questions on grammar and subject matter, two papers.

Critical and Essay paper.

Two of the following :

Ancient History, one paper.

Ancient Philosophy, one paper.

Special subject in Greek or Latin Literature, one paper.

Greek and Latin Verse Composition, one paper (optional).

*Books prescribed for 1919-20*

GREEK : Homer, *Iliad* i, vi, xviii ; Homer, *Odyssey*, v, vi, ix, xi, xiii ; Pindar, *Olympian Odes* ; Selections from the Greek Lyric Poets : Aeschylus, *Prometheus Vinculus*, \**Agamemnon* ; Sophocles, \**Antigone* ; Euripides, *Bacchae* ; Aristophanes, *Clouds*, \**Frogs* ; Theocritus i-xv ; Herodotus viii ; Thucydides ii, \*vii ; Plato, *Republic* i, ii, iii ; Demosthenes, \**De Corona*, *Conon*, *Callicles* ; Aristotle, *Rhetoric*, Book \*i.

*Books prescribed for 1920-21*

As for 1919-20, substituting Aristotle's, *Rhetoric*, Book \*ii for Book \*i.

*Books prescribed for 1920-21*

LATIN : Plautus, *Captivi*, *Trinummus* ; Catullus 1-5, 11-14, 22, 31, 34, 38, 39, 46, 49, 51, 53, 61, 62, 70, 76, 84, 85, 86, 95, 96, 101 ; Lucretius \*v ; Virgil, *Georgics* ii, iv ; *Aeneid* i, \*ii, \*iv, vi ; Horace, *Odes*, i, \*ii, \*iii, iv, *Epistles* i ; *Satires* i, 1, 5, 6, 9, ii, 5, 6 ; Juvenal \*i, \*iii, iv, \*x, xi, xiv ; Cicero, *Philippics*, 1, \*ii ; *Letters*, Tyrrell's Selection, 4, 5, 8, 9, 10, 13, 14, 17, 18, 20, 23, 26, 28, 30, 38, 40, 41, 42, 50, 60, 61, 66, 67, 73 ; Livy, xxi, xxii, Tacitus, *Histories* i, \*iii, *Agricola*.

*Books prescribed for 1920-21*

LATIN : As for 1919-20.

N.B.—The books marked with an asterisk are to be studied with special care in all their bearings, textual, grammatical, literary, historical, etc.

**English Language and Literature**

In this School there shall be alternative schemes of study : Scheme A, in which special attention will be paid to Literature ;

and Scheme B, in which special attention will be paid to Language. Under both schemes a competent knowledge of one classical and of at least one modern language shall be required for the attainment of high Honours.

Honours students, under either scheme, will, as a rule, be expected to take the Intermediate B.A. examination (see following paragraphs, including those in small print on page 16) at the end of their first year.

The course of study for the first academic year, shall embrace the following four subjects of the Intermediate course for the Ordinary Degree of B.A.: (i) Latin or Greek, (ii) French or German, (iii) English Literature, (iv) Modern History, or Preparatory Military Science, and in addition (v) English Language and Early English Literature.

(Candidates who have passed the Intermediate examination as above, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Some modification of the First year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Candidates who, instead of the above-mentioned examination, have passed the Intermediate examination for the Ordinary B.A. degree, may be permitted to enter on an Honours Course in English at the beginning of their second year, on condition that (i) they take Scheme A; (ii) that, before entering on their second year course, they satisfy the head of the department that they possess a sufficient knowledge of the English Language to enable them to profit by the subsequent courses in that subject.

#### *Scheme A*

Candidates shall be required to attend the following courses in the subjects of the School: in the first year, three hours a week in English Literature, and three hours a week in English Language (see below); in the second year, not less than six hours a week in English Literature and Language; in the third year, not less than five hours a week in English Literature and Language.

Candidates shall be also required to attend, during the first and second years, approved courses in subjects other than English Language and Literature; such courses shall include an approved course in Latin or Greek, and shall average not less than five hours a week in the first year and not less than three hours a week in the second year; and during the third year, a course of two hours a week in some approved subject or subjects.

The first year courses in English Language, including the History of the Language, and Early English Literature will be as follows:—

History of the English Language. Old and Middle English prose; books and passages selected from works before the close of the Fourteenth Century.

*Books prescribed in Old and Middle English for 1919-20*

Sweet, *Anglo-Saxon Primer*; Sweet, *Anglo-Saxon Reader*, extracts ii, vi, vii, viii, xv, xxv; Cook, *Literary Middle English Reader*, pp. 1-34, 198-218, 238-247, 270-278.

*Books prescribed in Old and Middle English for 1920-21*

Sweet, *Anglo-Saxon Primer*; Sweet, *Anglo-Saxon Reader*; extracts ii, vi, vii, viii, xv, xxv; Cook, *Literary Middle English Reader*, pp. 1-34, 198-218, 238-247, 270-278.

*Final Examination*

Essay, one paper.

Translation of unseen passages of Old and Middle English, with literary and linguistic questions, one paper.

Prescribed books in Old and Middle English, with literary and linguistic questions, one paper.

Outlines of English Literature, one paper.

Special period of English Literature, with prescribed books, two papers.

An English author, or selected subject from English Literature, one paper.

History of Criticism, one paper.

Oral examination.

In addition, candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts.

*Book and Period prescribed for 1919-20*

(a) *Beowulf*, vv. 1888 to end; Cook, *Literary Middle English Reader*, pp. 1-70, 173-188, 219-260, 270-278, 321-352, 497-518, 524-554.

(b) Special Period: 1850-1900.

(c) Tennyson, *Maud*; R. Browning, *Men and Women*; M. Arnold, *Poems* (1853 edition); Swinburne, *Selections*; Palgrave, *Golden Treasury*, *Additional Poems*; F. Thompson, *The Hound of*

Heaven; George Eliot, *Adam Bede*; Trollope, *Barchester Towers*; Stevenson, *Weir of Hermiston*; Ruskin, *Unto This Last*; Huxley, *Essays* (Everyman Library); Seeley, *The Expansion of England*; *English Critical Essays* (xix Century) (World's Classics).

(d) Special Author: Shakespeare.

(e) History of Criticism:

Special Books suggested for study: Aristotle, *Poetics*; Horace, *Ars Poetica*; Longinus, *On the Sublime*; Dante, *De Vulgari Eloquentia*; du Bellay, *Défense et Illustration de la Langue française*; Sidney, *Defence of Poesy*; Ben Jonson, *Discoveries*; Dryden, *Essay of Dramatic Poesy*; Boileau, *L'Art poétique*; Johnson, *Preface to Shakespeare*; Lessing, *Laokoön and Hamburgische Dramaturgie*; Wordsworth, Prefaces and Appendices to *Lyrical Ballads*; Shelley, *Defence of Poetry*; Coleridge, *Biographia Literaria*; Charles Lamb, *Literary Criticisms*; Victor Hugo, *Préface de Cromwell*; Arnold, *Essays in Criticism*, Second Series.

*Books and Period prescribed for 1920-21*

(a) *Books prescribed in Old and Middle English for 1920-21*: *Beowulf*, vv. 1-1887; Cook, *Literary Middle English Reader*, pp. 1-70, 173-188, 219-260, 270-278, 321-352, 497-518, 524-554.

(b) Special Period: 1557-1637.

(c) Special Books, Tottel's *Miscellany*; Spenser, *Shepherd's Calendar*, *Faerie Queene* Bks. i, ii, *Epithalamium*, *Hymns to Love and Beauty*; Sidney, *Astrophel and Stella*, *Apology for Poetry*; Marlowe, *Dr. Faustus*, *Edward II*; Lyly, *Campaspe*; *Six Elizabethan Plays* (ed. Wheeler, Oxford Univ. Press); Ben Jonson, *The Alchemist*; Hakluyt, *Voyages* (ed. Payne); Bacon, *Essays*, *Advancement of Learning*; Raleigh, *The Last Fight of the Revenge*; *Golden Treasury*, Bk. i; Nash, *The Unfortunate Traveller*; Donne, *Poems*.

(d) Special Author; Shakespeare.

(e) History of Criticism: Special Books as for 1919-20.

### Scheme B

Candidates shall be required to attend the following courses in the subjects of the School: (i) during three academic years courses in English Language, including the History of the Language, Early English prose and verse, and Gothic, such courses amounting to not less than three hours a week for the first year and not less than four hours a week for the second and third years; (ii) during three academic years courses of three hours a week on periods of English Literature; (iii) during one academic year a course on the Outlines of English Literature.

Candidates shall be also required

(1) *either* (a) to attend approved courses in *two* of the following languages: Old Icelandic, Old High German, Old French; *or* (b) to present a dissertation in a subject approved by the Board of the Faculty of Arts;

(2) to attend for two years approved courses of two hours a week in History, English *or* European; for two years approved courses in French *or* German; and for a third year an approved course in the History of the French Language and Literature, *or* in the History of the German Language and Literature. They are further required to attend during the first year, an approved course in Latin *or* Greek.

First year courses in English Language: as for Scheme A.

*Final Examination*

Essay, one paper.

Translation of unseen passages of Old and Middle English, with literary and linguistic questions, one paper.

Prescribed books in Old and Middle English, with literary and linguistic questions, one paper.

Outlines of English Literature, with prescribed books, two papers.  
Grammar of Old and Middle English dialects, with illustrative passages for translation or comment, two papers.

History of English, with reference to general principles of linguistic development, one paper.

Gothic, one paper.

*Either* two of the following: Old Icelandic, one paper; Old High German, one paper; Old French, one paper; *or* a dissertation on a subject approved by the Board of the Faculty of Arts.

Oral examination.

*Special Books in Old and Middle English prescribed for 1919-20*

As for Scheme A for 1919-20

Gothic: Wright's *Gothic Grammar*, with extracts.

Outlines of English Literature for 1919-20:

A general knowledge of English Literature from the earliest times, together with a special study of the following books:

Shakespeare, *Richard II*, *King Lear*; Bacon, *Advancement of Learning*; Marlowe, *Faustus*; Jonson, *Every Man in his Humour*; Spenser, *Shepherd's Calendar* (ed. Herford); Milton, *Samson Agonistes*, *Areopagitica*; Dryden, *Religio Laici*, *Essay of Dramatic Poesy*; Pope, *Moral Essays*; Burke, *Reflections on the French Revolution*; Coleridge, *Ancient Mariner*, *Christabel*, *Ode on Dejection*; Shelley, *Prometheus Unbound*; Tennyson, *In Memoriam*; Browning, *Selections* (Smith, Elder, 1/-), Carlyle, *Sartor Resartus*; Palgrave, *Golden Treasury* (including the Additional Poems); *Poems of To-day*.

**Modern Languages**

The languages studied in the School shall be French, German, English.

Candidates for the degree of Bachelor of Arts with Honours in the School of Modern Languages shall be required to pursue courses of study and to submit themselves for examination in any two of the above subjects.

Candidates shall also be required to study auxiliary subjects, of which Latin shall ordinarily form part. Exemptions may be granted to specially qualified candidates.

The names of candidates, who, being placed in the First or Second Class, have shown conspicuous merit shall be distinguished in the class list by some mark to indicate the subject or subjects in which they have shown such merit.

**I. FRENCH AND GERMAN :**

The course of study and subjects of examination in French or German shall be : Prescribed texts of before 1500, studied from a literary and linguistic standpoint ; prescribed texts of after 1500, studied in the same way ; unprepared translation ; literature (outlines and special periods) ; the history of the language (including phonetics, versification, &c.) ; composition.

Candidates taking French or German shall be required to attend for at least two years classes in composition, translation and phonetics ; for one hour a week for each of three years a class in Literature ; for three hours a week for two years, and at least two hours a week for one of the three years classes on the history of the language, and the linguistic and literary study of texts prior to 1500 ; for one hour a week for two terms in one year a class in French or German Institutions.

**II. ENGLISH :**

The courses of study and subjects of examination in English are as follows :

*Language.* During the first year, a course of not less than three hours a week in the English Language. During the second and third years, a course, or courses, in the English Language of not less than two hours a week.

*Literature.* During each year, a course in English Literature of not less than two hours a week, together with an additional course of one hour a week, during one of these years.

#### Examination

The examination in each subject of the School shall consist of an oral examination and of the following papers :

#### FRENCH OR GERMAN :

- Composition and Essay, one paper.
- Unprepared Translation, one paper.
- Prescribed Texts of before 1500, with literary and linguistic questions, one paper.
- Prescribed Texts of after 1500, with literary and linguistic questions, one paper.
- Literature, one paper.
- Grammar : History of the language and versification, one paper.

#### ENGLISH :

- Translation of unseen passages of English, with questions suggested by the passages, one paper.
- Translation from prescribed English books, with literary and linguistic questions, one paper.
- Special period of English literature with prescribed books, two papers.
- Outlines of English literature, one paper.

#### I. FRENCH :

##### *Books and Periods prescribed for 1919-20*

Books before 1500 : E. Koschwitz, *Les Plus Anciens Monuments de la Langue Française* (Serments, Jonas, Passion) ; Chrétien de Troyes, *Le Chevalier au Lion*, vv. 1406-2165 ; Guillaume de Berneville, *La Vie de St. Gilles*, vv. 1-1318 ; Partsch, *Chrestomathie*, pieces 78, 79, 81-84, 87, 88, 95-98.

Books after 1500 : Darmesteter and Hatzfeld, *Morceaux Choisis des Ecrivains du 16<sup>e</sup> siècle* ; Corneille, *Le Cid*, *Polyeucte* ; Racine, *Britannicus* ; Molière, *Le Misanthrope*, *Les Femmes Savantes* ; La Bruyère, *Des Ouvrages de l'Esprit, de la Société et de la Conversation* ; Rousseau, *Extraits* ; Victor Hugo, *Notre Dame*, *Les Orientales*.

Periods of Literature : (a) French Classical Comedy to the end of the 17th Century ; (b) Rousseau's Life and Works ; (c) The French Novel from 1820 to 1850.

##### *Books and Periods prescribed for 1920-21*

Books before 1500 : as for 1919-20.

Books after 1500 : as for 1919-20.

Periods of Literature : (a) Rousseau's Life and Works ; (b) The French Novel from 1820 to 1850 ; (c) French Classical Tragedy to the end of the 17th Century.

## II. GERMAN :

*Books and Periods prescribed for 1919-20*

Books before 1500: Braune, *Althochdeutsches Lesebuch*, ii, iv, vi, ix, xv, xvi (1-8), xvii, xxiii (1-5), xxviii-xxxi, xxxii (4, 21), xxxiv, xxxvi; Kudrun, as contained in *Kudrun und Dietrich-Epen* (ed. Jirikzek, Sammlung Götschen); Bartsch, *Liederdichter*, xxi; Wright, *Middle High German Primer* (Clarendon Press, iii, vii).

Books after 1500: Martin Luther (in *Auswahl aus deutschen Schriften*, ed. Carruth, Ginn & Co., pp. 14-71); Goethe, *Faust I* (ed. Thomas, Heath & Co.); *Iphigenie* (ed. Breul, Pitt Press); Schiller, *Wilhelm Tell* (ed. Breul, Pitt Press); *Gedichte* (in Fiedler, *Book of German Verse*, Clarendon Press); Lessing, *Emilia Galotti* (ed. Poll Ginn & Co.), *Laokoon* (ed. Hamann, Clarendon Press); Keller's and Meyer's *Poems* (in Fiedler, *Book of German Verse*; Keller, *Zwei Novellen* (ed. Kip, Clarendon Press, pp. 69-137); Heine, *Über Deutschland* (as contained in Heines *Prosa*, ed. Buchheim, Clarendon Press, pp. 148-191).

*Period of Literature*: 1740-1832.

*Books and Periods prescribed for 1920-21*

*Books before 1500*: As for 1919-20.

*Books after 1500*: as for 1919-20, omitting Lessing, *Emilia Galotti* and *Laokoon* and Keller, *Zwei Novellen*, and substituting Lessing, *Hamburgische Dramaturgie* (Velhagen & Klasing) and Lessing, *Nathan der Weise*, ed. Robertson (Pitt Press).

*Period of Literature*: 1740-1832.

## III. ENGLISH :

## (a) Language

*Books prescribed for 1919-20*

OLD AND MIDDLE ENGLISH: as for English Honours, Scheme A, 1919-20.

## (b) Literature

*Books and Periods prescribed for 1919-20*

(a) Outlines of English Literature.

(b) Special period and books as for English Honours, Scheme A, 1919-20.

## History

Candidates for the degree of Bachelor of Arts with Honours in History shall be required to pursue courses of study as follows:

The course of study for the first academic year shall embrace the following subjects of the Intermediate course for the Ordinary degree of B.A.: (1) Latin or Greek; (2) French or German; (3) Logic or English Literature, or a third Language or Preparatory Military

Science ; (4) History ; and in addition (5) a second historical subject. An examination will be held in these subjects at the end of the first year, and must be passed before proceeding to further study.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Attendance on the full course for the Intermediate examination for the Ordinary degree of Bachelor of Arts may also be accepted by the Senate as the required attendance for the first year of the Honours course.

The course of study for the second academic year in the subject of the School must include ten hours a week, and for the third academic year, eight hours a week.

#### *Examination*

Essay, one paper.

English (including Constitutional) History, two papers.

Outlines of European History, two papers.

Special period, studied in connection with the original authorities, two papers.

Economics and Economic History, one paper.

Political Theory, one paper.

In addition, candidates shall be required to present a dissertation on some subject approved by the Board of the Faculty of Arts.

Candidates shall also be required to show in the examination some knowledge of at least one foreign language (ancient or modern).

Oral Examination.

#### *Special Periods for 1919-20 and 1920-21*

(1) Roman History, 79 B.C.-31 B.C. ; (2) European History, 1789-1804 ; (3) The Life and Times of Saint Francis of Assisi ; (4) The Age of Elizabeth (1558-1603) ; (5) England and France 1660-1690 ; (6) Greek History (The Persian Wars) ; (7) Life and Times of Saint Bernard of Clairvaux ; (8) England and France (1865-1875).

The following is the list (subject to revision) of the original authorities set for the Honours periods :

1. Selections from Cicero's *Letters* (Watson's edition) ; Plutarch's *Lives of Pompeius, Caesar, Cato, Mark Antony, Brutus* ; Livy's *Epitomes* ; Caesar, *De Bello Civili*, Book I, chapters 1-28, and Book III, chapters 78-100.

2. The Constitutional Documents in Legge's *Select Documents of the French Revolution*; a selection from Morse Stephen's *Orators of the French Revolution*; *England and Napoleon in 1803* (Oscar Browning's edition of Lord Whitworth's despatches); a selection from Napoleon's correspondence.
3. *S. Francisci Opera* in Böhmér's *Analekten zur Geschichte des Franciscus von Assisi*; *S. Francisci Assisiensis Vita Prima*, auct. Celano, ed. E. d'Alençon; *Speculum Perfectionis*, ed. Sabatier; *Legenda Trium Sociorum*, ed. M. Faloci-Pulignani.
4. *Statutes and Constitutional Documents* relating to the Reign of Queen Elizabeth (Prothero); *The Leicester Correspondence* (Camden Society); Selection from Hakluyt's *Voyages* (in Payne and Beasley's "*Voyages of the Elizabethan Seamen*"); Spenser's *View of the State of Ireland*; Selections from the Spanish Calendars.
5. Selections from Pepys' *Diary* (the edition used will be that in Bohn's Library); Burnet's *History of My Own Times*, chap. iii; Halifax, *Letter to a Dissenter*; Grant-Robertson's *Constitutional Documents*; Dryden, *Absalom and Achitophel* and *The Hind and Panther*; Mignet, *Negotiations relatives à la Succession d'Espagne*, part iv, section i.
7. S. Bernhardi, *Vita Prima* (5 books) ap. Migne, *Pat. Lat.* t. clxxxv; selected letters of S. Bernard *ib.* t. clxxxii; *Exordium Cisterciensis Cenobii, Carta Caritatis and Consuetudines*, ap. Grignard, *Monuments Primitifs de la regle Cistercienne* Dijon 1878.

### Philosophy

Candidates for the degree of Bachelor of Arts with Honours in Philosophy shall be required to pursue the following courses of study, and to submit themselves to the following examinations :

The course of study for the first year is the same as that for the Intermediate examination for the Ordinary degree, provided that Logic must be taken as the fourth subject, and that a second philosophical subject may be taken as the fifth subject. Candidates must pass an examination on the first year's course before proceeding to further study.

(Candidates who have taken the second philosophical subject in the above examination, and have passed the examination, but who are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

During the second and third years candidates shall be required to attend approved courses in Philosophy of not less than five hours a week in each year.

They shall also be required to attend, during the second and third years, approved courses of lectures on other subjects, the number of lectures amounting to not less than two hours a week in each year.

#### *Examination*

Essay, one paper.

General Questions, one paper.

Logic, Deductive and Inductive, one paper.

Psychology, one paper.

Ethics, one paper.

Advanced Psychology *or* Moral and Political Philosophy, one paper.

*Either* History of Ancient Philosophy, one paper, and two papers on *one* of the following :

Descartes, Malebranche, Spinoza.

Spinoza and Leibniz.

English Philosophy from Locke to Hume, with reference to Bacon and Hobbes and to Reid and the Scottish Philosophy.

Kant.

*Or*, History of Modern Philosophy, one paper, and two papers on *one* of the following :

Greek Philosophy before Socrates.

Socrates and Plato.

Aristotle.

Post-Aristotelian Philosophy.

#### **Economic and Political Science**

Candidates for the degree of Bachelor of Arts with Honours in Economic and Political Science shall be required to pursue courses of study, and to submit themselves to examination, as follows :—

The course of study for the first academic year shall include the following subjects of the Intermediate course for the Ordinary degree of B.A., (1) Latin or Greek ; (2) French or German ; (3) Modern History or English Literature, or, if not taken under (2), French or German ; (4) Political Economy ; and, in addition, (5)

Economic Geography. An examination will be held in these subjects at the end of the first year, and must be passed before proceeding to further study.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final Course and examination for the Ordinary degree of B.A.).

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Attendance on the full course for the Intermediate examination for the degree of B.A. may also be accepted by the Senate as the required attendance for the first year of the Honours course.

During the second and third years candidates shall be required to attend approved courses in the subjects of the school of not less than five hours a week in each year.

They shall also be required to attend, during the second and third years, approved courses of lectures on other subjects, the number of lectures amounting to not less than two hours a week in each year.

### *Examination*

Essay, one paper.

Political Economy, two papers.

Social Economy, one paper.

Recent Industrial History of England, two papers.

Political Theory, one paper.

A special subject, studied in connection with original sources of information, two papers.

The special subject may be chosen by the candidate, subject to the approval of the Board of the Faculty of Arts.

## DEGREE OF MASTER OF ARTS

### I

- Ordinance. 1. The degree of Master of Arts may be conferred, on payment of the proper fee, upon registered Bachelors of Arts when of not less than one year's standing from the date of their graduation as Bachelors, subject to the conditions contained in the following paragraphs.

2. Bachelors of Arts who have graduated with Honours may proceed to the degree of Master of Arts on presenting a dissertation satisfactory to the Senate on a subject approved by the Board of the Faculty of Arts.

3. Bachelors of Arts who have obtained the Ordinary degree shall be required to pass an examination in a subject or group of subjects upon which instruction is given in the Faculty of Arts, and to present a dissertation satisfactory to the Senate on a subject approved by the Board of the Faculty of Arts, or, if they do not present a dissertation, to pass a more extended examination. In special cases it shall be in the power of the Senate, on the application of the candidate and on the special recommendation of the Board of the Faculty of Arts, to award the degree upon a dissertation only. Candidates wishing to apply for such remission must make application to the Board of the Faculty of Arts not later than the end of the October preceding the examination. Regulations shall determine the subjects and groups of subjects in which the examination will be held. Certificates of attendance on courses of study in the University shall not be required. Bachelors of Arts who have obtained Honours in any school after the Ordinary degree shall be held to have satisfied the requirements of this clause.

4. All candidates who offer a dissertation either as sole test or in combination with other tests, may be called upon to present themselves for an examination—written, or oral, or both—in the theme of their dissertation.

5. The names of candidates who have passed the examination for the degree of Master of Arts shall be arranged in alphabetical order without distinction of classes.

## II

Graduates or persons who have passed the Final examination for a degree of other approved Universities shall, if they present evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of M.A., without taking the B.A. degree, after not less than two years of such advanced study or research.

Such candidates shall be required to fulfil the following conditions:—

- (a) To be registered as students of the University.
- (b) To pursue a course of advanced study or research under the supervision of the Head of the Department concerned.
- (c) To attend a course or courses of lectures at the University for at least one year, except so far as this requirement is suspended or reduced by the Senate.
- (d) To pay a minimum fee (including Registration and Library fee) of three guineas per annum.

They shall be further required to give evidence to the Senate at the end of the first year of their period of study that their work has been satisfactory, and at the end of their second year they shall be required to present a dissertation, and to satisfy such further test, if any, as the Senate shall deem expedient. They will, as a rule, be called upon to present themselves for an examination—written, or oral, or both—in the theme of their dissertation.

N.B.—In 1920 the latest date of entry and payment of fee for candidates presenting themselves for examination will be MONDAY, MARCH 1st, and the examination held under I, 3, will be held in June. Candidates proceeding to the degree of M.A. by dissertation only must make their entry, pay the prescribed fee, and send in their dissertations not later than SATURDAY, MAY 1st. It is desirable that all candidates who present a dissertation should furnish at least two copies of such dissertation.

### *Examination*

**Regulations.** Bachelors of Arts who have obtained the Ordinary degree and are candidates for the degree of Master of Arts may present themselves for examination *either* in *one* of the following subjects, viz., Greek, Latin, French, German, English Language and Literature, History, Philosophy, Economics, Education, *or* in *two* of the following: Greek, Latin, French, German, English Language and Literature, History, Philosophy, Economics. Candidates who offer two subjects must submit their choice of subjects for approval by the Board of the Faculty of Arts.

## Greek

## I. As a single subject.

Translation from Greek books selected, as a rule, from those prescribed for Honours in Classics, one paper.

Translation at sight and questions on the subject matter of the specified books, one paper.

Translation at sight and Greek prose composition, one paper.

A dissertation on some subject approved by the Board of the Faculty of Arts.

## II. In combination with another subject.

As above, with the omission of the dissertation.

*Books prescribed for 1919-20*

Homer, *Iliad* i, vi, *Odyssey* ix; Sophocles, *Antigone*; Euripides, *Bacchae*; Aristophanes, *Clouds*; Herodotus viii; Thucydides vii; Plato, *Republic* ii, iii.

## Latin

## I. As a single subject.

Translation from Latin books selected, as a rule, from those prescribed for Honours in Classics, one paper.

Translation at sight and questions on the subject matter of the specified books, one paper.

Translation at sight and Latin prose composition, one paper.

A dissertation on some subject approved by the Board of the Faculty of Arts.

## II. In combination with another subject.

As above, with the omission of the dissertation.

*Books prescribed for 1919-20*

Plautus, *Captivi*; Lucretius v; Horace, *Satires* i, 5, 6, 9, *Epistles* i; Virgil, *Georgics* ii, iv; *Aeneid* i, ii, iv, vi; Cicero, *Second Philippic*; Livy v; Tacitus, *Agricola*, *Histories* i; Juvenal i, iii, iv, x, xi, xiv; Catullus i-v, xii, xiii, xxxi, xxxiv, xxxviii, xlix, li, lxi, lxx, lxxiv, ci.

*Books prescribed for 1920-21*

As for 1919-20, substituting Tacitus, *Histories* iii for *Histories* i.

## French

## I As a single subject.

Composition and essay, one paper.

Prescribed texts in Old and Modern French, including literary and linguistic study, one paper.

Unprepared translation and historical grammar, one paper.

French Literature (general outlines and special period or periods), one paper.

Oral examination.

A dissertation on some subject approved by the Board of the Faculty of Arts.

*II. In combination with another subject.*

As above, with the omission of the dissertation.

*Books prescribed for 1919-20*

G. Paris et Langlois, *Chrestomathie du Moyen Age*; Darmesteter et Hatzfeld, *Morceaux choisis des Ecrivains du 16<sup>e</sup> Siècle* (verse only); Corneille, *Polyeucte*; Molière, *Le Misanthrope*, *Les Femmes Savantes*; Racine, *Britannicus*; Rousseau, *Extraits*; Victor Hugo, *Notre Dame*.

*Period of Literature prescribed for 1919-20*

The French Novel from 1820-1850.

### German

*I. As a single subject.*

Composition and essay, one paper.

Prescribed texts in Middle High German and New High German, including literary and linguistic study, one paper.

Unprepared translation and historical grammar, one paper.

German Literature (general outlines and special period or periods), one paper.

Oral examination.

A dissertation on some subject approved by the Board of the Faculty of Arts.

*II. In combination with another subject.*

As above with the omission of the dissertation.

*Books prescribed for 1919-20*

Bartsch, *Liederdichter* xxi; Wright, *Middle High German Primer*; iii, vii; Lessing, *Laokoon*, ed. Hamann (Clarendon Press); Schiller, *Wilhelm Tell*, ed. Breul (Pitt Press); Goethe, *Faust* i, ed. Thomas (Heath & Co.); Goethe, *Tasso*, ed. Robertson (Longmans, Green & Co.); Keller, *Zwei Novellen*, ed. Kip (Clarendon Press); Poems by Goethe, Schiller, and Uhland, in Fiedler, *Book of German Verse* (Clarendon Press).

*Period of Literature prescribed for 1919-20*

1700-1832.

English Language and Literature

I. As a single subject.

Either

A (a) A dissertation.

(b) Examination, written or oral or both, in subjects connected with the candidate's dissertation.

(c) Outlines of English Literature with prescribed books, two papers.

Or

B (a) An essay, one paper.

(b) Translation from prescribed books in Old and Middle English, and unseen translation, two papers.

(c) Outlines of English Literature with prescribed books, two papers.

(d) One of the following :

(i) Old and Middle English Dialects, with Gothic, one paper.

or (ii) Shakespeare, one paper.

II. In combination with another subject.

Either

A (a) An essay, one paper.

(b) Translation from prescribed books in Old and Middle English, and unseen translation, two papers

(c) Gothic, one paper.

Or

B (a) An essay, one paper.

(b) Outlines of English Literature with prescribed books, two papers.

(c) A special author or subject, one paper.

*Books and Periods prescribed for 1919-20*

I. As a single subject.

A (c) Outlines of English Literature, with prescribed books, as for English Honours, Scheme B, 1919-20.

B (b) Prescribed books in Old English and Middle English, as for English Honours, Scheme A, 1919-20.

(c) Outlines of English Literature, with prescribed books, as for English Honours, Scheme B, 1919-20.

(d) Either (i) Wright's *Gothic Grammar*, or (ii) a general knowledge of Shakespeare's Plays and Poems.

II. In combination with another subject.

A (b) Prescribed books in Old English and Middle English, as for English Honours, Scheme A, 1919-20.

(c) Wright's *Gothic Grammar*.

B (b) Outlines of English Literature, with prescribed books, as for English Honours, Scheme B, 1919-20.

(c) Shakespeare, *Tragedies*.

## History

I. *As a single subject.*

An essay, one paper.

*Either* Ancient History (to 337 A.D.) General, two papers with special period in Ancient History, two papers.

*Or* Mediæval History (300 to 1500 A.D.), General, two papers, with special period in Mediæval History, two papers.

*Or* Modern History (since 1500 A.D.), General, two papers, with special period in Modern History, two papers.

Candidates may substitute a dissertation for the essay and the two papers on the special period.

II. *In combination with another subject.*

(a) Ancient or Medieval or Modern History, one paper.

(b) A special subject in the period taken under (a), two papers.

Candidates must in every case satisfy the Board of the Faculty of Arts that the subjects they offer under (a) and (b) form a suitable combination.

*Special Periods prescribed for 1919-20 and 1920-21*

- (1) Roman History (Rome and Carthage); (2) Roman History from 79 B.C. to 31 B.C.; (3) Life and Times of Saint Francis of Assisi; (4) The Age of Queen Elizabeth; (5) European History, 1789-1804 A.D.; (6) England and France, 1660-1690; (7) Greek History (The Persian Wars); (8) England and France (1865-1875).

## Philosophy

I. *As a single subject.*

(a) General Questions, one paper.

(b) *Three* of the following:

Logic, one paper.

Psychology, one paper.

Ethics, one paper.

History of Philosophy, Ancient or Modern, one paper.

Advanced Psychology *or* Moral and Political Philosophy, one paper.

(c) *One* of the following special subjects, one paper.

Greek Philosophy before Socrates.

Socrates and Plato.

Aristotle.

Post-Aristotelian Philosophy.

Descartes, Malebranche, Spinoza.

Spinoza and Leibniz.

English Philosophy, from Locke to Hume, with reference to Bacon and Hobbes, and to Reid and the Scottish Philosophy.

Kant.

Candidates may as an alternative present a dissertation on a subject approved by the Board of the Faculty of Arts and present themselves for examination in three papers from section (b) or in two papers from section (b) and one paper from section (c).

*II. In combination with another subject.*

History of Philosophy, Ancient or Modern, one paper.

Logic, or Ethics, or Psychology, or History of Philosophy, Modern or Ancient, one paper.

A special subject, approved by the Board of the Faculty of Arts, one paper.

**Economics**

*I. As a single subject.*

(a) An essay, one paper.

(b) English Economic History, including the special study of a set period, two papers.

(c) One of the following:

General Principles of Economics, two papers.

A special Economic subject, two papers.

History of Economic Theory, including the special study of the work of a particular economist, two papers.

Candidates who have taken Economics as a subject for the degree of B.A. may not offer General Principles of Economics.

Candidates may as an alternative present a dissertation on a subject approved by the Board of the Faculty of Arts, and present themselves for examination in (b) or in one subject of (c). Such candidates may not offer a special Economic subject and a dissertation on the same subject.

*II. In combination with another subject.*

English Economic History or History of Economic Theory, one paper.

A special Economic subject, two papers.

The 19th Century Economist for special study for 1918-19:

Adam Smith.

**Education**

(A) A dissertation on some subject related to Education and approved by the Board of the Faculty of Arts.

And (B) *Either* The Theory of Education, two papers, one of the following topics:

(1) The ultimate aim of education, and its relation to subordinate aims, with special consideration of the concepts of liberal culture, formal discipline, and vocational training.

(2) Heredity and environment in education.

- (3) The general process of psychical development in relation to education, with a detailed investigation of the psychical processes involved in some one form of educative influence.
  - (4) The literature of experimental investigation into education problems, with records of a detailed personal investigation into one or more of them.
  - (5) The theoretical bases of the process of learning, with special study of methodology applied to some part of the curriculum approved by the Board of the Faculty of Arts.
  - (6) The principles and methods of religious and moral education.
  - (7) The aim and organisation of systems of education as determined by social, economic, political, moral and religious conditions and ideals, with a study of the functions and relations of educational agencies.
  - (8) The educational significance of bodily development in health and disease and the organisation of means to promote the physical welfare of children, including the special problem of defective children, with records of personal investigation into some one problem.
  - (9) The development of the human being as an executive organism, with its educational implications.
  - (10) The specific problems of the education of girls and women.
- Or* The History of Education—two papers on one of the following periods, with study of certain original authorities, as arranged after consultation with the Professor, viz :
- (1) From beginnings of Greek education to 400 A.D.
  - (2) 400 A.D.—1000 A.D.
  - (3) 1000 A.D.—1400 A.D.
  - (4) 1400 A.D.—1760 A.D.
  - (5) 1760 A.D. to present time

*Or* a detailed study, based on personal knowledge, of the educational system of any one country, selected by the candidate with the approval of the Board of the Faculty of Arts. The examination on this subject may consist of an inspection of the reports and note books presented by the candidate.

### DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D.)

Ordinance.

1. The Degree of Doctor of Philosophy (Ph.D.) is conferred, on payment of the proper fee, on persons who are registered graduates of the University of Leeds, or who have obtained at an approved University a degree awarded upon an approved course of study extending over not less than three years, or have passed the Final examination for such a degree at an approved University, provided that in all cases the conditions laid down in the following paragraphs have been satisfied.

2. All Candidates for the Degree of Doctor of Philosophy are required to pursue in the University for at least two academic years an approved full-time course of advanced study and research, under the direction of the Head of the Department concerned or of a member of the University staff appointed by the Senate on his recommendation ;

provided that, after completion of the first year of the course, candidates may be permitted to devote such periods as may be deemed advisable by the Senate to full-time study and research in other approved Universities or institutions, while remaining under the direction of the University or of persons nominated by the University.

3. Before entering on the course of advanced study and research, candidates are required

- (a) To have attained the age of 21 years.
- (b) To submit to the Senate for its approval the course of advanced study and research proposed by them and to present evidence satisfactory to the Senate that they are qualified to undertake the proposed course.
- (c) To register as students of the University and to pay the prescribed fees for tuition.

4. On completing the course of advanced study and research candidates are required

- (a) To present a thesis on the subject of their advanced study and research, and to satisfy the examiners that it contains original work worthy of publication, and that it is of a sufficient standard of merit to qualify for the degree of Doctor of Philosophy.
- (b) To submit themselves for an oral examination on matters relevant to their thesis and, if required, for a written examination and to satisfy the examiners in the examination as well as in the thesis presented.

#### DEGREE OF DOCTOR OF LETTERS

1. The degree of Doctor of Letters shall be conferred by the University upon registered Masters of Arts or Doctors of Philosophy of the University who shall be deemed by the Senate, after considering a report from the Board of the Faculty of Arts, to have distinguished themselves by special research or learning. Ordinance.

Provided that the Senate may, in such cases as it shall think fit, after considering a report from the Board of the Faculty of Arts, also require candidates to pass such an examination as it may from time to time determine.

2. A Master of Arts or a Doctor of Philosophy of the University may make application for the degree of Doctor of Letters in the sixth or any subsequent year from the date of his admission to the Bachelor's degree.

3. Such applications shall be made in writing to the Registrar, and shall contain a full statement of the grounds on which the claim for the degree is based, together with one or more copies of any thesis, whether in print or in manuscript, which the applicant may desire to submit in support of the application.

4. If the application be approved by the Senate, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

N.B.—In 1920 the latest date for application and payment of fee will be MONDAY, MARCH 1st.

## DIPLOMAS IN ARTS

**Ordinance.** Diplomas shall be granted by the University, in such subjects as the Council may from time to time determine, to students who pursue the courses of study and pass the examinations prescribed.

The Council is empowered to make from time to time Regulations under which such Diplomas shall be awarded.

The award of Diplomas under the provisions of this Ordinance is delegated to the Senate.

**Regulations.** Candidates for Diplomas are required to give satisfactory attendance upon all the subjects which form part of their course of study, and to present themselves for any class examinations that may be held in the same. Those who do not pass satisfactorily in these examinations in any year will be disqualified for the Diploma unless they repeat the course in whole or in part, as may be required by the Senate.

At the close of the course, candidates will be required to present themselves for such examination in the main subject of study as may be prescribed.

Some deviation from these courses may be sanctioned in special cases, and students who on entering upon a Diploma course produce evidence that they possess a sufficient knowledge of the work done during a part of the course will be allowed to dispense with a certain amount of attendance. Applications for exemption from attendance should be made to the head of the department concerned, who shall bring them before the Standing Committee of the Senate appointed to deal with such matters.

### **Diploma in Education**

Candidates for the diploma in Education must be graduates of some University in the United Kingdom or must have obtained such other academic qualifications as shall be approved by the Senate of the University. At present the course is open to women students only. Regulations.

The session for students in this department will open about the beginning of September and will close about the middle of July.

The course is both theoretical and practical. At least sixty days will be devoted to class work in school.

#### **I. Theoretical Instruction**

Students will attend the following lectures :

- (a) Psychological Bases of Education.
- (b) Physical Education.
- (c) Logical Bases of Education.
- (d) Ethical Foundations of Moral Education.
- (e) History of Education.
- (f) The aims and organization of the Educational Systems of Great Britain.
- (g) Special courses in methods of teaching and discipline with direct reference to work in Secondary Schools, twice a week in the 1st and 2nd terms :
- (h) Voice Production.

*Note 1.*—The courses (a) (b) (c) (d) (e) (f) will, as a rule, be those arranged for the subject of Education for the degree of B.A.

*Note 2.*—All the courses may be taken in one academic year, or they may be spread over two years.

## II. Practical Work

This will be carried on under the immediate supervision of Miss H. Robertson, B.A., and of certain teachers of special subjects in the practising schools.

Students who wish to specialise in one or more subjects of the school curriculum will be definitely attached throughout the year to certain selected schools which provide special opportunities for the required training.

For some time previous to the opening of the ordinary University session at the beginning of October, students may be in continuous attendance at selected schools for the purpose of observing methods of organisation, teaching, discipline, &c.

Throughout the University session systematic observation and teaching in school will be done by each student.

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The written examination for the diploma will take place in June, at the same time as the degree examinations. The papers—except in the Practice of Education—will, as a rule, be the same as those set for the degree.

The tests in practical skill will consist in the delivery of lessons and in an inspection of records of the candidate's practical work in school. Importance will be attached to reports on the candidate's work and skill from the teacher of the school under whom she has worked, and from the staff of the University Education department.

Graduates in Arts or Science of this University who have included Education in the Final examination for their degree may obtain the diploma in Education after a further year's attendance on a course approved by the Board of the Faculty in which the degree was taken. Such course must include :

- (a) Attendance in schools as specified in II above ;
- (b) Attendance on course I (g) ;
- (c) Attendance on a course of study in Arts or Science (not included in those taken for a degree), approved by the Board of the Faculty as at least equivalent to the subject of Education taken as part of the Final course for the degree.

The examination for the diploma in Education will in these cases consist of the tests of practical skill, and the paper in the Practice of Education, but the diploma will not be issued until the candidate has also passed the degree examination in the subject or subjects included under (c).

The list of successful candidates will be issued in alphabetical order, and no special honours will be assigned to any candidate.

No diploma will be issued until the candidate has passed in both the written and the practical parts of the examination ; but a candidate who fails in the practical part only may, on the recommendation of the examiners, be allowed by the Senate to present that part at a subsequent date without further written examination. In such cases the candidate must produce a satisfactory report from the head teacher of the school in which she has been teaching, and must submit records of work done.

The fees payable are

Diploma Course...	...	...	...	£15	0	0
Examination ...	...	...	...	£1	0	0
University Union	...	...	...	£1	1	0

N.B.—If additional courses are taken the usual fees for those courses will be charged.

The following have been recognised as efficient Practising Schools for students :

Leeds : Girls' High School.  
 „ Thoresby School.  
 „ Notre Dame Collegiate School.  
 „ Modern (Girls') School.  
 „ West Leeds High School.  
 „ Cockburn High School.  
 „ Mount St. Mary's College.  
 Bradford : Girls' Grammar School.  
 Wakefield : Girls' High School.

### **Diploma for Teachers of French**

The examinations for the diploma, to be conducted annually, will be :

1. The First examination of the same standard as the Final examination in French for the Ordinary degree of B.A., including the study of prescribed authors in their literary and linguistic aspect. The study of periods of literature will not be required.
2. The Second examination, in methods of teaching and in phonetics.

Candidates for the diploma will be required

- (1) To pass the First examination, or to give satisfactory evidence that their knowledge of the French language is not below the standard of that examination.
- (2) To attend for at least one year the University class preparatory to the Second examination.
- (3) To pass the Second examination.

Fee for the whole examination (First and Second), £1.

### **Diploma for Teachers of German**

The regulations for this diploma are the same as above, with the substitution of "German" for "French" throughout.

N.B.—In 1920 the latest date of entry and of payment of fees for the First and Second examinations in June will be MONDAY, MARCH 1st.

## COURSES IN ARTS

## CLASSICS

Professor RHYS ROBERTS

Professor CONNAL

Mr. DODD

Mr. WOODWARD

## GREEK LANGUAGE AND LITERATURE

## Int. Intermediate Course

The work in this course will comprise composition, translation at sight and the special study of Demosthenes, *Phormio* and *Lacritus*; Euripides, *Trojan Women*.

Four hours to be arranged later.

*Books recommended*

Jebb, *Primer of Greek Literature* (Macmillan).

Paley and Sandys' *Private Orations of Demosthenes*, vol. i (Cambridge Press); Tyrrell's *Troades of Euripides* (Dublin Press).

North and Hillard's *Greek Prose Composition* (Rivington).

## F1. Final Course (First Year)

The work in this course will comprise composition, translation at sight, and the special study of Herodotus viii and of other books to be selected when the class meets.

Mondays, Wednesdays and Fridays at 9.30 a.m. Composition class; hour to be arranged.

*Books recommended*

Murray's, Jevons's, or Mahaffy's *History of Greek Literature*; or Croiset's (the abridged edition).

Sidgwick's *Greek Prose Composition* (Rivington).

Shuckburgh's *Herodotus viii* (Cambridge Press).

## F2. Final Course (Second Year)

The work in this course will comprise composition, translation at sight, and the special study of Herodotus vii; Euripides, *Bacchae*; Aristophanes, *Clouds*.

Tuesdays, Thursdays and Fridays, at 9.30 a.m. Composition class: hour to be arranged.

*Books recommended*

Murray's, Jevons's, or Mahaffy's *History of Greek Literature*; or Croiset's (the abridged edition).

Tyrrell's *Euripides, Bacchae* (Macmillan); Merry's *Aristophanes' Clouds* (Oxford Press).

**H. Honours and M.A. Course**

The work in this course will comprise composition, translation at sight, and the study of books prescribed for the examinations for Honours in Classics, and for the M.A. degree in Greek.

Mondays, Wednesdays, Thursdays and Fridays, at 10.30 a.m., and a composition class on Thursdays at 11.30 a.m.

**SPECIAL CLASSES****S1. Elementary Class**

This class is intended for beginners; it will not be held unless there is a reasonable number of promising applicants.

Saturdays at 9.30 a.m.

Special fee, £1 11s. 6d.

*Books recommended*

Chambers' *Greek War of Independence* (Swan Sonnenschein).

Sonnenschein's *Greek Grammar* (Swan Sonnenschein).

**S2. Higher Elementary Class**

The work in this class will comprise grammar, elementary composition, translation at sight, and the special study of two of the Greek books prescribed for the Matriculation examination of the Northern Universities. The class will not be held unless there is a reasonable number of promising applicants.

Text books will be recommended by the lecturer at the beginning of the session.

Mondays, Wednesdays, and Fridays at 11.30 a.m., and a composition class on Saturdays at 11.30 a.m.

**LATIN LANGUAGE AND LITERATURE****Int. Intermediate Course**

The work in this course will comprise composition, translation at sight, and the special study of Livy v, chapters 15-end, and Horace, *Odes* i, ii.

Mondays and Wednesdays throughout the session and Fridays during the first and second terms, at 9.30 a.m., with a composition class on *either* Tuesdays at 10.30 a.m. *or* Thursdays at 9.30 a.m. throughout the session.

*Books recommended*

Livy v, Whibley (Pitt Press).

Horace, *Odes*, Page (Macmillan).

**F1. Final Course (First Year)**

The work in this course will comprise composition, translation at sight, and the special study of selected books, one of which will be Virgil, *Aeneid* vi.

Mondays, Wednesdays, and Fridays, at 11.30 a.m., and a composition class on Tuesdays, at 11.30 a.m.

*Books recommended*

Virgil, *Aeneid* vi, Page (Macmillan).

**F2. Final Course (Second Year)**

The work in this course will comprise more advanced composition, translation at sight, and the special study of Tacitus, *Histories* i, and Virgil, *Aeneid* vi.

Mondays and Fridays at 3 p.m., and Wednesdays at 11.30 a.m., and a composition class on Tuesdays at 11.30 a.m.

*Books recommended*

Tacitus, *Histories* i, Davies (Pitt Press).

Virgil, *Aeneid* vi, Page (Macmillan).

**H. Honours and M.A. Course**

The work in this course will comprise composition, translation at sight, and the study of books prescribed for the examinations for Honours in Classics and for the M.A. in Latin.

Mondays at 11.30 a.m., Tuesdays at 2 p.m., and Fridays at 11.30 a.m., and a composition class at a time to be arranged.

*Books recommended for Classical Students*

Such books as the following will be found useful by classical students:

Murray's Ancient Greek Literature, Jevons's Greek Literature, Mahaffy's Greek Classical Literature, Croiset's Abridged History of Greek Literature, Mackail's Latin Literature, Cruttwell's History of Roman Literature, Wight Duff's Literary History of Rome.

Sandys' History of Classical Scholarship, Saintsbury's History of Criticism, Evelyn Abbott's Hellenica, Butcher's Aspects of the Greek Genius and Harvard Lectures on Greek Subjects, Jebb's Essays and Addresses, Dickinson's Greek View of Life, Tucker's Life in Ancient Athens, Whibley's Companion to Greek Studies, G. F. Hill's Greek and Roman Coins, P. Gardner's Grammar of Greek Art, E. A. Gardner's Handbook of Greek Sculpture, Michaelis' Century of Archaeological Discoveries, Reinach's Apollo, Marquand's Greek Architecture, Burrows' Discoveries in Crete, Hawes' Crete the Forerunner of Greece.

- Jebb's *Growth and Influence of Classical Greek Poetry*, Symonds' *Studies of the Greek Poets*, Mackail's *Lectures on Greek Poetry*, Butcher's *Aristotle's Theory of Poetry and the Fine Arts*, Jebb's *Introduction to Homer*, Gilbert Murray's *Rise of the Greek Epic*, Browne's *Homeric Study*, Haigh's *Attic Theatre and Tragic Drama of the Greeks*, Decharme's *Euripide et l'esprit de son Théâtre*, Jebb's *Attic Orators*.
- Tyrrell's *Latin Poetry*, Sellar's *Roman Poets of the Republic and Roman Poets of the Augustan Age* (Virgil, Horace), Glover's *Studies in Virgil*, Martha's *Poème de Lucrèce*, Boissier's *Cicéron et ses amis*, Warde Fowler's *Social Life in the Age of Cicero*, and *Religious Experience of the Roman People*, Greenidge's *Roman Public Life*, Sandys' *Companion to Latin Studies*.
- Giles's *Comparative Philology*, V. Henry's *Comparative Grammar of Greek and Latin*, Goodwin's *Greek Moods and Tenses*, Gildersleeve's *Greek Syntax*, Monro's *Homeric Grammar*, the *Latin Grammars of Roby, Madvig, Gildersleeve and Lodge*, Sidgwick's *Lectures on Greek Prose Composition*.

## HEBREW LANGUAGE AND LITERATURE

Rev. Principal BLOMFIELD at Rawdon College

Rev. Professor LIGHTLEY at Headingley College

### Int. Intermediate Course

The work in this course will include (1) the mastery of the *Elements of Hebrew Grammar* (McFayden's Edition of Davidson's Grammar), (2) the translation and exegesis of a selected portion of prose from the Old Testament. For the session 1919-20, 'The Book of Jonah, (3) (a) the history of the Hebrews from the Conquest to Ezra; OR (b) easy composition, vocabulary to be given so far as not taken from the prescribed chapters, and pointing passages from the prescribed chapters.

Tuesdays at 8.45 a.m., Wednesdays at 5.30 p.m. and Thursdays at 9.45 a.m. throughout the session, at Rawdon College.

### Fr. Final Course (First Year)

The work in this course will comprise composition, translation at sight, pointing, and the special study of selected books, viz., The Book of Judges, chapters 1-18; with critical introduction to the Book of Judges.

Tuesdays at 10.45 a.m., Wednesdays at 8.45 a.m., Fridays at 11.45 a.m., and a class for unseens and composition on Wednesdays at 11.45 a.m. at Rawdon College.

Books necessary: Hebrew English Lexicon, by Brown, Driver & Briggs, Davidson's Hebrew Syntax, and Robertson's Hebrew Exercises.

## F2. Final Course (Second Year)

The work will comprise more advanced composition, translation at sight and the special study of Job, chapters 1-21. with critical introduction to the Book of Job.

Four hours weekly as may be arranged, in some of which the classes of the First Final Year and the Second Final Year meet together, at Rawdon College.

Books as above. Gesenius-Kautzsch Hebrew Grammar (Collins & Cowley) is also recommended.

# ENGLISH LANGUAGE & LITERATURE

Professor GORDON      Professor MOORMAN

Rev. W. H. DRAPER

## Int. Intermediate Course (Literature)

The work in this course will comprise the study of the following works:—Chaucer, *Knight's Tale*; Marlowe, *Dr. Faustus*; Spenser, *Faerie Queene*, Book I; Shakespeare, *First Part of Henry IV*, *Julius Caesar*, *The Tempest*; Bacon, *Essays*; Milton, *L'Allegro*, *Il Penseroso*, *Lycidas*; Dryden, *Absalom and Achitophel*; Gray, *Elegy*, *The Progress of Poesy*, *The Bard*; Collins, *Ode on Popular Superstitions*; Burke, *On Conciliation*; Crabbe, *Peter Grimes*; Wordsworth, *Lines composed above Tintern Abbey*, *Laodamia*; Coleridge, *Kubla Khan*, *Ancient Mariner*, *Christabel*; Scott, *The Bride of Lammermoor*; Byron, *Childe Harold*, Canto iii, *The Vision of Judgment*; Palgrave's *Golden Treasury*. Book IV, and Additional Poems.

[NOTE.—Most of the poems in the above list are contained in Dixon and Grierson's *English Parnassus* (Clarendon Press).]

Mondays and Wednesdays, at 10.30 a.m. throughout the session.

## F1. Final Course (English Literature)

Students taking English in the Final course may offer English Literature and Language as a principal subject; or English Literature alone as a subsidiary subject.

The work in this course will comprise

(i) the History of English Literature from 1558-1637, and the special study of Dixon and Grierson's *English Parnassus*, pp. 77-124; Palgrave, *Golden Treasury*, Book i; Spenser, *Shepherd's Calendar*; Marlowe, *Edward II*; Shakespeare, *Richard III*, *Macbeth*, *A Winter's Tale*; Ben Jonson, *Every Man in his Humour*; Webster, *The Duchess of Malfi*; Bacon, *Essays*; Raleigh, *Last Fight of the Revenge*; Sidney, *Defence of Poetry*. Also Chaucer, *Nun's Priest's Tale*; Dryden, *Absalom and Achitophel*; Swift, *Tale of a Tub*; Coleridge, *Christabel*; Byron, *The Vision of Judgment*; Palgrave, *Golden Treasury*, Book iv.

(ii) Outlines of English Literature.

Mondays, Wednesdays and Fridays, at 10.30 a.m., throughout the session.

## F2. Final Course (English Literature and Language)

The work in this course, for those taking English as a principal subject, will comprise, in addition to what is entered under F1, a study of the following books: Sweet, *Anglo-Saxon Primer*; Sweet, *Anglo-Saxon Reader*, extracts vi, vii, viii, xxv; *Havelok*; Chaucer, *Knight's Tale*.

Two hours a week throughout the session for students in the second year of their Final course.

## HONOURS AND M.A. COURSES

### A. Language

#### H1. First Year

The work in this course will comprise the history of the English Language and the special study of Sweet, *Anglo-Saxon Primer* and *Anglo-Saxon Reader*, extracts ii, vi, vii, viii, xv, xxv; Cook, *Literary Middle English Reader*, pp. 1-34, 198-218, 238-247, 270-278.

Mondays and Fridays at 3 p.m.; Thursdays at 11.30 a.m.

#### H2. (Scheme A and B) Second Year

*Beowulf*.

Mondays at 9.30 a.m.

**H3. (Scheme A and B) Second and Third Year**

This course will comprise the History of Modern English and the study of Old and Middle English texts.

Wednesdays at 9.30 a.m.

**H4. (Scheme B) Second Year**

Old and Middle English Dialects.

Fridays at 11.30 a.m.

**H5. (Scheme B) Second Year**

Gothic.

Tuesdays at 2 p.m.

Text-book : Wright's *Gothic Grammar*.

**B. Literature****H6. (Scheme A and B) Second Year**

Early English Literature.

Mondays at 11.30 a.m.

**H7. (Scheme A) Second Year**

Shakespeare.

Wednesdays at 11.30 a.m.

**H8. (Scheme A) Third Year**

History of Literary Criticism.

Tuesdays at 11.30 a.m.

**H9. (Scheme A) Third Year**

Seminar Class.

Fridays from 9.0 to 10.30 a.m. The work in this Class will take the form of discussions, following upon papers read by students to the class.

NOTE.—M.A. students may attend any of the courses prescribed for Honours students.

**FRENCH LANGUAGE AND LITERATURE**

Professor BARBIER

Dr. GUNNELL

**Int. 1, Int. 2. Intermediate Courses**

The work done in these two courses is the same in every respect. It will comprise grammar, composition, dictation, translation at sight, conversation in French, and the special study of Paul et Victor Margueritte, *Le Désastre*; Victor Hugo, *Les Châtiments*, *livre vi*.

Course Int. 1 will be held on Mondays, Wednesdays and Fridays at 11.30 a.m., Course Int. 2 at 4 p.m. on the same

days, but the hours of Course Int.2 may have to be altered to meet the convenience of the students attending it.

*Books recommended*

Paul et Victor Margueritte, *Le Désastre*.

Victor Hugo, *Les Châtiments*.

**Int.3. French Literature (B)**

Lectures in French on Paul et Victor Margueritte and Victor Hugo will be given on Tuesdays at 3 p.m. during the first term.

Students taking French for the Intermediate examination are expected to join this class.

Special fee, £1 1s.

**FI. Final Course**

The work in this course will comprise more advanced syntax and composition, translation at sight, the elements of historical grammar and phonetics, and the special study of Corneille, *Polyeucte*; Racine, *Britannicus*.

Mondays, Tuesdays and Fridays, at 2 p.m.

*Books recommended*

Corneille, *Polyeucte*; Racine, *Britannicus*.

**F2. French Literature (A)**

Lectures on French Classical Tragedy to the end of the XVIIth Century will be given in French on Tuesdays at 3 p.m. during the session.

No entry will be taken for less than two terms.

Special fee, £1 11s. 6d. for the session; £1 1s. for two terms.

**H. Honours Course**

Mondays at 4 p.m. and Tuesdays and Thursdays at 9.30 a.m.

**SPECIAL CLASSES**

**S1. Commercial Course**

Mondays at 10.30 a.m., and Fridays at 9.30 a.m.

In addition to the study of French correspondence, etc., a book bearing on French commercial life will be read.

**S2. Saturday Morning Training Course (A)**

This class will meet on Saturdays, from 10.15 a.m. to 12.15 p.m., beginning October 11th. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work in language required for the First examination in connection with the University Diploma for teachers of French, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

There will be a short examination at the first meeting of the class for students wishing to enter for the first Diploma examination at the end of the session.

Special fee, £2 12s. 6d.

*Books recommended*

La Bruyère, *Caractères* (Extraits).

Le Sage, *Imcuret*.

Vigny, *Poems* (Manchester University Press).

**S3. Saturday Morning Training Course (B)**

This class usually meets on Saturdays, from 10.15 a.m. to 12.15 p.m. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work in phonetics and methods of teaching required for the Second examination in connection with the University Diploma for teachers of French, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

Special fee, £2 12s. 6d.

## GERMAN LANGUAGE AND LITERATURE

Dr. GOUGH

Miss CALDWELL

**Int. Intermediate Course**

Mondays and Fridays at 3 p.m., and Thursdays at 10.30 a.m. *or* 2 p.m. (If necessary, the hours of this class *on Thursdays* will be altered).

This course is intended for candidates entering for the Intermediate examination in Arts, Science, and Commerce, and for general students who wish to acquire a greater proficiency in German. In addition to the prescribed work, syntax, dictation, and composition will be studied, and the class will have practice in German conversation.

*Books recommended*

- Kuno Meyer, *German Grammar*, parts i and ii (Sonnenschein).  
*Third German Reader and Writer* (Sonnenschein).  
 Buchheim, *Heines Prosa* (Clarendon Press).  
 Buchheim, *Balladen und Romanzen* (Macmillan).

## F. Final Course

Mondays, Wednesdays and Fridays, at 9.30 a.m.

The work of this class comprises revision of German syntax, the elements of historical grammar and phonetics, study of advanced texts, and composition. The class will be taught in German.

*Books recommended*

- Goethe, *Faust* i, ed. Thomas (Heath).  
 Fiedler, *Book of German Verse* (Clarendon Press).  
 Longmans' *German Composition* (Longmans).  
 Behaghel, *Die deutsche Sprache* (Leipzig, Freytag).

## H. Honours and M.A. Course

Mondays, Wednesdays and Fridays at 10.30 a.m.

The work of this class will comprise Historical Grammar, Old and Middle High German Grammar and Literature, and interpretation of Old High German and Middle High German texts. Part of the work taken in this course is also suitable for graduates reading for the M.A. examination.

Books and periods will be found under the Honours School of Modern Languages and Literatures for the B.A. degree with Honours.

## SPECIAL CLASSES

## S1. Lower Elementary Class

Mondays and Fridays at 2 p.m.

This class is intended for beginners. Special attention will be given to students of science and technology.

*Books recommended*

- Fiedler-Sandbach, *First German Course for Science Students* (Moring).  
*Twenty Stories from Grimm* (ed. Rippmann, Pitt Press).

## S2. Higher Elementary Class

Mondays and Fridays at 4 p.m.

This course is intended for students who already possess an elementary knowledge of German. In addition to the study of grammar and composition, the work of this class will include books of general literary interest, as well as texts bearing on various branches of science. German conversation will be practised.

### *Books recommended*

Kuno Meyer, *German Grammar*, parts i and ii (Sonnenschein).

*Second German Reader and Writer* (Sonnenschein).

Seidel, *Aus goldenen Tagen* (ed. Bernhardt, Heath & Co).

Helmholtz, *Populäre Vorträge* (ed. E. S. Shumway, Heath & Co.)

## S3. German Literature

Lectures on the Dawn of the Golden Age of Modern German Literature will be given on Tuesdays, at 4 p.m.

Special fee, £1 11s. 6d. for the session ; £1 1s. for two terms ; 12s. 6d. for one term.

## S4. Lower Commercial Course

The hours of this class will be arranged at the beginning of the first term.

In addition to the study of German correspondence, &c., a book bearing on German commercial life will be read. The class will be taught in German.

### *Books recommended*

Graham and Oliver, *German Commercial Practice*, Part II (Macmillan).

Weber, *Die Börse* (Göttingen, Vandenhoeck & Ruprecht).

## S5. Higher Commercial Course

The hours of this class will be arranged at the beginning of the first term.

The study of German correspondence, etc., will be continued, and German books on economic subjects will be read, the titles of which will be announced at the beginning of the first term. The class will be taught in German.

### *Book recommended*

Graham and Oliver, *German Commercial Practice*, Part II (Macmillan).

### S6. Saturday Morning Training Course (A)

This class usually meets on Saturdays, from 10.30 a.m. to 12.30 p.m. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work required for the First examination in connection with the University Diploma for teachers of German, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

There will be a short examination at the first meeting of the class for students wishing to enter for the first Diploma examination at the end of the session.

Special fee, £2 12s. 6d.

#### *Books recommended*

Meyer, *Jürg Jenatsch*, ed. Ahrens (Macmillan).

Grillparzer, *Des Meeres und der Liebe Wellen*, ed. Kind (N.Y. Oxford Univ. Press).

Fiedler, *Book of German Verse* (Clarendon Press); Poems by Goethe and Schiller.

Longman's *German Composition* (Longman).

Meyer's *German Grammar*, part i and ii (Sonnenschein).

Behaghel, *Die deutsche Sprache* (Leipzig, Freytag).

### S7. Saturday Morning Training Course (B)

This class will meet on Saturdays, from 10.30 a.m. to 12.30 p.m., beginning October 11th. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work in phonetics and methods of teaching required for the Second examination in connection with the University Diploma for teachers of German, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified. The titles of the books used in this class will be announced at the beginning of the first term.

Special fee, £2 12s. 6d.

**RUSSIAN LANGUAGE AND LITERATURE**

MR. BOSWELL

MR. KOLNI-BALOSKY

**Int. Intermediate Course**

Three hours a week at times to be arranged.

This course is intended for candidates entering for the Intermediate examinations in Arts, Science, and Commerce, and for general students who wish to acquire a greater proficiency in Russian. In addition to prescribed books, grammar, composition, and dictation will be studied and there will be practice in Russian Conversation.

**F. Final Course**

Three hours a week at times to be arranged.

The work of this class comprises the study of prescribed texts (both prose and verse), the outlines of Russian History, a period or periods of Russian literature, together with grammar, composition, and conversation in Russian.

**SPECIAL CLASSES****S1. Lower Elementary Class**

Hours to be arranged.

This class is intended for beginners. Special attention will be given to students of Science and Technology.

**S2. Higher Elementary Course**

Hours to be arranged.

This course is intended for students who already possess an elementary knowledge of Russian. The work will comprise grammar, composition, the reading of Russian books and conversation.

**S3. Russian Literature**

One hour a week (to be arranged).

**SPANISH LANGUAGE AND LITERATURE**

Señor PENZOL

**Int. Intermediate Course**

Three hours a week at times to be arranged.

This course is intended for candidates entering for the Intermediate examinations in Arts, Science, and Commerce,

and for general students who wish to acquire a greater proficiency in Spanish. In addition to prescribed books, grammar, composition, and dictation will be studied and there will be practice in Spanish Conversation.

#### **F. Final Course**

Three hours a week at times to be arranged.

The work of this class comprises the study of prescribed texts (both prose and verse), a period or periods of Spanish literature, together with grammar, composition and conversation in Spanish.

#### **SPECIAL CLASSES**

##### **S1. Lower Elementary Class**

Hours to be arranged.

This class is intended for beginners.

##### **S2. Higher Elementary Class**

Hours to be arranged.

This course is intended for students who already possess an elementary knowledge of Spanish. The work will comprise grammar, composition, the reading of Spanish books and conversation.

##### **S3. Spanish Literature.**

One hour a week (to be arranged).

#### **HISTORY**

Professor GRANT

Miss COOKE

Mr. WOODWARD

#### **INTERMEDIATE COURSES**

##### **Int. 1. Outlines of Greek and Roman History**

Tuesdays and Thursdays at 11.30 a.m.

Greek History to the death of Alexander.

Roman History from 264 B.C. to 70 A.D.

The following Lives in Plutarch will be studied in connection with this course:—*Lykurgus, Solon, Perikles, Alkibiades, Fabius, Maximus, and Aemilius.*

The text used will be the translation of Stewart and Long in Bohn's Library. The above Lives are all contained in Vol. IV, which can be procured separately.

#### Int.2. Modern History from 1763 to 1900

Two hours a week at times to be arranged.

This course will not be given unless there are candidates for the degree of B.Com.

N.B.—No students will be admitted to the Honours course in History who have not completed their Intermediate examination *including the additional subject* at the end of the first year.

#### FINAL COURSES

##### *First Year: Final*

##### F1. European History (Italy)

Tuesdays and Thursdays, at 10.30 a.m.

The course will be devoted to the history of Italy from the Coronation of Charlemagne (800 A.D.) until modern times.

*Italy: Medieval and Modern* (Clarendon Press) is probably the best text book, but Hunt's *History of Italy* (Macmillan), and Sedgwick's *History of Italy*, are useful books.

This is also a course for candidates for the Intermediate examination for the Ordinary B.Sc. degree and for the Special Intermediate examination for candidates for the B.A. degree with Honours in English.

##### F2. English Constitutional History from 1485

Tuesdays and Thursdays at 11.30 a.m.

##### *Second Year: Final*

##### F3. Greek History 371-300 B.C.

Mondays and Fridays at 11.30 a.m. in the first term.

**F4. Roman History from 31 B.C. to 180 A.D.**

Tuesdays and Thursdays at 9.30 a.m.

**F5. English History; 1625 to 1714**

Mondays and Wednesdays at 9.30 a.m.

This is also a course for the Special Intermediate examination for the degree of Honours in History.

**F6. European History; The Thirteenth Century**

Tuesdays and Thursdays at 9.30 a.m.

Candidates for the Final examination for the B.A. degree are recommended to take the course in English History and any one of the other courses.

**Ecclesiastical History**

Rev. H. WHEELER ROBINSON, M.A., at Rawdon College

Rev. J. W. LIGHTLEY, M.A., at Headingley College

The regular course of instruction in Ecclesiastical History at Rawdon College deals with the period from 70 A.D. to 451 A.D. This is divided into two sections, viz., (a) 70 A.D. to 313 A.D., and (b) 313 A.D. to 451 A.D., which are taken in alternate years. Two lectures are given each week, at times arranged at the beginning of each session, in the course of which about ten class essays are prescribed on special topics. The text-book is Pullan's *The Church of the Fathers*, with Gwatkin's *Selections from Early Christian Writers* and Bindley's *The Oecumenical Documents of the Faith* as source-books.

Other books recommended are Gwatkin's *Early Church History* to A.D. 313, Rainy's *The Ancient Catholic Church*, Lindsay's *The Church and the Ministry in the Early Centuries*, and Harnack's *The Mission and Expansion of Christianity in the First Three Centuries*. For the general social and religious background the student may read with advantage Dill's *Roman Society from Nero to Marcus Aurelius*, Glover's *Life and Letters in the Fourth Century*, and Dill's *Roman Society in the Last Century of the Western Empire*.

Courses on other periods of Ecclesiastical History are given from time to time by special arrangement.

HONOURS AND M.A. COURSES

H1. Roman History 79 B.C. to 31 B.C.

One hour a week at times to be arranged.

H2. English Constitutional History to 1485

Tuesdays and Thursdays at 11.30 a.m.

H3. Life and Times of Saint Bernard of Clairvaux

Tuesdays and Thursdays at 10.30 a.m.

H4. Supplementary Class on the Life and Times of Saint Bernard of Clairvaux for students in their third year

Two hours a week at times to be arranged.

H5. The History of England and France from 1863 to 1874

Mondays and Wednesdays at 10.30 a.m.

H6. The History of England and France from 1863 to 1874

A supplementary class for students in their third year.

Fridays at 9.30.

H7. Essay Class

One hour a week at times to be arranged.

H8. Political Theory (Professor GILLESPIE)

At times to be arranged.

PHILOSOPHY

Professor GILLESPIE

Int. Intermediate Course: Logic

Two Lectures a week throughout the session at times to be arranged.

This course deals with the elements of logic, deductive and inductive. Students will find it useful to familiarise themselves with the elementary formal logic, in some such text-books as *Jevons* or *Fowler*, before entering the class.

F1. Final Course: Ethics

Two lectures and a tutorial class each week throughout the session, at hours to be arranged.

*Subjects:* The outlines of ethical theory, together with the elementary psychology of the will, and the study of selected ethical systems.

**F2. Final Course : History of Ancient Philosophy**

Two lectures and a tutorial class each week throughout the session, at hours to be arranged.

*Subjects* : The outlines of the history of Greek philosophy with more detailed study of special books.

Candidates for Honours in Classics attend this class.

**F3. Final Course : History of Modern Philosophy**

Two lectures and a tutorial class each week throughout the session, at hours to be arranged.

*Subjects* : The outlines of the history of modern philosophy from Descartes to Kant.

**F4. Final Course : Outlines of Political Theory****H. Honours Courses**

Lectures will be delivered on Psychology, Modern Philosophy and Kant, for the Honours degree, at hours to be arranged.

**H1. Political Theory**

Two hours a week throughout the session at times to be arranged.

Lectures on Social Philosophy will be delivered as required by candidates for the Diploma in Social Organization and students attending courses for Welfare Supervision. Particulars on application to the Professor.

**POLITICAL ECONOMY**

Professor MACGREGOR

Miss GRIER

**INTERMEDIATE COURSE****Int. Political Economy**

The chief economic relationships. Principles and organisation of production, marketing, distribution, and consumption of goods and services. The element of money and statistics.

Two hours a week at times to be arranged.

**FINAL COURSES****Fr. Applied Economics**

Currency and banking, the money market, stock exchange, and foreign exchanges.

Business organisation and management in relation to labour and capital. Large and small businesses, joint stock, trade unions, conciliation and arbitration, the factory laws.

Transport and freights by land and water.

Two hours a week at times to be arranged.

## **F2. Applied Economics**

Public economics and finance. Rates, taxes, and public debts. Grants in Aid. National and municipal industries. The State in relation to employment, insurance, labour exchanges, &c.

Foreign trade, tariffs, and Trusts.

Some social aspects of industry. Employment of women and children. Schemes of industrial betterment. Trade Boards, and the question of minimum conditions.

Two hours a week at times to be arranged.

## **HONOURS AND M.A. COURSES**

### **H1. Industrial History (since 1760)**

The history of land tenure and agriculture; labour organisation and legislation; the evolution of capitalism; commerce, the tariff, and the financial system; transport; the growth of social teaching. The economic principles involved to be studied concurrently.

Mondays and Fridays at 10.30 a.m.

### **H2. Social Economics**

The influence of industrial conditions on social life; the problems of poverty, housing, sweating, unemployment, child labour, &c.; the social legislation of this country.

Tuesdays, 3 p.m., during the first two terms.

Special fee to non-registered students, 10s. 6d.

### **H3. Political Theory**

The nature and duties of the State and the basis of citizenship.

Two hours a week at times to be arranged.

### **Tutorial Instruction in Special Subjects**

Tutorial instruction will be given in the special subject for the B.Com. degree, the subject to be chosen by the candidate, and approved by the Senate.

**Economic Geography****INTERMEDIATE**

General principles of economic geography with special reference to climate as a factor in the production of food-stuffs, the distribution of mineral and power resources, communications, and ports.

**FINAL**

The detailed study of geographical factors concerned in the distribution, growth and migration of certain great industries.

A detailed study of the economic geography of a selected area.

**EDUCATION***Principal of the Training Department:*

THE VICE-CHANCELLOR, MICHAEL E. SADLER,  
Litt.D., LL.D., C.B.

*Professor:* JOHN STRONG, M.A., LL.D., C.B.E.

*Lecturer in Education and Master of Method:*  
W. P. WELPTON, B.Sc.

*Tutor of Women Students and Mistress of Method:*  
Miss H. ROBERTSON, B.A.

*Assistant Lecturer in Education:* A. J. MONAHAN, M.A.

*Assistant Master of Method:* F. W. TURNER, B.Sc.

*Assistant Lecturer in Education and Assistant Mistress  
of Method:*  
Miss E. M. BLACKBURN, M.A.

*Assistant Lecturers in Education:*

Miss R. F. SHOVE, M.A.      Miss URSULA IRONS, M.A.

*Teacher of Music, Reading and Elocution:*  
T. J. HOGGETT, Mus.B.

*Teacher of Drawing:* Miss E. A. FOSTER.

*Teacher of Needlework:* Miss E. M. WALL.

*Medical Officers:*

R. G. HANN, M.R.C.S., L.R.C.P.      Miss M. PHILLIPS, M.B.  
Mrs. R. H. B. ADAMSON, M.B.

## Training Department for Teachers for Primary Schools.

A Training Department under the provisions of the Education Code, was established in 1891.

The following particulars are supplied for the information of candidates who desire to be admitted to the Leeds University Training Department, as King's Scholars.

### CONDITIONS OF ADMISSION

*(Subject to any changes which may be made by the  
Board of Education).*

1. Candidates, except as provided below, must be over 18 years of age on August 1st of the year in which they are admitted, and must have fulfilled the conditions stated in the sections following:—

i. Persons who have been for three years in regular attendance at an efficient Secondary School may, with the special approval of the Board, be admitted between the ages of 17 and 18. But no persons may be admitted to the Training Department unless they are over 17 years on the first day of the academical year for which they are admitted.

ii. The qualifying examination must have been passed, as a rule, within the two years and six months preceding the 1st of August in the year of entering the Training Department.

iii. Persons who have been recognised as Bursars or as Pupil Teachers under the Board's Regulations for the Preliminary Education of Elementary School Teachers, will not be admitted to the Training Department until the termination of their period of recognition (see *Regulations for the Training of Teachers, Art. 44a*).

2. Candidates, before being accepted, are required by the Regulations of the Board of Education to be examined by the Medical Officer of the Department, and can only be admitted if reported as without physical defect or organic disease, strong and in good health, and capable of entering on a three years' degree course with professional training without undue strain.

3. Candidates will be required to furnish certificates of good character.

4. All candidates will on admission be required to give an undertaking to the Board of Education for the purpose of securing that in return for the grant payable under the Board's regulations, they will complete their training in the Department, and thereafter actually follow the profession of teacher in an approved school for such period or periods, or repay to the Board such proportion of that grant, as may respectively be specified in the undertaking.

An approved school includes any Public Elementary School, and any Secondary School, Pupil Teacher Centre or Training College, in respect of which grants are paid by the Board out of monies provided by Parliament (*see sect. 10b and App. B. Regulations for the Training of Teachers*).

5. Before admission a candidate is required to have qualified—

(a) For admission to the University as an undergraduate.

(b) For admission to the Training Department as a King's Scholar.

(a) To enter the University as an undergraduate a candidate is required to have passed the Matriculation Examination of the Joint Board, or to have qualified for a Matriculation Certificate of the Joint Board by passing with credit in the necessary subjects at the School Certificate Examination of the Joint Board, or to have qualified, by means of some other examination, for exemption from the Matriculation Examination of the Joint Board.

A candidate who proposes to read for a degree in Arts must pass in Latin and one other language at one of the qualifying examinations.

A student may obtain exemption from the Matriculation Examination of the Joint Board if he has passed one of the following examinations in the necessary subjects:—

(i) The Matriculation Examination of the London University.

- (ii) The Examination for the Higher Certificate or Higher Certificates of the Oxford and Cambridge Schools Examination Board.
- (iii) The Examination for the School Certificate of the Oxford and Cambridge Schools Examination Board.
- (iv) The Senior Local Examinations of the Universities of Oxford and Cambridge.
- (v) The Senior School Certificate of the Central Welsh Board.

*(For fuller information see the Syllabus of the Matriculation Examination of the Joint Board.)*

(b) The qualification for admission as a King's Scholar is covered by the qualification for admission as an undergraduate, provided the candidate has passed in *either* History *or* Geography at the qualifying examination, or passes in either of these subjects at a supplementary examination.

The qualifying examination should, as a rule, have been passed within two years and six months preceding August 1st of the year of entering the Training Department.

The Board is prepared to consider applications from candidates whose qualifying examination was passed at some earlier date, provided that evidence satisfactory to the Board is given that these candidates are fitted to undertake the courses proposed for them.

The Board of Education recognises—

A Certificate of the Matriculation Examination of the Joint Board of the Northern Universities, or a School Certificate of the Joint Matriculation Board, which dispenses from Matriculation, without any conditions as to passes in specific subjects.

Full information of the Examination Qualifications required by the Board can be obtained from List 176 of the Board of Education, which gives the conditions of admission to Training Colleges (price 1d., from H.M. Stationery Office, Imperial House, Kingsway, London, W.C. 2).

Candidates who are in any doubt as to the nature of their qualification for the King's Scholarship, or for exemption

from the Matriculation Examination of the Joint Board, should forward to the Lecturer in Education an exact and full account of the examinations they have passed, giving date of passing, subjects passed, standard attained in each subject, and class obtained. The Lecturer in Education will be pleased to advise them as to the nature of their qualification and of the steps to be taken to secure admission.

6. In selecting candidates preference is given to those placed in the First Division, and who have taken Alternative Papers of a Higher Standard, or who have passed in one of the groups of the Higher Certificate Examination, or have obtained High Honours at one of the Senior Local Examinations.

Candidates who have passed one of the Qualifying Examinations previous to the year in which they seek admission are required to give evidence of progress in their studies during the year before admission. They are advised to widen their reading in English Literature and History (English or European). Those proposing to take up an Arts Course should in addition progress in their study of Latin and one other language; those proposing to undertake a Science Course should in addition progress in Physics, Mathematics and a branch of Natural Science. A pass in papers set at a Higher Certificate Examination will be considered as satisfying the above requirements when it is possible for the candidate to enter for such papers

7. All communications respecting the Matriculation Examination of the Joint Board should be addressed to The Secretary of the Joint Matriculation Board, 315, Oxford Road, Manchester.

8. Application and Testimonial Forms may be obtained from the Lecturer in Education, The University, Leeds. Forms will be issued after October 1st in each year, and applications for admission should be made as early as possible, and in any case before the end of the following July.

### RESIDENCE

Students who live within reasonable distance of the University are permitted to live with their parents or guardians. Men students who do not live at home are

required to live in lodgings registered and supervised by the University. A list of registered lodgings may be obtained on application. The charge for board and rooms varies from about 20s. to about 40s. according to position, catering and accommodation. Women students who do not live with their parents or guardians are required to reside in one of the Halls of Residence for Women.

### THE HALLS OF RESIDENCE FOR WOMEN.

Accommodation is reserved in the Halls for students accepted by the Training Department, who cannot reside at home. Every effort is made to provide each student with the accommodation she prefers, but it is not always possible to do so.

The fees given in the prospectus of the Halls of Residence are in the case of King's Scholars reduced by the grants made by the Government for tuition and residence. The annual fees to King's Scholars for tuition and residence (including the subscription to the University Union) are as follows:—

Bedroom (shared with another student) and	£	s.	d.	
use of common study ... ..	7	3	6	a term.
Single bedroom and use of common study ...	8	3	6	„
Study bedroom (shared with another student)	9	3	6	„
Single study bedroom ... ..	10	3	6	„

King's Scholars are allowed a laundry allowance during term averaging 1s. 9d. a week.

The above fees cover residence during the University session, and also during an additional two weeks at the beginning of the Midsummer Vacation, a total period of about 34 weeks. Further residence required by the Training Department is charged at the rate of 3s. a day.

Extra residence not required by the Training Department is charged at the same rate as for all University students (see Prospectus of the University Halls of Residence for Women).

While it is hoped that it may be possible to retain the existing scale of charges, that scale must, under the present very exceptional circumstances, be regarded as provisional, and subject to increase in consequence of the rising prices.

On a student being admitted to the Training Department the Tutor of Women Students will communicate with her regarding the kind of accommodation preferred, and will forward on request any further information about the Halls.

### TERMS

The Training Department session coincides nearly with that of the University, which begins in October, is divided into three terms of about eleven weeks each, and ends in June. Students in training will be engaged in practical training in schools during certain parts of the

University vacations. During the first year teaching practice is undertaken during the fortnight before the opening of the University session, and during the remaining years at such times as are arranged. Practice for all students is usually taken during the Easter vacation and at the beginning and the end of the Midsummer vacation.

### GRANTS AND FEES

The Government grant for maintenance of £20 a year for men and £15 a year for women students will be paid, at the times and in the instalments prescribed by the Board of Education, to such King's Scholars as reside at home or in registered lodgings.

All King's Scholars, with the exception of those residing in one of the Halls of Residence, are required to pay annually a tuition fee of £5, and also a sum of £1 is., the compulsory annual fee payable for membership of the University Union.

The fee to women students residing in the Halls of Residence varies according to the kind of accommodation the student has (see paragraph on page 64) and covers tuition, maintenance, and membership of the University Union. No Government grant for maintenance is paid to women students residing in one of the University Halls of Residence.

The University examination fees to be paid by all King's Scholars are as follows:

Intermediate Examination in Science or Arts	...	£1
Final Examination in Science or Arts	..	£1
Graduation ...	* ...	£5

No further payment to the University will be required, but Scholars must provide their own books, and those who work in the University laboratories must supply themselves (by purchase or hire) with a small amount of scientific apparatus. The King's Scholars in residence will be admitted without additional fee to the lectures, classes, and laboratory work provided for their prescribed courses of study, and to such other classes as are approved by the Authorities of the Training Department.

### EXAMINATIONS

All students entering the Department will attend the classes and will be required to enter for the examinations qualifying for a degree of the University.

N.B.—The attention of applicants is drawn to the following Regulation of the Board of Education:

*Art. 44d.*—As a condition of continued recognition a Three Year Student must in each year of the course make due progress towards obtaining his degree. No student will be regarded as making due progress unless he passes any examination which may form an Intermediate stage in the course for a University degree not later than the time contemplated by the ordinary arrangement of the University course of study.

This imposes on students the necessity of passing the Intermediate examination for a degree at the end of the first year. Students who fail to do this can only continue to hold the King's Scholarship for one more year as non-degree students, and must undertake a special course or study for the Elementary Teacher's Certificate.

The Government certificate will be issued on the results of examinations conducted in part by the Board of Education and in part by the University. Students substitute approved University examinations for the greater part of the syllabus of the Certificate Examination conducted by the Board of Education.

N.B.—The attention of applicants is drawn to Art. 50 of the Regulations for the Training of Teachers of the Board of Education, which lays down the conditions on which University students may be certificated.

### PROFESSIONAL TRAINING

The professional training of the students is conducted by the staff of the Department of Education. This training includes courses of lectures and written exercises in the History, Theory, and Art of Education. This forms part of the course for a pass degree, but has to be taken by Honours students in addition to their degree course. Attendance at

exercises in practical teaching, supplemented by practical work in selected schools under the supervision of the professional staff, is required of all students.

Attendance on courses of instruction in Music, Drawing, Reading and Recitation, and Needlework (for women) is compulsory under the Regulations of the Board of Education. Satisfactory progress in these subjects is a condition of continued recognition and certification by the Board of Education.

### **Teachers for Secondary Schools**

A full course of instruction in the theory and practice of education is provided for women students intending to become teachers in secondary schools. Such students attend the ordinary courses of lectures in Education and exercises in Practical Teaching; special courses to prepare for the Diploma in Education of the University are provided as required.

Arrangements are also made for practical training in class teaching and management in certain selected secondary schools in Leeds or in the immediate neighbourhood.

The whole course may be taken in one session, or may be spread over two or three sessions.

### **Diploma in Education**

For Regulations, see page 163.

#### **LECTURE COURSES**

##### **F1. Education: First Year Course**

Mondays and Fridays at 4 p.m.

An additional class is taken during the First and Second Terms at an hour to be arranged.

Principles and Methods of Teaching.

*Each Term*—Exercise in Practical Teaching. One and a half hours a week on Thursdays at 3 p.m.

##### **F2. Education: Second Year Course**

A. Tuesdays and Saturdays at 9.30 a.m.

*First Term*—The physical and hygienic bases of education.

*Second Term*—The logical bases of education.

*Third Term*—The ethical foundations of moral education, with applications to school discipline.

B. Thursdays at 9.30 a.m.

*Each Term*—The psychological bases of education.

*Each Term*—Exercise in Practical Teaching. One and a half hours a week on Thursdays at 3 p.m.

### **F3. Education : Third Year Course**

Course A. Tuesdays and Thursdays at 10.30 a.m. The history of educational thought in Western Europe from the Renaissance to the present time, with special reference to England, and special emphasis on the Nineteenth Century.

Course B. Thursdays at 2 p.m. The aims and organisation of the educational systems of Great Britain.

*Each Term*—Exercise in Practical Teaching. One and a half hours per week on Thursdays at 3 p.m.

### **S1. Drawing and Elementary Design**

This course is arranged to meet the requirements of the students in the Training Department, and consists of one class per week in the first and second years, together with at least one hour per week for practical work. The classes will be arranged after the beginning of the session.

### **S2. Reading and Recitation**

Classes will be held at times to be arranged.

### **S3. Music**

For first and second year King's Scholars, on Thursdays, at 2 p.m. for choral music. Tutorial classes will be held at times to be arranged.

### **S4. Needlework**

For first or second year King's Scholars, two hours a week, at times to be arranged.

## DEGREE, DIPLOMAS, AND COURSES OF STUDY IN ECONOMICS AND COMMERCE

Students in the Department of Economics and Commerce may take a three years' course for the degree of Bachelor of Commerce, a two years' course for the Diploma in Commerce, or a two years' course for the Diploma in Social Organisation and Public Service, according to the ordinances and regulations which follow.

### Degree of Bachelor of Commerce

Ordinance.

1. The degree in Commerce shall be that of Bachelor of Commerce (B. Com.).
2. All candidates for the degree of Bachelor of Commerce shall be required to have passed the Matriculation examination, with at least one modern foreign language as one of the subjects, and thereafter to have pursued approved courses of study for not less than three academic years.
3. The complete course of study for the degree of Bachelor of Commerce shall be divided into two parts, called respectively the Intermediate course and the Final course.
4. Every candidate shall be required to pass two examinations, the Intermediate and the Final.
5. The Intermediate and Final examinations shall ordinarily be held in June of each year. There shall also be a supplementary Intermediate examination in September, at which those candidates only may present themselves who have obtained the permission of the Senate.
6. Candidates who have failed at an Intermediate examination in June, and have obtained permission to present themselves at the following supplementary examination, may be excused such part of the supplementary examination as the combined examination committee, on report from the examination committee for the degree of Bachelor of Commerce, may determine.

7. All students shall be required, before presenting themselves for the Intermediate or Final examination, to furnish to the Registrar certificates testifying that they have regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturer, in each of the subjects which they offer at the examination.

#### **Intermediate Course and Examination**

Every candidate shall be required, after passing the Matriculation examination, to attend during not less than one academic year approved courses of study in five subjects, viz. :

- i. Economics
- ii. Economic Geography
- iii. A modern foreign language (French, German, Spanish, *or* Russian)
- iv, v. *Two* of the following :

A second modern foreign language  
Mathematics  
European History from 1763

A subject to be chosen by the candidate, with the approval of the Board of the Faculty of Arts, from the subjects embraced by the Faculties of Science and Technology,

and to pass in each of the subjects offered. One of the two subjects chosen under iv, v. may be taken in any year of the course, provided that a subject in the Faculty of Technology may not be taken earlier than the second year. The examination in each modern foreign language shall include an oral examination.

Every candidate shall also be required to attend, during his first year, a course of lectures on Accountancy for at least one hour a week.

*Regulation.*

**Final Course and Examination**

Ordinance. Every candidate shall be required to attend approved courses of study extending over two years, and to pass an examination in each of the following principal subjects:

- i. Economics: comprising (a) advanced general Economics and (b) a special commercial or economic subject
  - ii. *Either* a modern foreign language to be studied for two years, *or* two modern foreign languages to be studied for one year each
  - iii. Commercial Law
  - iv. Accountancy
- Every candidate shall be required also to attend an approved course of study, extending over one year, and to pass an examination in
- v. Economic Geography.

The examination in each modern foreign language shall include an oral examination.

An English essay shall also form part of the examination.

Candidates may take the course in Economic Geography in the first year of the Final course, and present themselves at the end of that year for examination in the subject.

Candidates who select two modern foreign languages under ii may present themselves for examination in one or both foreign languages at the end of the first year of the Final course, provided they have completed the prescribed attendance.

N.B.—The Intermediate and Final Examinations will be held in June. The latest date of entry and of payment of fees will be MARCH 1st

**Diploma in Commerce**

Regulations. In addition to the degree of Bachelor of Commerce the University offers a diploma in Commerce, the course of study for which extends over two years. Candidates for the diploma must have passed the Matriculation examination, with at least one modern foreign language as one of the subjects, or some other public examination, which in

the opinion of the Senate is of sufficiently high standing, and must thereafter have pursued approved courses of study for not less than two years, and passed the prescribed examinations.

**First Year Course and Examination**

Economics

A modern foreign language

Economic Geography

Accountancy

Mathematics *or* a second language *or* some other course to be approved by the Senate.

**Second Year Course and Examination**

***I. Compulsory Subjects :***

Economics, more advanced general course

A modern foreign language

Economic Geography

Accountancy, second year course

Commercial Law.

***II. Optional Subjects :***

Candidates for the diploma may also take, in their second year, an optional course in a second foreign language *or* a short course in the Textile Engineering, or other Technological Department of the University.

N.B.—The First Year and Second Year Examinations will be held in June. The latest date of entry and payment of fees will be MARCH 1st.

**Separate Classes in Commercial Subjects**

Those who are unable to spare the necessary time for the acquisition of a degree or diploma in Commerce may be admitted to such of the classes in the department as may suit their requirements and their other engagements during the day, on payment of the fees for the separate classes, in addition to the library fee.

### **Diploma in Social Organisation and Public Service**

The University offers a diploma in Social Organisation and Public Service, the course of study for which extends over two years. The object of the scheme of work is to combine specialised training for particular careers with a general grounding in the principles of Economics and Sociology, and with a wide knowledge of social history, industrial conditions, and the machinery of central and local government in its social aspects. The work will be under the supervision of the Professor of Economics as Director of the Course. Candidates for the Diploma must satisfy the Director that their experience and education have been such as to enable them to profit by the Course. Students under twenty should have matriculated or passed the School Certificate or some other equivalent examination. For further particulars see special Prospectus.

The Diploma will be given to students who pass an examination at the end of the course and present satisfactory reports of their practical work. The course will begin in October in each year. Composition Fee, £16 1s. per annum.

#### **The Course**

Social Philosophy.

Social Economics

Elementary Psychology.

Elementary Economics.

Sociology.

Social History.

The social functions of central and local government.

Public Health.

Practical Work in connection with Charity Organisation Society, Guild of Help, Babies' Welcomes, University Working Men's Club, Yorkshire Ladies' Council of Education, Education and Public Health Authorities, etc.

### **Separate Classes in Social Organisation and Public Service**

Those who are unable to spare the necessary time for the full diploma course are admitted to such of the classes as may suit their requirements and their other engagements on payment of the fees for the separate classes, in addition to the library fee. Arrangements can be made for practical work in connection with the classes.

### **Ordinary Degree of B.A.**

Ordinance. The Ordinary Degree of B.A. can be taken with Economics as a Principal Subject at the Final Standard.

### **Honours Degree of B.A.**

#### **Economic and Political Science**

Candidates for the Degree of Bachelor of Arts with Honours in Economic and Political Science shall be required to pursue courses of study, and to submit themselves to examination, as follows :—

The course of study for the first academic year shall include the following subjects, as for the Intermediate Examination for the Ordinary degree of B.A., (1) Latin or Greek ; (2) French or German ; (3) Modern History or English Literature, or, if not taken under (2), French or German ; (4) Political Economy ; and, in addition, (5) Economic Geography. An examination will be held in these subjects at the end of the first year, and must be passed before proceeding to further study.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final Course and examination for the Ordinary degree of B.A.).

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Attendance on the full course for the Intermediate examination for the degree of B.A. may also be accepted by the Senate as the required attendance for the first year of the Honours course.

During the second and third year candidates shall be required to attend approved courses in the subjects of the school of not less than five hours a week in each year.

They shall also be required to attend, during the second and third years, approved courses of lectures on other subjects, the number of lectures amounting to not less than two hours a week in each year.

### *Examination*

Essay, one paper.

Political Economy, two papers.

Social Economy, one paper.

Recent Industrial History of England, two papers.

Political Theory, one paper.

A special subject, studied in connection with original sources of information, two papers.

The special subject may be chosen by the candidate, subject to the approval of the Board of the Faculty of Arts.

## **Courses of Study**

The following syllabus explains more in detail the nature of the various courses.

### **Political Economy**

#### **INTERMEDIATE COURSE**

##### **Int. Political Economy**

The chief economic relationships. Principles and organisation of production, marketing, distribution, and consumption of goods and services. The elements of money and statistics.

Two hours a week at times to be arranged.

#### **FINAL COURSES**

##### **Fi. Applied Economics**

Currency and banking, the money market, stock exchange, and foreign exchanges.

Business organisation and management in relation to labour and capital. Large and small businesses, joint stock, trade unions, conciliation and arbitration, the factory laws.

Transport and freights by land and water.

Two hours a week at times to be arranged.

## **F2. Applied Economics**

Public economics and finance. Rates, taxes, and public debts. Grants in Aid. National and municipal industries. The State in relation to employment, insurance, labour exchanges, &c.

Foreign trade, tariffs, and Trusts.

Some social aspects of industry. Employment of women and children. Schemes of industrial betterment. Trade Boards, and the question of minimum conditions.

Two hours a week at times to be arranged.

## **HONOURS AND M.A. COURSES**

### **H1. Industrial History (since 1760)**

The history of land tenure and agriculture; labour organisation and legislation; the evolution of capitalism; commerce, the tariff, and the financial system; transport; the growth of social teaching. The economic principles involved to be studied concurrently.

Two hours a week at times to be arranged.

### **H2. Social Economics**

The influence of industrial conditions on social life; the problems of poverty, housing, sweating, unemployment, child labour, &c.; the social legislation of this country.

One hour a week during the first two terms.

Special fee to non-registered students, 10s. 6d.

### **H3. Political Theory**

The nature and duties of the State and the basis of citizenship.

Two hours a week at times to be arranged.

**Tutorial Instruction in Special Subjects**

Tutorial instruction will be given in the special subject for the B.Com. degree, the subject to be chosen by the candidate, subject to the approval of the Senate.

**Economic Geography****INTERMEDIATE**

General principles of economic geography with special reference to climate as a factor in the production of food-stuffs, the distribution of mineral and power resources, communications, and ports.

**FINAL**

The detailed study of geographical factors concerned in the distribution, growth and migration of certain great industries.

A detailed study of the economic geography of a selected area.

**Agricultural Economics**

If desired by the Department of Agriculture, a short course will be given in the Economics and Statistics of Agriculture, chiefly in the United Kingdom. The course will deal with the principles of rent, the forms of land tenure, and the returns of acreage, stock, and output of Great Britain and Ireland.

One hour a week during one term, at a time to be arranged.

Special fee, 10s. 6d.

**Labour and Capital**

A course will be given during one term for the study of Labour and Capital in modern business. This course will be non-theoretical, and is intended to meet the needs of students in the Technological departments, who wish to make a descriptive study of existing business conditions.

One hour a week at a time to be arranged.

Special fee, 10s. 6d.

### **Accountancy**

*First Year Course.*—One hour a week at a time to be arranged.

*Second Year Course.*—Two hours a week at times to be arranged.

*Third Year Course.*—Hours to be arranged.

### **Modern Languages**

In the degree course students in their first year will take the same work in languages as Arts students, including composition, translation at sight, dictation, conversation and the study of prescribed books. It is not thought desirable that the teaching should be specialised at this stage in the case of degree students.

During the second and third years, in preparation for the Final examination, students will continue some parts of the general work and teaching, but will also read specially selected books of an economic or commercial character, and they will have opportunities of studying (1) correspondence, and (2) the institutions of the country whose language they are learning.

Diploma Students must attend the Intermediate class in the first year, and the Final class in the second year. They must also attend for at least one year a commercial class.

### **Mathematics**

The course in Mathematics will be that for the Intermediate B.A. It is intended for students who propose to enter a career such as that of an accountant, in which a mathematical training may be of special value.

### **Commercial Law**

A course of lectures of two hours a week throughout the session.

*First Term:* The general principles of the law of contract ; the conception of contract in English Law ; doctrine

of consideration ; statute of frauds ; Sale of Goods Act—mistake—misrepresentation—fraud—illegality ; assignment of contract, discharge of contract.

*Second and Third Terms* : Such subjects will be taken as the Professor of Law shall approve.

Special fee, for the session, £3 3s.

## DEGREES IN LAW

1. The degrees in Law shall be :

Ordinance.

Bachelor of Laws (LL.B.)  
 Master of Laws (LL.M.)  
 Doctor of Philosophy (Ph.D.).  
 Doctor of Laws (LL.D.).

### Degree of Bachelor of Laws

2. All candidates for the degree of Bachelor of Laws shall be required to have passed the Matriculation examination, except those who may be exempted therefrom, and thereafter to have pursued approved courses of study for not less than three academic years.

3. The complete course of study for the degree of Bachelor of Laws shall be divided into two parts, called respectively the Intermediate course and the Final course.

4. Every candidate shall be required to pass two examinations, the Intermediate and the Final.

5. The Intermediate and Final examinations shall ordinarily be held in June of each year.

6. All candidates shall be required, before presenting themselves for the Intermediate or Final examination, to furnish to the Registrar certificates testifying that they have regularly attended the prescribed courses of study in each of the subjects which they offer at the examination.

### Intermediate Course and Examination

7. Every candidate shall be required, after passing the Matriculation examination or after obtaining exemption therefrom, to attend during one academic year approved courses of study, and to pass in each of the following subjects :

- i. Roman Law
- ii. Elements of English Law
- iii. The Law and Custom of the English Constitution

Every candidate shall be further required, at some time during his course, to attend an approved course of study and pass in any subject included in the course for the Intermediate examination for the Ordinary degree of B.A. or B.Com.

Provided that candidates who are already graduates of this or any other University within the United Kingdom shall be exempted from this last requirement.

Regulations. *Detailed subjects of study and of examination*

ROMAN LAW :

The *Institutes* of Justinian, edited by Moyle. The subjects of Intestate Succession and Procedure are to be studied in outline only. Students must, from the notes in the text book and from lectures, make themselves familiar with the general history of Roman Law, and particularly with the state of the law in the time of Gaius. Gneist's *Institutionum Syntagma*.

ELEMENTARY ENGLISH LAW :

Stephen's *Commentaries*, Vols. i, ii, iii.

LAW AND CUSTOM OF THE ENGLISH CONSTITUTION :

Dicey's *Law of the Constitution* ; Anson's *Law of the Constitution*, Part I.

OTHER SUBJECTS :

See the Regulations for Intermediate courses for the Ordinary degree of B.A. and the degree of B.Com.

**Final Course and Examination**

Regulation. No candidate shall be permitted to enter on the Final Course, or any part thereof, until he has passed the Intermediate Examination.

Ordinance. 8. Every candidate shall be required to attend during two academic years one or other of the following courses of study, and to pass in each of the subjects of the selected course :

*Course I.*

- i. Roman Law
- ii. Jurisprudence
- iii. Public or Private International Law.

An essay paper shall be set at the Final examination for all candidates taking this course.

Course II.

- i. Property, Real and Personal (including Conveyancing)
- ii. Equity (including Company Law)
- iii. Common Law (including Criminal Law and Bankruptcy)
- iv. Evidence and Procedure
- v. Jurisprudence.

N.B.—The Intermediate and Final examinations will be held in June. The latest date of entry and of payment of fees will be MARCH 1st.

Detailed subjects of study and of examination

Regulations.

Course I

ROMAN LAW :

The General History of Roman Law, including the History of the Roman Constitution ; the Principles of Roman Law as stated in the *Institutes* of Gaius and Justinian ; a selected Title or selected Titles of the *Digest*.

The following books are recommended (not prescribed) in order to show the scope of the course :

History of Roman Law : Roby's *Introduction to the Study of the Digest* ; Sohn's *Institutes of Roman Law* ; Muirhead's *Law of Rome*.

The Principles of Roman Law : Gaius, edited by Poste ; Justinian, edited by Moyle ; Roby's *Roman Private Law* ; Gneist's *Syntagma*.

JURISPRUDENCE. (Historical and Analytical) :

The following books are recommended (not prescribed) in order to show the scope of the course :

Austin's *Jurisprudence* ; Clark's *Practical Jurisprudence* ; Markby's *Elements of Law* ; Holland's *Jurisprudence* ; Maine's *Ancient Law, Village Communities, Early History of Institutions*, and *Early Law and Custom* ; Salmond's *Jurisprudence*.

INTERNATIONAL LAW :

The following books are recommended (not prescribed) in order to show the scope of the course :

- (a) PUBLIC: Lawrence's *Principles of International Law* ; Oppenheim's *International Law* ; Maine's *Lectures on International Law* ; Pitt Cobbett's *Leading Cases in International Law* ; Grotius's *De Jure Belli et Pacis* (edited by Whewell).
- (b) PRIVATE: Westlake's *Private International Law* ; Dicey's *The Law of Domicile* ; Foote's *Private International Jurisprudence* ; The Reported Cases.

*Course II*

In this course it is not thought necessary to give more detailed information than that contained in the Ordinance.

## Ordinance

**Degree of Master of Laws**

1. The degree of Master of Laws may be conferred on payment of the proper fee upon registered Bachelors of Laws when of not less than one year's standing from the date of their graduation as Bachelors, subject to the conditions contained in the following paragraphs.

2. Bachelors of Laws who have obtained their degree by attendance at the classes of Course I and examination in the subjects of that Course, shall be required to pass an examination in subjects (i), (ii), (iii), (iv) of Course II, and also in Public or Private International Law, taking the subject alternative to that which they shall have taken in Course I. Certificates of attendance on Course II shall not be required.

3. Bachelors of Laws who have obtained the degree by attendance at the classes of Course II and examination in the subjects of that Course, shall be required to pass an examination in the subjects of Course I. Certificates of attendance in Course I shall not be required.

## Regulation.

The names of candidates who have passed the examination for the degree of Master of Laws shall be arranged in alphabetical order without distinction of classes.

N.B.—Persons who graduated as Bachelors of Laws before the institution of the LL.M. degree and the consequent change in the Ordinance for the LL.D. degree are exempted from the operation of this Ordinance. Such Bachelors may proceed to the LL.D. degree without having previously graduated as Masters of Laws.

**Degree of Doctor of Philosophy (Ph.D.)**

See page 160.

**Degree of Doctor of Laws**

## Ordinance

1. The degree of Doctor of Laws shall be conferred by the University upon registered Masters of Laws or Doctors of Philosophy of the University who shall be deemed by the

Senate, after considering a report from one or more of the Boards of Faculties, to have distinguished themselves by special research or learning.

Provided that the Senate may, in such cases as it shall think fit, after considering a report from one or more of the Boards of Faculties, also require candidates to pass such an examination as it may from time to time determine.

2. A Master of Laws or a Doctor of Philosophy of the University may make application for the degree of Doctor of Laws in the sixth or any subsequent year from the date of his admission to the Bachelor's degree.

3. Such application shall be made in writing to the Registrar, and shall contain a full statement of the grounds on which the claim for the degree is based, together with one or more copies of any thesis, whether in print or in manuscript, which the applicant may desire to submit in support of the application.

4. If the application be approved by the Senate, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

N.B.—The latest date of entry and of payment of fees will be MARCH 1st. The LL.M. examination and the LL.D. examination, if required, will be held in June.

## THE COUNCIL OF LEGAL EDUCATION

Undergraduates who have completed two years of residence at the University are excused the deposit usually required by the Inns of Court. Undergraduates may keep their terms at any of the Inns of Court by dining in Hall any *three* days (in lieu of the six days ordinarily required) in each term.

The Matriculation examination of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham is accepted in lieu of the Preliminary examination of the Inns of Court.

Graduates in Law of the University may be excused the examination in Roman Law of the Council of Legal Education.

In addition to Roman Law, the following are the subjects in which a satisfactory examination must be passed before the certificate of fitness for Call to the Bar required by the four Inns of Court can be obtained :

1. Constitutional Law and Legal History.
2. Evidence, Procedure, and Criminal Law.
3. Law of Real and Personal Property.
4. Law of Contracts and Torts.
5. Principles of Equity.

Students have the option of passing the examination in Roman Law and in Constitutional Law, or in either of those subjects, before they take the examination in the other subjects mentioned above.

### THE LAW SOCIETY

The certificate of the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham is accepted by the Law Society in lieu of the Preliminary examination, provided Latin be one of the subjects taken.

The same certificate, provided that the candidate is placed in the First Division of the Matriculation examination, that all the subjects have been taken at one examination and that one of them is Latin, exempts a student from one year of articles.

Students who take the LL.B. degree before entering into articles are exempted from two years of service.

Under the terms of an Order made by the Master of the Rolls with the concurrence of the Lord High Chancellor and the Lord Chief Justice on the 16th July, 1914, any person who, before entering into articles of Clerkship, has passed the Joint Matriculation examination, Latin being one of the subjects taken, and has subsequently to the satisfaction of the University attended the curriculum for the time being prescribed for the Intermediate LL.B. course and passed the Intermediate LL.B. examination, shall be capable of being admitted and enrolled as a solicitor without serving under articles to a practising solicitor for more than four years. Students taking advantage of this Order must

provide themselves with certificates of having satisfied its conditions; the Law Society will require such certificates to be produced before registering the articles of Clerkship of students claiming exemption under the Order.

Graduates in Law of the University are excused the Intermediate examination of the Law Society.

The subjects prescribed by the Law Society for its Intermediate examination are Stephen's *Commentaries on the Laws of England*, (latest edition); *Book-keeping, a Lawyer's Manual of Book-keeping*, by H. Hughes Onslow and *A Guide to Trust Accounts*, by Pretor W. Chandler, both published by Butterworth & Co., 11 and 12, Bell Yard, Temple Bar, E.C.

The subjects prescribed by the Law Society for its Final examination are:

1. The Principles of the Law of Real and Personal Property and the Practice of Conveyancing.
2. The Principles of Law and Procedure in matters usually determined or administered in the Chancery Division of the High Court of Justice.
3. The Principles of Law and Procedure in matters usually determined or administered in the King's Bench Division of the High Court of Justice, and the Law and Practice of Bankruptcy.
4. The Principles of Law and Procedure in matters usually determined or administered in the Probate, Divorce, and Admiralty Division of the High Court of Justice; Ecclesiastical and Criminal Law and Practice; and Proceedings before Justices of the Peace.

## DEPARTMENT OF LAW

Supported by the Yorkshire Board of Legal Studies

Professor PHILLIPS

Dr. CHAPMAN

Mr. OWEN

The Law Department of the University of Leeds was founded by the Yorkshire Board of Legal Studies, assisted by the Law Society, in 1899, and is intended to afford

systematic instruction throughout the academic year to students preparing for

1. The examinations for the degrees in Law of the University of Leeds,
2. The examinations of the Council of Legal Education preparatory to call to the Bar, and
3. The examinations of the Law Society, qualifying for admission to practice as a Solicitor.

Most of the classes will also be found useful to candidates for the Law degree of the University of London.

### SYLLABUS OF LECTURE COURSES

In connection with the lecture courses announced in the following pages, tutorial classes are held for which no additional fees are charged. Special tutorial classes, particulars of which are given on page 220, are also provided for students preparing for the Intermediate or Final examinations of the Law Society.

In cases where the hours of the lectures and classes are not stated, arrangements will be made in accordance with the requirements of individual students and the convenience of the majority.

The Head of the Department will be glad to confer with Law students on all questions concerning their examinations, and to render them such assistance as may be in his power.

### DEGREE OF BACHELOR OF LAWS IN THE UNIVERSITY OF LEEDS

The courses are arranged so as to give preparation for the Intermediate examination in one session, and for the Final examination in two sessions.

#### Intermediate Course

##### 1. Roman Law

PROFESSOR PHILLIPS

A course of lectures of one hour a week, throughout the session.

Fee for the course, £2 2s.

**2. Elements of English Law**

DR. CHAPMAN

Mondays and Thursdays, at 4 p.m., throughout the session.

Fee for the course, £3 3s.

**3. The Law and Custom of the English Constitution**

PROFESSOR PHILLIPS

A course of lectures of one hour a week, throughout the session.

Fee for the course, £2 2s.

**4. Other Subjects**

For particulars of classes in non-legal subjects see Courses in Arts, Science and Commerce.

**Final Course**

*Course I*

**1. Roman Law**

Professor PHILLIPS

A course of lectures of two hours a week, throughout the session.

Fee for the course, £3 3s.

**2. Jurisprudence**

Professor PHILLIPS

A course of lectures of two hours a week, throughout the session.

Fee for the course, £3 3s.

**3. Public International Law**

Professor PHILLIPS

A course of lectures of two hours a week, throughout the session.

Fee for the course, £3 3s.

*Course II***1. Real and Personal Property**

Dr. CHAPMAN

A course of lectures of one hour a week throughout the session, will be given at times to be arranged.

Fee for the course, £2 2s.

**2. Equity (including Company Law)**

Dr. CHAPMAN

A course of lectures on the Principles of Equity, of one hour a week throughout the session, will be given at times to be arranged.

Fee for the course, £2 2s.

**3. (a) Common Law**

Professor PHILLIPS

Courses of lectures on the Law of Contract and the Law of Torts, of one hour a week throughout the session, will be given at times to be arranged.

Fee for each course, £2 2s.

**3. (b) Criminal Law**

Professor PHILLIPS

A course of lectures on Criminal Law and Practice, of one hour a week during the session, will be given at times to be arranged.

Fee for the course, £2 2s.

**3. (c) Bankruptcy**

Professor PHILLIPS

A course of lectures on the Law and Practice of Bankruptcy, of one hour a week during the first and second terms, will be given at times to be arranged.

Fee for the course, £1 11s. 6d.

4. Evidence and Procedure

Dr. CHAPMAN

A course of lectures on Legal Evidence and Procedure, of one hour a week throughout the session, will be given at times to be arranged.

Fee for the course, £2 2s.

5. Jurisprudence

Professor PHILLIPS

A course of lectures on Jurisprudence of one hour a week throughout the session, will be given at times to be arranged.

Fee for the course, £2 2s.

EXAMINATIONS OF THE COUNCIL OF  
LEGAL EDUCATION

Classes 1 and 3 in the Intermediate course for the degree will prepare also for the examinations of the Council of Legal Education.

EXAMINATIONS OF THE LAW SOCIETY

Intermediate Examination

The Elements of English Law

Dr. CHAPMAN

Mondays and Thursdays, at 4 p.m. throughout the session.

Subject : Stephen's *Commentaries on the Laws of England*.

This class will be mainly tutorial.

Fee for the course, £3 3s.

Classes on Criminal Law, as contained in Stephen's *Commentaries*, will be held in August and September at times to be arranged.

Fee for the course, £1 1s. 6d.

**Final Examination****Real and Personal Property**

DR. CHAPMAN

A course of classes of one hour a week throughout the session will be held at times to be arranged.

Fee for the course, £2 2s.

**Conveyancing**

DR. CHAPMAN

A class for tuition in the practice of Conveyancing will be held once a week throughout the session. The time of meeting will be arranged.

Fee for the class, £2 2s

**Common Law**

Professor PHILLIPS

Courses of lectures on the Law of Contract and the Law of Torts, of one hour a week, will be given throughout the session at times to be arranged.

Fee for each course, £2 2s.

**Equity**

DR. CHAPMAN

A course of classes in the Principles of Equity, of one hour a week throughout the session, will be held at times to be arranged.

Fee for the course, £2 2s.

**Bankruptcy**

Professor PHILLIPS

Classes will meet once a week during the first and second terms at times to be arranged.

Fee for the course, £1 1s. 6d.

**Criminal Law**

Professor PHILLIPS

Classes will meet once a week during the session at times to be arranged.

Fee for the course, £2 2s.

**Company Law**

Professor PHILLIPS

A course of lectures on the Law and Practice of Joint Stock and other Companies will be given during the first and second terms. The class will meet once a week, at times to be arranged.

Fee for the course, £1 11s. 6d.

**Legal Evidence and Procedure**

DR. CHAPMAN

A course of lectures on the Law of Evidence and Procedure in the King's Bench Division of the High Court of Justice will be given throughout the session. The class will meet once a week, at an hour to be arranged.

Fee for the course, £2 2s.

**Probate, Divorce, and Admiralty Law**

DR. CHAPMAN

A class for tuition in the principles of Law and Procedure in Probate, Divorce, Admiralty, and Ecclesiastical Cases will be held once a week throughout the session, at an hour to be arranged.

Fee for the course, £2 2s.

**Law of Partnership**

PROFESSOR PHILLIPS

Classes will meet once a week during the third term.

Fee for the course, £1 1s.

**Ecclesiastical Law**

DR. CHAPMAN

Arrangements will be made, if desired, for a class for tuition in the principles of Ecclesiastical Law.

**Negotiable Instruments**

PROFESSOR PHILLIPS

Classes will meet once a week during the third term.

Fee for the course, £1 1s.

**Mohammedan and Romano-Dutch Law**

Arrangements will be made, if desired, for a class for tuition in the principles of Mohammedan and Romano-Dutch Law.

**Special Tutorial Classes**

In the case of students who are about to present themselves for the Intermediate or Final examination of the Law Society, there will be held during each term Tutorial Classes, the work of which will be revisionary. These classes will be open only to such students as have attended, or are attending, ordinary classes in the Law Department of the University, and have obtained the sanction of the Head of the Department. The Tutorial Classes of each term will be complete in themselves.

Fee for the classes, £2 2s. per term.

N.B.—This fee is not included in any composition fees.

**Long Vacation Courses**

Courses will be held during the months of August and September in Elementary Criminal Law, Probate, Ecclesiastical Law, and the subjects of the Intermediate and Final Tutorial Classes. The Intermediate and Final Tutorial Classes will each be held three hours a week, the course in

Elementary Criminal Law two hours a week, and the courses in Probate and Ecclesiastical Law each one hour a week.

	£	s.	d.
*Fee for the Intermediate Tutorial Class ...	2	2	0
*Fee for the Final Tutorial Class ...	2	2	0
Fee for the Course in Elementary Criminal Law ...	1	11	6
Fee for the Course in Probate Law ...	1	1	0
Fee for the Course in Ecclesiastical Law ...	1	1	0

\*N.B.—These fees are not included in any Composition fee.

Students reading for the Examinations of the Law Society and other Professional examinations will be admitted to the Department in any term or at the beginning of the above-mentioned courses, excepting that admission to the Tutorial Classes will be restricted to such students as have already attended, or are attending, ordinary classes.

## SPECIAL CLASSES

### SI. Commercial Law

PROFESSOR PHILLIPS

A course of lectures of two hours a week throughout the session.

*First term:* The general principles of the law of contract; the conception of contract in English Law; doctrine of consideration; statute of frauds; sale of goods Act—mistake—misrepresentation—fraud—illegality; assignment of contract, discharge of contract.

*Second and Third terms:* Such subjects will be taken as the Professor of Law shall approve.

Fee for the session, £3 3s.

**Law of Landlord and Tenant**

A course of lectures of one hour a week during one term will be given by Dr. Chapman at times to be arranged, on the Law of Landlord and Tenant.

This course is intended for students in the Agricultural department who propose to present themselves for the examinations of the Surveyors' Institution in Sub-Division I, "chiefly land agency."

Special fee for the course, 10s. 6d.

**Military Law**

A course of lectures on Military Law, of one hour a week will be held during the second term, and, if desired, during the other terms, at a special fee of 10/6 per term.

This course is primarily intended for members of the Officers' Training Corps, but it will also be open to solicitors, barristers, and other members of the outside public who may care to attend.

**LAW CLASSES AT HULL**

MR. OWEN

During the first and second terms two lectures a week are given on Stephen's *Commentaries* preparatory for the Intermediate examination of the Law Society, and two lectures a week on certain subjects preparatory for the Final examination of the Law Society.

Fee for each course, £1 1s.

**EXTENSION LECTURES IN LAW**

Extension lectures in Law subjects may be arranged by Local Committees. For particulars see the special Prospectus of Extension lectures.

### RAILWAY FARES

The Yorkshire Board of Legal Studies will pay half the 3rd Class Railway Fares of Articled Clerks coming from a distance to Leeds, to attend the Law classes at the University. A Pass should be taken or return fares paid as in each case is found to be most economical.

Applications for repayment of the amount expended should be sent in at the close of the session, addressed to the Hon. Treasurer, Herbert Denison, Esq., 10, East Parade, Leeds

*N B.—Attention is directed to the fact that the University supplies courses on General Bookkeeping, Solicitors' Bookkeeping, and Trust Accounts, and that the books prescribed by the Law Society are used in this connection.*

## DEGREES IN SCIENCE

- Ordinance. 1. The degrees in Science shall be :
- Bachelor of Science (B.Sc.)
  - Master of Science (M.Sc.)
  - Doctor of Philosophy (Ph.D.)
  - Doctor of Science (D.Sc.).

### DEGREE OF BACHELOR OF SCIENCE

2. The degree of Bachelor of Science shall be conferred either as an Ordinary degree or as a degree with Honours.
3. All candidates for the degree of Bachelor of Science shall be required to have passed the Matriculation examination, and thereafter to have pursued approved courses of study for not less than three academic years.

### Ordinary Degree of Bachelor of Science

4. The complete course of study for the Ordinary degree of Bachelor of Science shall be divided into two parts, called respectively the Intermediate course and the Final course.
5. Every candidate shall be required to pass two examinations, the Intermediate and the Final.
6. The Intermediate and Final examinations shall ordinarily be held in June of each year. There shall also be a supplementary Intermediate examination in September, at which those candidates only may present themselves who have obtained the permission of the Senate.
7. Candidates who have failed at an Intermediate examination in June, and have obtained permission to present themselves at the following supplementary examination, may be excused such part of the supplementary examination as the combined examination committee, on report from the examination committee concerned, may determine.
8. All candidates shall be required, before presenting themselves for the Intermediate or Final examination, to furnish to the Registrar certificates testifying that they have

regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturer, in each of the subjects which they offer at the examination. Some modification of the amount of attendance required may, in exceptional cases, be made by the Vice-Chancellor, on the recommendation of the head of the department concerned.

9. The proficiency of candidates in laboratory work may be determined by inspection of their laboratory note books and the consideration of terminal or sessional reports from their laboratory teachers. Candidates may also be called upon to undergo a special practical examination at the Intermediate and Final stages of the degree course.

It shall always be in the power of the External Examiner to impose a practical or *viva voce* examination on such occasions as he may think desirable.

#### Intermediate Course and Examination

10. Every candidate shall be required, after passing the Matriculation examination, to attend during not less than one academic year approved courses of study in three subjects, viz. :

Physics

Two of the following :

Mathematics

Chemistry

Zoology

Botany

Geology

Preparatory Military Science,

and to pass in each of the subjects selected.

Candidates who propose to take an Applied Science (see section 15) in the Final course must pass in the subjects of the Intermediate course specified in section 20.

11. Every candidate is further required, at some time during his course, to attend an approved course of study and pass in an additional subject at the Intermediate standard, selected from the following: Greek, Latin,

French, German, Hebrew, Russian, Spanish, English Literature, Ancient or Modern History, Logic, Economics, Economic Geography, Mathematics, Chemistry, Zoology, Botany, Geology, Preparatory Military Science. Except that when Preparatory Military Science is one of the subjects of the Intermediate course, then the Additional subject shall be chosen from the list of subjects named in Article 10. In the case of candidates taking an Applied Science as a principal subject in the Final course (section 20 below), this list is increased by the addition of Applied Mechanics and General Engineering.

12. A descriptive essay relative to the scientific or technical work of the candidates will be set as part of the Intermediate examination, and will be examined by the Examiners in English in co-operation with the Examiners in the scientific department concerned, and in the event of a student failing in this portion of the Intermediate examination, he shall be permitted to take it again at any subsequent Intermediate examination.

N.B.—In 1920 the latest date of entry and of payment of fees for the Intermediate and Final examinations in June will be MONDAY, MARCH 1st.

*Detailed subjects of study and of examination*

**Regulations** The scope of the work required may be understood from the following references to the courses of study preparing for this examination (see pages 263, etc.). The amount of laboratory work mentioned below is that ordinarily required. It may be varied on special grounds with the sanction of the Senate.

MATHEMATICS: Intermediate Course.

PHYSICS:

CHEMISTRY:

ZOOLOGY:

BOTANY:

GEOLOGY:

} Intermediate Course.  
Laboratory work, three hours a week.

APPLIED MECHANICS: The work covered by Part I of Engineering Course I, together with graphical constructions, strength of materials, transmission of power and mechanics of machines as given in Engineering Course VI.

GENERAL ENGINEERING: Course II A, with Engineering Drawing.

GREEK, LATIN, FRENCH, GERMAN, ENGLISH LITERATURE, ANCIENT OR MODERN HISTORY, LOGIC, ECONOMICS, ECONOMIC GEOGRAPHY: The same as for Intermediate Arts.

N.B.—The amount of Laboratory work prescribed for Chemistry is an absolute minimum. Students will ordinarily be advised to give not less than six hours a week attendance in the Chemical Laboratory.

Candidates who have passed the Intermediate examination for the degree of Bachelor of Science in Chemistry, Physics, Zoology and Botany will, on payment of the required additional fee, be regarded as having passed the First examination for the degrees of Bachelor of Medicine and Bachelor of Surgery.

Candidates who have not passed in all the above four subjects will be required to pass at the Intermediate examination or at the First examination in such subjects as they have omitted before being regarded as having passed the First examination for the degrees of Bachelor of Medicine and Bachelor of Surgery.

The Zoology and Botany portions of the subject Biology of the First examination shall for this purpose be considered separate subjects.

#### **Final Course and Examination**

No candidate shall be permitted to enter for the Final examination, or any part thereof, until he has passed the three subjects of the Intermediate examination prescribed in Clause 10 of the Ordinance. In special cases, this prohibition may be waived by the Senate, acting on the recommendation of the head of the department concerned.

13. Every candidate will be required to attend approved courses of study either in two principal subjects, or in one principal subject and two subsidiary subjects, provided that the same subject shall not be taken both as a principal and a subsidiary subject.

14. The course of study in each principal subject shall extend over at least two years beyond the Intermediate standard, and the course of study in a subsidiary subject shall extend over at least one year beyond the Intermediate standard.

*Principal Subjects*

15. The principal subjects shall be selected from the following lists :

*Pure Sciences :*

Mathematics  
Physics  
Chemistry  
Zoology  
Botany  
Physiology  
Geology.

*Applied Sciences :*

Mechanical Engineering  
Civil Engineering  
Electrical Engineering  
Mining Engineering  
Gas Engineering  
Fuel and Metallurgy  
Agriculture  
Applied Chemistry (Colour Chemistry and Dyeing)  
Applied Chemistry (Chemistry of Leather Manufacture).

Every candidate taking Physics as a principal subject is required to have passed in Mechanics at the Matriculation examination, or to satisfy the Professor of Physics that he possesses an adequate knowledge of the subject.

In the event of Physiology being chosen as a principal subject, the second principal subject or the two subsidiary subjects shall be chosen from among the following : Physics, Chemistry, Zoology, Botany. In any case, six months' instruction in Human Anatomy will be required.

Every candidate taking an Applied Science as a principal subject is required to pursue one of the courses specified in section 20.

*Subsidiary Subjects*

16. The subsidiary subjects shall be selected from the following list :

Mathematics P (Pure)  
Mathematics PA (Pure and Applied)  
Physics  
Chemistry  
Zoology  
Botany  
Physiology  
Geology  
Human Anatomy  
Bacteriology  
Education (including the teaching of  
Elementary Science).

Mathematics P and PA cannot be taken together as subsidiary subjects.

17. The following subjects shall rank as subsidiary subjects in connection with courses where Mechanical or Civil or Electrical or Mining Engineering is taken as a principal subject :

Mechanical Engineering  
Civil Engineering  
Electrical Engineering  
Mining Engineering.

18. The course of study in the subsidiary subjects may be taken either in the first or second year of the Final course.

19. Candidates who have attended, during the first year of their Final course, the prescribed course of study in a subsidiary subject, may present themselves in June of that year for examination in such subsidiary subject. When Education is taken as a subsidiary subject, part of the examination may be taken at the end of each of the two years of the Final course. Candidates who fail to satisfy the examiners in such parts of the Final examination as they have taken at the end of the first year of their Final course shall be required to repeat this part of the examination at a subsequent June examination.

*Courses for candidates taking an Applied Science*

20. Candidates selecting an Applied Science as a principal subject are required to attend courses of study and to present themselves for examination in definite subjects, as specified below :

*Mechanical Engineering :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate standard, Applied Mechanics.

Final—Principal subject, Mechanical Engineering ; subsidiary subjects, Mathematics, and either Physics or Civil or Electrical or Mining Engineering, but in any case the candidate shall produce a certificate of having satisfactorily attended a prescribed course in Physics.

*Civil Engineering :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate standard, Applied Mechanics.

Final—Principal subject, Civil Engineering ; subsidiary subjects, Mathematics, and either Geology or Mechanical or Electrical or Mining Engineering, but in any case the candidate shall produce a certificate of having satisfactorily attended a prescribed course in Geology.

*Electrical Engineering :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate standard, Applied Mechanics.

Final—Principal subject, Electrical Engineering ; subsidiary subjects, Mathematics, and either Physics or Mechanical or Civil or Mining Engineering, but in any case the candidate shall produce a certificate of having satisfactorily attended a prescribed course in Physics.

*Mining Engineering :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate standard, Applied Mechanics.

Final—Principal subject, Mining Engineering ; subsidiary subjects, two of the following : Mathematics, Geology, Mechanical, or Electrical Engineering, but candidates shall produce certificates of having satisfactorily attended prescribed courses of study in each of these four subjects.

*Gas Engineering :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate Standard, Applied Mechanics.

Final—Principal subject, Gas Engineering ; subsidiary subjects, Chemistry and Engineering.

*Fuel and Metallurgy :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate standard, Applied Mechanics.

Final—Principal subject, Fuel and Metallurgy ; subsidiary subjects, Chemistry and Mechanical Engineering.

*Agriculture :*

Intermediate—Physics, and two of the following : Chemistry, Zoology, Botany, Geology ; together with an additional subject at Intermediate standard (see section 11).

Final—Agriculture, as principal subject, together with one of the pure sciences specified under section 15 above as the second principal subject, or two of the pure sciences specified under section 16 as subsidiary subjects.

*Applied Chemistry (Colour Chemistry and Dyeing) :*

Intermediate—Mathematics, Physics, and Chemistry ; additional subject at Intermediate standard, General Engineering.

Final—Two principal subjects, viz.: Colour Chemistry and Dyeing, and Chemistry.

Candidates presenting Applied Chemistry (Colour Chemistry and Dyeing) may not present this subject, except with the special permission of the Senate, until the end of the fourth year of study. Such candidates may take the examination in Chemistry at the end of the second year.

*Applied Chemistry (Chemistry of Leather Manufacture):*

Intermediate—Physics, and two of the following: Mathematics, Chemistry, Zoology, Botany, and an additional subject at Intermediate standard (see section 11).

Final—Two principal subjects, viz. Chemistry of Leather Manufacture, and Chemistry.

*Detailed subjects of study and of examination*

**Regulations.** In the Final examination a paper will be set containing passages of French and German for translation into English, relating to the principal subject or subjects of a candidate's degree course. All candidates may take this paper, and marks will be awarded for correct renderings of such passages.

The scope of the work required may be understood from the following references to the courses of study preparing for this examination (see pages 263, etc.) The amount of laboratory work mentioned below is that ordinarily required. It may be varied on special grounds, with the sanction of the Senate.

*I. Principal Subjects, studied for Two Years*

**MATHEMATICS:** Courses F1, F2, and F3.

**PHYSICS:** Courses F1 and F2. Laboratory work, six hours a week for two sessions.

**CHEMISTRY:** Three of the Courses F1, F2, F3, H1 and H3. Laboratory work, twelve hours a week for two sessions.

**ZOOLOGY:** Course F1 (A and B). Laboratory work, nine hours a week for two sessions.

**BOTANY** : Course F1 (*A* and *B*). Laboratory work, six hours a week for two sessions.

**PHYSIOLOGY** : Courses I, II, and IV.

**GEOLOGY** : Courses F1 and F2, and *one* of courses F3, F4, and F5. Laboratory work, six hours a week for two sessions, together with an approved course of Field Geology.

**MECHANICAL ENGINEERING** : Courses I, VI, VII, VIII, VIII a, VIII b, and IX.

**CIVIL ENGINEERING** : Courses I, III, IV, VI (the parts relating to graphical constructions, strength of materials, air, transmission of power, and hydraulics), VII (the parts relating to hydraulics and compressed air), VIII, VIII a, VIII b, and IX.

**ELECTRICAL ENGINEERING** : Courses I, II, III, and IV. Laboratory work, nine hours a week for two sessions.

**MINING ENGINEERING** : Courses F1, F2, F3 and F4. Practical work, fifteen hours a week for one session.

**GAS ENGINEERING** : Fuel and Metallurgy courses I, II, III, IV, V, VI, VII and VIII. Laboratory work, six hours a week in the second year, and twenty-four hours a week in the third year.

**FUEL AND METALLURGY** : Courses I, II, III, VI, VII, IX, X, and XI. Laboratory work, six hours a week in the second year, and twenty-four hours a week during the third year.

**AGRICULTURE** : General Agricultural courses, and special courses in *two* of the following :—Agricultural Chemistry, practical work, six hours a week for four terms ; Agricultural Botany, practical work, thirty-six hours ; Agricultural Zoology, practical work, thirty-six hours ; Agricultural Geology, practical work, thirty-six hours ; Veterinary Science ; Surveying, practical work, thirty-six hours. Practical work equivalent to 130 days of six hours each at the Manor Farm, Garforth.

**APPLIED CHEMISTRY (COLOUR CHEMISTRY AND DYEING)** : Lecture Courses I, II, III, and IV. Laboratory work, equal to twelve hours a week for two sessions.

**APPLIED CHEMISTRY (CHEMISTRY OF LEATHER MANUFACTURE)** : Courses I, II, III, IV, V, and VI. Laboratory work, twelve hours a week for two sessions.

## *II. Subsidiary Subjects, studied for One Year*

**MATHEMATICS P (PURE)** : Course F2.

**MATHEMATICS PA (PURE AND APPLIED)** : Courses F1 and F2.

**PHYSICS** : Course F1. Laboratory work, six hours a week for one session.

**CHEMISTRY** : Course F1 or F2 or F3. Laboratory work, twelve hours a week for one session.

**ZOOLOGY** : Course F1, either *A* or *B*. Laboratory work, six hours a week for one session.

**BOTANY:** Course FI, either *A* or *B*. Laboratory work, six hours a week for one session.

**PHYSIOLOGY:** Courses I and IV.

**GEOLOGY:** Course FI. Laboratory work, six hours a week for one session, together with an approved course of Field Geology.

**HUMAN ANATOMY:** Courses I (Part I) and II.

**BACTERIOLOGY:** Course I. Laboratory work, forty-five hours during one session.

**EDUCATION:** Parts I and II. Instruction in the method of teaching elementary science will be regarded as equivalent to laboratory attendance (three years' course).

**MECHANICAL ENGINEERING:** Courses VI, VIII, and IX.

**CIVIL ENGINEERING:** Portions of Courses III, IV, VIII, and VIII a.

**ELECTRICAL ENGINEERING:** Course Ia. Practical work, three hours a week for two terms.

**MINING ENGINEERING:** Course II. Practical work (either Mine Surveying, or Ore Dressing, or Assaying), six hours a week for one session.

### Degree of Bachelor of Science with Honours

Ordinance. 1. The degree of Bachelor of Science with Honours will be awarded in the following subjects :

Mathematics  
 Physics  
 Chemistry  
 Zoology  
 Botany  
 Physiology  
 Geology  
 Civil Engineering  
 Mechanical Engineering  
 Electrical Engineering  
 Mining Engineering  
 Gas Engineering.  
 Fuel and Metallurgy.  
 Applied Chemistry (Chemistry of Leather  
 Manufacture)  
 Applied Chemistry (Colour Chemistry and  
 Dyeing)  
 Agriculture.

2. Candidates will be required to present certificates of attendance upon approved courses of study extending over three or four years, as defined under the regulations for each Honours School. Such certificates of attendance shall only be granted when the candidate has regularly attended to the work of the classes and has acquitted himself satisfactorily at the class examinations.

3. Candidates for admission to an Honours examination will be required to have passed the Intermediate and the Final examinations as prescribed for the Ordinary Degree of B.Sc., subject to the qualifications contained in the Clauses 5 and 6 *infra*.

4. Such candidates as, prior to entrance to the University, declare their intention of proceeding to the degree of B.Sc. with Honours in one of the Honours Schools, may be admitted to the Intermediate examination prescribed in the Regulations for the Honours School in question, without previous attendance at the University. In this case, they will be required to pass simultaneously in all of the three subjects prescribed, and will also be required then or during their course of study to pass the examination in a fourth subject at the Intermediate stage as required by Ordinance.

5. Candidates who have not passed the Intermediate examination prior to entrance at the University shall be required to pursue courses of instruction in the subjects of the Intermediate examination (including the fourth, or additional subject) as prescribed in the regulations of the several Honours Schools, but (a) they shall not be required to pass simultaneously in all the subjects prescribed at the Intermediate examination, and (b) they shall be excused from presenting themselves at the Intermediate examination in any subject which they will subsequently offer at a higher standard.

6. All candidates shall be required to pursue courses of instruction in the subjects of the Final examination as prescribed in the regulations of the several Honours Schools, but they shall be excused from presenting themselves for examination in any subject which they will subsequently offer at a higher standard.

7. A special Honours examination, hereinafter called the Honours examination, shall be held in the subjects of the Honours stage.

8. Candidates who shall present evidence satisfactory to the Senate that they are qualified to enter upon a course of research may receive permission to pursue such a course, and to offer a thesis of their work in place of part or the whole of the Honours examination; but no candidate shall be excused the whole of the Honours examination unless he has satisfied the examiners in the subject of his Honours School as a principal subject for the Ordinary degree, in addition to the one principal subject or two subsidiary subjects required for such degree.

Each application for the recognition of research work must be made to the Senate not later than the last day of the October preceding the Honours examination, together with a statement of the intended subject of research, and a summary of the course of work actually pursued must be sent in to the examiners not later than the first day of the May preceding the Honours examination.

Candidates whose thesis does not satisfy the examiners shall not receive the Honours degree, but may be recommended for the Ordinary degree.

9. Names of candidates who have passed the examination for the degree of Bachelor with Honours will be published in such form as to distinguish the Honours School in which severally they may have passed; the names of those who have passed in Honours being drawn up in three classes, and each class being arranged in alphabetical order.

10. Candidates who have not acquitted themselves so as to deserve Honours, but have reached the standard of the Ordinary degree, may be recommended for that degree.

11. Candidates who have passed the examination for the Ordinary degree of Bachelor of Science may, during the following session, proceed with the course of study in an Honours School and may present themselves for examination for the Honours degree in the fourth or fifth session of their University course.

12. Every candidate for the degree of Bachelor of Science with Honours shall be required to present himself for examination at the end of the third or fourth or fifth academic year from the time when he has entered upon one of the courses of instruction approved by the University for such degree, unless he shall present a medical certificate of illness satisfactory to the Senate. This examination shall ordinarily be held in June of each year.

13. Students who have passed the Final examination in any of the Honours Schools shall be admitted to the Final examination in any other Honours School after the expiration of one or two years, on presenting certificates of having attended, during the period in question, courses approved by the University, provided that in the said other Honours School candidates shall not present themselves for the examination more than two academic years after the examination in Honours already passed by them, and also that no candidate be admitted to examination in any Honours School after a longer period than five years has elapsed since the date of his first entrance upon a prescribed course of study for an Honours School.

14. Candidates who have passed the Second M.B. examination may, with the sanction of the Senate, and on furnishing certificates of having during the academical year following such Second M.B. examination attended the third year's, or during the two academical years following such Second M.B. examination of having attended the second and third year's course approved by the University for one of its Honours Schools in Science, present themselves for examination for a B.Sc. degree with Honours in such school.

N.B.—In 1920 the latest date of entry and of payment of fees for candidates presenting themselves for the Honours examination, will be MONDAY, MARCH 1st. Candidates who have received permission to offer a thesis in place of part or the whole of the examination must make their entry and pay the prescribed fee not later than SATURDAY, MAY 1st. The thesis must be sent in to the examiners not later than MONDAY, MAY 31st.

*Prescribed Courses of Study*

**Regulations.** The following regulations apply to candidates who have not passed the Intermediate examination before entering the University. Candidates who have already satisfied the requirements of that examination will be exempted from attendance at the Intermediate classes in the subjects in which they have passed. It should be noted that preparation for the additional Intermediate subject is not mentioned in the following schemes, as it may be taken at such time in the undergraduate course as is most convenient to the candidate.

Laboratory work will be required in each subject, except Mathematics. The amount required in each Honours subject will be prescribed by the Professor, with the sanction of the Board of the Faculties of Science and Technology. In the remaining subjects offered by candidates laboratory work will also be required, the amount being that prescribed for such subjects at the Intermediate and Final stage of the Ordinary degree.

In the following regulations the words *Intermediate course* or *examination* and *Final course* or *examination* indicate respectively the Intermediate and the Final courses or examinations for the Ordinary degree of Bachelor of Science.

In the Final examination a paper will be set containing, for translation into English, a passage of French and a passage of German, relating to the subject in which the candidate is presenting himself for Honours. All candidates will be required to take this paper, and to satisfy the examiners in the translation of both these passages. Candidates will be allowed the use of dictionaries at this Language Test Examination.

The Courses set forth in the following schedules are those that will ordinarily be taken by Honours students, but they may be modified by the Vice-Chancellor in the case of any individual student on the recommendation of the head of the department concerned.

**Mathematics<sup>1</sup>**

EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS  
HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay):

Mathematics, Physics, and *one* of the following,  
viz.: Chemistry, Zoology, Botany, Geology.

This examination is subject to the provisions  
contained in clauses 4 and 5 of the Honours B.Sc.  
Ordinance.

- (b) *Final Examination*:

Physics as a second principal subject.

- (c) *Honours Examination*.

Ten papers will be set on the following subjects:

**PURE MATHEMATICS:**

Pure Geometry, plane and solid

Algebra

Theory of Equations and Determinants

Plane Trigonometry

Spherical Trigonometry with simple applications to Astronomy

Analytical Geometry of two and of three dimensions

Elements of Projective Geometry

Differential Calculus with applications to plane curves

Integral Calculus

Ordinary Differential Equations

Partial Differential Equations of the first order

Finite Differences.

**APPLIED MATHEMATICS:**

Dynamics of a particle

Statics

Attractions

Dynamics of rigid bodies

Hydrostatics

Elementary Hydrodynamics

Elementary Theory of Sound.

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<sup>1</sup>The standard for the Honours degree in this subject may be taken as equivalent to two years' study beyond that required for the Ordinary degree

# LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

## THREE YEARS' COURSE.

*First year* : Mathematics F<sub>2</sub> and F<sub>3</sub>, Physics Int., and *one* of the following, viz. : Chemistry Int., Zoology Int., Botany Int., Geology Int.

*Second year* : Mathematics H<sub>1</sub> and H<sub>2</sub>, Physics F<sub>1</sub> and F<sub>2</sub>.

*Third year* : Mathematics H<sub>1</sub> and H<sub>2</sub>.

## FOUR YEARS' COURSE.

*First year* : Mathematics Int. and F<sub>1</sub>, Physics Int., and *one* of the following, viz. : Chemistry Int., Zoology Int., Botany Int., Geology Int.

*Second year* : Mathematics F<sub>2</sub> and F<sub>3</sub>, Physics F<sub>1</sub> and F<sub>2</sub>.

*Third and Fourth years* : Mathematics H<sub>1</sub> and H<sub>2</sub>.

## Physics

### EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay) :

Physics, Mathematics, and Chemistry.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination* :

Mathematics as a second principal subject.

- (c) *Honours Examination.*

Experimental and Theoretical Physics, requiring a knowledge of the Calculus, three papers

*One of the following* :

Mathematical Physics, more advanced portions, one paper

Physical Chemistry, one paper

Technical Electricity, one paper

Practical examination in the Physical laboratory extending over two days

## LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

## THREE YEARS' COURSE.

*First year* : Physics Int. and F<sub>1</sub>, Mathematics F<sub>1</sub> and F<sub>2</sub>, Chemistry F<sub>1</sub>.

*Second year* : Physics F<sub>2</sub> and H, Mathematics F<sub>2</sub> and F<sub>3</sub>.

*Third year* : Physics H.

## FOUR YEARS' COURSE.

*First year* : Physics Int., Mathematics Int. and F<sub>1</sub>, Chemistry Int.

*Second year* : Physics F<sub>1</sub> and F<sub>2</sub>, Mathematics F<sub>2</sub> and F<sub>3</sub>.

*Third and Fourth Years* : Physics H.

## Chemistry

## EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay) :

Physics, Mathematics, and Chemistry.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination* :

Physics as a second principal subject,

or

Mathematics and Physics as subsidiary subjects.

- (c) *Honours Examination.*

Inorganic Chemistry, one paper

Organic Chemistry, one paper

Physical Chemistry, one paper

History of Chemistry and of Chemical Philosophy, one paper

One of the following optional subjects :

Electro-chemistry, one paper  
 Chemistry of Food and Drugs, one paper  
 Colour Chemistry and Dyeing, one paper  
 Chemistry of Leather Manufacture, one paper  
 Fuel and Metallurgy, one paper  
 Physiological Chemistry, one paper  
 Agricultural Chemistry, one paper  
 A branch of Physics, one paper  
 Mineralogy and Crystallography, one paper  
 Mechanical Engineering, one paper

Practical examination in the laboratory, extending over three days.

#### LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

#### THREE YEARS' COURSE.

*First year* : Physics Int., Mathematics Int., Chemistry F<sub>1</sub> or F<sub>2</sub>.

*Second and Third years* : Chemistry F<sub>1</sub> or F<sub>2</sub>, F<sub>3</sub>, and H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub>, H<sub>4</sub>, and the classes required for the optional subject, together with *either*

- (1) Mathematics F<sub>2</sub> and Physics F<sub>1</sub>, or
- (2) Physics F<sub>1</sub> and F<sub>2</sub>.

#### FOUR YEARS' COURSE.

*First year* : Physics Int., Mathematics Int., Chemistry Int.

*Second and Third Years* : Chemistry F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>, together with *either*

- (1) Mathematics F<sub>2</sub> and Physics F<sub>1</sub>, or
- (2) Physics F<sub>1</sub> and F<sub>2</sub>.

*Fourth year* : Chemistry H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub>, H<sub>4</sub>, and the classes required for the optional subject.

## Zoology

### EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay) :

Zoology, Physics, and *one* of the following, viz. : Mathematics, Chemistry, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination* :

A second principal subject,

*or*

Two subsidiary subjects.

- (c) *Honours Examination* :

One or more of the subjects named below may be selected, or the candidate may propose other subjects for the approval of the Senate. The subjects must be sent in not later than the last day of the October preceding the examination. A summary of the course of study actually gone through must be sent in to the examiners during the following April.

The Honours examination may be taken in the same year as the Ordinary B.Sc., or a year later. It will extend over four days, one (or more) of which will be occupied with practical work. There will be a *viva voce* examination.

A thesis, founded upon original research, may be sent in either alone, or together with one or more special subjects for examination.

Subjects, one or more of which may be selected for an Honours course in Zoology :

- (a) The comparative anatomy, or general zoology, of some large and important group of animals.
- (b) Comparative embryology.
- (c) Palaeontology, with special reference to some large and important group of animals.
- (d) Variation and Heredity.

### LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

## \*FOUR YEARS' COURSE.

*First year:* Zoology Int., Physics Int., and *one* of the following, viz.: Mathematics Int., Chemistry Int., Botany Int., Geology Int.

*Second and third years:* Zoology FI (A and B), together with courses in a second principal subject, *or* two subsidiary subjects.

*Fourth year:* Honours work in Zoology.

## Botany

EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS  
HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay):

Botany, Physics, and *one* of the following, viz.: Mathematics, Chemistry, Zoology, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination:*

A second principal subject,

*or*

Two subsidiary subjects.

- (c) *Honours Examination.*

One or more of the subjects named below may be selected, or the candidate may propose other subjects for the approval of the Senate. The subjects must be sent in not later than the last day of the October preceding the examination. A summary of the course of study actually gone through must be sent in to the examiners during the following April.

The Honours examination may be taken in the same year as the Ordinary B.Sc., or a year later. It will extend over four days, one (or more) of which will be occupied with practical work. There will be a *viva voce* examination.

A thesis, founded upon original research, may be sent in either alone, or together with one or more special subjects for examination.

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\*This Course may, in special circumstances, be shortened to three years, on the sanction of the Head of the department.

Subjects, one or more of which may be selected for an Honours course in Botany :

- (a) Special study of a selected group of plants
- (b) Ecology of a selected group
- (c) Cytology
- (d) Fossil Botany.

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING  
THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

\*FOUR YEARS' COURSE.

*First year* : Botany Int., Physics Int., and *one* of the following, viz : Mathematics Int., Chemistry Int., Zoology Int., Geology Int.

*Second and Third years* : Botany FI (A and B) together with courses in a second principal subject or two subsidiary subjects.

*Fourth year* : Honours work in Botany.

## Physiology

EXAMINATION PRESCRIBED FOR STUDENTS TAKING THIS  
HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay) :

Physics, and *two* of the following, viz : Mathematics, Chemistry, Zoology, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

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\*This Course may, in special circumstances, be shortened to three years, on the sanction of the Head of the department.

(b) *Final Examination:*

If a three years course is taken,

Two subsidiary subjects, selected from Physics, Chemistry, Zoology, Bacteriology, but *one* of the selected subjects must be *either* Physics *or* Chemistry.

If a four years' course is taken,

One principal subject, selected from Physics, Chemistry, Zoology.

(c) *Honours Examination:*

Physiology, three papers

Practical examination in the laboratory, extending over two days.

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

*First year:* Physics Int., and *two* of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int., Geology Int.

*Second year:* Physiology I and II, together with *two* of the following, viz.:

- (1) Physics F<sub>1</sub>
- (2) Chemistry F<sub>1</sub> *or* F<sub>2</sub> *or* F<sub>3</sub> *or* H<sub>3</sub>
- (3) Zoology F<sub>1</sub> (A *or* B)
- (4) Bacteriology I

one of which shall be *either* Physics *or* Chemistry.

*Third year:* Honours work in Physiology.

FOUR YEARS' COURSE.

*First year:* Physics Int., and *two* of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int., Geology Int.

*Second and Third Years:* Physiology I and II, together with *one* of the following, viz. :

- (1) Physics F<sub>1</sub> and F<sub>2</sub>
- (2) Chemistry F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>, and H<sub>3</sub>
- (3) Zoology F<sub>1</sub> (A and B).

*Fourth Year:* Honours work in Physiology.

As part of both the three years' and the four years' courses candidates will be required to have attended satisfactorily an approved course of instruction in Human Anatomy or in Comparative Anatomy.

## Geology

In this school there are alternative schemes of study, Scheme A—Physical, and Scheme B—Biological.

### SCHEME A (PHYSICAL)

EXAMINATIONS    PRESCRIBED    FOR    STUDENTS    TAKING  
SCHEME A.

- (a) *Intermediate Examination* (together with additional subject and essay) :

Geology, Physics, and *one* of the following, viz. :  
Mathematics, Chemistry, Zoology, Botany.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination* :

A second principal subject,

*or*

Two subsidiary subjects.

- (c) *Honours Examination.*

Geology, two papers

Petrology, one paper

Elementary Mineralogy, one paper

A special paper on the subject of research selected by the candidate

Practical examination in the laboratory, extending over two days

# LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING SCHEME A.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

## THREE YEARS' COURSE.

*First year:* Geology Int., Physics Int., and *one* of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int.

*Second and Third Years:* Geology F1, F2, F5, and H1, with research, together with courses in a second principal subject *or* two subsidiary subjects.

## FOUR YEARS' COURSE.

*First year:* Geology Int., Physics Int., and *one* of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int.

*Second, Third and Fourth years:* Geology F1, F2, F5 and H1 with research, together with courses in a second principal subject *or* two subsidiary subjects.

## SCHEME B (BIOLOGICAL)

# EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING SCHEME B.

- (a) *Intermediate Examination* (together with additional subject and essay):

Geology, Physics, and *one* of the following, viz.: Mathematics, Chemistry, Zoology, Botany.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination:*

A second principal subject

*or*

Two subsidiary subjects.

(c) *Honours Examination:*

Geology, one paper

Palæontology, one paper

Palæobotany, one paper

Special paper on the subject of research selected by the candidate

Practical examination in the laboratory, extending over two days

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING  
SCHEME B.

For full particulars of these lecture courses see  
Courses in Science set forth in subsequent pages.  
An additional subject and an essay must also be  
taken at Intermediate standard.

THREE YEARS' COURSE.

*First year:* Geology Int., Physics Int., and *one* of  
the following, viz.: Mathematics Int., Chemistry  
Int., Zoology Int., Botany Int.

*Second and Third years:* Geology F<sub>1</sub>, F<sub>2</sub>, F<sub>5</sub> and  
H<sub>1</sub>, with research, together with courses in a  
second principal subject *or* two subsidiary subjects.

FOUR YEARS' COURSE.

*First year:* Geology Int., Physics Int., and *one* of  
the following, viz.: Mathematics Int., Chemistry  
Int., Zoology Int., Botany Int.

*Second, Third and Fourth years:* Geology F<sub>1</sub>, F<sub>2</sub>,  
F<sub>5</sub> and H<sub>1</sub>, with research, together with courses  
in a second principal subject *or* two subsidiary  
subjects.

## Mechanical Engineering

EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS  
HONOURS SCHOOL.

(a) *Intermediate Examination* (together with additional  
subject and essay):

Mathematics, Physics, Chemistry, Applied Mech-  
anics.

This examination is subject to the provisions  
contained in clauses 4 and 5 of the Honours B.Sc.  
Ordinance.

*(b) Final Examination:*

Mathematics as a second principal subject.

*(c) Honours Examination.*

Graphics and Descriptive Geometry, one paper

Strength and Elasticity of Materials, one paper

General Hydraulics, one paper

Thermodynamics and Theory of Heat Engines, one paper

Dynamics and Kinematics of Machinery, one paper

<sup>1</sup>Pure Mathematics, two papers

<sup>1</sup>Applied Mathematics, two papers

Laboratory examination, two days

A candidate's work done in the drawing office and the laboratory and the class examination results in Engineering during his three years' course will be taken into consideration

#### LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages, and courses in the Engineering Prospectus. An additional subject and an essay must also be taken at Intermediate standard.

#### THREE YEARS' COURSE.

*First year:* Engineering I, Mathematics Int. and F<sub>1</sub>, Physics Int., Chemistry Int.

*Second year:* Engineering VI, Mathematics F<sub>2</sub> and F<sub>3</sub>, and Electrical Engineering Ia.

*Third year:* Engineering IV (Part I) and VII, Physics F<sub>1</sub> (second term only).

### Civil Engineering

#### EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

*(a) Intermediate Examination* (together with additional subject and essay):

Mathematics, Physics, Chemistry, Applied Mechanics.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

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<sup>1</sup> i.e., Mathematics taken as the second principal subject

*(b) Final Examination :*

Mathematics as a second principal subject.

*(c) Honours Examination.*

Graphics and Descriptive Geometry, one paper

Strength and Elasticity of Materials, one paper

General Hydraulics, one paper

Theory of Complex Structures, one paper

Surveying, Railways and Water Supply, one paper

<sup>1</sup>Pure Mathematics, two papers

<sup>1</sup>Applied Mathematics, two papers

Laboratory examination, two days

A candidate's work done in the drawing office and the laboratory, and the class examination results in Engineering during his three years' course will be taken into consideration.

#### LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages, and courses in the Engineering Prospectus. An additional subject and an essay must also be taken at Intermediate standard.

#### THREE YEARS' COURSE.

*First year:* Engineering I, Mathematics Int. and F<sub>1</sub>, Physics Int., Chemistry Int.

*Second year:* Engineering III and VI, Mathematics F<sub>2</sub> and F<sub>3</sub>, and Geology F<sub>1</sub>.

*Third year:* Engineering IV and VII, and Physics F<sub>1</sub> (second term only).

### Electrical Engineering

#### EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

*(a) Intermediate Examination* (together with additional subject and essay):

Mathematics, Physics, Chemistry, Applied Mechanics.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

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<sup>1</sup> i.e. Mathematics taken as the second principal subject.

*(b) Final Examination :*

Mathematics as a second principal subject.

*(c) Honours Examination.*

Generation and Transformation of Electrical Energy, one paper

Distribution of Electrical Energy, one paper

Design of Electrical Appliances, one paper

Mechanical Engineering, one paper

Heat Engines, one paper

<sup>1</sup>Pure Mathematics, two papers

<sup>1</sup>Applied Mathematics, two papers

Practical examination in Electrical Engineering, two days

A candidate's work done in the Electrical and Mechanical Engineering Drawing Office and Laboratory and the class examination results in Electrical and Mechanical Engineering during his three years' course will be taken into consideration.

#### LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages, and courses in the Engineering Prospectus. An additional subject and an essay must also be taken at Intermediate standard.

#### THREE YEARS' COURSE.

*First year:* Mathematics Int. and F<sub>1</sub>, Physics Int., Chemistry Int., Engineering I.

*Second year:* Mathematics F<sub>2</sub> and F<sub>3</sub>, Engineering VI and Electrical Engineering I.

*Third year:* <sup>2</sup> Mathematics II, Physics F<sub>1</sub> (second term only), and Electrical Engineering II, III, and IV.

### Mining Engineering

Ordinance. 15. Honours in Mining Engineering will be awarded to candidates who, having obtained the Ordinary degree, with Mining Engineering as a principal subject, and being

<sup>1</sup> *i.e.*, Mathematics taken as the second principal subject.

<sup>2</sup> Non-degree students take this if they were unable to take Mathematics F<sub>2</sub> in the second year.

recommended as suitable to proceed with an Honours course, shall have spent one or two years in research or in the preparation of a thesis, attendance at the University during this period not being compulsory. All candidates for Honours shall be required to pass in Mathematics at the standard of a principal subject of the Final examination for the Ordinary degree, and to have attended such Mathematical courses as are prescribed for candidates who take the subject of Mathematics as a subsidiary subject for the Final examination for the Ordinary degree.

### **Gas Engineering: Fuel and Metallurgy**

16. Honours in Gas Engineering or Fuel and Metallurgy Ordinance.  
will be awarded to candidates who, having obtained the Ordinary Degree, with either Gas Engineering or Fuel and Metallurgy as a principal subject, and being recommended as suitable to proceed with an Honours Course, shall have spent one or two years in research, or in the preparation of a thesis on some industrial process, to the satisfaction of the examiners, attendance at the University during this period not being compulsory.

Honours in Gas Engineering or Fuel and Metallurgy may also be conferred upon candidates, who, having graduated in Science at this or an approved University, with Chemistry or Engineering as a principal subject, shall have subsequently (1) completed the course and passed the examination required for the diploma in Gas Engineering or Fuel and Metallurgy; and (2) spent an additional year in research in the Department to the satisfaction of the examiners.

### **Applied Chemistry:**

#### **Colour Chemistry and Dyeing**

Honours in this subject will be awarded to candidates Regulations.  
who, having completed the four years' course of study for the Ordinary degree, with Colour Chemistry and Dyeing as a principal subject, shall have shown competence in the special work for Honours prescribed at the Final examination.

## Applied Chemistry: Chemistry of Leather Manufacture

EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS  
HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay) :

Physics, Chemistry, and *one* of the following, viz. :  
Mathematics, Zoology, Botany.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination* :

Chemistry as a second principal subject.

- (c) *Honours Examination.*

Physics and Chemistry of Leather Manufacture, one paper

Materials of Leather Manufacture, one paper

Principles and Methods of Leather Manufacture, one paper

Analytical Chemistry of Leather Manufacture, one paper

Practical examination, three days

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING  
THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages, and courses in the Leather Industries Prospectus. An additional subject and an essay must also be taken at Intermediate standard.

### FOUR YEARS' COURSE.

*First year* : Physics Int., Chemistry Int., and *one* of the following, viz. : Mathematics Int., Zoology Int., Botany Int.

*Second and Third years* : Physics F<sub>1</sub>, Engineering II (A), Chemistry F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>, and H<sub>3</sub>, and Chemistry of Leather Manufacture I, II, III, IV, V, and VI.

*Fourth year* : Honours courses *or* research in Chemistry of Leather Manufacture.

## Agriculture

### EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

- (a) *Intermediate Examination* (together with additional subject and essay):

Physics, and *two* of the following, viz: Chemistry, Zoology, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

- (b) *Final Examination*:

One of the pure sciences specified under section 15 of the Ordinary B.Sc. Ordinance as second principal subject,

*or*

*Two* of the pure sciences specified under section 16 of the Ordinary B.Sc. Ordinance as subsidiary subjects.

- (c) *Honours Examination.*

The examination will extend over two days, part of the time being occupied by a *viva voce* examination at the Manor Farm, Garforth.

### LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages, and courses in the Agriculture Prospectus. An additional subject and an essay must also be taken at Intermediate standard.

### FOUR YEARS' COURSE.

*First year*: Physics Int., and *two* of the following, viz: Chemistry Int., Zoology Int., Botany Int., Geology Int.

*Second and Third years*: the courses prescribed for candidates for the Final examination for the Ordinary degree who offer Agriculture as a principal subject, together with research work.

*Fourth year*: Honours work, with research. Candidates are required to present themselves at the end of the third year for the Final examination for the Ordinary degree.

The same rule shall apply to an Honours student as to a student reading for an Ordinary degree, viz., six months of practical work equivalent to 130 days of six hours each shall be spent at the Manor Farm, Garforth, after the Intermediate examination and before the completion of the third year. At the examination at the end of the third year the candidate for the Ordinary degree will be required to submit a report on an experiment he has himself conducted. The candidate for Honours will be required to submit an interim report on his special research.

## DEGREE OF MASTER OF SCIENCE

### I

Ordinance.

1. The degree of Master of Science is conferred, on payment of the proper fee, upon registered Bachelors of Science, when of one year's standing from the date of their graduation as Bachelors, subject to the conditions contained in the following paragraphs.

2. Bachelors of Science who have graduated with Honours are not required to present themselves for any further examination for the degree of Master of Science.

3. Bachelors of Science who have obtained the Ordinary degree are required to satisfy the examiners in a further examination in *one* of the following subjects: Mathematics, Physics, Chemistry, Zoology, Botany, Physiology, Geology, Mechanical, Civil, Electrical, or Mining Engineering, Applied Chemistry (Colour Chemistry and Dyeing), Applied Chemistry (Chemistry of Leather Manufacture), Fuel and Metallurgy, Gas Engineering, and Agriculture. Certificates of attendance are not required.

4. The names of candidates who have passed the further examination for the degree of Master of Science are arranged in alphabetical order without distinction of classes.

5. Candidates who have prosecuted research, and who give satisfactory evidence thereof by the presentation of a thesis, may be excused part or the whole of the examination.

Each application for permission to present a thesis must be made to the Senate not later than the last day of the October preceding the M.Sc. examination, together with a statement of the intended subject of research; and the thesis must be sent in to the examiners not later than the last day of the May preceding the M.Sc. examination. Regulations.

[N.B.—The phrase “in a further examination” in clause 3 of the Ordinance is interpreted by the Senate to mean that candidates shall only be allowed to present themselves in subjects already presented by them for the Final examination for the B.Sc. degree (Ordinary or Honours) or some subject cognate thereto. For example, a candidate who has presented himself in Pure Chemistry may present himself for the M.Sc. degree in any subject of Applied Chemistry, and *vice versa*, but in the departments of Applied Science special papers may be set or other tests applied to graduates who have not passed the Final examination for the B.Sc. degree in such Applied Sciences.]

## II

Graduates or persons who have passed the Final examination for a degree of other approved Universities shall, if they present evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of M.Sc., without taking the B.Sc. degree, after not less than two years of such advanced study or research. Ordinance.

Such candidates shall be required to fulfil the following conditions:—

- (a) To be registered as students of the University.
- (b) To pursue a course of advanced study or research under the supervision of the Head of the Department concerned.
- (c) To attend a course or courses of lectures at the University for at least one year, except so far as this requirement is suspended or reduced by the Senate.
- (d) To pay a minimum fee (including Registration and Library fee) of three guineas per annum.

They shall be further required to give evidence to the Senate at the end of the first year of their period of study that their work has been satisfactory, and at the end of their second year they shall be required to present a dissertation, and to satisfy such further test, if any, as the Senate shall deem expedient.

N.B.—In 1920 notice must be given and the fee must be paid not later than MONDAY, MARCH 1st, by Bachelors of Science who have obtained the Ordinary degree and who intend to proceed to the Degree of M.Sc. The examination, if required, will be held in June. Notice must be given and the fee must be paid a week before Degree Day, July 3rd, by Bachelors of Science who have graduated with Honours and who intend to proceed to the Degree of M.Sc.

### Examination

#### Regulations. MATHEMATICS :

Analytical Geometry, Plane and Solid, one paper  
Differential and Integral Calculus, one paper  
Dynamics and Statics of a Particle, one paper  
Hydrostatics and Rigid Dynamics, one paper.

N.B.—The standard is represented by the papers numbered III, IV, V, and VI set at the examination for the Honours School of Mathematics.

#### PHYSICS :

Experimental Physics, including Chemical Physics, two papers  
Experimental and Theoretical Physics requiring a knowledge of the  
Differential Calculus and of the elements of the Integral  
Calculus, one paper  
Practical examination, one day.

#### CHEMISTRY :

Inorganic Chemistry, one paper  
Organic Chemistry, one paper

One of the following optional subjects :

Physical Chemistry, one paper  
History of Chemistry and of Chemical Philosophy, one paper  
Electro-Chemistry, one paper  
Chemistry of Food and Drugs, one paper  
Colour Chemistry and Dyeing, one paper  
Chemistry of Leather Manufacture, one paper  
Fuel and Metallurgy, one paper  
Physiological Chemistry, one paper  
Agricultural Chemistry, one paper  
A branch of Physics, one paper  
Mineralogy and Crystallography, one paper  
Mechanical Engineering, one paper

Practical examination, one day.

**ZOOLOGY :**

Zoology and Comparative Anatomy (including the more important extinct forms) and Embryology, three papers

Practical examination, one day.

**BOTANY :**

Botany, three papers

Practical examination, one day.

**PHYSIOLOGY :**

Animal Physiology, three papers

Practical examination, one day.

**GEOLOGY :**

*Either* Geology and the elements of Mineralogy, three papers,  
*or* Geology and Zoology, three papers

Practical examination, one day.

**MECHANICAL ENGINEERING :**

Dynamics of Machinery, one paper

Stress, Strain and Elasticity, one paper

Heat Engines and Thermodynamics, one paper

Hydraulics, one paper.

**CIVIL ENGINEERING :**

Surveying and Descriptive Engineering, one paper

Stress, Strain and Elasticity, one paper

Complex Structures, one paper

Hydraulics, one paper.

**ELECTRICAL ENGINEERING :**

Mechanical Engineering, one paper.

Electrical Engineering, two papers (embracing Generation,  
Transformation, Distribution and Design).

Practical examination, one day.

**MINING ENGINEERING**

Mining (including Ore Dressing and Mine Surveying) three papers.

Practical examination, one day

**APPLIED CHEMISTRY (Chemistry of Leather Manufacture) :**

Physics and Chemistry of Leather Manufacture, one paper.

Materials of Leather Manufacture, one paper.

Principles and Methods of Leather Manufacture, one paper.

Analytical Chemistry of Leather Manufacture, one paper.

Practical examination, five days.

**APPLIED CHEMISTRY (Colour Chemistry and Dyeing) :**

Chemistry of the Artificial and Natural Dyestuffs, one paper.

Practical examination, five days.

*Or alternatively—*

Presentation of thesis embodying original work in the subject of Colour Chemistry.

*Viva voce* examination upon thesis presented or upon matters cognate thereto.

Candidates who have not obtained their B.Sc. degree in Colour Chemistry as a principal subject are required to present themselves for the above theoretical and practical examination or such part thereof as the examiners may deem necessary.

**AGRICULTURE :**

Two papers, embracing Soils and Manures, Rotations and Permanent Grass, Live Stock and Feeding, Implements, and Agricultural Economics.

Practical Examination at the Manor Farm, Garforth.

**GAS ENGINEERING :**

Carbonisation Methods for Coal (Gas Manufacture and By-Product Coking Practice), one paper.

Gas Distribution, Lighting, and Heating, one paper.

Chemistry of Gases, one paper.

Practical examination, four days.

Candidates who have taken the ordinary B.Sc. without Engineering as a principal or subsidiary subject must also take a *fourth* paper in General Engineering.

**FUEL AND METALLURGY :**

Technology of Fuel, one paper.

The Metallurgy of some selected Metal or group of Metals, one paper.

Alloys, one paper.

Practical examination, four days.

Candidates who have taken the ordinary B.Sc. without Engineering as either a principal or a subsidiary subject must also take a fourth paper in General Engineering.

**DEGREE OF DOCTOR OF PHILOSOPHY**

(see page 160).

**DEGREE OF DOCTOR OF SCIENCE**

Ordinance. 1. The degree of Doctor of Science is conferred by the University upon registered Masters of Science or Doctors of Philosophy of the University who shall be deemed by the Senate, after considering a report from one or more of the Boards of Faculties, to have distinguished themselves by special research or learning.

Provided that the Senate may, in such cases as it shall think fit, after considering a report from one or more of the Boards of the Faculties, also require candidates to pass such an examination as it may from time to time determine.

2. A Master of Science or a Doctor of Philosophy of the University may make application for the degree of Doctor of Science in the sixth, or any subsequent year from the date of his admission to the Bachelor's degree.

3. Such application shall be made in writing to the Registrar and shall contain a full statement of the grounds on which the claim for the degree is based, together with one or more copies of any memoir, whether in type or in manuscript, which the applicant may desire to submit in support of the application.

4. If the application be approved by the Senate, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

N.B.—In 1920 notice must be given and the fee must be paid not later than MONDAY, MARCH 1st.

## **DIPLOMAS IN APPLIED SCIENCE AND TECHNOLOGY**

Diplomas are granted by the University in the following subjects :—

Civil Engineering

Mechanical Engineering

Electrical Engineering

Coal Mining

Fuel and Metallurgy

Gas Engineering

Dyeing

Leather Manufacture

Textile Industries: (1) Textile Design and Cloth Finishing;

(2) Woollen and Worsted Spinning; (3) Cloth Manufacture.

Textile Chemistry.

(For Regulations governing the award of these Diplomas see Courses in Technology).

## CITY AND GUILDS TECHNOLOGICAL EXAMINATIONS

The examinations of the City and Guilds of London Technical Institute are held in the University in April, May, or June every year. Students of the University and others are admitted to the examinations. Each candidate is required, when entering his name for the examination with the Local Secretary, to pay to the City and Guilds Institute a fee of 1s. for each subject in which he desires to be examined. In some few subjects a higher fee is charged. Money prizes, medals, and certificates are awarded by the Institute. Among the subjects of examination, the following may be mentioned as specially suitable to the technical students of the University:—Coal Tar Products, Gas Manufacture, Iron and Steel Manufacture, Leather Tanning, Dyeing (Silk, Wool, and Cotton), Bleaching and Printing, Textile Fabrics (Spinning and Weaving), Electrical Engineering, Mechanical Engineering, Mine Surveying. To obtain a full certificate in any of the above-mentioned technological subjects candidates will be required to pass the Institute's examination in the Honours grade and also, in general, an examination in one or more of the Science and Art subjects included in the *Regulations* of the Board of Education, the subjects to be chosen from those most closely allied to the subject taken by the candidate. The Institute will accept in lieu of the examination by the Board of Education a certificate from the University stating that the candidate has attended approved courses of instruction at the University in the science subjects allied to the technological subject in which the full certificate is claimed, and has passed a satisfactory examination in such science subject. Candidates will also be qualified for the full technological certificate who pass the Preliminary examination as well as the Ordinary and Honours examinations (written and practical) in any technological subject for which such a full course is provided by the Institute. For further particulars see the programme of the Institute (price, post free, 1s.)

Entries for the next examination will be received by the Local Secretary, The University, Leeds, not later than March 1st, 1920

## COURSES IN SCIENCE

### MATHEMATICS

Professor

#### LECTURE COURSES

##### I. First Year Course for Engineers

See page 302.

##### II. Second Year Course for Engineers

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

*Subjects:* Graphical methods, differential and integral calculus.

*Book recommended*

Saxelby, *A Course in Practical Mathematics* (Longmans and Co., 6s. 6d.)

##### Int. Intermediate Course in Pure Mathematics

Mondays and Fridays, at 2 p.m.

Students reading for the Intermediate B.A. and B.Sc. examinations attend this course throughout the session.

*Books recommended*

Knott, *Four-figure Mathematical Tables* (Chambers, 4d.)

Gibson, *Introduction to the Calculus* (Macmillan, 3s. 6d.)

**F1. Final Course in Applied Mathematics (Elementary)**

Tuesdays and Thursdays at 11.30 a.m.

*Subjects* : Elementary statics, dynamics, and hydrostatics.

*Book recommended*

Jessop and Havelock, *Elements of Applied Mathematics* (Bell, 4s. 6d.)

**F2. Final Course in Pure Mathematics**

Mondays, Wednesdays, and Fridays, at 11.30 a.m.

*Subjects* : Co-ordinate geometry, differential and integral calculus.

Students taking Mathematics (i) as principal subject (p. 232), (ii) as the subsidiary subject, entitled Mathematics P (p. 233), attend for all three hours; students reading for (i) Arts Courses (p. 138), (ii) science subsidiary course, entitled Mathematics PA (p. 233), attend on Mondays and Fridays only.

*Books recommended*

Lamb, *Infinitesimal Calculus* (Cambridge)

Smith, *Conic Sections* (Macmillan)

**F3. Final Course in Applied Mathematics**

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

*Subjects* : Statics, dynamics, and hydrostatics. Text Books will be recommended by the Professor at the beginning of the course.

**H1. Honours Course in Pure Mathematics**

A course of lectures of three hours a week in Pure Mathematics will be delivered to students reading for Honours in Mathematics. Hours of meeting will be arranged at the beginning of the session.

**H2. Honours Course in Applied Mathematics**

A course of lectures of three hours a week in Applied Mathematics will be delivered to students reading for Honours in Mathematics. Hours of meeting will be arranged at the beginning of the session.

**PHYSICS**

Chair endowed in 1884 by public subscription in memory of the  
late Lord Frederick Cavendish, first President of the  
Yorkshire College

Mr. ALLEN

Dr. SHORTER

Mr. MORTON

Miss WATSON

**LECTURE COURSES****Int. Intermediate Course**

Lectures and Experimental Demonstrations: Mondays,  
Wednesdays and Fridays at 3 p.m.

*Subjects*: The elements of electricity, magnetism, sound,  
light, heat, and the properties of matter.

Text books will be recommended by the lecturer during  
the course.

It is very desirable that students taking this course should  
have passed either in Mechanics or in Physics including  
Elementary Mechanics, at the Matriculation examination.

Those who are not so qualified may find some difficulty  
in following the course, and will be expected to acquire the  
necessary knowledge of Mechanics as quickly as possible.

**Int. a. Special Course for Medical Students**

Lectures and Experimental Demonstrations: Mondays  
at 9.30 a.m., Tuesdays and Thursdays at 11.30 a.m.  
throughout the session.

*Subjects*: The elements of electricity, magnetism, sound,  
light, heat, and the properties of matter.

The above caution with regard to Mechanics applies here  
also.

Text books will be recommended by the lecturer during  
the course.

As a temporary measure, alternative hours may be fixed  
for the courses Intermediate and Int. a. in case the number  
of students desiring to join either should be greater than  
the Department can admit at one time. In that case, the  
choice of hours will not be at the student's option

**F1. Final Course (Subsidiary)**

Lectures : Mondays, Wednesdays and Fridays, at 10.30 a.m., throughout the session.

This course is designed to meet the requirements of students taking Physics as a subsidiary subject in the Final B.Sc. examination.

**F2. Final Course (Principal)**

Three hours a week throughout the session, at hours to be arranged to suit the convenience of students attending the class.

This course is designed to meet the requirements of students taking Physics as a principal subject in the B.Sc. examination. Students taking this course are required to have previously gained at least a second class in each terminal examination in the Intermediate course, or in default are required to take the Intermediate course again concurrently with this course, unless specially exempted by the Senate.

N.B.—A practical acquaintance with the principles of the Differential and Integral Calculus is absolutely essential to students taking this class.

**H. Honours Course**

Three lectures a week throughout the session, at hours to be arranged to suit the convenience of students attending the class. The complete course extends over two sessions.

**PHYSICAL LABORATORY**

The Physical laboratory will be open daily from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m.

Students preparing for the Intermediate B.Sc. examination are required to devote at least three hours per week throughout the session to practical work. Medical students are required to devote three hours per week during at least the first two terms.

Students preparing for the Final B.Sc. examination and taking Physics as a principal subject are required to devote one day per week for two sessions to practical work.

Students taking Physics as a subsidiary subject are required to devote one day per week for one session to practical work.

A student's hours are fixed to suit his own convenience and that of the laboratory staff, and must not be subsequently varied without permission.

The following table shows the usual hours at which the laboratory is open to the various classes :

	9.30—12.30.	2—5.
M.	Honours.	Final.
Tu.	Final.	Intermediate.
W.	Honours.	Medical.
Th.	Final.	Intermediate and Technological.
F.	Honours.	Final.
S.	Final, Honours.	

## CHEMISTRY<sup>1</sup>

Professor SMITHELLS

Professor COHEN

Dr. DAWSON

Mr. LOWSON

### LECTURE COURSES

Int. General Course of Chemistry (Intermediate and First M.B.)

The lectures of this course are given throughout the session, on Mondays, Wednesdays, and Fridays, at 11.30 a.m.

<sup>1</sup> Candidates for the First examination in Medicine, or the Intermediate Science or Preliminary Scientific (M.B.), London, should refer to page 396.

In addition a tutorial class will be held one hour weekly throughout the session.

The course is divided into two parts :

Part I will comprise lectures on the general properties of matter; chemical combination and decomposition; preparation, classification, and chemical behaviour of the chief elements and their compounds; chemical theory treated in an elementary manner.

Part II (third term) will form an introduction to organic chemistry.

### **Analytical Chemistry**

Two short courses of lectures will be given during the session, at times to be arranged.

#### *Course A.*

This is intended for first year students, and will deal chiefly with qualitative analysis.

#### *Course B.*

This is intended for more advanced students, and will include both qualitative and quantitative work.

### **FINAL COURSES**

#### **F1. Inorganic Chemistry <sup>1</sup>**

##### **(Advanced Course—A)**

Mondays, Wednesdays, and Fridays, at 9.30 a.m., throughout the session.

A previous general knowledge of chemistry is necessary.

#### **F2. Inorganic Chemistry**

##### **(Advanced Course—B)**

Tuesdays, Thursdays, and Saturdays, at 9.30 a.m., throughout the session.

A previous general knowledge of chemistry is necessary.

#### **F3. Organic Chemistry**

Tuesdays, Thursdays, and Saturdays, at 11.30 a.m. throughout the session.

This course is intended for second year students, or for those who have already some knowledge of chemistry.

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<sup>1</sup> It will be advisable, as a rule, for students to take course F1 before course F2 but this order is not essential.

**HONOURS COURSES****H1. Organic Chemistry**

Professor COHEN

Mondays, Wednesdays, and Fridays, at 11.30 a.m., during the first two terms.

**H2. History of Chemistry**

Professor COHEN

Mondays, Wednesdays, and Fridays at 9.30 a.m., during the first term.

**H3. Physical Chemistry**

Dr. DAWSON

Three hours a week throughout the session, at times to be arranged.

**H4. Electro-Chemistry**

Dr. DAWSON

Tuesdays at 9.30 a.m. throughout the session.

**H5. Chemistry of Food and Drugs**

Mr. LOWSON

This class will be held during the second term at hours to be arranged. This class is intended also for those students who are taking the Final examination of the Institute of Chemistry in Branch E (Food and Drugs).

Special fee, £3 3s.

**PRACTICAL CHEMISTRY****1. General Laboratory Courses**

The object of the laboratory courses is to enable the student to obtain a practical acquaintance with chemical science, so as to fit him to conduct chemical analysis, to make original investigations in Chemistry, and generally

to become qualified to apply the science to the arts and manufactures. It is necessary that each laboratory student should attend or should have attended the General or the Advanced courses in Chemistry and the course in Organic Chemistry (F3).

In the Chemical laboratories instruction is given in the general modes of preparing chemical compounds, inorganic and organic, in the qualitative and quantitative analysis of minerals and commercial products, in water analysis, gas analysis, and in the various branches of physical chemistry. It is necessary, however, that students wishing to pursue any special branch of practical work shall first have thorough training in the general principles and method of chemical manipulation and analysis.

Each student will be furnished with a separate working table, a set of re-agents, water and gas, and will be required to provide himself with a regulation set of apparatus on entry,<sup>1</sup> and also, if necessary, a few of the more costly tests, and any expensive materials which he may need for the purposes of original investigation. Apparatus of a special or expensive character may be obtained on loan, subject to such conditions as may be prescribed by the Professor.

Students taking the course for the First examination in Medicine, must attend at the hours specified on page 396.

## 2. Practical Course in Sanitary Chemistry

This course is arranged on the lines laid down by the General Medical Council and to suit the requirements of Medical Officers of Health.

The course will be held during the second and third terms of the session on Tuesdays and Thursdays, from 2 to 5 p.m.,<sup>2</sup> and will include practical instruction or demonstrations in the

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<sup>1</sup> For the convenience of students, a supply of apparatus is kept at the University, and may be purchased from the laboratory steward.

<sup>2</sup> These hours are subject to re-arrangement

sanitary examination of water, air and food, and on the properties of gases, the laws of heat and the use of meteorological instruments.

Instruction will be given in :

*Water*.—Qualitative examination, quantitative examination, estimation of free and albuminoid ammonia, oxygen consumption, chlorine, nitrates and nitrites, total solids, temporary and permanent hardness, metallic impurities.

*Air*.—Qualitative examination of foreign gases, quantitative determination of carbon dioxide.

*Food*.—Qualitative or quantitative examination of milk, butter, tea, coffee, sugar, alcoholic beverages.

*The Properties of Gases*.—Expansion, weight, pressure, diffusion, ventilation.

*The Laws of Heat*.—Expansion of liquids and solids, temperature, latent and specific heat, liquefaction, evaporation, ebullition, radiant heat.

*The Use of Meteorological Instruments*.—Thermometers (wet and dry bulb), barometers, hygrometers, anemometers, analysis of weather reports and meteorological charts.

Special fee, £7 7s.

## COURSE FOR STUDENTS NOT TAKING A DEGREE

The following course of instruction is recommended to students of Chemistry who do not propose to take a University degree.

### *First Year :*

Chemistry Lectures : Course Int. or Course Fr.

Chemical Laboratory, 3 days per week.

Mathematics Int.

Physics Int.

French or German.

*Second Year :*

Chemistry Lectures : F<sub>1</sub>, F<sub>2</sub> and F<sub>3</sub>.  
Chemical Laboratory, 3 days per week.  
Physics F<sub>1</sub>.  
French or German.

*Third Year :*

Chemistry Lectures : H<sub>1</sub>, H<sub>3</sub>, H<sub>4</sub>, and H<sub>5</sub>.  
Chemical Laboratory, 3 days per week.  
Physical Laboratory, 1 day per week.  
*One* of the following : Elementary Engineering,  
Metallurgy, Geology.

## INSTITUTE OF CHEMISTRY

Students desirous of obtaining the Associateship of the Institute of Chemistry are required to pass an approved preliminary examination (such as the Matriculation examination) and further to attend :

1. A course of study during three years in practical and theoretical Inorganic and Organic Chemistry, the practical work to occupy at least fifteen hours per week.
2. At least fifty lectures in Physics, with at least 100 hours in the Physical laboratory.
3. A course in Mathematics up to the standard of the Intermediate examination for the degree of Bachelor of Science.
4. A course of instruction in *one* of the following optional subjects : (a) Advanced Mathematics, (b) General Chemical Engineering, (c) Metallurgy, (d) Geology and Mineralogy, (e) Elementary Physiology, (f) Bacteriology, (g) Agriculture, (h) Elementary Botany, (i) Elementary Biology, (j) Higher Physics.

The above non-degree course is recommended as a convenient arrangement of subjects. For further details the Regulations of the Institute<sup>1</sup> should be consulted.

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<sup>1</sup> To be obtained from the Secretary, Institute of Chemistry, 30, Bloomsbury Square, London, W.C. Important alterations in these Regulations as affecting University students are impending.

**ZOOLOGY**

PROFESSOR GARSTANG

MRS. REDMAN KING      MR. PERCIVAL

**LECTURE COURSES****Int. Intermediate Course**

Lectures on Mondays and Fridays at 10.30 a.m. throughout the session. Practical work on Tuesdays from 2 to 4 p.m. and on Wednesdays from 9.30 to 11.30 a.m. throughout the session.

*Subjects:* General principles of animal organisation, physiology and reproduction. Elementary comparative anatomy. The outlines of embryology.

*Practical Work:* Amœba, a Flagellate, Monocystis, Hydra, Fasciola, Taenia, Earthworm, Cockroach, Culex, Amphioxus, Dogfish, Frog, Rabbit.

**Int. a. Course for First M.B. Examination**

The Zoological part of the course for the First M.B. examination in Biology coincides with the Intermediate course above.

Practical class on Tuesdays (9.30 to 11.30 a.m.) and Thursdays (9.30 to 11.30 a.m.).

**F. Final Course (Principal)**

Lectures on Tuesdays, Wednesdays and Thursdays at 11.30 a.m. throughout the session, or at other hours to be arranged.

Groups A and B will be taken in alternate years, each occupying one session.

Laboratory work and tutorial class, seven hours per week. Students are also expected to take part in field excursions and to spend part of the Easter or Summer vacation at

the Yorkshire Universities' Marine Laboratory at Robin Hood's Bay.

- A. (1) GENERAL OUTLINES OF ZOOLOGY. Two lectures a week.
- (2) DEVELOPMENT AND EVOLUTION. One lecture a week.
- B. (3) SYSTEMATIC ZOOLOGY OF SELECTED CLASSES, including a Vertebrate and an Invertebrate class. Two lectures a week.
- (4) BIONOMICS AND DISTRIBUTION. One lecture a week.

#### Final Course (Subsidiary)

Students offering Zoology as a subsidiary subject will take, according to the year, *either* A (1) *or* B (3).

Attendance at the lecture courses A (2) and B (4) is optional.

#### H. Honours Courses

The hours for special Honours lectures will be arranged with students at the beginning of the session.

### ZOOLOGICAL LABORATORY

The Zoological laboratory will be open daily from 9.30 a.m. to 5 p.m. (Saturdays, from 9.30 a.m. to 12.30 p.m.).

Each student is required to provide himself with a pocket lens, a set of *dissecting instruments* (a suitable case is made by Reynolds & Branson, Ltd., Leeds, and sold at 13s. 6d.), and a *biological drawing book* (to be obtained in the laboratory).

A *microscope* is also necessary, and students are recommended to provide their own, which must be submitted for approval. They are particularly urged to consult the Professor before purchasing new ones.

Microscopes may be had on loan from the University at the rate of 2s. 6d. each per term for elementary work, and 3s. 6d. each per term for advanced work. These fees must be paid in advance.

## BOTANY

Professor PRIESTLEY

Dr. WAGER

Mr. WALKER

Mr. PEARSALL

Miss EVERSLED

## LECTURE COURSES

## Int. Course for Intermediate B.Sc.

Lectures on Tuesdays and Thursdays at 9.30 a.m., and laboratory work on Tuesdays and Thursdays from 10.30 a.m. to 12.30 p.m. throughout the session.

This course includes the study of the life history of the flowering plant with especial reference to the relation of form and structure to function.

Experimental study of the simple problems in plant metabolism, transpiration, &c.

Study of the life cycle in types illustrating Gymnosperms, Ferns, Mosses, Liverworts, Algæ and Fungi, accompanied by microscopic investigation of the morphology and internal structure of these types.

The principles of classification and systematic botany will be briefly considered in the case of the flowering plants, and students will obtain practical experience in the use of a flora.

*Books.*

Watts, *A School Flora* (Longmans, Green & Co., 3s. 6d.).

Each student is required to provide himself with a microscope, a pocket lens, a biological drawing book (Ingle & Son, Call Lane, Leeds, 1s.), two razors, a strop, a scalpel and a pair of forceps.

## Int. a. Course for First M.B. examination

Tuesdays (2 to 5 p.m.) and Wednesdays (9.30 a.m. - 11.30 a.m.) during the second and third terms only.

This course includes the study of the life history of the flowering plant with especial reference to the relation of form and structure to function.

Experimental study of the simpler problems in plant metabolism, involving an elementary study of tissue respiration, photo-synthesis, translocation of food substances, &c.

The study of the life history of some Algæ and Fungi in especial relation to the phenomena of saprophytism and parasitism in contrast to the normal metabolism of the green plant.

Experimental methods for investigation of relations between micro-organisms such as yeast and the medium in which it grows. Study of fermentation processes with methods of pure cultures.

#### **Int. b. Course for Intermediate B.A.**

The structure and physiology of the flowering plant. The classification of flowering plants, together with their identification by means of a flora. Examples of non-flowering plants. Reproduction. The transmission of characters to the offspring. Mendelism. Theories of evolution and the classes of evidence upon which these are based.

#### **Fr. Final Course : Botany**

Lectures on Mondays, Wednesdays and Fridays at 9.30 a.m. throughout the session. Courses A and B will be taken in alternate years, each occupying one session. Either will rank as a subsidiary course for the degree.

- A. Comparative morphology: Algæ, Fungi and Bryophyta. Physiology of growth and irritability. The protoplasmic membrane, phenomena of surface tension and permeability.
- B. Comparative morphology: Pteridophyta, Gymnosperms and Angiosperms.  
Ecology.  
Physiology of metabolism.  
Cytology, Evolution and Heredity.

A course of laboratory work on one of the above courses will be provided each session.

The two years' course will prepare for the Botany of the Final B.Sc. examination.

### H. Honours Course

Special additional courses of Lectures will be given for Honours students at hours to be arranged. They will include advanced lectures in morphology and physiology in the form of short courses on special topics.

Laboratory courses will be arranged in consultation with the Professor.

### SPECIAL CLASSES

#### S1. Natural History (Botany) for Agricultural Students

Lectures and laboratory work during the first terms on Mondays, at 10.30 a.m. to 12.30 p.m.; on Wednesday, at 10.30 a.m.; and on Fridays, at 9.30 to 11.30 a.m.

*Subjects:* Elementary facts of structure of plants; drawing; the use of the microscope; simple experiments on the growth of plants and allied matters; the elements of Agricultural Botany.

#### S2. Nature Knowledge (Plant Life)

Mr. WALKER

This class will meet on Saturdays throughout the session, at hours to be arranged, beginning Sept. 27th. The course embraces such botanical topics as can be readily adapted to school work. No formal lectures will be given. The method of treatment followed, will be, as nearly as possible, that which could be put into practice in classes of children. Numerous experiments will be performed, but without *special* apparatus, and the natural objects studied will be confined to those which can be gathered with little trouble by the teacher or the children.

Fee for course, £3 3s.

#### S3. Experimental Plant Physiology

Mr. WALKER

This class is in part the same as S2. It is intended for teachers of Horticulture, and is held in connection with a two years' course in Horticulture.

Fee £1 12s. 6d.

**BOTANICAL LABORATORY**

The Botanical laboratory will be open daily from 9.30 a.m. to 5 p.m. except on Saturdays.

Each student taking a practical class in Botany, will be required to use his own microscope and dissecting instruments. Microscopes may be had on loan from the University at the rate of 2/6 each per term for elementary work, and 3/6 each per term for advanced work. These fees must be paid in advance.

**PHYSIOLOGY**

Professor RAPER

Mr. LLOYD

For courses in this department, see page 417.

**GEOLOGY**

Professor KENDALL

Dr. GILLIGAN

Mr. BUTTERFIELD

**LECTURE COURSES****Int. Intermediate Course**

Lectures on Mondays, Wednesdays, and Fridays at 10.30 a.m. throughout the session.

*Subjects:* The earth's position in the universe; the movements, form, size and density of the earth; the construction and interpretation of maps; the principles of Meteorology, with special reference to the distribution of climatic provinces; weather forecasts and charts; Oceanography; Dynamical Geology, including denudation, deposition, earth movements, mountain structure, morphology of land-forms; Historical Geology, being a brief account of the nature and succession of the various formations entering into the formation of the British Isles; Geology in relation to the study of Geography.

Practical work, which will include work at the Cecil Duncombe Observatory, three hours per week throughout the session.

## FINAL COURSES

**F1. Final Course in Geology**

Mondays and Fridays throughout the session, at 2 p.m., and at another hour and day to be arranged at the beginning of the session, for students taking Geology as a subsidiary subject, and for students taking Geology as a principal subject in the first year of their Final course.

*Subjects* : The scope of Geology ; the crust of the earth ; the common rock-forming minerals ; classification of rocks according to their mode of origin ; aqueous rocks ; denudation, transport, and accumulation of rocks ; chemical action ; forms of stratification ; jointing and concretionary structures ; igneous rocks, volcanoes and earthquakes ; the condition of the interior of the earth ; metamorphic rocks and metamorphism ; slaty cleavage ; mountain-building ; the elements of Stratigraphical Geology and Palæontology ; the application of Geology to Civil Engineering.

**F2. Advanced Geology**

Three lectures a week throughout the session, at hours to be arranged, for students taking Geology as a principal subject in the second year of their Final course.

**F3, F4, F5. Final Courses in Palæontology, Applied Geology, Petrology**

These courses will prepare for the Final B.Sc. (Ordinary). Each will consist of two lectures and not less than two hours' practical work a week during the session at hours to be arranged with the students.

## HONOURS COURSES

**H1. Honours Course in Geology**

A course of not less than 90 lectures will be given at hours to be arranged with the students.

**H2. Honours Course in Mineralogy**

A course of 30 lectures and demonstrations will be given for students reading for Honours Geology (Scheme A).

**H3. Mineralogy for Mining Course**

Lectures on Wednesdays and Fridays, at 11.30 a.m.

A course of 60 lectures with practical work will be given during the session for students taking the Mining course, and will include the following subjects, viz. :

Principles of Crystallography

Physical properties of Minerals

Descriptive and Determinative Mineralogy

Modes of occurrence and association of Minerals and Ores, with special reference to Metalliferous Mining.

**SPECIAL CLASSES****S1. Agricultural Geology**

A course of about 60 lectures will be given on Wednesdays and Fridays, during the first and second terms, at 11.30 a.m. Practical work, Thursdays, from 2 to 4 p.m.

*Subjects* : Scope of the science ; the composition and physical characters of the common rock-forming minerals ; classification of rocks according to (a) their mode of origin and (b) chemical composition ; denudation, transport and accumulation ; forms of stratification ; the subdivision of stratified rocks ; economic products of the chief formations ; the nature and origin of the drift deposits ; their importance in relation to the soils of the North of England ; the soils of the Warp lands and the Yorkshire Wolds ; the disintegration of rocks and the formation of soils ; geological maps, their interpretation and use ; British rainfall, its measurement and variation ; storage of subterranean waters ; water supply from springs and deep and shallow wells ; application of geological knowledge to the selection of sites for roads, bridges, &c.

**S2. Field Course**

A course of practical instruction, with field excursions, will be given at hours to be arranged.

Special fee, £3 13s. 6d. (including an allowance of £1 1s. for travelling expenses).

**S3. Geology applied to Coal Mining**

Tuesdays at 4 p.m. during the second and third terms.

*Outline of Physical and Dynamical Geology:* Denudation, transport, and accumulation of rocks; volcanoes and earthquakes; elevation and depression of the earth's crust; condition of the interior of the earth; earth folds, and the origin of mountain chains.

*Historical Geology:* General outline of Historical Geology; detailed description of the carboniferous rocks, with special reference to the Yorkshire coalfield; the rocks which overlie the carboniferous; search for coal under the newer rocks; the drift deposits, how they affect the discovery and working of coal.

**S4. Geology applied to Sanitary and Civil Engineering**

Mondays, during the second and third terms at 5 p.m.

**GEOLOGICAL LABORATORY**

The Geological laboratory will be open every day.

## Courses in Technology

### CIVIL & MECHANICAL ENGINEERING

Professor GOODMAN

Mr. GILCHRIST

Mr.

The course of instruction in Engineering extends over three sessions, and comprises (a) Lectures on Engineering Principles and Work; (b) Instruction in Machine and Geometrical Drawing; (c) Experimental Work in the Engineering Laboratory; (d) Field Work and Practical Surveying.

The work of this Department is intended to provide a systematic training in the application of scientific principles to engineering purposes, and is not intended in any way to supersede the usual routine of engineering works and offices. An apprenticeship or pupilage in such works is an absolute necessity to every Engineering student, and is the only means by which he can obtain a thorough knowledge of the practical details of his future work.

The scientific training at the University must be regarded as a means of acquiring the principles that underlie the art of Engineering, and the training in the Works as necessary for acquiring the art itself.

It is most important that all students, whether taking up Civil, Mechanical or Electrical Engineering, should have at least one year's practical experience in Engineering Works before taking up the University course.<sup>1</sup> West Riding County Council and other scholars who have not been in Works should make application to have their Scholarships postponed for one year, for the purpose of getting the necessary preliminary practical experience.

Though the Engineering courses are designed primarily to suit students intending to be Civil or Mechanical, or Electrical Engineers, the subjects in the Civil Engineering course are such as should be studied by Mining Engineers, and by Architects, and the course prescribed for Mechanical Engineers, or parts of it, would be found of direct practical

<sup>1</sup> See a pamphlet published by the University on "The Training of Professional Engineers." The Secretary will forward a copy on application.

utility to students who are afterwards to be engaged in any occupations connected with manufactures.

All students entering any Engineering Department will be required to pass an Entrance Examination<sup>1</sup> or to produce certificates of having passed the Matriculation examination conducted by the Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham, the Oxford or Cambridge Local examination in Mathematics (including Trigonometry), London University Matriculation, or other approved examination. Students under 17 have to take a paper on English Composition and Dictation.

### ENTRANCE EXAMINATION

(For Students intending to enter the Civil, Mechanical,  
Electrical, Gas Engineering, Fuel, and Mining  
Engineering Departments).

(Time allowed, three hours.)

*Arithmetic*: The ordinary rules of Arithmetic including vulgar and decimal fractions, proportion, factors, H. C. F. and L. C. M., practice, square root, conversion from English to Metric system, averages, percentages, interest.

*Algebra*: The ordinary rules of Algebra including fractions, brackets, simple equations with problems. H. C. F. and L. C. M.

*Geometry*: The first book of Euclid or its equivalent including riders.

*Trigonometry*: Simple problems involving the trigonometrical ratios.

Every student is required to pass in each subject.

#### *Books recommended*

LONEY'S Arithmetic for Schools.

HALL AND KNIGHT'S Elementary Algebra.

LOCK'S Trigonometry for Beginners.

HALL AND STEVENS' Euclid, Book I.

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<sup>1</sup> The Examination will be held in the University on the two Opening Days of the Session. There will be an examination in June, in the Mathematical subjects only. The June Examination may be taken by students living at a distance at any place convenient to the candidate provided suitable invigilation can be secured. Students who have attended Evening classes at the University and have taken a satisfactory position in the Examination will be exempted from this Examination.

### DEGREE EXAMINATIONS

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. Degree Course in Civil or Mechanical Engineering (Ordinary or Honours). Students intending to read for a degree must pass, or obtain exemption from, the Matriculation examination before taking the Engineering course. Mechanics and the mathematics paper of the Higher Certificate Examination should always be included in the subjects chosen.

### CLASS EXAMINATIONS

A three hours' Examination in each subject is held at the end of the first term, when note books are allowed to be used, and an ordinary Examination without note books at the end of the second and third terms. In the latter Examination a piece of designing and drawing work is set in addition, for which a fortnight is allowed.

If a student fails more than once in his class examinations, in any one course, he will be required to repeat that course of study before proceeding to higher work, and if he fails in all of his examinations in Engineering I he will not be allowed to re-enter except on the special recommendation of the Head of the Department.

### Diplomas

- Diplomas in (1) CIVIL and  
(2) MECHANICAL ENGINEERING.

A candidate for either of these Diplomas is required :—

#### *I. During the Course—*

- (a) To attend satisfactorily classes in all the subjects of one of the groups mentioned below, together with courses in Physics and Mathematics. Account of the work done in all these subjects will be taken in awarding the Diploma.
- (b) To pass the terminal examinations at a standard not lower than a second class, on at least two occasions in any one session, in the following subjects :—
  - (i) For the Diploma in Civil Engineering.—Engineering III, IV, VIa, VIIa.

- (ii) For the Diploma in Mechanical Engineering.—Engineering IV (Parts I and II), VI, VIIa and VIIb.
- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of £1.

*II. At the end of the Course —*

- (a) To pass in the papers in Civil or in Mechanical Engineering taken as a Principal subject at the Final examination of the Ordinary degree of B.Sc. Sample drawings done by the candidate, together with his laboratory books, will be inspected by the External Examiner.
- (b) To translate into English a passage of French or German technical literature relating to Civil or Mechanical Engineering.
- (c) To present himself for an English Essay on some subject relative to his course of study.

A foreign student who can show that he has received a good general education will be exempted from the language test and the essay.

*III. A Diploma may be granted upon the degree course provided that the subjects studied for the degree include those prescribed for the diploma. In such case, the fee for the diploma is 10s.*

A student producing evidence of adequate previous scientific or practical training may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the diploma upon a shortened period of study.

**Fees**

The composition fee for all courses, including the Library and Union fees, is £31 11s. per session of three terms, but it does not include Examination fees or Laboratory deposit (10/6).

### **The Institution of Civil Engineers**

All Engineering students, whether following Mechanical or Civil Engineering, should aim at ultimately becoming Members of the Institution of Civil Engineers.

The first step is to become a Student of the Institution. Application should be made to the Secretary for Form B and regulations relating to the admission of students.

All Engineering Students of this University who have passed the Matriculation Examination (including two Science subjects) and an additional paper in Trigonometry, are eligible for election as Students of the Institution. Those who have not passed the Matriculation should take the Studentship examination of the Institution during their second year.

Only those students who have attended their various classes to the satisfaction of the Professors and Lecturers concerned and have done reasonably well in their class examinations will be proposed for admission to the Institution. After admission they are entitled to attend the Meetings and Excursions of the Local Branch of the Institution of Civil Engineers and to receive four volumes of Proceedings per annum. Miller Scholarships and Prizes, value from £10 to £120, are awarded by the Institution for papers read by students at either the Local Branches or at Headquarters. Free Studentships for a period of two years are awarded to all students elected from this University, who have obtained a first class in the second year's terminal examination, and have undertaken research work to the satisfaction of the Professor, the results of which must be forwarded to the Institution in the form of a Student's Paper.

Students who have obtained the Honours or Ordinary B.Sc. Degree in Civil or Mechanical Engineering will not be required to take the Associate Membership examination of the Institution; all others should take it during their third year.

Prior to election, candidates must fulfil the requirements as regards practical training and experience.

#### **Marine Engineers**

The Engineering Department of this University is recognised by the Marine Department of the Board of Trade as an institution in which candidates for Marine Engineering certificates can obtain a portion of their training.

## TIME TABLES

## 1. Ordinary and Honours Degrees

FIRST OR INTERMEDIATE YEAR COURSE FOR CIVIL,  
ELECTRICAL, AND MECHANICAL ENGINEERING.

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Eng. Laboratory		Chem. Int.	Math. Int.	Physics Int.	Eng. I
TUE. ..	Drawing	Drawing	Math. F1	Chemical Laboratory		
WED. ..	Eng. Laboratory		Chem. Int.	Engineering Lab.		Eng. I
THU. ..	Drawing	Drawing	Math. F1	Physics Laboratory		
FRI. ..	Chem. Exercise Class	Eng. I Exercise Class	Chem. Int.	Math. Int.	Physics Int.	Eng. I
SAT. ..	Drawing	Machine Drawing Lecture				

## 2. Ordinary Degree

SECOND YEAR COURSE FOR MECHANICAL  
ENGINEERING, with Mining Engineering as the subsidiary subject.

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Drawing or Mining	Eng. VI	Math. F2	Drawing	Drawing	Drawing
TUE. ..	Engineering Laboratory			Engineering Laboratory		
WED. ..	Drawing or Mining	Eng. VI	Math. F2	Drawing	Drawing	Drawing
THU. ..	Engineering or Mining				Laboratory	
FRI. ..	Drawing or Mining	Eng. VI	Math. F2	Drawing	Drawing	Drawing
SAT. ..	Mach. Design	Eng. VI Ex. Class				

It may be advisable for students who have not done well in Maths. F1 in their first year to repeat a part of the course during the third term of their second year.

**3. Ordinary Degree****SECOND YEAR COURSE FOR MECHANICAL ENGINEERING, with Civil Engineering as the subsidiary subject.**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5
MON. ..	Drawing	Eng. VI	Math. F2	Drawing	Drawing	Drawing
TUE. ..	Engineering Laboratory			Eng. Laboratory	Eng. III	
WED. ..	Drawing	Eng. VI	Math. F2	Drawing	Drawing	Drawing
THU. ..	Engineering Laboratory			Eng. Laboratory	Eng. III	
FRI. ..	Drawing	Eng. VI	Math. F2	Drawing	Drawing	Drawing
SAT. ..	Machine Design	Eng. VI Ex. Class	Eng. III			

Students are advised to take the Practical Surveying Class at Easter.

**4. Ordinary Degree****SECOND YEAR COURSE FOR CIVIL ENGINEERING**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Drawing	Eng. VI	Math. F2	Geol. F1	Drawing	Drawing
TUE. ..	Engineering Laboratory			Eng. Laboratory	Eng. III	
WED. ..	Geol. Lab.	Drawing (2) Eng. VI (1, 3)	Math. F2	*Geol. F1	Geol. Lab.	Geol. Lab.
THU. †	Drawing	Geology	Drawing	Drawing	} Eng. III	
FRI. ..	Drawing	Eng. VI (1, 3) Drawing (2)	Math. F2	Geol. F1	Drawing	Drawing
SAT. ..	Mach. Design	Eng. VI Ex. Class	Eng. III			

\* This time may be altered to suit the convenience of students. † Alternate weeks.

Students are advised to take the Practical Surveying Class at Easter, and the special course of Geology for Civil Engineers on Mondays at 5 p.m. during the second and third terms. \*

## 5. Ordinary Degree

THIRD YEAR COURSE FOR MECHANICAL ENGINEERING,  
with Electrical Engineering as the subsidiary subject.

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	Eng. Lab.* Phys. Fit†	Eng. Lab.	Engineering Laboratory		
TUE. ..	Eng. IV	Eng. VII	Fuel and Metal- lurgy	Elect.	D r a w i n g (1) Eng. Lab. (2, 3)	
WED. ..	Elec. Ia	Eng. Lab.	Eng. VIIb	Engineering Laboratory		
THU. ..	Eng. IV	Eng. VII	Eng. Lab.	Engineering Laboratory		
FRI. ..	Elec. Ia	Drawing* Phys. Fit†	Drawing	Drawing	Drawing	Drawing
SAT. ..	Exer. Class					

## 6. Ordinary Degree

THIRD YEAR COURSE FOR CIVIL ENGINEERING

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	Eng. Lab.* Phys. Fit†	Eng. Lab.	Engineering Laboratory		
TUE. ..	Eng. IV	Eng. VII	Fuel and Metal- lurgy.	Elect.	D r a w i n g (1) Eng. Lab. (2, 3)	
WED. ..	Elec. Ia	Phys. Fit† Engineer	ing Lab.	Engineering Laboratory		
THU. ..	Eng. IV	Eng. VII		Drawing	Drawing	Drawing
FRI. ..	Elec. Ia	Cement Lab.* Phys. Fit†		Cement Laboratory		
SAT. ..	Exer. Class	Eng. IV				

\* First and Third Terms

† Second Term.

**7. Honours Degrees****SECOND YEAR COURSE FOR MECHANICAL ENGINEERING**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Drawing	Drawing	Drawing
TUE. ..	Engineering Laboratory			Engineering Laboratory		
WED. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Drawing	Drawing	Drawing
THU. ..	Engineering Laboratory			Engineering Laboratory		
FRI. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Drawing	Drawing	Drawing
SAT. ..	Mach. Design	Eng. VI Ex. Class				

**8. Honours Degrees****SECOND YEAR COURSE FOR CIVIL ENGINEERING**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Geol. F <sub>1</sub>	Drawing	Drawing
TUE. ..	Engineering Laboratory			Engineering Lab.		Eng. III
WED. ..	Math. F <sub>3</sub>	Drawing (2) Eng. VI (1, 3)	Math. F <sub>2</sub>	*Geol. F <sub>1</sub>	Geol. Lab.	Geol. Lab.
THU. .. †	Drawing Geology		Drawing Field	Drawing Work		Eng. III
FRI. ..	Math. F <sub>3</sub>	Eng. VI (1, 3) Drawing (2)	Math. F <sub>2</sub>	Geol. F <sub>1</sub>	Drawing	Drawing
SAT. ..	Mach. Design	Eng. VI Ex. Class	Eng. III			

\* This time may be altered to suit the convenience of students. † Alternate weeks.

Students are advised to take the Practical Surveying Class at Easter, and the special course of Geology for Civil Engineers on Mondays at 5 p.m. during the second and third terms.

### 9. Honours Degrees

#### THIRD YEAR COURSE FOR MECHANICAL ENGINEERING

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	Eng. Lab.* Phys. Fr†	Eng. Lab.	Engineering Laboratory		
TUE. ..	Eng. IV Parts I, II	Eng. VII	Fuel and Metal- lurgy.	Drawing (1) Elec. Eng. Lab. (2, 3)		
WED. ..	Elec. Ia	Phys. Fr†	Eng. VIIb	Engineering Laboratory		
THU. ..	Eng. IV Parts I, II	Eng. VII	Eng. Lab.	Engineering Laboratory		
FRI. ..	Elec. Ia	Drawing* Phys. Fr†	Drawing	Drawing		
SAT. ..	Exer. Class					

### 10. Honours Degrees

#### THIRD YEAR COURSE FOR CIVIL ENGINEERING

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Eng. Lab.	Eng. Lab.* Phys. Fr†	Eng. Lab.	Engineering Laboratory		
TUE. ..	Eng. IV	Eng. VII	Drawing	Drawing	Drawing	Drawing
WED. ..	Engineering Laboratory			Engineering Laboratory		
THU. ..	Eng. IV	Eng. VII		Drawing	Drawing	Drawing
FRI. ..	Eng. Lab.	CementLab* Phys. Fr†	Cement Laboratory			
SAT. ..	Exer. Class.	Eng. IV				

\* First and Third Terms.

† Second Term.

**11. Courses for Students not taking Degrees****FIRST YEAR COURSE (Civil, Electrical, Mechanical).**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. I	Engineering	Laboratory	Eng. I		
TUE. ..	Mechs.	Drawing	Eng. I. Exercise Class	Drawing	Drawing	Drawing
WED. ..	Math. I	Engineering Lab.	Engineering Lab.	Eng. I		
THU. ..	Mechs.	Mechs. and Maths. Ex. Class	Engineering Laboratory			
FRI. ..	Math. I	Drawing	Drawing	Drawing	Drawing	Eng. I
SAT. ..	Drawing.	Machine Drawing Lecture.				

**12. Courses for Students not taking Degrees****SECOND YEAR COURSE (Civil).**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. II	Eng. VI	Eng. VI. Ex. Class	Geol. Fr	Phys. Int.	Drawing
TUE. ..	Engineering Laboratory			Engrg. Laby.		Eng. III
WED. ..	Math. II	Drawing (2) Eng. VI (1, 3)	Drawing	*Geol. Fr	Drawing	Drawing
THU. † {	Drawing	Geology	Drawing	Field Work		Eng. III
FRI. ..	Math. II	Eng. VI (1, 3) Drawing (2)	Drawing	Geol. Fr.	Phys. Int.	Drawing
SAT. ..	Mach. Design.	Drawing	Eng. III			

\* This time may be altered to suit the convenience of students.

† Alternate weeks.

Students are advised to take the Practical Surveying Class at Easter, and the special course of Geology for Civil Engineers on Mondays at 5 p.m. during the second and third terms.

**13. Courses for Students not taking Degrees**

## THIRD YEAR COURSE (Civil).

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	Engineering Lab.	Engineering Laboratory			
TUE. ..	Eng. IV	Eng. VII	Fuel and Metallurgy.	*Drawing †Elec. Eng. Lab.		
WED. ..	Elec. Ia	Engineering Lab.	Engineering Laboratory			
THU. ..	Eng. IV	Eng. VII	Drawing	Drawing	Drawing	Drawing
FRI. ..	Elec. Ia	Drawing		Cement Laboratory		
SAT. ..	Exer. Class	Eng. IV				

**14. Courses for Students not taking Degrees**

## SECOND YEAR COURSE (Mechanical)

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. II	Eng. VI	Eng. VI. Exercise Class	Drawing	Phys. Int.	Drawing
TUE. ..	Engineering Laboratory			Engineering Laboratory		
WED. ..	Math. II	Eng. VI	Drawing	Drawing	Drawing	Drawing
THU. ..	Engineering Laboratory			Physics	Laboratory	
FRI. ..	Math. II	Eng. VI	Drawing	Drawing	Phys. Int.	Drawing
SAT. ..	Mach. Design.	Drawing				

\* First Term.

† Two Terms.

**15. Courses for Students not taking Degrees****THIRD YEAR COURSE (Mechanical)**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	Cement L *Phys. Ft	laboratory Eng. Lab.	Engineering Laboratory		
TUE. ..	Eng. IV	Eng. VII	Fuel and Metal- lurgy.	Drawing (1) Elec. Eng. Lab. (2, 3)		
WED. ..	Elec. Ia	Eng. Lab.	Eng. VII B	Engineering Laboratory		
THU. ..	Eng. IV	Eng. VII	Engineering Laboratory			
FRI. ..	Elec. Ia	Drawing *Phys. Ft	Drawing	Drawing	Drawing	Drawing
SAT. ..	Exer. Class					

\* Second Term only.

**FIRST, SECOND, AND THIRD YEAR COURSES (Electrical)**

See Time Tables on pages 311 and 312.

**16. Two-Year Course****FIRST YEAR COURSE (Mechanica)**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4
MON. ..	Math. II	Eng. VI	Eng. VI Exercise Class	Eng. Laboratory		Eng. I
TUE. ..	Mechs.	Drawing	Eng. I Exercise Class	Drawing	Drawing	Drawing
WED. ..	Math. II	Eng. VI	Engineering Lab.			Eng. I
THU. ..	Mechs.		Mechs. & Exercise Maths.	Engineering Laboratory		
FRI. ..	Math. II	Eng. VI	Drawing	Drawing	Drawing	Eng. I
SAT. ..	Mach. Design	Drawing				

**17. Two-Year Course****FIRST YEAR COURSE (Civil)**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. II	Eng. VI	Eng. VI Exercise Class	Eng. Laboratory		Eng. I
TUE. ..	Mechs.	Drawing	Eng. I Exercise Class	Drawing	Drawing	Eng. III
WED. ..	Math. II	Drawing (2) Eng. VI (1, 3)	Engineering Laboratory			Eng. I
THU. ..	Mechs.		Mechs. Exercise Class	Engineering Lab.		Eng. III
FRI. ..	Math. II	Eng. VI (1, 3) Drawing (2)	Drawing	Drawing	Drawing	Eng. I
SAT. ..	Mach. Design	Drawing	Eng. III			

**18. Two-Year Course****SECOND YEAR COURSE (Mechanical)**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	*Eng. VI	Drawing	Drawing	Phys. Int.	Drawing
TUE. ..	Eng. IV Parts I, II	Eng. VII	Fuel and Metallurgy	(1) Engineering Lab (2, 3) Elect Eng.		Laboratory Lab.
WED. ..	Elec. Ia	*Eng. VI	Eng. VI Ex. Class	Drawing	Drawing	Drawing
THU. ..	Eng. IV Parts I, II	Eng. VII	Eng. Lab.	Engineering Laboratory		
FRI. ..	Elec. Ia	*Eng. VI	Drawing	Drawing	Phys. Int.	Drawing
SAT. ..	Eng. VII Exercise Class	Eng. VII				

\* Portion of course to suit individual students.

## 19. Two-Year Course

## SECOND YEAR COURSE (Civil)

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Ia	*Eng. VI	Drawing	Engineering	Laboratory	
TUE. ..	Eng. IV	Eng. VII	Fuel and Metal-lurgy	(1) Drawing (2, 3) Electrical Eng.	Eng. Lab.	
WED. ..	Elec. Ia.	Drawing (2) Eng. VI (1, 3)	Engineering	Laboratory		
THU. ..	Eng. IV	Eng. VII	Engineering	Laboratory		
FRI. ..	Elec. a	Eng. VI (1, 3) Drawing (2)	Drawing	Cement	Laboratory	
SAT. ..	Eng. VII Exercise Class	Eng. IV				

\* Portion of course to suit individual students.

## SYLLABUS OF COURSES

## I. First Year Course

Mondays, Wednesdays and Fridays, at 4 p.m.

Exercise class at 11.30 on Tuesdays, or at 10.30 on Fridays.

*Part I.* Strength of Materials; Rivetted Joints; Beams; Graphical constructions.

*Part II.* Steam boilers; Steam and the Steam Engine; Gas and petroleum engines; Transmission of power; Hydraulics.

*Books Recommended*

GOODMAN'S Mechanics Applied to Engineering. (Longmans, 9s. net).

RIPPER'S Heat Engines. (Longmans, 3s.)

HILLER'S Notes on Land Boilers, also Working of Steam Boilers. (1/- each. National Boiler Insurance Co., Manchester.)

KERSHAW'S Elementary Internal Combustion Engines. (Longmans, 2s. 6d.)

## **II. General Engineering**

This course is intended to give students who are going into branches of industry other than that of Engineering an intelligent idea of engines and machinery, &c., without entering into minute details.

### **Course A**

(For Students of Leather Industries, Tinctorial Chemistry and Dyeing, Fuel Engineering, Textile Industries.)

Mondays, Wednesdays, and Fridays at 9.30 a.m.

Materials ; Fuels ; Boilers ; Joints ; Steam Engines ; Gas and Oil Engines ; Hydraulics ; Prime Movers, other than Heat Engines ; Transmission of power ; Various kinds of machines ; Air compressors.

### **Course B\***

(For Agricultural Students)

Mondays, Wednesdays, and Thursdays, at 2 p.m., during the second term only.

Mechanics ; Air ; Water ; Heat ; Steam Engines ; Gas and Petroleum Engines ; Electrical Generators, Motors, and Conductors.

#### *Books Recommended*

Elementary Applied Mechanics, by MORLEY & INCHLEY.  
(Longmans, 3/-).

Natural Sources of Power, by BALL. (Constable, 6/-).

Heat Engines, by RIPPER. (Longmans, 3/-).

### **Course C**

(For Mining Students)

Mondays—First and Third Terms, at 4 p.m.

Calculation of areas.

Tensile, compressive and shear tests.

Safe loads for materials under various loading.

Leverage. Moment of a force.

Bending moment.

Strengths of steel joists and wooden beams.

Triangle of forces.

Work and power.

Heat ; Combustion ; Calorific value.

Generation of steam.

Lancashire and other boilers.

Horse-power.

#### **Laboratory and Exercise Class**

Mondays, throughout the Session, 5.30 to 7 p.m.

Instruction will be given in the Engineering Laboratory in : The triangle and parallelogram of forces. Experimental determination of the forces acting on simple structures. Levers. Efficiency of machines. Testing bars, pit props, chains, wire ropes. Indicating a steam engine and pump. Boiler and fan testing.

### **III. Second Year Civil Engineering**

Tuesdays and Thursdays, at 4 p.m., and Saturdays, at 11.30 a.m.

*Part I.* General arrangements of a Survey ; Chain Surveying ; Needle Surveys ; Plain Table ; Angular Instruments ; Levelling.

*Part II.* Geodetic Astronomy ; Optical Instruments for the Measurement of Distances ; Hydrographic Surveying ; Geodetic Surveying.

*Part III.* Railways and other Lines of Communication.

#### *Books Recommended*

Surveying and Levelling, by JAS. PARK. (Griffin, 6/-).

Topographical Surveying, by CLOSE. (Wyman, 3/6).

MIDDLETON & CHADWICK'S Surveying. (Spon, 2 vols., 8/6 each).

GILLESPIE'S Surveying.

NOTE : Students are recommended to read chapters 1 to 5 of Ball's Elementary Astronomy (Longmans), or the early chapters of Lockyer's Elementary Lessons in Astronomy (Macmillan), as a preparation for the geodetic astronomy.

#### **IV. Third Year Civil Engineering**

Tuesdays and Thursdays, at 9.30 a.m., and Saturdays, at 10.30 a.m.

*Part I.* Girder Bridges.

*Part II.* Framed Structures for Bridges ; Roofs.

*Part III.* Limes and Cements ; Theory of Masonry Structures.

*Part IV.* Water Supply, Sanitary Engineering and Harbour Work.

##### *Books Recommended*

WARREN'S Engineering Construction in Iron, Steel, and Timber (Longmans, 16s.)

Retaining Walls in Theory and Practise, by COLEMAN. (Spon, 5/-).  
L. V. HARCOURT'S Civil Engineering (Longmans).

#### **V. Practical Surveying**

Instruction is given in Surveying and field work during the Easter vacation. The class is held in Wharfedale, where accommodation is provided at farmhouses.

#### **VI. Second Year Mechanical Engineering**

##### **Engineering Lecture Theatre**

Mondays, Wednesdays, and Fridays, at 10.30 a.m., with an exercise class one hour a week on Mondays at 11.30 a.m.

Graphical Constructions ; Strength of Materials ; Air ; Steam and the Steam Engine ; Steam Boilers ; Gas and Petroleum Engines ; Transmission of Power ; Hydraulics.

Civil Engineering students take a course of lectures and drawing in the design of plate girders instead of the theory of heat engines.

*Books Recommended*

- GOODMAN'S *Mechanics Applied to Engineering* (Longmans, 9s. net.)  
 RIPPER'S *Steam Engine Theory and Practice* (Longmans, 9s.)  
 EWING'S *Steam Engine* (Cambridge University Press, 15s.)  
 CLERK & BURLS' *The Gas, Oil and Petrol Engine*. (Longmans,  
 Vol. I, 12s. 6d., Vol. II, 25s.)  
 GARRATT'S *Principles of Mechanism* (Arnold's Science Series, 3s. 6d.)  
 HOBBS' *Thermo-dynamic Principles of Engine Design* (Griffin,  
 4s. 6d. net).

**VII. Third Year Mechanical Engineering****Course A**

(For Civil and Mechanical Engineers)

Tuesdays and Thursdays, at 10.30 a.m., with an exercise class on Saturdays, at 9.30 a.m.

Hydraulics; Compressed Air; Strength of Materials; Kinematics of Machines.

**Course B**

(For Electrical and Mechanical Engineers)

Saturdays, at 10.30 a.m., with an exercise class on Saturdays at 9.30 a.m.

Dynamics of the Steam Engine; Transmission of Power; Steam Turbines.

*Books Recommended.*

- GOODMAN'S *Mechanics Applied to Engineering* (Longmans, 9s. net.)  
 UNWIN'S *Transmission of Power* (Longmans, 10s.)  
 COTTEILL'S *Applied Mechanics* (Macmillan, 12s. 6d.)  
 CLERK & BURLS' *The Gas, Oil and Petrol Engine*. (Longmans.)  
 RIPPER'S *Steam Engine Theory and Practice* (Longmans, 9s.)  
 EWING'S *Cantor Lectures on the Mechanical Production of Cold*, 1s.  
 DURLEY'S *Kinematics of Machines* (J. Wiley & Sons, and  
 Chapman & Hall, 12s. 6d.).  
 GIBSON'S *Hydraulics and its Applications* (Constable, 16s. net.)  
 MORLEY'S *Strength of Materials* (Longmans, 7s. 6d.)  
 MORROW'S *Steam Turbine Design* (Arnold, 16s.)

## VIII. Engineering Drawing

(Mechanical)

The Drawing Department is open every day during working hours. A Draughtsman is always in attendance.

The work consists of tracing, copying and enlarging or diminishing machine drawings, making working drawings from freehand sketches and measurements of the machinery in the engineering laboratory; designing machinery and gearing engine, details, working out valve motion diagrams.

(Civil)

Graphical determination of stresses in roofs, bridges, and other structures; plotting surveys from field book notes. Detailed design of structure.

Instruction is also given in copying drawings and tracings by sun printing.

### VIIIa. Machine Design

Saturdays, at 9.30 a.m.

The design of pipe flanges, valves, valve boxes, stuffing boxes, couplings, knuckle and cottered joints, bearings, hangers, teeth of wheels. Engine details, cylinder connecting rod, bed plate, &c.

The working out of the above designs will be done in the Drawing Department.

#### *Books Recommended*

UNWIN'S Elements of Machine Design, 2 Vols. (Longmans, 10s. 6d.)

LOW & BEVIS, Manual of Machine Drawing and Design (Longmans, 7s. 6d.)

SPOONER'S Machine Design, Construction and Drawing. (Longmans, 10s. 6d. net.)

### VIIIb. Machine Drawing and Graphics

Saturdays, at 10.30 a.m.

Principles of projection; Geometrical analysis of mathematical operations, Archimedean and logarithmic spirals, loci, link, parallel and straight line motions, cams.

Interpenetrations of prismoidal, pyramidal, spherical, and polyhedral bodies, development of surfaces, isometric projection.

## IX. Engineering Laboratory

The work done in this department consists chiefly of making experiments and testing operations; it in no way whatever pretends to supersede the practical training that every Engineer must undergo in Engineering works. It should be clearly understood that no instruction is given in the use of either hand or machine tools; such work can only be properly done in Engineering works.

The experimental work consists of systematic instruction in the strength and properties of the chief materials used in Engineering construction. The work, as far as possible, is done on a large and practical scale to illustrate and verify the instruction given in the lectures.

Every student will be held responsible for the apparatus with which he is working, and will be required to make good any damage. A deposit of 10s. 6d. will be required, from which 1s. will be deducted for stationery, also fines (if any) for breach of regulations. If the machinery is required for private use by the student after ordinary working hours, a further charge will be made. The balance will be returned in the event of no damage being done to apparatus, but the student's liability is not limited to the above amount.

### Mathematics I.—First Year Course for Engineers

Mondays, Wednesdays and Fridays at 9.30 a.m.

Logarithms and the slide rule; Conversion of units; The mensuration of the chief curves and solids met with in practice; Elements of Spherical Geometry; Algebra; Trigonometry; Graphics.

#### *Books recommended*

- DUNCAN'S Practical Curve Tracing. (Longmans, 5/-, net.)
- HALL & KNIGHT'S Elementary Algebra. (Macmillan, 4/6.)
- LOCK'S Trigonometry for Beginners. (Macmillan, 2/6.)
- SAXELBY'S A Course in Practical Mathematics. (Longmans, 6/6.)
- LONGMANS' School Mensuration. (Longmans 2/6, net.)

**Mathematics II.—Second Year Course for  
Engineers**

Mondays, Wednesdays and Fridays at 9.30 a.m.

Graphical methods ; Differential and Integral Calculus

**Mechanics**

Tuesdays and Thursdays at 9.30 a.m., and an exercise class on Thursdays at 11.30 a.m.

Statics ; Dynamics.

*Text Book Recommended*

MORLEY'S Mechanics for Engineers (Longmans, 4s. net).

**Special Course of Electrical Engineering for  
Mechanical, Civil and Mining  
Engineering Students**

Electrical Engineering Lecture Theatre  
**Lectures Ia**

Mondays, Wednesdays, Fridays at 9.30 a.m.

This will consist of a Course of Lectures on :—

Fundamental Principles of Electrical Engineering ;

Electrical Measuring Technics ;

Electrical Machinery and Apparatus, and their application to Mechanical, Civil, and Mining Engineering.

**Laboratory Ia**

Tuesdays from 2 to 5 p.m., second and third terms.

Is specially arranged for the requirements of Mechanical, Civil, and Mining Engineering.

The work comprises :—

Calibration and Testing of all Commercial Instruments and Meters, Photometry, Practical Testing of Direct and Alternating Current Generators, Motors, Transformers, and Rotary Converters.

## ELECTRICAL ENGINEERING

MR. FRENCH

The complete course of instruction in Electrical Engineering is specially designed to meet the requirements of, and to provide a systematic training for, students purposing to become electrical engineers, and to enable them to acquire a sound knowledge of the scientific basis of the profession. It comprises (a) Lectures, (b) Exercises, (c) Electrical Design and Drawing, (d) Practical Work in the Laboratories, together with similar and specially arranged work in Mechanical Engineering, Mathematics, &c.

Each student will be generally practised as far as possible in the manipulation, uses, and working of electrical apparatus, appliances, and machinery which he will meet with on entering the commercial side of his profession. The fact, however, that *a sound knowledge and actual practice in certain branches of mechanical engineering are of paramount importance to an electrical engineer*, must on no account be lost sight of, especially for those purposing to become Central Station Engineers. It is highly desirable that, when possible, *students should have some practical experience in Engineering Works before taking up the University course*. However practical a course of instruction at a University may be, it cannot provide the kind of practical experience obtainable in a works or central station.

The Electrical Engineering Dept. is in a separate building, consisting of a large Lecture Theatre, Drawing Office, Elementary Laboratory, Dynamo and Meter, Transformer, Instrument, Standardising and Photometer Rooms, Battery Room and Workshop.

THE ELECTRICAL ENGINEERING LABORATORIES are fitted with all the necessary Standards, Instruments, Electrical Apparatus and Machinery, to give a sound training in Scientific and Practical Commercial Testing and for conducting Research Work.

Every Student will be held responsible for the apparatus with which he is working, and will be required to make good any damage. A deposit of 10s. 6d. will be required, from which fines (if any) for breach of regulations and cost

of repairs to damaged apparatus will be deducted. The balance will be returned in the event of there being no fines and no damage done to University apparatus, but the student's liability is not limited to the above amount.

### Choice of Courses

Students in this Department can enter for one of the following Courses of Study:

(a) Students who have passed, or obtained exemption from, the Matriculation examination are recommended to present themselves for the University B.Sc. degree.

(b) Those who have not passed the Matriculation examination are recommended to present themselves for the University Diploma, and also, if possible, the examinations of the Institutions of Electrical and Civil Engineers.

### Entrance Examination

Students entering this department who have not matriculated must satisfy the entrance requirements prescribed on page 283. They will not be admitted, except under very special circumstances, after the beginning of the session.

### Degree of B.Sc. in Electrical Engineering

The degree course covers three years and can only be entered upon after the matriculation examination (held every July and September) has been passed or exemption therefrom gained. Students are strongly recommended to take this course.

### Regular Diploma and Non-Degree Courses

Students who are unable to enter for the preceding degree courses may take up a regular DIPLOMA COURSE in ELECTRICAL ENGINEERING extending over THREE YEARS, but a modification of this course to TWO YEARS may in *special cases* be sanctioned for students who are able to produce satisfactory proof that they have a *sufficient knowledge of the whole of the first year's work* to commence at the beginning of the second year, and to follow the course of instruction therefrom in which case they may have exemption from attendance on the first year course. Application for exemption must in such cases be made to the Head of the Department

at the commencement of the student's course. It cannot be too strongly pointed out to intending students that an Electrical Engineering course of less than three years' duration is very unsatisfactory to the University and much more so to the student himself, as it is quite impossible to get in the amount of work which is necessary in order that the student may be sufficiently benefited thereby afterwards.

A Candidate for the Diploma of Electrical Engineering is required :—

*I. During the Course—*

- (a) To attend satisfactorily classes in all the subjects mentioned below, together with courses in Physics and Mathematics. Account of the work done in all these subjects will be taken in awarding the Diploma.

- (b) To pass the terminal examinations at a standard not lower than a second class, on at least two occasions in any one session, in the following subjects :—

Electrical Engineering	...	II, III and IV.
Engineering	...	VI and VIIb.

- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of £1.

*II. At the end of the Course—*

- (a) To pass in the papers in Electrical Engineering taken as a Principal subject at the Final examination of the Ordinary degree of B.Sc. Sample drawings done by the candidate, together with his laboratory books, will be inspected by the External Examiner.
- (b) To translate into English a passage of French or German technical literature relating to Electrical Engineering.

- (c) To present himself for an English Essay on some subject relative to his course of study.

A foreign student who can show that he has received a good general education will be exempted from the language test and the essay.

*III.* A Diploma may be granted upon the degree course provided that the subjects studied for the degree include those prescribed for the Diploma. In such case, the fee for the Diploma is 10s.

A student producing evidence of adequate previous scientific or practical training may, upon application to the Senate be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

The instruction during the first year of the complete course is the same for Civil, Mechanical, and Electrical Engineering students.

In the second year the student specialises more in his particular department, and in the third year he devotes most of his time to this department, attending three courses of lectures on advanced Electrical Engineering.

If a student fails more than once to satisfy the requirements of his class examinations in any subject, he will be required to repeat the course in which he fails before proceeding to the higher course, and if he fails to pass in any of his examinations in Engineering I and Electrical Engineering I he will not be allowed to re-enter except on the special recommendation of the Head of the Department.

### **Special or Partial Courses**

In the event of any person being unable to afford the time for either the complete or modified courses as above, he may be allowed to attend portions of the regular course if he furnishes proof that he possesses sufficient knowledge to follow the instruction. He must personally see the Head of the Department, and it will be to his advantage to select, if possible, his laboratory work in accordance with the Time Tables for Degree students.

A course of instruction extending throughout the Session will be given to Mining students in Electrical Engineering. The course will consist of lectures and in *testing* and *using* many of the Electrical appliances met with in Mining work, &c. Text books recommended: *Electricity as applied to Mining*, by Lupton, Parr & Perkin (Crosby Lockwood, 12s. net), Parr's *Electrical Engineering in Theory and Practice* (Macmillan & Co., 12s. net).

Classes are held for working electrical engineering problems, the electrical design of direct current dynamos and motors, alternating current generators, motors, transformers and high tension condensers. Students will be furnished with opportunities for constructing and repairing electrical apparatus in the Electrical Engineering Workshop.

During the Session courses of lectures and laboratory instruction will be given on:—(I) Electro-technology; (II and III) Advanced electrical engineering; (IV) Electrical design.

### Fees

The composition fee for all courses, including Library and Union fees, is £3 11s. per session of three terms, but this does not include Examination fees or Laboratory deposit (10/6).

### TIME TABLES

#### 20. Ordinary and Honours Degrees

#### FIRST OR INTERMEDIATE YEAR COURSE FOR ELECTRICAL ENGINEERING

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Eng. Laboratory		Chem. Int.	Math. Int.	Physics Int.	Eng. I
TUE.	Drawing	Drawing	Math. Fr	Chemical Laboratory		
WED.	Eng. Laboratory		Chem. Int.	Engineering Lab.		Eng. I
THU.	Drawing	Drawing	Math. Fr	Physics Laboratory		
FRI.	Chem. Exercise Class	Eng. I Exercise Class	Chem. Int.	Math. Int.	Physics Int.	Eng. I
SAT.	Drawing	Machine Drawing Lecture				

**21. Ordinary Degrees**

SECOND YEAR COURSE FOR ELECTRICAL ENGINEERING,  
with Mechanical Engineering as the subsidiary subject.

	9.30 to 10.30	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Drawing	Eng. VI	Math. F2	Elec. I	Drawing	Drawing
TUE. ..	Engineering Laboratory			Engineering Laboratory		
WED. ..	Drawing	Eng. VI	Math. F2	Drawing	Drawing	Drawing
THU. ..	Elec. Eng.	Engineering Lab.		Elec. Eng. Lab.		Elec. I
FRI. ..	Drawing	Eng. VI	Math. F2	Elec. I	Drawing	Drawing
SAT. ..	Mach. Design.	Ex. Class	Eng. VI			

It may be advisable for students who have not done well in Maths. F1 in their first year to repeat a part of the course during the third term of their second year.

**22. Ordinary Degrees**

THIRD YEAR COURSE FOR ELECTRICAL ENGINEERING

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. . .	Elec. Design	†Phys. F1. †E. E. Ex. Class	Elec. II	Elec. Design and Drawing		
TUE. . .	Electrical ing	*Eng. VIIA Engineer- Lab.	Elec. II	Electrical	Engineering	Lab.
WED. . .	Mech. Eng	Lab.	Eng. VIIB	Mech. Eng.	Lab.	Elec. IV
THU. . .	Elec. De sign and Drawing	*Eng. VIIA	Elec. III	Electrical Engineering Lab.		
FRI. . .	Elec. Eng. Lab.	†Phys. F1 †E. E. Ex. Class	Elec. IV	Electrical	Engineering	Lab.
SAT. . .	Eng. Excs.					

\* Optional.

† Second Term only.

‡ First and Third Terms only.

**23. Honours Degrees****SECOND YEAR COURSE FOR ELECTRICAL  
ENGINEERING**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Elec. I	Drawing	Drawing
TUE. ..	Mech.	Eng. Lab.		Mech.	Eng. Lab.	
WED. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Drawing	Drawing	Drawing
THU. ..	Elec.	Eng. Lab.		Elect. Eng.	Eng. Lab.	Elec. I
FRI. ..	Math. F <sub>3</sub>	Eng. VI	Math. F <sub>2</sub>	Elec. I	Drawing	Drawing
SAT. ..	Machine Design	Eng. VI Exer. Class				

**24. Honours Degrees****THIRD YEAR COURSE FOR ELECTRICAL  
ENGINEERING**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Design	†Phys. F <sub>1</sub> †E.E. Ex. Class	Elec. II	Elec. Design and		Drawing
TUE. ..	Elec. Eng.	Eng. Lab. *Eng. VIIA	Elec. II	Elec. Eng.		Lab.
WED. ..	Mech. Eng.	†Phys. F <sub>1</sub> Eng. Lab.	Eng. VIIB	Mech. Eng. Lab.		Elec. IV
THU. ..	Elec. Design and Drawing	*Eng. VIIA †Phys. F <sub>1</sub>	Elec. III	Electrical	Engineering Lab.	
FRI. ..	Elec. Eng. Lab.	†E.E. Ex. Class	Elec. IV	Electrical	Engineering Lab.	
SAT. ..	Eng. Excs.					

\* Optional.

† Second Term only.

‡ First and Third Terms only.

DIPLOMA

**25. Courses for Students not taking Degrees**

FIRST YEAR COURSE (Civil, Electrical, Mechanical)

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. I	Engineering		Laboratory		Eng. I
TUE. ..	Mechs.	Drawing	Eng. I Exercise Class	Drawing	Drawing	Drawing
WED. ..	Math. I	Engineering Lab.		Engineering Lab.		Eng. I
THU. ..	Mechs.	Drawing	Mechs. and Maths. Ex. Class	Engineering Laboratory		
FRI. ..	Math. I	Drawing	Drawing	Drawing	Drawing	Eng. I
SAT. ..	Drawing	Machine Drawing Lecture				

DIPLOMA

**26. Courses for Students not taking Degrees**

SECOND YEAR COURSE (Electrical)

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Math. II	Eng. VI	Eng. VI Ex. Class	Elec. I	Phys. Int.	Drawing
TUE. ..	Mech.	Eng. Lab.		Mech.	Eng. Lab.	
WED. ..	Math. II	Eng. VI	Drawing	Drawing	Drawing	Drawing
THU. ..	Elec.	Eng. Lab.		Elect. Eng. Lab.		Elec. I
FRI. ..	Math. II	Eng. VI	Drawing	Elec. I	Phys. Int.	Drawing
SAT. ..	Machine Design	Eng. Exer. Class				

## DIPLOMA

**27. Courses for Students not taking Degrees**

## THIRD YEAR COURSE (Electrical)

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Elec. Design	*Phys. F1 †E.E. Ex. Class	Elec. II	Elec. Design and		Drawing
TUE.	Elec. Eng.	‡Eng. VIIA Laby.	Elec. II	Elec.	Eng.	Laby.
WED.	Mech. Eng. Lab.		Eng VIIB	Mech. Eng. Lab.		Elec. IV
THU.	Elec. Design and Drawing	‡Eng. VIIA	Elec. III	Elec. Engineering		Laboratory.
FRI.	Elec. Eng. Lab.	*Phys. F1 †E.E. Ex. Class	Elec. IV	Elec. Engineering		Laboratory.
SAT.	Eng. Excs.					

\*Second Term only.

†First and Third Terms only.

‡Optional.

**28. Special Two Years' Course**

## FIRST YEAR

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Math. II	Engineering Lab.		Elec. I.	Phys. Int.	Eng. I.
TUE.	Mechs.	Drawing	Eng. I. (Exercise Class).	Drawing	Drawing	Drawing
WED.	Math. II	Engineering Lab.		Eng. Lab.	Eng. Lab.	Eng. I.
THU.	Mechs.	Elec. Eng. Lab.		Elec. Eng. Lab.		Elec. I.
FRI.	Math. II	Drawing	Drawing	Elec. I.	Phys. Int.	Eng. I.
SAT.	Exercise Class	Drawing	Drawing			

## 29. Special Two Years' Course

### SECOND YEAR

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Elec. Design and Draw.	Eng. VI.	Elec. II	Elec. Design and		Drawing
TUE. ..	Elec. Engineering Laboratory	*Eng. VIIA	Elec. II	Elec. Eng.		Laby.
WED. ..	Mech. Lab.	Eng. VI.	Eng. VIIA	Mech. Eng. Lab.		Elec. IV
THU. ..	Elec. Design and Drawing	*Eng. VIIA	Elec. III	Elec. Engineering Laboratory		
FRI. ..	Elec. Eng. Lab.	Eng. VI.	Elec. IV.	Elec. Engineering Laboratory		
SAT. ..	Machine Drawing	Eng. VI Ex. Class				

\* Optional.

### SYLLABUS OF COURSES

(First Year Lecture Course, see page 18)

#### I. Second Year Lecture Course

Mondays and Fridays, from 2 to 3 p.m., and Thursdays from 4 to 5 p.m. throughout the Session.

Second year students attend a course of lectures on Electro-Technology. The subjects treated will embrace:—

Fundamental Principles of Electricity and Magnetism; Theory of Alternating Currents; Electrical Measuring Technics; Electric Lighting Technics; Primary and Secondary Cells; Theory of Direct and Alternating Current Machinery and Apparatus; Theory of Electric Power Transmission and Distribution.

#### *Books recommended*

PARR'S Electrical Engineering Measuring Instruments (Blackie & Sons, 9s. net).

PARR'S Electrical Engineering in Theory and Practice (Macmillan & Co., 12s. net).

MACLEAN'S Electricity (Blackie & Co., 15s. net).

## **Second Year Laboratory**

The work will include:—

Testing of Magnetic Property of Materials ; Self and Mutual Induction ; Resistance, Insulation and Conductivity Tests ; Measurement of Capacity of Condensers ; Calibration of Measuring Instruments and Meters ; Efficiency and Output of Secondary Cells ; and Simple Tests on Electrical Machines.

Each second year student will be required to provide himself with a copy of Parr's Practical Electrical Testing (Longmans, Green, and Co., 8s. 6d.).

### **1a. Lecture and Laboratory Course for Civil, Mechanical and Mining Engineers**

This course is specially arranged and chosen so as to give Civil, Mechanical and Mining Engineering students a clear knowledge of Electrical Engineering more particularly in its relation to their own work.

For syllabus of subjects and work dealt with see page 25.

LECTURES.—Mondays, Wednesdays, and Fridays, 9.30 to 10.30 a.m.

LABORATORY.—<sup>1</sup>Tuesdays, 2 to 5 p.m.

## **II. and III. Third Year Lecture Courses**

Mondays, Tuesdays and Thursdays, from 11.30 a.m. to 12.30 p.m., throughout the session.

Course II will deal with alternating current work, and Course III with continuous current work.

The subjects treated will embrace:—

Generation, Transmission, and Distribution of Electrical Power ; Light and Heavy Electric Traction.

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<sup>1</sup> 2nd and 3rd Terms only.

#### **IV. Third Year Lecture Course**

Lectures on Fridays at 11.30 a.m., and Wednesdays at 4 p.m. and Designing and Drawing on Mondays 9.30 a.m. to 10.30 a.m. and 2 to 5 p.m., and Thursdays 9.30 a.m. to 11.30 a.m.

This course on Electrical Design consists of lectures on the general principles underlying electrical design, and also the complete mechanical and electrical design of direct and alternating current generators and motors, and transformers.

Students will themselves design and draw from new data the machines and appliances enumerated in the course.

#### **Third Year Laboratory**

The work is of a more advanced and technical character than that of the second year, and will comprise:—

Investigation of the characteristics, efficiency, heating, and regulation of direct current and alternating current, generators, motors, transformers, and rotary converters; and in the third term, if time permits, experimental work of special interest will be undertaken.

Each third year student will be required to provide himself with a copy of Parr's Advanced Electrical Engineering Testing (Chapman and Hall, 9s. net).

## MINING

Assisted by the Drapers' Company of the City of London, and  
by the West Yorkshire Coal Owners' Association, and the  
West Riding County Council

Professor HUMMEL

The University, which is situated in the heart of a mining district possessing some of the deepest and best equipped of modern English collieries, enjoys the cordial support of the owners and managers of mines, who give the Department every facility for instructing its students. As the University is, moreover, provided with excellent Physical, Chemical, Metallurgical and Engineering (Mechanical and Electrical) laboratories, it has every facility for giving its students both a theoretical and practical training in the art of Mining.

There are five distinct courses of study arranged in this department to meet the requirements of different classes of students, viz :

- I. A three years' course leading to the degree of B.Sc. in Mining.
- II. A three years' course qualifying for the Diploma in Mining Engineering.
- III. A four years' course in Coal Mining for miners and sub-officials.
- IV. Courses in Science applied to Mining, Machine Drawing, etc., for Teachers.
- V. The course on Mine Surveying.

Students entering for the degree course are required to have passed (or obtained exemption from) the Matriculation examination conducted by the Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham. Those entering for Course II. must have passed either the

Matriculation examination or some other approved examination (including Mathematics), or they will be required to pass a special entrance examination in each subject.

### **Colliery Managers' Certificates of Competency under the Coal Mines Act, 1911**

Graduation as B.Sc. in Mining Engineering, or the possession of the Diploma in Mining Engineering of the University of Leeds, has been recognised by the Secretary of State for the Home Office as equivalent to two years' experience at a mine for the purposes of the Colliery Managers' Certificate under the Coal Mines Act, 1911.

The University of Leeds is an institution approved by the Secretary of State in respect of its Degree of B.Sc. in Mining Engineering and Diploma in Mining Engineering.

### **Surveyors' Certificates under the Coal Mines Act, 1911**

The University of Leeds is one of the Institutions approved by the Secretary of State for the purpose of granting Surveyors' Certificates under the Coal Mines Order of the 27th February, 1912.

Each Candidate for the above Certificate will be required:—

1. To attend an approved course at the University and to pass an examination to test his competency in accordance with the Regulations of Clause I (ii) of the Coal Mines Order of 27th February, 1912.
2. To produce a sample of mine surveying and underground levelling work, certified by the Manager or Head Surveyor of the mine to have been carried out by the candidate himself not more than twelve months before the date of the examination.

3. To furnish certificates from the Manager or Head Surveyor of the mine or mines at which he has been employed, showing that he has had at least two years' practical experience in the surveying of mines. This practical experience need not have been in a mine or mines to which the Act applies.
4. To submit satisfactory evidence of sobriety and general good conduct as required by the Order.

The following courses at the University have been approved to enable candidates to comply with Clause I of the above conditions :—

1. Ordinary B.Sc. Degree Course in General Mining.
2. Diploma Course in Mining Engineering.
3. Four Years' Coal Mining Course.

The course in Mine Surveying may be approved on application to the Senate.

The examination will consist of a written and a practical and oral part, to be held on one day.

The examination will be held as a rule in November. The written paper will be in the morning and the practical and oral examination will be held in the afternoon of the same day.

The fee for the examination is £1.

Candidates for the above Certificates should make application to the Clerk to the Senate, and furnish him with evidence that they have satisfied the necessary conditions at least one month before the date of the examination.

### **I. Ordinary B.Sc. Degree Course in General Mining (Three Years' Course)**

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. degree.

This course of instruction is arranged for students who desire to qualify themselves as Mining Engineers, Surveyors, or Assayers, and also for those who intend, in the future, to take charge of mining and prospecting operations in the colonies or foreign countries. During the first year the student applies himself entirely to general science and Engineering, preparing for the Intermediate examination. In the second year he continues his work in general science and Engineering, adding Electrical Engineering and the introductory lectures on Coal Mining. In the third year the student spends the greater part of his time in special Mining work taking also a course of study in Geology, including field work. Students are required to devote the vacations to obtaining practical experience in mines, and they should call upon the Head of the Department, immediately before the Christmas vacation of their first year at the University, to obtain advice regarding the necessary arrangements.

Part of the Final Examination for the Ordinary Degree of B.Sc. in Mining Engineering will consist in the writing of a short thesis by each candidate on some mining process, method, appliance, machinery or problem, studied in actual practice by the student during his practical experience in vacations. The choice of subject for the thesis rests with the candidate but must be approved by the Head of the Department.

In addition to the subjects specified in the time tables, students are advised to study a modern language.

Students who are unable to afford time for the complete course may be admitted to the Mining, Surveying, and Assaying courses on furnishing proof that they possess sufficient knowledge to follow the instruction given.

Students reading for the degree are required to attend the courses specified in the following Syllabus. The time tables given are arranged to include these subjects, but in the second year the student may make slight modifications according as he wishes to give additional time to Engineering, Electrical Engineering, or general science.

First and second, as well as third year students, should attend, whenever possible, the excursions to mines and works, specially announced during the session.

## Syllabus

## First Year

	Hours per week.
Mathematics, Intermediate ...	2
Physics, Intermediate ...	3
Chemistry, General Course ...	3
Engineering I. ...	4
Physical Laboratory... ..	3
Chemical Laboratory ...	5
Engineering Drawing and Laboratory... ..	9

## Second Year

	Hours per week.
Mathematics, Final ...	2
Electrical Engineering Ia.	3
Electrical Engineering Ia. Laboratory, 2nd and 3rd Terms ... ..	3
Engineering VI. ... ..	3
Coal Mining ... ..	1
Engineering Laboratory ...	7
Engineering Drawing ...	6
Mining Lab. and Drawing	3

## Third Year

	Hours per week.
Mining ... ..	3
Ore Dressing, &c. (for two terms) ...	1
Mine Surveying ... ..	2
Mathematics F2 ... ..	3
Geology F1 ... ..	3
Geology Laboratory ... ..	6
Geology Field Course (Easter, Excursions, &c.)	—
Mining Laboratory ... ..	15
Mining Machinery Design ... ..	
Practical Mine Surveying and Office Work	
Ore Dressing Laboratory ... ..	
Fuel and Metallurgy... ..	1

## First Year Time Table

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Eng. Laboratory		Chem. Int.	Math. Int.	Phys. Int.	Eng. I.
TUE. ..	Chemical Laboratory			Chemical	Lab.	Physics Tutorial
WED. ..	Eng. Laboratory		Chem. Int.			
THU. ..	Drawing	Drawing	Drawing	Physics Laboratory		
FRI. ..		Eng. Ex. Class	Chem. Int.	Math. Int.	Phys. Int.	Eng. I.
SAT. ..	Drawing	Mac. Draw Lecture.	Eng. I.			

Second Year Time Table

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Elec. Eng. Ia.	Eng. VI.				Drawing
TUE.	Engineering Lab. or Drawing	Math. Fr.	Elec. 2nd	Engineering Lab. and 3rd Terms.		
WED.	Elec. Eng. Ia.	Eng. VI.	Drawing.	Mining Lab. and	Drawing.	
THU.	Engineering Lab.	Math. Fr.	Engineering Laboratory.			
FRI.	Elec. Eng. Ia.	Eng. VI.	Drawing.	Coal Mining.		Drawing.
SAT.	Machine Design.	Ex. Class				

Third Year Time Table

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Mine Surveying	Mining	Math. F2	Geol. F1	Geol.	Laby.
TUE.	Mining Lab.	Fuel and Metall'rgy	Mining Machinery Design.			
WED.	Mine Surveying	Mining	Maths. F2	Mine Surveying Office.		
THU.	{ Mining Laboratory and { Practical Mine Surveying, Ore Dressing Laboratory.					
FRI.	Ore Dressing	Mining.	Math. F2	Geol. F1	Geol.	Laby.
SAT.	Geological Field or Mining Lab. and	Course Drawing.				

## Honours B.Sc. Degree

Honours in Mining Engineering will be awarded to candidates who, having obtained the Ordinary degree, with Mining Engineering as a principal subject, and being recommended as suitable to proceed with an Honours course, shall

have spent one or two years in research or in the preparation of a thesis, attendance at the University during this period not being compulsory. All Candidates for Honours shall be required to pass in Mathematics at the standard of a principal subject of the Final examination for the Ordinary degree, and to have attended such Mathematical courses as are prescribed for candidates who take the subject of Mathematics as a subsidiary subject for the Final examination for the Ordinary degree. Candidates for Honours in Mining must also fulfil the other conditions mentioned in the Ordinances and Regulations referring to the B.Sc. with Honours.

## II. Diploma Course in Mining Engineering\* (Three Years' Course)

This course is arranged for those who intend to devote their attention to Coal Mining at home, and who, at the same time, desire to obtain a liberal training in the scientific principles underlying their profession, but for some reason are unable to take the B.Sc. Degree Course.

First and second, as well as third year students, should attend, whenever possible, the excursions to mines and works, specially announced during the session.

A candidate for the Diploma in Mining Engineering is required :—

### *I. During the Course—*

- (a) To attend satisfactorily the classes in the following subjects :—

First Year : Mathematics I, Physics Int., Chemistry Int., and Engineering I.

Second Year : Mathematics II, Electrical Engineering IA, parts of Engineering VI and VII, Mining and Mine Surveying.

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\*The possession of the Leeds University Diploma in Mining Engineering has been recognised by the Secretary of State for the Home Office as equivalent to two years' experience at a mine for the purposes of the Colliery Manager's Certificate.

Third Year: Mining Engineering, Preparation of Minerals (Ore Dressing, Coal Washing and Carbonisation of Coal), Mine Surveying and Geology.

- (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who at a terminal examination fails to reach a satisfactory standard in any subject in the first or second year course may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and, if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
- (c) To obtain four months' experience at a mine during the vacations, unless the candidate shall show to the satisfaction of the Head of the Department that he has had previous experience at mines before entering on the course.
- (d) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of £1.

## *II. At the end of the Course—*

- (a) To reach a satisfactory standard in any Final examination which may be set. In the subject of Mining Engineering, a Diploma student takes for his Final examination the same Final Principal Mining Engineering papers as are set for the Ordinary degree of B.Sc.
- (b) To translate into English a passage of French or German relating to the principal subject of the Diploma Course. A foreign student who can show that he has received a good general education will be exempted from this language test.

*III.* A Diploma may be granted upon the degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is ten shillings.

A student producing evidence of adequate previous scientific or practical training may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

### **III. Four Years' Coal Mining Course**

(See pp. 454-457).

### **IV. Courses on Elementary Science Applied to Mining; Machine Drawing, etc.**

Courses in Science applied to Mining, (Laboratory Work); Hand-sketching and Machine Drawing (Courses I, II and III); or Experimental Mechanics, will be held at times to be arranged.

These courses are intended for those who are preparing to conduct local mining classes. Throughout the courses in Elementary Science and Mechanics two objects will be kept in view, viz., to show how to devise and arrange simple experiments to illustrate the work in hand, and to give those attending the courses a wider outlook as to the practical applications of science in mining work.

The subjects discussed in 1919-20 will include:—

Hand-sketching and Machine Drawing, Courses I, II and III.

### **V. Course on Mine Surveying**

See lecture course on Mine Surveying, page 326, Office Work and Field and Underground Work in Surveying, pages 326 and 327. If a sufficient number of applications are received from persons desiring to attend the course on Mine Surveying, it may be arranged to occupy one day per week.

**LECTURE COURSES****Coal Mining F<sub>1</sub>**

(Second Year, Degree Course I, Diploma Course II)

Professor HUMMEL

Fridays, at 2 p.m.

These lectures are intended to co-ordinate the information which students have acquired during the previous vacation and to show them what to observe in the next summer's work preparatory to the lectures of the following session.

With this object in view the general principles of mining and the methods of extraction of minerals will be outlined, while to relieve the lectures of the following session, those mining operations which find their best exemplification in coal mining will be discussed in detail.

**Mining Engineering F<sub>2</sub>**

(Third Year, Degree Course I, Diploma Course II)

Professor HUMMEL

Mondays, Wednesdays, and Fridays, at 10.30 a.m.

This course will consist of about 90 lectures. The object of these lectures will be to explain to students the methods, operations and appliances commonly employed in mining, with illustrations from actual practice in various districts and countries and to indicate the principles which should influence the selection of methods and the introduction of such variations in them as local circumstances may demand.

**Preparation of Minerals and Coal F<sub>3</sub>**

(Third Year, Degree Course I, Diploma Course II)

Professor HUMMEL

A course of one lecture a week will be given during the first and second terms, on Fridays at 9.30 a.m

**Mine Surveying F<sub>4</sub>**

(Third Year, Degree Course I, Diploma Course II)

Professor HUMMEL

During the session a course of two lectures a week will be given on Mondays and Wednesdays at 9.30 a.m.

**PRACTICAL WORK**

Through the kindness of the local Coal Owners and Colliery Managers, arrangements have been made for the instruction of students at mines in the neighbourhood, not only in underground surveying and in the connection of underground and surface surveys, but also in general Mining work.

**Laboratory Work**

The work in the Laboratories will include the following :—

1. The analysis and testing of fuels and refractory materials.
2. The assaying of ores and metallurgical products.
3. Experimental work in ore dressing and coal washing under different conditions.
4. Efficiency tests of crushing and dressing machinery, fans, pumps, winding engines, haulage systems, &c.
5. The testing of safety lamps under different conditions.
6. The analysis of mine atmospheres, the detection of mine gases by practical tests, &c.

**Office Work**

The work in the Drawing Office will include the following :—

1. Calculations and practical exercises connected with work and problems in mine surveying.
2. The preparation and reproduction of mine plans and sections.

3. The drawing and design of mining machinery and plants and mine structures.

The Office Work will be based upon the lectures on Mining Engineering and Mine Surveying given during the session.

Every student will be held responsible for the instruments, apparatus or machinery with which he is working, and will be required to make good any damage caused by him. A deposit of 10s. 6d. will be required from which the cost of stationery supplied will be deducted. The balance will be returned in the event of no damage being done to instruments, apparatus or machinery, but the student's liability is not limited to the amount of the deposit.

In the case of occasional students and of students taking additional or extra work in the Laboratory or in Surveying, the Fees will depend on the time spent on such work, as set out on the tinted inset of this Prospectus.

### **Field and Underground Work in Surveying**

During the session, at times to be arranged, instruction will be given in Field Work and Underground Surveying. Students will be required to go through a systematic course of work in the following :—

1. The use of surveying instruments.
2. Determination of the constants of instruments.
3. Errors of instruments ; their elimination and adjustment.
4. Methods of securing the degree of accuracy necessary in particular kinds of work.
5. Adjustment of observations.
6. Astronomical observations for azimuth.
7. The survey of the surface of a mineral property including reconnaissance, triangulation, traversing, levelling, tacheometry, and detail work.

8. The survey of the underground excavations of a mineral property, including traversing and detail work.
9. The connection of surface and underground surveys.
10. Curve-ranging and setting-out work in general.

At the end of the course, students will be required to produce evidence of having carried out surveying work on the surface and underground at a mine. Arrangements will be made whereby such work may be carried out on the surface and underground at a neighbouring mine during the vacations. Incidental expenses for the carriage, storing, loan or insurance of instruments may be liquidated by a charge on each student not exceeding 10s. Any balance remaining after settling accounts will be returned to students.

**COAL GAS AND FUEL INDUSTRIES**

WITH

**METALLURGY**

Professor COBB

Mr. HODSMAN

Mr. HOULDSWORTH

Mr. WOOD

Dr. PARKER

Mr. KERR

Mr. TOWNEND

**Courses of Study**

The courses of study in this Department have been drawn up to meet the requirements of students who are preparing for responsible positions in the Fuel and Metallurgical industries.

The courses in Gas Engineering and the Technology of Fuel will deal chiefly with the manufacture and distribution of coal gas, by-product coking processes, the production and application of gaseous fuels for heating and power purposes and the properties and uses of fuels in general.

The metallurgical courses will deal with general methods for the treatment of ores, the extraction of metals, the construction and control of furnaces, with the production of cast iron, wrought iron and steel, and with the microstructure, physical properties, and heat treatment of steel and other industrial alloys.

A course in the manufacture, properties and uses of Refractory Materials is given to all students in the department.

**B.Sc. Course**

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. degree course, either in Gas Engineering or in Fuel and Metallurgy. Before commencing the degree course, however, students must pass or obtain exemption from the Matriculation examination, conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool,

Leeds, Sheffield and Birmingham. (See the Syllabus of the Joint Matriculation Board obtainable from the Secretary, 315, Oxford Road, Manchester.)

During the first year of the degree course the student will attend classes in Mathematics, Physics, Chemistry, Fuel and Metallurgy, and Applied Mechanics, the first three being the subjects for the Intermediate examination which is taken at the end of the first year. After passing this examination, the student will, during his second year, continue the study of Chemistry, and will also take courses in Engineering and Mechanical Drawing, the Properties of Gases, and Fuel and Metallurgy, supplemented by work in the Fuel and Metallurgical laboratories. During the third year the student will mainly devote his attention to his special subject (*i.e.*, Gas Engineering, or Fuel and Metallurgy), but may also spend 6 hours per week in the Mechanical Drawing office (Engineering Department). In the second and third year the student will attend the special courses on industrial practice which are arranged from time to time. The three years course will thus include systematic training in Mathematics, Physics, Chemistry, General Engineering and Mechanical Drawing in addition to the study of the special branch of Applied Science (Gas Engineering or Fuel and Metallurgy). At the end of the course, the student will qualify for the B.Sc. degree by passing the prescribed Final examination in either Gas Engineering or Fuel and Metallurgy, as *principal* subject, together with Chemistry and Engineering as *subsidiary* subjects.

### I. Ordinary B.Sc. Degree Course in (i) Gas Engineering and (ii) Fuel and Metallurgy

All students will take the same Intermediate course in their first year after matriculation, as follows:—

	Hours per week		
Mathematics, Intermediate	...	...	2
Physics, Intermediate	...	...	2
Chemistry, Intermediate	...	...	3
Engineering—First Year	...	...	4
Physical Laboratory	...	...	4
Chemical Laboratory	...	...	10½
Engineering Drawing	...	...	5
Fuel and Metallurgy (Introductory)	...	...	1

First Year Time Table\*

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	12.30 to 1.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Engrg. Drawing		Chem. Int.	—	Math. Int.	Phys. Int.	Engrg. I.
TUE. ..	Chemical Lab.		Fuel and Met. I.	—	Chemical Laboratory		
WED. ..	Chemical Lab.		Chem. Int.	—	—	—	Engrg. I. (1st term)
THU. ..	Chemical		Laboratory		Physical Laboratory		
FRI. ..	Physical Lab.	Engrg. I. Ex. Class.	Chem. Int.	—	Math. Int.	Phys. Int.	Engrg. I.
SAT. ..	Engrg. Drawing.	Machine Drawing Lect.	Engrg. Drawing.	—	—	—	—

\* Subject to alteration.

The courses during the second and third years will be somewhat differentiated, according to the respective needs of gas engineers and metallurgists, as follows :—

### Second Year Course

*All students* must take the following:—

	Hours per week
Chemistry F2 ... ..	3
Engineering VI. and Exercise Class ...	4
Properties of Gases... ..	1
Technology of Fuel II. (1st and 2nd terms)	1
Chemical Laboratory, or ... ..	13
Fuel and Metallurgical Laboratory }	
Engineering Drawing and Laboratory ...	9½

*Metallurgical students* will also attend in addition to the above :—

	Hours per week.
Metallurgy IX (General and Non-Ferrous) 1 (1st and 2nd terms).	
Metallurgy XA (Blast Furnace Practice)... 1 (2nd and 3rd ,, ).	
Metallurgy XIA (Alloys. Introductory)... 1 (3rd term).	

Second Year Time Table\*

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	12.30 to 1.	2 to 3.	3 to 4.	4 to 5.
MON. ..	—	Engrg. VI	Chemical or	Fuel Laboratory			
TUES. ..	Chem. F <sub>2</sub>	{ Fuel II Alloys XI.A	—	—	Engineering	Drawing	
WED. ..	—	Engrg. VI	Metallgy (IX)	—	Engineering	Laboratory	
THU. ..	Chem. F <sub>2</sub>	Properties of Gases. Chem. or	—	—	Engineering	Drawing	
FRI. ..	—	Engrg. VI	Fuel Laboratory				
SAT. ..	Chem. F <sub>2</sub>	Engrg. Ex. Class.	Chem. or Fuel Laboratory	—	—	—	

\* The times for Metallurgy X A (Blast Furnace Practice) in the second and third terms will be fixed later, and are not included in this Table.

This Time Table is subject to alteration.

### Third Year Course

*All students* must attend :—

	Hours per week.
Technology of Fuel, III ... ..	I
Mechanical Drawing or Engineering Laboratory ...	6
Fuel and Metallurgical Laboratory ... ..	22 to 24
Fuel and Metallurgical Colloquium ... ..	I

*Gas Engineering Students* will also attend :—

Gas Heating and Lighting, VIII (3rd term) ...	I
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*Metallurgical students* will also attend :—

Metallurgy X B (Steel), Lectures (1st and 2nd terms) ...	I
Metallurgy XI B (Alloys) ,, (2nd term) ...	I

*Special Lecture Courses to be taken during the second or third years.*

In addition to the above lectures, students must also attend, during either the second or third year, the special

lectures given in the department by outside lecturers in the following or similar subjects :—\*

METALLURGICAL STUDENTS	GAS ENGINEERING STUDENTS
By-Product Coking Processes	By-Product Coking Processes
Refractory Materials	Manufacture of Coal Gas
	Distribution and Uses of Coal Gas
	Refractory Materials

## II. Honours B.Sc. Course

Honours in Gas Engineering or Fuel and Metallurgy will be awarded to candidates who, having obtained the Ordinary degree, with either Gas Engineering or Fuel and Metallurgy as a principal subject, and being recommended as suitable to proceed with an Honours course, shall have spent one year in research or advanced study, or in the preparation of a thesis on some industrial process, to the satisfaction of the examiners, attendance at the University during this fourth year not being compulsory.

## III. Ph.D. Course

The Degree of Ph.D. will be awarded to graduates of this and other approved Universities who complete a course of advanced study and research extending over two years in the Department, and also satisfy the other conditions laid down on pages 160-161.

## IV. Diplomas and Degree Courses for Post-Graduate Students

(a) A Diploma in either (i) Gas Engineering or (ii) Fuel and Metallurgy will be awarded to graduates of this or some approved University who, having graduated with Chemistry, Engineering, or Metallurgy as a principal subject, shall have attended for at least one year an approved course of lectures and laboratory work, and have passed an examination thereon. Students taking this special Diploma course must put in a full attendance at the University for at least one year.

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\* This list is subject to variation, either by substitution or addition, according to the arrangements for special lecture courses which may be in vogue during any particular session or sessions.

Honours in Gas Engineering or Fuel and Metallurgy may also be conferred upon candidates who, having graduated in Science at this or an approved University, with Chemistry or Engineering as a principal subject, shall have subsequently (1) completed the course and passed the examination required for the diploma in Gas Engineering or Fuel and Metallurgy; and (2) spent an additional year in research in the department, to the satisfaction of the examiners.

### **Diplomas and Diploma Courses**

Diplomas in (1) GAS ENGINEERING :

(2) FUEL AND METALLURGY :

A candidate for either of the above Diplomas is required:—

#### *I. During the Course—*

- (a) To attend satisfactorily the classes in the subjects prescribed for the Diploma course.
- (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who fails to reach a satisfactory standard in any subject in a terminal examination may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and, if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of £1.

#### *II. At the end of the Course—*

- (a) To reach a satisfactory standard in any final examination which may be set.

- (b) To translate into English a passage of French or German technical literature. A foreign student who can show that he has received a good general education will be exempted from this language test.

III. A Diploma may be granted upon a degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is 10s.

A student producing evidence of adequate previous scientific or practical training, may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

The University Diploma in Gas Engineering or Fuel and Metallurgy, will be granted to candidates who have taken one of the courses following, to the satisfaction of the Head of the Department. These courses are arranged for Gas Engineers and Metallurgists who, while wishing to secure a certificate of successful study, cannot for any reason take the B.Sc. degree :—

- (a) a three years' course, the same as for the B.Sc. degree.
  - (b) a two years' course for students exceptionally prepared in general science.
  - (c) a two years' course for students exceptionally prepared in technical subjects.
  - (d) a four years' course to be arranged for students serving an apprenticeship or its equivalent in Gas Engineering or Metallurgy. This course might occupy three days per week or equivalent time for the first year, and at least two and a half days per week or its equivalent in the three succeeding years. A works' report in this case might be submitted for consideration in applying for the Diploma.
- (a), (b), (c) and (d) would lead up to the same Diploma.

There will be a final examination for the diploma which will be the same as that in the principal subjects of the final examination for the degree of B.Sc. in Gas Engineering or Fuel and Metallurgy. The Fee for this examination is £1.

## SYLLABUS OF LECTURE COURSES

### I. Fuel and Metallurgy—Introductory

Professor COBB

Tuesdays at 11.30 a.m.

*This Course is specially intended for Engineering Students and others who wish to acquire a general knowledge of fuel and metallurgy; it will also form part of the first year's course for students taking the B.Sc. Degree in either (i.) Gas Engineering or (ii.) Fuel and Metallurgy. An elementary knowledge of chemistry is essential in taking this course.*

Fuels, their classification and distribution; general chemical and thermal aspects of combustion; fuel calorimetry; pyrometry; radiometry; analysis of combustion products; heat balances.

General description of fuels: natural gas; petrol; petroleum; shale oil; peat; coal; British coal-fields and fuel resources; analysis and valuation of coals for industrial purposes; distillation and gasification of coal; coke; coal gas; producer gas; water gas.

The elements of metallurgy, principally that of iron and steel.

### II. Technology of Fuel

Professor COBB and Mr. HODSMAN

Tuesdays at 10.30 a.m. (First and second terms).

The subjects of course I. (without Metallurgy) will be treated in greater detail in these lectures.

**IIa. The Physical and Chemical Properties of Gases**

Mr. HODSMAN

Thursdays at 10.30 a.m.

Kinetic theory ; fundamental gas laws ; critical state ; liquefaction of gases ; vapour tension ; solubility of gases ; viscosity, diffusion, and transpiration of gases ; refractivity of gases ; specific heats of gases.

Conditions of chemical change in gases ; reaction velocity ; chemical equilibrium in gaseous systems.

Combustion of gaseous mixtures ; explosions ; influence of moisture and surfaces on chemical change.

Thermal decomposition of hydrocarbons.

**III. Technology of Fuel—Special Course**

(Carbonisation of Coal. Gaseous Fuels.)

Professor COBB

One hour per week in the first and second terms.

Carbonisation of coal. Influence of temperature and atmosphere upon character and yields of products. General review of principles underlying carbonisation processes and of operations involved in the manufacture of coal-gas, coke, coal tar, ammonia and other by-products.

Principles underlying the gasification of coal and coke ; action of air and of steam upon incandescent carbon at different temperatures.

Gas producer design and practice. Selection of fuels. Qualities of gas required for furnace work and for power purposes. Typical gas producers. The cooling and washing of gas for power purposes. Ammonia recovery Systems. Efficiencies of gas producers.

The manufacture and uses of water-gas.

The following three Courses (IV to VI inclusive) will be given by specially appointed outside lecturers

**IV. The Manufacture of Coal Gas**

Dr. HAROLD G. COLMAN

A special Course of 20 Lectures (Wednesdays at 6 and 8 p.m.) during the *second* term (January to March), to be delivered in *alternate* sessions, namely 1919-20, 1921-22, etc.

**V. The Distribution and Uses of Coal Gas**

A special Course of 20 Lectures (Wednesdays at 6 and 8 p.m.) during the *second* term (January to March), to be delivered in *alternate* sessions, namely 1920-21, 1922-23, etc., by specially appointed lecturers.

**VI. By-Product Coking Processes**

A special Course of 8 Lectures on Tuesdays, at 6 p.m. during the *second* term in *alternate* sessions, namely 1920-21, 1922-23, etc., by specially appointed lecturers.

**VII. Refractory Materials**

Professor COBB

A special course of 8 Lectures on Tuesdays, at 6 p.m. during the *second* term in *alternate* sessions, namely 1919-20, 1921-22, etc.

**VIII. Gas Heating and Lighting\***

Professor COBB and Mr. HODSMAN

Tuesdays at times to be arranged, during the third term.

**IX. Metallurgy—General and Non-Ferrous**

*A. General.*

Professor COBB

Wednesdays at 11-30 a.m., during first and second terms.

The course is intended both as a general introduction to the study of metallurgy and to cover the principal processes for the extraction of non-ferrous metals.

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\* The title and scope of this course is subject to variation, according to departmental requirements.

Metallic ores, their classification and valuation ; refractory materials used in furnace construction ; general furnace design ; fuels and fluxes ; typical metallurgical products, including slags.

Mr. HODSMAN

*B. Non-Ferrous.*

Outline of typical metallurgical operations selected from the following:—Roasting of ores ; blast furnace smelting for lead and copper mattes ; reverberatory smelting for copper and lead.

Bessemerising of copper mattes ; desilverisation of lead including cupellation processes ; Mond process for nickel extraction ; the electric furnace ; electrolytic refining of copper ; zinc and tin smelting, &c.

**X. Metallurgy—Iron and Steel**

Professor COBB

*A. Blast Furnace Smelting of Iron Ores*

One hour per week during the 2nd and 3rd terms.

*This course must be taken by all Fuel and Metallurgical Students during their second year.*

Character and distribution of the principal ores of iron ; the economic condition of the iron and steel industries ; factors governing costs of production ; preparation of ores for the blast furnace ; blast furnace construction and practice ; chemistry of the process ; heat balance of the furnace ; utilisation of blast furnace gases and slag ; properties and uses of cast iron.

*B. The Manufacture of Steel.*

One hour per week during the 1st and 2nd terms.

*This course will usually be taken by Fuel and Metallurgical students during their third year.*

The course will include, principally, the refining and puddling of cast iron, the manufacture of steel by the Bessemer and open hearth processes, and the after treatment of iron and steel.

### XI. Metallography and Alloys

There will be special lectures and classes during the *third term* in each session, upon the constitution, heat treatment and microstructure of industrial alloys, as follows:—

*A. Introductory* (six lectures). Tuesdays at 9.30 a.m. Professor Cobb. Intended for metallurgical students, and dealing with the nature and methods of investigation of industrial alloys.

*B. Advanced.* Mr. HODSMAN.

This will take the form of special lectures, demonstrations, &c., in which the constitution, microstructure and heat treatment of industrial alloys will be explained. Students will be expected to supplement the class instruction by a considerable amount of private study and laboratory practice.

#### Fuel and Metallurgical Colloquium

There will be a weekly colloquium held in the department on Thursdays, at 4 p.m., for the discussion of questions relating to the technology of gases, fuel and metallurgy, and for the review of the current literature of those subjects.

### Fuel and Metallurgical Laboratory

The Laboratories will be open during the session from 9.30 a.m. to 1 p.m. and from 2 to 5 p.m. except on Saturday afternoons.

A fully equipped workshop, with a mechanic in charge, is provided. The laboratory equipment will provide for instruction and research in the following subjects:

- (a) Examination of solid and liquid fuels.
- (b) Analysis of gases.
- (c) Preparation, compression and liquefaction of gases.  
Use of high pressure gas.
- (d) Chemical and physical examination of refractory materials.
- (e) Examination of raw materials and by-products of the manufacture of coal gas, coke and producer gas.

- (f) Pyrometry: thermoelectric, resistance, radiation and optical.
- (g) Calorimetry, photometry, radiometry, and the testing of gas heating and lighting appliances.
- (h) Analysis of ores, slags, mattes, alloys, and other metallurgical products.
- (i) Microstructure, heat and mechanical treatment of steel and other industrial alloys.

Special courses for outside students in any of the above subjects can be provided by arrangement with the Professor, and every facility will be afforded to properly qualified persons who may wish to undertake research work in connection with industrial processes.

Students will also be encouraged to make themselves acquainted with the researches which are being carried out in the department, the results of which will, at convenient intervals, be explained.

Each student will be furnished with a separate working table, water and gas, and will be required to provide himself with a regulation set of apparatus, and also, if required, a few of the more costly tests, and any expensive materials which he may need for research purposes. Apparatus of a special or expensive character may be obtained on loan, subject to such conditions as may be prescribed by the Professor.

Students will be charged a fee of £1 per session for the hire of microscopes and special apparatus, and will in addition, be held liable for any damage arising from careless or unauthorised use of them.

#### **Evening Laboratory Work**

The laboratory will also be open on Wednesdays from 6 to 9 p.m. during the second term, and instruction will be given in pyrometry, calorimetry, photometry, gas analysis, general gas works testing, and metallography, to a limited number of students who satisfy the Head of the department of their fitness to enter upon the course.

Fee, 10s. 6d.

## TEXTILE INDUSTRIES

Endowed by the Clothworkers' Company of the  
City of London

Professor BARKER

Mr. PRIESTMAN      Mr. HOLLIS      Dr. SHORTER

Mr. YEWDALE      Mr. LAW      Mr. PICKLES

Miss BENTON      Mr. FARLEY

The Department comprises the following sections :

- (a) Woollen Yarn Spinning.
- (b) Worsted Yarn Spinning (English and Continental systems).
- (c) Designing, Weaving, and Textile Manufacturing.
- (d) Finishing of Textile Fabrics.

Each section possesses a complete plant of machinery designed and constructed for demonstrating the technicalities of the various processes of manufacture.

### Courses of Study

The following are the principal courses of study :

- (A) University Degree of B.Sc., combined with supplementary Textile Studies (Technical).
- (B) University Degree of B.A., or B.Com., combined with supplementary Textile Studies (Commercial).
- (C) University Diploma in Textile Industries.

The Diploma in Textile Industries may also be awarded under Courses of Study (A) and (B) in the case of students who have not matriculated.

- (D) Short Specialized Courses in (1) Woollen Yarn Spinning, (2) Worsted Yarn Spinning, (3) Designing and Weaving, (4) The Finishing of Woven Fabrics, (5) Wool, Yarn and Cloth Testing, and the investigation of Defects in Yarns and Fabrics, (6) Textile Research, (7) Figure Designing and Colouring, including Historic Design.

In the case of those who are likely to succeed to the control of large businesses, Courses A and B are strongly recommended. For the inside manager or the works technologist or designer, Course C is most suitable, while specialized courses under D are suitable for those who cannot spare the time for a more extended course, or who may have taken courses elsewhere.

**A.—TIME TABLE for a suggested course for the Degree of Bachelor of Science when combined with Supplementary Textile Studies**

The following time tables outline the Science Course considered most suitable for Textile students. The Ordinances and Regulations governing the Degree Course and the full list of subjects and options comprised in it, will be found in previous pages.

**FIRST YEAR**

	9.30 to 10.30	10.30 to 11.30	11.30 to 12.30	2 to 3	3 to 4	4 to 5
MON.	Chemistry Lab.	Chemistry Lab.	Chemistry Lecture.	Mathematics.	Physics Lecture.	Physics Tutorial.
TUE.	Textile Calculations I.	Cloth Structure I.	Colour Study I.	Loom Lecture I.	Experimental Weaving. (Hand or Power).	
WED.	Chemistry Lab.	Chemistry Lab.	Chemistry Lecture.	*French.	*French.	Tutorial Work.
THU.	Cloth Analysis I.	Cloth Analysis I.	Cloth Structure I. or Cloth Analysis I.	Woollen Spinning.		Woollen Spinning Lecture I.
FRI.	Chemistry Lab.	Chemistry Lab.	Chemistry Lecture.	Mathematics.	Physics Lecture.	Physics Tutorial.
SAT.	Physics Laboratory.					

\* Or Spanish, Russian, or German.

**SECOND YEAR**

	9.30 to 10.30	10.30 to 11.30	11.30 to 12.30	2 to 3.	3 to 4.	4 to 5.
MON.	Chemistry Lecture Fr.	Physics Lecture.	*Mathematics.	Chemical Laboratory.		
TUE.	Chemical Laboratory.			Woollen Spinning.		Woollen Spinning Lecture II.
WED.	Chemistry Lecture Fr.	Chemistry Tutorial.	*Mathematics.	†French.	†French.	Loom Lecture II.
THU.	Textile Calculations II.	Cloth Structure II.	Colour Study II.	Chemical Laboratory.		
FRI.	Chemistry Lecture Fr.	Physics Lecture.	*Mathematics.	Chemical Laboratory.		
SAT.	Physics Laboratory.					

\* May be taken in 3rd Year.

† Or Spanish Russian or German

## THIRD YEAR

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Experimental Cloth Finishing.		*Mathematics.	Worsted Spinning.		Worsted Spinning Lecture I.
TUE.	Chemistry Lecture F2.	Tutorial Work.	Chemistry Lecture F3.	Chemical Laboratory.		
WED.	Chemical Laboratory.			Experimental Weaving		
THU.	Chemistry Lecture F2.	Tutorial Work.	Chemistry Lecture F3.	Chemical Laboratory.		
FRI.	Cloth Finishing Lecture.	Cloth Analysis II.	*Mathematics.	Chemical Laboratory.		
SAT.	Chemistry Lecture F2.	Tutorial Work.	Chemistry Lecture F3.			

\* May be taken 2nd Year.

## FOURTH YEAR

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
*MON.	Engineering IIA.	Textile Testing Laboratory (Lecture).		Electrical Engineering I.	Machine Study and Testing.	
TUE.	Dyeing I. and II.	Experimental Work.		Dyeing Laboratory (Term I.) IA Electrical Engineering Laboratory (Terms II. and III.)		
WED.	Engineering IIA.	Textile Testing Laboratory.		Dyeing Laboratory.		
THU.	Dyeing I. and II.	Experimental Work.		Dyeing Laboratory.		Electrical Engineering I.
*FRI.	Engineering IIA.	Special Study of Complex Textiles (Lecture).		Electrical Engineering	Worsted Spinning.	Worsted Spinning Lecture II.
SAT.	Tutorial Work.					

\*Mondays and Fridays at 5 p.m. Lectures on Oils, Fats, Waxes, &amp;c., 2nd Term

**B.—TIME TABLE for a suggested course for the Degree of Bachelor of Arts when combined with Supplementary Textile Studies**

The following time tables outline the Arts Course considered most suitable for Textile students. The Ordinances and Regulations governing the Degree Course and the full list of subjects and options comprised in it, will be found in previous pages.

**FIRST YEAR**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Latin.	Political Economy.	*Chemistry Lecture.	Mathematics.	German.	French.
TUE.	Chemical Laboratory.			Loom Lecture I.	French (Int. 3).	Experimental Weaving.
WED.	Latin.	Experimental Weaving.	*Chemistry Lecture.		Political Economy.	French.
THU.	Latin.	German.	Experimental Weaving.	Woollen Spinning.		Woollen Spinning Lecture I.
FRI.	Latin.	Tutorial Work.	*Chemistry Lecture.	Mathematics.	German.	French.
SAT.	Tutorial Work.	Tutorial Work. or Physics Laboratory.	Tutorial Work.			

\*Physics may be substituted for Chemistry.

**SECOND YEAR**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	German F.	Economics.	Mathematics.	Worsted Spinning (or Special Subjects).		Worsted Spinning Lecture I.
TUE.	Textile Calculations I.	Cloth Structure I.	Colour Study I.	Woollen Spinning or Accountancy.		Woollen Spinning Lecture II.
WED.	German F.	Tutorial Work.	Mathematics.	Cloth Analysis I.		Loom Lecture II.
THU.	Textile Calculations II.	Cloth Analysis I.	Colour Study II.	Experimental Weaving (or special Subjects).		
FRI.	German F.	Economics.	Mathematics.	Worsted Spinning.		Special Subjects.
SAT.	Tutorial Work.					

## THIRD YEAR\*

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Cloth Finishing.		Tutorial Work.	French Fr.	Economics.	Tutorial Work.
TUE.	Dyeing I. and II.	Experimental Weaving and Finishing.		French Fr.	French F2.	Tutorial Work.
WED.	Special Studies.			Cloth Analysis II.	Experimental Weaving and Finishing.	
THU.	Dyeing I. and II.	Cloth Structure II.	Tutorial Work.	Dyeing Laboratory.		
FRI.	Cloth Finishing Lecture.	Cloth Analysis II.		French Fr.	Economics.	Worsted Spinning Lecture II.
SAT.	Tutorial Work.					

\*Commercial Law may also be taken with this Course.

## TIME TABLE for the Course of Study for Diploma in Textile Industries.

(Students must specialise upon Art, Chemistry or Engineering).

## FIRST YEAR

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Chemical Laboratory or Mathematics I.	Tutorial Work.	Chemistry Lecture (Int.)	*German.	Physics Lecture.	Physics.
TUE.	Textile Calculations I.	Cloth Structure I.	Colour Study I.	Loom Lecture I.	Experimental Weaving.	
WED.	Chemical Laboratory or Mathematics I.	Art Work.	Chemistry Lecture (Int.)	Experimental Weaving.		Tutorial Work.
THU.	Cloth Analysis I.		Cloth Structure I. or Cloth Analysis I.	Woollen Spinning.		Woollen Spinning Lecture I.
FRI.	Chemical Laboratory or Mathematics I.	Tutorial Work.	Chemistry Lecture (Int.)	*French.	Physics Lecture.	Physics.
SAT.	Physical Laboratory.					

\*Or Spanish, Russian, or German.

## SECOND YEAR

(Students during this year must work out at least four figured styles under Mr. Farley in the Art Rooms).

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Chemistry Lecture F <sub>1</sub> or Engineering Lecture IIA.	Engineering Lecture VI. or Chemical Laboratory.		Worsted Spinning.		Worsted Spinning Lecture I.
TUE.	Chemical Laboratory or Mathematics III.		Chemistry Lecture F <sub>3</sub> or Mathematics II.	Woollen Spinning or Accountancy.		Woollen Spinning Lecture II. (or German).
WED.	Chemistry Lecture F <sub>1</sub> or Engineering Lecture IIA.	Engineering Lecture VI. or Chemical Laboratory.		Experimental Weaving.		Loom Lecture II.
THU.	Textile Calculations II. or Mathematics II.	Cloth Structure II.	Chemistry Lecture F <sub>3</sub> or Mathematics II.	Chemical or Engineering Laboratory.		
FRI.	Chemistry Lecture F <sub>1</sub> or Engineering Lecture IIA.	Engineering Lecture VI.	Engineering Laboratory IX.	Worsted Spinning.		Tutorial Work. (or German).
SAT.	Engineering Drawing VIII.		Chemistry Lecture F <sub>3</sub> or Mathematics II.			

*Diploma Thesis:* During the second or third year of this course candidates for the Diploma must present an Essay on some approved Textile Research. Such research must have a Mathematical, Physical, Chemical, Mechanical or Art basis.

## THIRD YEAR

(Students during this year must work out at least four figured styles under Mr. Farley in the Art Rooms).

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Experimental Cloth Finishing or Electrical Engineering.		Textile Testing Lecture.	Tutorial Work.	*Machine Study and Testing.	
TUE.	Dyeing I. and II.	*Experimental Weaving and Finishing.		Dyeing Laboratory (Term I.) 1A. Electrical Engineering Laboratory Terms II. and III. or Accountancy.		
WED.	Electrical Engineering	Textile Testing Laboratory.		Dyeing Laboratory.		
THU.	Dyeing I. and II. or Textile Calculations II.	Tutorial Work.	Colour Study II.	Dyeing Laboratory.		Electrical Engineering I.
FRI.	Cloth Finishing Lecture or Electrical Engineering.	Cloth Analysis II.	Cloth Analysis II. or Special Study of Complex Textiles.	Tutorial Work.	Worsted Spinning.	Worsted Spinning Lecture II.
SAT.						

\*Economics may be taken with this Course.

## Lecture Time Table—Terms I and II

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.		Complex Textiles III.	Textile Testing.			Worsted Spinning I.
TUE.	Textile Calculations I.	Cloth Structure I.	Colour Study I.	Loom Study I.		Woollen Spinning II.
WED.		Art Lecture.				Loom Study II.
THU.	Textile Calculations II.	Cloth Analysis I. Cloth Structure II.	Colour Study II. Art Lecture.			Woollen Spinning I.
FRI.	Cloth Finishing.	Cloth Analysis II.	Complex Textiles III.			Worsted Spinning II.
SAT.						

### Special Demonstrations Time Table Terms I, II and III

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Experimental Cloth Finishing.			Worsted Spinning I.	Machine Study and Testing.	
TUE.		Experimental Weaving (Hand or Power).		Woollen Spinning II.	Experimental Weaving.	
WED.		*Textile Testing (Laboratory).		Experimental Weaving.	Experimental Finishing.	
THU.				Woollen Spinning I.		
FRI.				Worsted Spinning II.		
SAT.						

\* Dyeing Department second and third terms.

### Textile Industries

#### Lecture Courses, Experimental and Research Work

##### Woollen Yarn Spinning I

FIRST YEAR: Lectures and practice on Thursdays from  
4 p.m. to 5 p.m.

SUBJECTS.—Materials; Processes; Machinery; Calculations.

##### Woollen Yarn Spinning II.

SECOND YEAR: Lectures and Practice on Tuesdays,  
from 4 to 5 p.m.

SUBJECTS.—Processes; Machinery; Calculations.

##### Worsted Yarn Spinning I

(English and Continental Systems.)

FIRST YEAR: Lectures and Practice on Mondays,  
from 4 to 5 p.m.

SUBJECTS.—Characteristic features of a typical worsted  
thread, variations due to the use of materials different or

mixed in quality and length, features due to special methods of treatment in manufacture; Processes; Machinery; Calculations.

Students taking this course are required to attend the first year course of lectures on Woollen Yarn Manufacture, in which raw materials and the operations up to drying are considered.

#### Worsted Yarn Spinning II

SECOND YEAR: Lectures and Practice on Fridays, from 4 to 5 p.m.

SUBJECTS.—Materials; Processes; Machinery; Calculations.

REFERENCE BOOKS FOR WOOLLEN AND WORSTED SPINNING.

*Wool Carding and Combing* (Cassell & Co., Ltd.)

*Textiles* (Constable & Co.)

*Woollen and Worsted* (G. Bell & Sons).

#### Experimental Work

*Woollen Section.*—Experiments in scouring, mixing, carding, spinning and twisting.

*Worsted.*—Experiments in carding, gilling, combing, drawing, spinning, and doubling.

The building, setting, construction, and manipulation of the different machines.

Senior students will also have practical demonstrations on the output and adaptability of the machines for the production of different types of yarn.

#### Cloth Structure I

FIRST YEAR: Lectures on Tuesdays, from 10.30 to 11.30 a.m.

SUBJECTS.—Materials; Structures.

#### Cloth Structure II

SECOND YEAR: Lectures on Thursdays, from 10.30 to 11.30 a.m.

SUBJECTS.—*Structures*: Complex double cloths and cut double cloths. Reversible double cloths. Treble cloths. Matelasses. Drafting and complex loom mounting.

**Complex Textiles III**

**THIRD YEAR :** A course of study on Mondays, from 10.30 to 11.30 a.m..

**SUBJECTS.**—Cloth Structures ; Loom Monntings.

**TEXT BOOKS**

*Textile Design* (Methuen & Co.)

*Textiles* (Constable & Co.)

**Experimental Work**

The experimental hand and power loom weaving is organized to enable the student to grasp more perfectly the fundamental principles dealt with in the lecture room.

During the third and fourth years students have the opportunity of selecting the raw material, spinning it into yarn, weaving it into cloth, and finally finishing the cloth. By this means a sound, all-round practical knowledge of wool manufacturing is attained.

**Loom Study I**

**FIRST YEAR :** Lectures on Tuesdays, from 2 to 3 p.m. The primary motions in weaving. The treadle and dobby hand looms. The principles of shedding.

The power loom. The various types of tappet looms. The simple dobby loom. Taking-up mechanisms. Picking mechanisms.

**Loom Study II**

**SECOND YEAR :** Lectures on Wednesdays, from 4 to 5 p.m. The various types of dobby looms. Shedding mechanisms. Boxing mechanisms. Special constructions.

The various types of jacquards—single and double lift—centre and open shedding. Harness calculations. Harness and shaft mountings.

Shed designs and organisation. Power production and transmission, lighting, heating and ventilation of sheds.

**TEXT BOOK**

*The Mechanism of Weaving* (Longmans & Co.)

**REFERENCE BOOK**

*Jute and Linen Weaving* (Macmillan & Co.)

**Textile Calculations I**

FIRST YEAR: Lectures on Tuesdays, from 9.30 to 10.30 a.m.

Wool yields. Conditioning and re-gains. From carded or prepared sliver to finished yarn. Yarn counting. Yarn diameter. The set systems. Warp and weft calculations. Cloth calculations.

**Textile Calculations II**

SECOND YEAR: Lectures on Thursdays, from 9.30 to 10.30 a.m.

The fundamental principles of textile calculations. Material calculations. Yarn calculations. Twist calculations. The metric system of calculations for yarn and cloths. Complex cloth calculations. Complex problems in cloth structure.

**TEXT BOOKS**

*Textile Design* (Methuen & Co.)

*Analysis of Woven Fabrics* (Scott, Greenwood & Son)

**Colour Study I**

FIRST YEAR: Lectures on Tuesdays, from 11.30 to 12.30.

Colour theories and the attributes of colours. Contrast and analogy. Colour blending. Application of colour to woven design. Special colour and weave effects. Synthesis and Analysis.

**Colour Study II**

SECOND YEAR: Lectures on Thursdays, from 11.30 to 12.30.

The economical introduction of colour into woven fabrics. The colour limitations of woven design. The introduction of colour into stripes, checks and figured fabrics. The colouring of special woven styles. The colouring of double cloths, gauzes and plushes.

**REFERENCE BOOK**

*Colour in Woven Designs* (Whittaker & Co.)

**Cloth Finishing**

Lectures on Fridays, from 9.30 to 10.30 a.m.

The objects of finishing. Scouring, crabbing, milling, drying, and tentering, raising, brushing, and steaming, cutting, and pressing.

Changes in fabrics from the loom to the finished state. Shrinking. Particular finishes.

**TEXT BOOKS**

*Finishing of Woven Fabrics* (Scott, Greenwood & Son).

*Analysis of Woven Fabrics* (Scott, Greenwood & Son).

**Cloth Analysis I**

**FIRST YEAR:** Lectures and Demonstrations on Thursdays, from 10.30 to 11.30 a.m., with class work on Thursdays, 9.30 to 10.30 and 11.30 to 12.30.

The analysis of simple weaves, twills, sateens, and corkscrews. The analysis of simple textural stripes and checks. The analysis of colour effects and colour and weave relationships. Weights of materials. Finished weights per yard.

**Cloth Analysis II**

**SECOND YEAR:** Lectures and Demonstrations on Fridays, from 10.30 to 11.30 a.m., with class work on Wednesdays, from 2 to 3 p.m., and Fridays, from 11.30 to 12.30.

The analysis of the more complex single structures. The analysis of warp and weft backed cloths and imitation backed cloths. The analysis of double and triple cloths, fancy fabrics, &c. Calculations on production. Departmental costings.

NOTE.—Additional Cloth Analysis may be taken by special arrangement.

**TEXT BOOK**

*The Analysis of Woven Fabrics* (Scott, Greenwood & Son).

**\*Textile Testing**

Lectures or demonstrations on Mondays, from 11.30 to 12.30.

Microscopic examination, fibres, yarns and fabrics. Fibre, yarn and cloth testing for strength, elongation and elasticity. Quality tests of yarns and fabrics. Physical qualitative tests. The study and use of special testing apparatus.

\* NOTE.—Students take the Chemical Technology of the Textile fibres in the Dyeing Department. Large scale experiments, however, may be arranged for in the Textile Industries Department.

### Research Work

The equipment in the various sections of the department affords special facilities for original research in the processes of yarn spinning, fabric structure and designing and finishing. Special arrangements are also made for those students specialising in Textile Engineering to conduct special researches in the Textile Industries Department.

### Art Applied to Textile Design

MR. FARLEY

The courses of study relate to the analysis, composition and colour qualities of decorative design applicable to the various styles of woven fabrics, and comprise first, second, and third year classes in both lectures and practice.

Textile students for the Diploma in Designing and Weaving and also students in the Designing of carpets, tapestries, mantle cloths and other figured fabrics are required to take the courses in Applied Art.

Students from the Leeds School of Art are also admitted to these courses at the discretion of the Professor.

### First Year Course

Lectures on Wednesdays, from 10.30 to 11.30 a.m.

Practical Work in the Art Studio by special arrangements to fit in with the student's time table.

*Text Book for First and Second Year Courses*  
*Ornamental Design for Woven Fabrics* (Methuen & Co.)

### Second Year Course

Lectures on Thursdays, from 11.30 a.m. to 12.30 p.m.

Practical work in the Art Studio on Thursdays, from 9.30 to 11.30 a.m., and from 2 to 4 p.m.

### Third Year Course

Wednesdays or Thursdays, from 9.30 a.m. to 12.30 p.m., and from 2 to 4 p.m.

*Arrangements may be made by which students who wish to devote themselves more closely to the artistic side of Textile Design may attend the Art Department for two or more days per week.*

**COLOUR CHEMISTRY AND DYEING**

Professor PERKIN

Dr. OESCH.

Mr. KING.

The instruction given in this Department is primarily directed towards the provision of a sound and broad education in preparation for a career in any of the branches of industry in which the chemistry of the colouring-matters and of textile fibres and processes plays an important part. The courses of study arranged qualify students for taking positions as dyers' chemists, masters of dyeworks, practical dyers, printworks chemists, bleacher's chemists, experts in dyestuff analysis, travelling chemists to dye manufacturers, chemists in colour works, lake-pigment manufacturers, wall paper manufacturers, chemists in textile works, chemists in artificial silkworks, &c. Advanced chemical students can also make arrangements to carry out special work in the department in any of the collateral branches of chemical industry based upon applied organic chemistry, such as tar and petroleum distillation and products, synthetic drugs, synthetic perfumes, cellulose products, ink manufacture, &c.

The particulars which follow give the courses of study prescribed for students who have not already passed through a chemical training. Students holding a science degree of any University (English or foreign), the Associateship or Fellowship of the Institute of Chemistry, or otherwise bringing forward evidence of sufficient previous education in pure chemistry and general science will be admitted to the later stages of any of the courses and will be permitted to undertake at once more specialised work in the department.

The lectures upon "Colouring-Matters" are open to senior chemical students without entrance upon any special course or other work in the department.

Attention is drawn to the provisions of the Ordinances of the University by which periods of study and examinations passed at other Universities may be accepted by the Senate as exempting undergraduates from a certain amount of attendance and from certain examinations in this University.

Graduates or persons who have passed the Final examinations for degrees of other approved Universities may, under certain conditions, enter the University and after not less than two years of attendance on advanced study or research, become candidates for the degree of M.Sc. without taking the B.Sc. degree.

## SYLLABUS OF COURSES

### I. Four Years' Course for Colour-Chemists qualifying for B.Sc. Degree

Suitable for those desiring to become chemists in colour works, dyers' chemists, print works chemists, travelling chemists for dye manufacturers, experts in analysis of dyewares, &c.

If taken after Matriculation this course qualifies for an Ordinary or Honours B.Sc. degree. Unmatriculated students are eligible for the Diploma under the conditions mentioned on pages 357 and 361.

#### First Year (Intermediate)

	<i>Per week.</i>
Lectures on Chemistry (General and Tuition Course)	4 hrs.
Chemical Laboratory ... ..	2 1 "
Lectures on Physics (Intermediate Course)	3 "
Physical Laboratory ... ..	3 "
Mathematics (Intermediate Course)	2 "
German ... ..	

The work in the chemical laboratory will consist of inorganic preparations and qualitative analysis.

#### Second Year

	<i>Per week.</i>
Lectures on Inorganic and Organic Chemistry (F1 and F3) ... ..	6 hrs.
Chemical Laboratory .. ...	24 "
Experimental Dyehouse . ...	3 "
German ... ..	2 "

The work in the chemical laboratory will consist of quantitative analysis, organic analysis, and organic preparations.

Third Year

	<i>Per week.</i>
Experimental Dyehouse, Calico Printing, and Practical Dyehouse ... ..	} 25 hrs.
Colour Chemistry Laboratory ... ..	
Lectures on Organic Chemistry (H1) ... ..	3 "
Lectures on Chemical Technology of Textile Fibres (1st Term) ... ..	} 3 "
Lectures on Dyeing (2nd Term) ... ..	
Lectures on General Engineering (II A) ... ..	3 "
German ... ..	
Practical Cloth Finishing (3rd Term) ... ..	

The work in the experimental dyehouse will include dyeing trials with various classes of colouring matters, methods of application upon different fibres, testing colours for fastness, comparison of dyes for strength and shade, identification of dyestuffs on the fibre and in bulk, examination of textile fibres, and technical analysis of dyewares.

Fourth Year

	<i>Per week.</i>
Clothworkers' Chemical Laboratory ... ..	29 hrs.
Lectures on Artificial Colouring Matters (1st and 2nd Terms) ... ..	} 3 hrs.
Lectures on Natural Colouring Matters (2nd and 3rd Terms) ... ..	
	2 "

The work in the laboratory will comprise further preparations of coal-tar products and colouring matters, identification of colouring matters and mixtures, determination of the constitution of colouring matters, and valuation of intermediate coal-tar products such as benzene, aniline, toluidine, naphthol, &c. Research work may also be undertaken by the more advanced students.

## II. Three Years' Course qualifying for a Diploma in Dyeing

This course is recommended to students who wish to obtain a good scientific and practical education in the art of Dyeing, and are unable to remain at the University for the four years required for the Degree,

Students already holding a University degree or otherwise bringing forward satisfactory evidence of previous scientific training, may upon application, be admitted to the Diploma upon a shortened period of study.

For Diploma Regulations see page 361.

### First Year

	<i>Per week</i>
Lectures on Chemistry (General Course) ...	4 hrs.
Chemical Laboratory ... ..	21 „
Lectures on Physics (Intermediate Course) ...	3 „
German ... ..	...

The work in the chemical laboratory will consist of inorganic preparations and qualitative analysis.

### Second Year

	<i>Per week.</i>
Lectures on Inorganic Chemistry (F <sub>1</sub> ) ... ..	3 hrs.
Lectures on Organic Chemistry (F <sub>3</sub> ) ... ..	3 „
Chemical Laboratory ... ..	14 „
Experimental Dyehouse ... ..	16 „
German ... ..	...

The work in the chemical laboratory will consist of quantitative analysis and simple organic preparations. In the experimental dyehouse the work will comprise the study of the dyeing properties of the various classes of colouring matters in relation to different fibres, methods of application, colour-matching and mixing, tests for fastness, comparison of dyes for strength, &c.

### Third Year

	<i>Per week.</i>
Experimental Dyehouse } ... ..	30 hrs.
Practical Dyehouse } ... ..	
Calico Printing } ... ..	
Lectures on Chemical Technology of Textile } ... ..	3 „
Fibres (1st Term) ... ..	
Lectures on Dyeing (2nd Term) ... ..	3 „
Lectures on General Engineering (II A.) ... ..	
Practical Cloth Finishing (3rd Term) ... ..	...

The work in the experimental dyehouse will include examination of the chemical properties of dye-stuffs, the detection of various colours on the fibre, preparation of mordants, examination of textile fibres, and the technical analysis of dyewares. The work in the practical dyehouse will consist in dyeing wool and cotton on a larger scale in model machines, thus giving a general knowledge of dyeing machinery and of the practical conditions of dye-house work. In calico printing a practical study will be made of the principles of the more important styles.

### III. Part-time Dyers' Apprenticeship Course

This course is designed for those who wish to make arrangements to be simultaneously apprenticed in a Dye-Works. The course will cover five years but work at the University will only extend over two terms in each year, viz: from the beginning of October to the end of March, the remainder of the year being spent in the works.

An alternative arrangement (especially recommended if the student is under 16) is for the first year to be spent entirely in the Dye-Works, the second, third and fourth years half-time at the University as above, and the fifth year entirely at the University.

The articles of apprenticeship must contain a provision that the apprentice is entitled to spend the whole of his time at the University during the periods specified.

The full course qualifies for the Diploma in Dyeing.

For Diploma Regulations see page 361.

First Year				<i>Per week.</i>
Chemistry Lectures (Int. Course)	..	...	4	hours
Chemical Laboratory	...	...	23	"
Physics Lectures ...	...	...	3	"
Physical Laboratory	...	...	3	"

Fee for the Half-year (including Library and Union Fees),  
£21 11s.

**Second Year**

Inorganic Chemistry Lectures (F 1)	...	...	3	hours
Chemical Laboratory	...	..	...	27 "
Experimental Dye house	...	...	3	"

Fee for the Half-year (including Library and Union Fees),  
£21 11s.

**Third Year**

Organic Chemistry Lectures (F 3)	...	...	3	hours
Chemical Laboratory	...	...	12	"
Engineering (II A)	...	...	3	"
Experimental Dye-house and Dyeing Laboratory	12			"

Fee for the Half-year (including Library and Union Fees),  
£21 11s.

**Fourth Year**

Organic Chemistry Lectures	...	...	3	hours
Lectures on Chemical Technology of Textile	}	3		"
Fibres (1st term)				
Lectures on Dyeing (2nd term)	...	...	24	"
Experimental Dye-house and Dyeing Laboratory				"

Fee for the Half-year (including Library and Union Fees),  
£21 11s.

**Fifth Year**

Lectures on Artificial Dyestuffs	...	...	3	hours
Experimental Dyehouse	...	...	30	"
Dyeing Laboratory	...	...		
Practical Dye-house	...	...		
Calico Printing	...	...		
Textile Manufacture	...	...		

Fee for the Half-year (including Library and Union Fees),  
£21 11s.

Diploma students are required at some time during their course to attend such classes in German as will qualify them to pass the reading test in this language.

## **Regulations for Diploma in Dyeing**

A candidate for a Diploma is required:—

### **I. *During the Course*—**

- (a) To attend satisfactorily the classes in the subjects prescribed for the Diploma course.
- (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who fails to reach a satisfactory standard in any subject in a terminal examination may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and, if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last Session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of £1.

### **II. *At the end of the Course*—**

- (a) To reach a satisfactory standard in any Final examination which may be set.
- (b) To translate into English a passage of French or German technical literature. A foreign student who can show that he has received a good general education will be exempted from this language test.

### **III. A Diploma may be granted upon a degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is 10s.**

A student producing evidence of adequate previous scientific or practical training, may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

## SYLLABUS OF LECTURES

## I. The Chemical Technology of Textile Fibres, General Course. Water and Mordants

Mondays and Wednesdays at 11.30 a.m. during the first term.

*Books recommended*

Georgievics, *Chemical Technology of Textile Fibres*.

Matthews, *Textile Fibres*.

Dannerth, *Methods of Textile Chemistry*.

## II. The Chemistry and Technology of Dyeing, General Course

Mondays and Wednesdays, at 11.30 a.m. during the second term.

This course forms a continuation of I.

*Books recommended*

Knecht, Rawson, & Loewenthal, *Manual of Dyeing* (2 vols.)

Hübner, *Bleaching and Dyeing of Fibrous Materials*.

## III. Supplementary Course

Thursdays at 11.30 a.m. during the first and second terms.

These lectures form a continuation of the general course.

## IV. Chemistry of the Artificial Colouring Matters

Tuesdays and Thursdays at 4 p.m., during the first and second terms.

*Books recommended*

Georgievics, *Chemistry of Dye-stuffs* (translation by Salter).

Cain & Thorpe, *The Synthetic Dyestuffs*.

Georgievics & Grandmougin, *Lehrbuch der Farben-Chemie*.

Bucherer, *Lehrbuch der Farben-Chemie*.

Möhlau & Bucherer, *Farbenchemisches Praktikum*.

## V. Supplementary Course

Fridays at 4 p.m. during the second and third terms.

This course is intended more especially for those students who desire to enter a Colour factory. Special attention will be devoted to the more important types of factory plant, the materials involved in their construction, and to works practice in general.

## VI. Chemistry of Natural Colouring Matters

Wednesdays at 4 p.m. during the second term, and Tuesdays, Wednesdays and Thursdays at 4 p.m., during the third term.

### *Books recommended*

*Chemie der Natürlichen Farbstoffe*, by H. Rupe.

Thorpe's *Dictionary of Applied Chemistry*.

## LABORATORY WORK

### A. Experimental Dyeing Laboratory.

Open for work every weekday during the session from 9 a.m. to 5 p.m., Saturdays 9 a.m. to 1 p.m. The laboratory is fitted up with modern dyebaths suitable for comparative dyeing trials, drying stoves, and other appliances.

A special exposure chamber in an elevated position provides facilities for making tests of the fastness of colours to light.

### B. Practical Dyehouse

The Practical dyehouse is equipped with machinery for carrying out experiments on a practical scale. The equipment includes many model machines, all of which are driven by electric motors.

In this dyehouse students of dyeing receive training in the treatment of various classes of textile materials.

Arrangements have also been made with the Technical College, Bradford, by which Senior Students of the Leeds University can, if they desire, spend a short period in the Practical Dyehouse of the Bradford College. This dyehouse has been recently equipped with modern plant for piece, warp and slubbing dyeing. No charge for attendance will be made to Students who have paid composition fees.

### C. Printing Room

The Printing laboratory is equipped with a model printing machine, steaming chamber, colour pans, &c.

A practical course in calico printing is held during the third term, the work comprising experiments in the different styles, discharges, resists, printing with diazo compounds, aniline black, indigo, &c.

#### **D. Clothworkers' Chemical Laboratory**

The laboratory is a spacious building provided with every facility for the conduct of chemical work upon colouring matters. The work carried out comprises the following subjects:

(a) Analysis of colouring matters and their intermediate products; (b) preparation of coal tar derivatives and colouring matters; (c) researches upon artificial and natural colouring matters, directed to the determination of their constitution, discovery of new groups, the solution of technical problems, &c.

To cover cost of materials and loan of special or large apparatus a charge of £3 per session will be made to all research workers or students working full time in this laboratory, and of £2 per session to part-time students. All ordinary apparatus, however, must be provided by the student.

#### **Practical Cloth Finishing**

Mr. W. LAW

The work of this course, which will demonstrate the operations of scouring, crabbing, milling, drying and tentering, raising, brushing and steaming, cutting and pressing, will be carried out in the Finishing Shed of the Textile Industries Department, in the third term, and will occupy three hours weekly.

#### **RESEARCH WORK**

Special facilities are provided for the conduct of original research in the chemistry of colouring-matters, and upon dyeing processes. The laboratory is a spacious one and well equipped for carrying out scientific and technical investigations in these subjects. Post graduate and other advanced students are admitted to research work under the direction of the Professor, and will find an extra year thus spent greatly to their future advantage. Graduates of other Universities (British or foreign), and other qualified chemists, may also obtain admission as research workers for any period desired.

#### **Museum**

The museum of natural and artificial dyestuffs and textile fibres is open to students daily.

## TIME TABLES

These time tables are subject to variations according to the attainments of the student when he enters the University, and to his subsequent progress.

### Diploma in Dyeing

#### FIRST YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Chemical	Lab.	Chem. Int.		* Phys. Int.	
TUE. ..	Chemical Laboratory			Chemical Laboratory		
WED. ..	Chemical	Lab.	Chem. Int.			
THU. ..	Chemical Laboratory			Chemical Laboratory		
FRI. ..	Chemical	Lab.	Chem. Int.		* Phys. Int.	
SAT. ..	Chemical Laboratory					

\* A third Physics Lecture is given at an hour to be arranged.

### Diploma in Dyeing

#### SECOND YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Chem. F1	Experimental Dyehouse	(10.30-1)	Chem. F3	Experimental	Dyeh'se	
TUE. ..	Experimental Dyehouse	(9.30-12)		Chem. F3	Experimental	Dyeh'se	
Wed. ..	Chem. F1	Experimental Dyehouse	(10.30-1)	Chem. F3	Experimental	Dyeh'se	
THU. ..	Experimental Dyehouse	(9.30-12)		Chem. F3	Experimental	Dyeh'se	
FRI. ..	Chem. F1	Chemical Lab.			Chemical Laboratory		
SAT. ..	Chemical Laboratory			Chem. F3			

## Diploma in Dyeing

## THIRD YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Eng. IIA	Exper. Dyehouse	Dyeing I and II	Experime Dyehouses	ntal and P Calico	practical Printing
TUE. ..	Experime Dye houses (9-1)	ntal and P	Practical		ditto	
WED. ..	Eng. IIA	Exper. Dyehouse	Dyeing I and II		ditto	
THU. ..	Exper.	Dyehouse	Dyeing III		ditto	
FRI. ..	Eng. IIA	Experim Practical (10.30-1)	ental and Dyehouses		ditto	
SAT. ..	Experime ntal Dye house (9-1).					

## Ordinary and Honours Degree in Colour Chemistry

## FIRST YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Chemical	Lab.	Chem. Int.	Math. Int.	*Phys. Int.	
TUE. ..	Chemical	Laborat	ory	Chemical	Laborat	ory
WED. ..	Chemical	Lab.	Chem. Int.	Chemical	Laborat	ory
THU. ..	Chemical	Laborat	ory	Physica	Laborat	ory
FRI. .	Chemical	Lab.	Chem Int.	Math. Int.	*Phys. Int.	
SAT. ..	Chemical	Laborat	ory			

\* A third Physics Lecture is given at an hour to be arranged.

Ordinary and Honours Degree in Colour Chemistry

SECOND YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Chem. F <sub>1</sub>	Chemical (10.30-1)	Laboratory		Chemical Lab.		German
TUE. ..	Chemical (9.30-11.30)	Laboratory		Chem. F <sub>3</sub>	Chemical Laboratory		
WED. ..	Chem. F <sub>1</sub>	Chemical (10.30-1)	Laboratory		Exper. Dyehouse		
THU. ..	Chemical (9.30-11.30)	Laboratory		Chem. F <sub>3</sub>	Chemical Laboratory		
FRI. ..	Chem. F <sub>1</sub>	Chemical (10.30-1)	Laboratory		Chemical Lab.		German
SAT. ..	Chemical (9.30-12)	Laboratory		Chem. F <sub>3</sub>			

Ordinary and Honours Degree in Colour Chemistry

THIRD YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Eng. IIA	Exper. Dyehouse.	Dyeing I and II.	Experimental Dyehouse. Practical Dyehouse, Printing, etc.		Calico
TUE. ..	Org. Chem. H <sub>1</sub>	Exper. Dyehouse (10.30-1)		Experimental Dyehouse		
WED. ..	Eng. IIA	Exper. Dyehouse.	Dyeing I and II	Experimental Dyehouse		
THU. ..	Org. Chem. H <sub>1</sub>	Exper. Dyehouse.	Dyeing III	Experimental Dyehouse		
FRI. ..	Eng. IIA	Exper. Dyehouse		Experimental Dyehouse		
SAT. ..	Org. Chem. H <sub>1</sub>	Experimental Dyehouse, etc.				

## Ordinary and Honours Degree in Colour Chemistry

## FOURTH YEAR TIME TABLE

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON. ..	Clothworkers' Chemical Lab. and Experimental		Chemical Lab. Dyehouse	Clothworkers' Chemical Lab. and Experimental		Chemical Lab. Dyehouse
TUE. ..		ditto.		dit to.		Col. Chem. III and IV
WED. ..		ditto.		dit to.		Col. Chem. VI
THU. ..		ditto.		dit to.		Col. Chem. III and IV
FRI. ..		ditto.		dit to.		Col. Chem. V
SAT. ..		ditto.				

**LEATHER INDUSTRIES**

**Assisted by the Skinners' Company of the City of London and  
by Members of the Leather Trades**

Professor McCANDLISH.

Mr. ATKIN

Mr. THOMPSON

The course of study aims in the first instance at familiarising students, both by information in lectures and by practical handling of the material, with the principles and details of the tanning process, and the reasons why particular modes of treatment produce particular effects. This knowledge once gained, the student is in a position to judge of the causes of defects, and the changes which it is necessary to make to prevent or remedy them or to modify the leathers produced in such a way as may meet the requirements of the trade. Methods of chemical and microscopical analysis are taught and practised for determining the purity and value of the various materials employed, and for controlling the different stages of the tanning process. In the latter part of the course, students are encouraged to attempt the practical production of leathers in which they are interested, and to study the smaller details of the processes. Particular attention is paid to leather dyeing and the manufacture of coloured leathers, and small quantities of almost all kinds of leather are produced of commercially saleable quality.

The Laboratories are open during the session from 9.30 a.m. to 1 p.m., and from 2 to 5 p.m. except on Saturday afternoons. No student is admitted to work until he has satisfied the Professor by examination or otherwise that he has a sufficient knowledge of general chemistry to enable him to profit by special work.

Experiments in actual leather manufacture on a small scale are also carried on in such a way as to illustrate as far as possible the subject matter of the lectures, and to show the effect of variations in the processes. These are, when possible, supplemented by visits to works where the manufacture is carried on.

All the more important kinds of leather are made and finished in the experimental tannery and workshops

from the raw materials, with the assistance of the students; and opportunities are given to those who are sufficiently advanced to work upon branches of manufacture in which they are specially interested, or to undertake scientific research in connexion with the trade.

There is also an Honours and M.Sc. course for graduates and advanced students, consisting principally of research work under the direction of the Professor and his assistants, with a special course of lectures on the Physics and Chemistry of the subject; and advanced students and others are admitted for independent research at reduced fees.

All the ordinary chemicals (except silver nitrate and alcohol) and small quantities of skin and leather for experimental purposes will be furnished by the Department, but larger quantities required for special experiment or research may be charged to, or provided by, students at the discretion of the Professor. A certain amount of laboratory apparatus must be purchased by the student, who will also be held accountable for breakage of apparatus belonging to the University.

### LECTURE COURSES

#### I. Physics and Chemistry of Leather Manufacture

*(Honours and M.Sc. course)*

Lectures on Tuesdays and Thursdays, at 9.30 a.m. (or at a time to be arranged) throughout the session.

#### II. Materials used in Leather Manufacture

Lectures on Tuesdays and Thursdays, at 10.30 a.m. throughout the session.

#### III. Principles and Methods of Leather Manufacture

Lectures on Mondays, Wednesdays and Fridays, at 10.30 a.m. throughout the session.

#### IV. Analytical Chemistry of Leather Manufacture

Lectures on Saturdays, at 10.30 a.m. throughout the session.

These lectures will supplement the analytical textbooks in use in the Leather Industries Laboratories.

### V. Technical Microscopy, Bacteriology and Mycology

Lectures and practical work at times to be arranged, during the third term.

### VI. Practical Leather Manufacture

(for *Elementary Students*)

Demonstrations on Mondays, Wednesdays and Fridays, at 9.30 a.m. throughout the session.

Sole Leather; Dressing Leather; Light Leathers.

### VII. Practical Leather Manufacture

(for *Advanced Students*)

Demonstrations in Workshops, Thursdays, 2—5 p.m. throughout the session.

In addition to work on the practical scale comprising all the principal kinds of commercial leather, the students themselves will conduct small individual experiments on special points of leather manufacture. A course in dyeing will be held, beginning with the dyeing of small samples and proceeding to the colouring and finishing of whole skins.

*Text Books* (which must be purchased by the student).

PROCTER'S *Leather Industries Laboratory Book* (E. & F. N. Spon Ltd.)

PROCTER'S *Principles of Leather Manufacture* (E. & F. N. Spon Ltd.)

PROCTER, STIASNY and BRUMWELL'S *Leather Chemist's Pocket Book* (E. & F. N. Spon Ltd.)

BENNETT'S *Manufacture of Leather* (A. Constable & Co. Ltd.)

PROCTER'S *The Making of Leather* (Cambridge University Press)

## SCHEMES OF STUDY

The following schemes are arranged so as to give students the fullest advantage of the instruction provided by the University, and must generally be adhered to. Time is allowed, however, for taking up additional subjects, and special courses may be arranged for students who can satisfy the Vice-Chancellor and the Professor that they already have adequate knowledge of some of the subjects included. Some preliminary acquaintance with actual leather manufacture is

very desirable before taking the University courses, and in no case is University training an adequate substitute for practical experience in actual manufacture, though it usefully supplements it, and greatly lessens the time which is necessary to its acquirement.

Students are not admitted to advanced courses unless they have sufficient elementary knowledge to follow them with advantage.

Degrees in Science of which particulars are given below are conferred in connexion with Leather Manufacture. Before beginning courses for Degrees, students must have passed the Matriculation examination of the Joint Board of the Northern Universities, or obtained exemption therefrom. A Diploma in Leather Manufacture, for which matriculation is not required, is also given by the University.

A one-year course for Honours or M.Sc. can be arranged for students who have already graduated.

### **Scheme I. Three Years' Course for Ordinary B.Sc.**

#### **First Year (Intermediate)**

Preparation for Intermediate examination in Physics and two of the following: Mathematics, Chemistry, Zoology, Botany.

An additional subject, selected from the list of Intermediate subjects given in the Calendar, must also be presented at some Intermediate examination during the course.

#### **Second and Third Years**

Preparation for Final examination in Chemistry, and Chemistry of Leather Manufacture. Approved courses on Physics and Engineering must also be attended.

<b>First Year</b>				<b>Per week.</b>
General Course of Chemistry (Chem. Int.)	...	...	...	3 hrs.
Chemical Laboratory	...	...	...	12 "
Physics Intermediate	...	...	...	3 "
Physics Laboratory	...	...	...	3 "
Mathematics Intermediate	...	...	...	3 "
German or French Intermediate	...	...	...	3 "
Leather VI (Practical Leather Manufacture)	...	...	...	3 "

Second Year *				Per week.
Chemistry F <sub>2</sub> (Inorganic) ... ..	...	...	...	3 hrs.
Chemistry F <sub>3</sub> (Organic) ... ..	...	...	...	3 "
Chemical Laboratory (Inorganic and Organic) ...	...	...	...	12 "
Engineering IIA. ... ..	...	...	...	3 "
Materials used in Leather Manufacture (L. II) ...	...	...	...	2 "
Analytical Chemistry of Leather Manufacture (L. IV)	...	...	...	1 "
Leather Laboratory ... ..	...	...	...	11 "

Third Year				Per week.
Chemistry F <sub>1</sub> (Inorganic) ... ..	...	...	...	3 hrs.
Principles and Methods of Leather Manufacture (L. III) ... ..	...	...	...	3 "
Microscopy and Bacteriology of Leather Manu- facture (L. V) ... ..	...	...	...	...
Practical Leather Manufacture (L. VII) ...	...	...	...	3 "
Leather Laboratory ... ..	...	...	...	20 "

### Scheme II. Four Years' Course for B.Sc. with Honours

#### First Year

The Intermediate course for the Ordinary degree.

#### Second Year <sup>1</sup>

The second year course for the Ordinary degree, except that Chemistry F<sub>1</sub> is taken instead of Engineering IIA.

#### Third Year

The third year course for the Ordinary degree, except that Chemistry H<sub>3</sub> is taken instead of Chemistry F<sub>1</sub>.

#### Fourth Year <sup>2</sup>

Engineering IIA., Leather I and Research in the Chemistry of Leather Manufacture.

\*Candidates applying for exemption from the Intermediate course must also apply for the substitution of Leather VI for Eng. IIA. in the second year course.

<sup>1</sup>Candidates applying for exemption from the Intermediate course must also apply for the substitution of Leather VI for Chemistry F<sub>1</sub> in the second year course.

<sup>2</sup>Candidates may take Chemistry H<sub>1</sub> in either the third or fourth years of their course, but this is not compulsory.

### **Scheme III. Course for Diploma in Leather Manufacture**

This course, extending over three years, is suitable for those who intend to become technical managers in leather works, and is recommended to sons of tanners and others who require a practical knowledge of the science and technology of the industry, but are unable to take a degree course. Though not actually prescribed in the course, the study of a modern language, especially of German, is extremely important, and time is allowed for taking it as an extra subject.

A candidate for the Diploma is required :—

#### *I. During the Course—*

- (a) To attend satisfactorily the classes in the subjects prescribed for the Diploma course.
- (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who fails to reach a satisfactory standard in any subject in a terminal examination may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of £1.

#### *II. At the end of the Course—*

- (a) To reach a satisfactory standard in any Final examination which may be set.

- (b) To translate into English a passage of French or German technical literature. A foreign student who can show that he has received a good general education will be exempted from this language test.

III. A Diploma may be granted upon a degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is 10s.

A student producing evidence of adequate previous scientific or practical training, may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

First Year				Per week.
General Course of Chemistry (Chem. Int.)	...	...	...	3 hrs.
Chemical Laboratory	...	...	...	18 "
Mechanical Drawing	...	...	...	3 "
Leather Industries Workshops (L. VI)	...	...	...	3 "

Second Year				Per week
Chemistry F <sub>3</sub> (Organic)	...	...	...	3 hrs.
Materials used in Leather Manufacture (L. II)	...	...	...	2 "
Analytical Chemistry of Leather Manufacture (L. IV)	...	...	...	1 "
Chemical Laboratory (Organic)	...	...	...	6 "
Leather Industries Laboratories and Workshops	...	...	...	18 "

Third Year				Per week.
Principles and Methods of Leather Manufacture (L. III)	...	...	...	3 hrs.
Technical Microscopy and Bacteriology (L. V)	...	...	...	...
Engineering IIA.	...	...	...	3 "
Leather Industries Laboratories and Workshops (including Leather VII)	...	...	...	20 "

### SHORTER COURSES

Shorter courses of study may be arranged for students possessing considerable knowledge of chemistry who cannot afford the necessary time for a degree or diploma course.

## AGRICULTURE

Professor SETON

Mr. HAYDON	Mr. LODGE	Mr. FAULDER
Mr. BOUTFLOUR	Miss SCOTT	Mr. ROBERTSON
Mr. STRACHAN	Mr. ARCHIBALD	Mr. GODDEN
Mr. H. THOMSON	Dr. HANLEY	Mr. MILLARD
Mr. JOHNSTON-WALLACE		Mr. PARTON
Mr. COMBER	Mr. TAYLOR	Mr. GALT
Miss SCOTT	Mr. H. W. THOMPSON	
Mr. RUSTON	Mr. BOWES	Miss MCKERROW
Mr. EVES	Mr. F. REDINGTON	Miss JONES
Mr. GREEN	Mr. ANSTEY	Miss McLENNAN
		Miss McINTOSH

The Winter Course in the Department of Agriculture will begin on Monday, October 13, 1919, when the Vice-Chancellor will admit students from 9.30 a.m. to 12.30 p.m., and also from 2 to 4 p.m. All students are expected to register their names on this day.

Lectures will begin on Tuesday, October 14.

The Winter Course extends over two terms: the first term begins October 13, and ends December 20, 1919; the second term begins January 12, 1920, and ends March 19, 1920.

The Summer Course extends over the third term, which commences April 21, and ends July 3, 1920. Lectures will begin on April 21 at 9.30 a.m.

Fee for the Winter Course £10, for the Summer Course £5.

Students taking the course for the degree of B.Sc., are required to enrol on either October 6 or 7, when the session opens for all students for degrees in Arts and Science. The conditions as to fees and attendance will be found in previous pages.

*All Fees are payable to the Accountant. Cheques should be made payable to "The University of Leeds," and crossed "Beckett & Co."*

### ADMISSION OF STUDENTS

The classes and laboratories are open to men and women on the same terms. Special arrangements are made for the convenience of women students.

No day students are admitted under the age of sixteen years. Students under seventeen years of age will be required to pass an entrance examination.

It is recommended that applicants for admission should have spent at least one year on an approved farm before entering the Department of Agriculture.

Candidates for admission to the University who are under nineteen years of age, and who have been at a school or other educational institution within one year of their application for admission, are required to produce a certificate of good conduct from the head of such institution.

Applications for admission to the University from persons residing out of the United Kingdom, must in all cases be accompanied by certificates of good conduct duly authenticated. Indian students are, in addition, required to produce certificates of identity, which should also, as a rule, be furnished by students from foreign countries.

All students are required, prior to admission, to sign a declaration that they will observe the statutes, ordinances, and regulations of the University for the time being in force.

### COURSES OF STUDY

The courses of study in Agriculture at the University are:

1. A general course designed without reference to the requirements of any examining body.
2. A course for the National Diploma.
3. A course for the B.Sc. Degree.

#### I and II.—General and National Diploma Courses

##### Winter Course

Students may obtain a complete course during two sessions, and are free to devote the spring and summer months to practical farm work.

The instruction has been arranged to meet the requirements of young men who intend to become farmers, land agents, valuers, or teachers of agricultural science.

The Diploma course extends over three winters and one summer term. Students can take a General Course which extends to two winters. The Diploma course prepares students for the examination for the National Diploma in Agriculture, awarded jointly by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland. Students are also prepared for the examination of the Surveyors' Institution.

The University of Leeds is among the places of professional education which have been accepted by the Surveyors' Institution. The effect of this recognition is that students of the University who have taken the two years' course in Agriculture are admitted to the examinations of the Institution in Sub-Division 1, "chiefly Land Agency," without the usual period of pupilage in a land agent's or surveyor's office. Students preparing for the above examination are advised to attend in their last year a short course of lectures on Agricultural Law which may be arranged. The fee for this special course is 10s. 6d.

A course of lectures on Agricultural Economics, which all Agricultural Students are recommended to attend in their second or third year, may also be arranged. The fee for the course is 10s. 6d.

The Agricultural Chemical Laboratory will be open on special terms to those who wish to devote their whole time to agricultural chemical analysis.

Practical instruction in Agriculture is provided at the Educational Farm at Garforth. In addition to the lectures at the University, students must attend regular classes at the Farm, where class-rooms and laboratories are provided, in which classes will be conducted when necessary.

All students taking a full course will be required to follow closely the farm work, including field operations, methods of feeding stock, and progress of experiments.

Students will be required to pay their railway fares to and from Garforth.

A Tutor is provided to supervise the studies of first year students. Tutorial classes will be formed to suit their requirements.

### Summer Course

This course has been arranged for students who can devote the summer as well as the winter months to study. It will extend from April 21 to July 3, 1920.

The subjects will comprise Dairying, Agricultural Chemical Analysis, General Botany, Forest Botany, Horticulture, Poultry Keeping, Surveying and Levelling, and Practical Agriculture.

Students reading for the National Diploma are required to take the Summer course in their first year.

### TIME TABLES (Subject to revision)

#### First Year Winter Course

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Tutorial.	Natural	History.	Chemical Laboratory.		
TUE.	Agriculture.	Physics & Mechanics.	Chemistry (1st Term). Nat. Hist. (2nd Term).	Physics Laboratory.		
WED.	Nat. Hist. (1st Term). Chemistry (2nd Term)	Agriculture.	Geology.	Farm Class.		
THU.	Agriculture.	Physics & Mechanics.	Tutorial.	Geological Laboratory.		
FRI.	Natural	History.	Geology.	Chemistry Occasional	Classes at	Garforth.
SAT.						

#### Second Year Winter Course.—A

[FOR STUDENTS READING FOR THE NATIONAL DIPLOMA.]

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Chemistry.	Surveying.	..	Farm Implements at (1st Term).		Farm
TUE.	Chemistry.	Chemical		Engineering (2nd Term)	Agri. Botany.	Surveying
WED.	Chemistry.	Buildings & Implements.	..	Agri.	Botany.	
THU.	Chemistry.	Ag. Zoology.		Engineering (2nd Term).		
FRI.	P'k-keeping	Ag. Botany		Chemical Laboratory.		
SAT.	P'k-keeping	Ag. Zoology.		..	..	..

**Second Year Winter Course.—B**  
 [FOR STUDENTS TAKING THE GENERAL COURSE.]

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Vety. Sc.	Agri.	Agri. Chem.	Agricultural Botany.		
TUE.	Vety. Sc.	..	Agri.	Farm Class		
WED.	Vety. Sc.	Agri.	Agri. Chem.	..	..	..
THU.	Vety. Sc.	Agri.	Chem. Lab.	Chemical Laboratory.		
FRI.	B'k-keeping	Agri.	Agri. Chem.	Farm Class		
SAT.	B'k-keeping	Chemical	Laboratory.	..	..	..

**Third Year Winter Course**  
 [FOR STUDENTS READING FOR THE NATIONAL DIPLOMA.]

	9.30 to 10.30.	10.30 to 11.30.	11.30. to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Vety. Sc.	Agri.	Agri. Chem.	..	..	..
TUE.	Vety. Sc.	Agri. Chem.	Agri.	Farm Class		
WED.	Vety. Sc.	Agri.	Agri. Chem.	..	..	..
THU.	Vety. Sc.	Agri.	Chem. Lab.	Chemical Laboratory.		
FRI.	..	Agri.	Agri. Chem.	Farm Class		
SAT.	Chemical Laboratory.			..	..	..

**Summer Course**

	9.30 to 10.30.	10.30 to 11.30.	11.30 to 12.30.	2 to 3.	3 to 4.	4 to 5.
MON.	Forest Bot.	Forest	Botany.	Excursions or Botanical Laboratory		
TUE.	9 to 10. Horticulture	10 to 12. Gen. Botany.	12 to 1. Dairying.	Surveying field or drawing office		
WED.	9.30 to 10.30. Poultry.	10.30 to 11.30. Dairying.	11.30 to 12.30. Surveying.	Surveying field or drawing office		
THU.	9 to 10. Poultry.	10 to 12. Gen. Botany.	12 to 1. Surveying.	Surveying field or drawing office		
FRI.	9.30 to 10.30. Dairying.	10.30 to 11.30. General	11.30 to 12.30. Botany.	Chem.	Chemical Laboratory	
SAT.	9.30 to 10.30. Chemistry.	10.30 to 11.30 Chemical L	11.30 to 12.30. Laboratory	..	..	..

### III.—Degree Course

Students who intend to present themselves for the B.Sc. degree will not enter the Agricultural Department until they begin the work for the Final examination. Before beginning the Intermediate course, students are required to consult the Professor of Agriculture with regard to their proposed course of study and their previous experience of farm work. The fees and time tables for the Intermediate and Final examinations are the same as for all students of Science.

During the two years' study for the Final examination, students will be required to spend at least six months on the Manor Farm, Garforth, where each student must conduct an experiment on some Agricultural subject and present a report on the same.

### SYLLABUSES (Subject to revision)

#### FIRST YEAR

##### **Agriculture**

Lectures on Tuesdays and Thursdays at 9.30, and Wednesdays at 10.30 a.m., by Professor Seton.

SUBJECTS.—Agriculture and its relation to the sciences.

Soils ; Manures ; Rotations ; Seeds, Grasses, and Pastures.

##### **Chemistry**

Tuesdays, at 11.30 a.m. First Term ; Wednesdays at 9.30 a.m. Second Term ; and Fridays at 2 p.m., by Mr. Comber.

SUBJECTS.—Chemistry so far as is sufficient to enable students to appreciate the importance of this science in relation to Agricultural practice.

##### **Physics and Mechanics (2A)**

Tuesdays and Thursdays, at 10.30 a.m., by Mr. Ruston.

SUBJECTS.—Physics and Mechanics so far as is sufficient to enable students to appreciate some of the applications of these sciences to Agricultural practice.

### Natural History

*Botany*.—During first term only, Mondays, 10.30 a.m. to 12.30 p.m., Wednesdays at 9.30 a.m., and Fridays, 9.30 to 11.30 a.m., by Prof. Priestley and Mr. Walker.

SUBJECTS.—Elementary facts of structure of plants; drawing; the use of the microscope; simple experiments on the growth of plants and allied matters; the elements of Agricultural Botany.

*Zoology*.—During second term only, Mondays, 10.30 a.m. to 12.30 p.m., Tuesdays at 11.30 a.m., and Fridays, 9.30 to 11.30 a.m., by Mr. Taylor.

SUBJECTS.—Elementary facts of structure of the higher animals; the use and mechanism of special organs; drawing; the use of the microscope.

### Agricultural Geology

Lectures on Wednesdays and Fridays, at 11.30 a.m., by Professor Kendall and Mr. Gilligan. Practical work Thursdays, from 2 to 5 p.m.

### Tutorial Classes

Mondays, 9.30 a.m., and Thursdays at 11.30 a.m., by Mr. Ruston.

SUBJECTS.—Correspondence, Calculations, Elementary Mathematics preparatory to Book-keeping, Surveying, and Engineering.

### Chemical and Physical Laboratory

Mondays and Tuesdays, from 2 to 5 p.m. by Mr. Comber Mr. Ruston.

Selected experiments arranged to illustrate the Chemical and Physical principles underlying Agricultural operations. These will include the preparation of the elements of special interest to agriculturalists, and experiments leading up to a correct knowledge of the nature, properties, composition, and use of soils, manures, and feeding stuffs.

## **Practical Agriculture**

Wednesday and occasionally Friday afternoons, at Garforth.

**SUBJECTS.**—Stock. Stock-feeding. Estimation of weights of crops and animals. Pastures and pasture plants. Practical examination of seeds, manures and feeding stuffs.

Seasonable operations will be closely followed ; different systems will, so far as practicable, be illustrated, and the reasons for the variations explained. Students will be required to follow closely stock-feeding and other experiments at Garforth.

## **SECOND AND THIRD YEARS**

### **Agriculture**

Lectures Mondays, Wednesdays, Thursdays, Fridays, 10.30, and Tuesdays, at 11.30 a.m., by Mr. Haydon and Mr. Faulder.

**SUBJECTS.**—Feeding Stuff; Crops and Cropping ; Live Stock ; Horses ; Cattle ; Sheep ; Pigs ; Labour and Implements ; Agricultural Economics.

### **Chemistry**

#### **Second Year, Course "A"**

Mondays, Tuesdays, Wednesdays and Thursdays, at 9.30 a.m., and Fridays at 2 p.m., by Mr. Godden.

### **Agricultural Chemistry**

#### **Third Year**

Lectures on Mondays, Wednesdays, and Fridays at 11.30, and Tuesdays at 10.30 a.m., by Mr. Godden and Mr. Comber.

The Plant ; the Soil ; Manures ; Crops ; Animal Nutrition ; the Dairy.

**Agricultural Chemistry****Second Year General Course**

Lectures on Mondays, Wednesdays, and Fridays, at 11.30 a.m. by Dr. Hanley.

SUBJECTS.—A more elementary course based upon the foregoing syllabus and adapted to suit the requirements of students who have not received the full preliminary training in Chemistry of the Diploma Course.

**Chemical Laboratory**

*Second Year, Course "A."*—Tuesdays, 10.30 a.m., to 12.30 p.m.; Fridays, 2 to 5 p.m.

*Second Year, Course "B."*—Thursdays, 11.30 to 12.30 p.m., and 2 to 5 p.m.; Saturdays, 10.30 a.m., to 12.30 p.m.

*Third Year.*—Thursdays, 11.30 a.m., to 12.30 p.m., and 2 to 5 p.m.; Saturdays, 9.30 a.m., to 12.30 p.m.

The laboratory work for all classes is arranged to be supplementary to and illustrative of the lectures.

**Agricultural Botany****Diploma Course**

Tuesdays, 2 to 4 p.m.; Wednesdays, 3 to 5 p.m.; and Fridays, 10.30 to 12.30 a.m., by Mr. Millard and Miss Scott.

This course will prepare for the examination in Agricultural Botany for the National Diploma in Agriculture.

**Agricultural Botany****General Course**

Mondays, 2 to 4.30 p.m., by Mr. Millard and Miss Scott.

SUBJECTS.—The syllabus will be similar to the Diploma Course, but the subjects will be taken in less detail.

### **Agricultural Zoology (Zoology)**

Thursdays, 10.30 a.m. to 12.30 p.m., and Saturdays 10.30 a.m. to 12.30 p.m., by Mr. Taylor and Mr. Thompson. (Lectures and laboratory work).

This course covers the syllabus of the examination in Agricultural Zoology for the National Diploma in Agriculture.

### **Book-keeping**

Fridays and Saturdays at 9.30 a.m., by Mr. Ruston.

SUBJECTS.—Accounts, Day Book, Cash Book, Ledger, Balance Sheet, Profit and Loss Account, &c.

### **Veterinary Science**

Mondays, Tuesdays, Wednesdays, and Thursdays at 9.30 a.m., by Mr. Bowes.

SUBJECTS.—Anatomy and Physiology of farm animals. Recognition of diseases affecting farm animals. Means of preventing disease, including ventilation, drainage, judicious feeding, grooming. Nature of heredity, contagion, infection.

### **Practical Agriculture**

Tuesday and Friday afternoons.

Classes at the Farm on the same lines as for first year students, with the addition of practical demonstrations by Mr. Bowes on conformation, handling, &c., and generally the application of veterinary hygiene to farm animals.

### **Farm and Estate Engineering**

#### **(A.) Surveying**

Mondays at 10.30 a.m. and Tuesdays at 4 p.m., by Mr. Archibald.

These lectures are intended for students who have attended the course of Surveying in the summer term.

**(B.) Farm Buildings, Implements, and Machinery**

Wednesdays, 10.30 a.m., by Mr. Archibald, and Monday afternoons (1st term) at Garforth.

Buildings ; Implements.

**(C.) Agricultural Engineering**

Mondays, Wednesdays, and Thursdays at 2 p.m., during the second term, by Professor Goodman.

Power Transmission ; Boilers ; Steam, Gas, Oil and Petrol Engines ; Hydraulics ; Windmills ; Costs and Working Expenses.

**Agricultural Economics**

A short course may be given in the Economics and Statistics of Agriculture, chiefly in the United Kingdom. The course will deal with the principles of rent, the forms of land tenure, and the returns of acreage, stock, and output of Great Britain and Ireland.

One hour a week in the second term, at a time to be arranged.

Special fee for the course, 10s. 6d.

**Agricultural Law**

A course of lectures of one hour a week during one term may be given by Dr. Chapman at times to be arranged, on the Law of Landlord and Tenant.

This course is intended for students in the Agricultural department who propose to present themselves for the examinations of the Surveyors' Institution in Sub-Division I, "chiefly land agency."

Special fee for the course, 10s. 6d.

**SUMMER COURSE****Agriculture**

A study of the practical operations and experiments at the Manor Farm, Garforth.

## **Practical Agricultural Chemistry**

Fridays at 2 p.m., and Saturdays at 9.30 a.m., by Dr. Hanley.

Introduction to qualitative and quantitative analysis.

## **General Botany**

Tuesdays and Thursdays, 10 a.m. to 12; and Fridays, 10.30 a.m. to 12.30 p.m., by Mr. Laycock.

## **Forest Botany**

Mondays, 9.30 a.m. to 12.30 p.m., and 2 to 5 p.m. on alternate Mondays by Mr. Millard.

SUBJECTS.—(1) Forest Botany; (2) General Forestry.

Occasional excursions will be made during the term; students to pay their own railway fares or other expenses.

## **Horticulture**

Tuesdays at 9 a.m., by Mr. Galt.

SUBJECTS.—Garden Crops; Fruit Culture; the Flower Garden.

## **Poultry Keeping**

Wednesdays at 9 a.m., and Thursdays at 9.30 a.m., by Mr. Parton.

## **Dairying**

Tuesdays 12 to 1; Wednesdays 10.30 to 11.30 a.m.; and Fridays 9.30 to 10.30 a.m., by Mr. Haydon.

### Surveying

Wednesdays, 11.30 to 12.30; Thursdays, 12 to 1 p.m.; and Tuesdays, Wednesdays and Thursdays, 2 to 5 p.m., by Mr. Archibald.

During this course a survey, involving the use of all the instruments mentioned above, is made of the Manor Farm buildings, and levels are also taken; the plan and sections are plotted in the drawing office as the work in the field proceeds.

### COUNTY LECTURES, DAIRY INSTRUCTION, &c.

The County Councils of the three Ridings of Yorkshire make annual grants to the University to enable it to carry out a system of instruction on subjects connected with Agriculture, and to give practical instruction also in Dairy-work at various centres.

The members of the staff engaged in this work are :— Prof. R. S. Seton, Mr. R. W. Haydon, Mr. C. F. Archibald, Mr. J. H. Faulder, Mr. G. C. A. Robertson, Mr. R. Boutflour, Mr. D. B. Johnston-Wallace, Mr. J. Strachan, Mr. F. W. Parton, Mr. A. S. Galt, Mr. J. W. Eves, Mr. J. J. Green, Mr. W. Lodge, Miss A. D. McKerrrow, Miss E. E. Jones, Miss P. McLennan, Miss M. McIntosh, and Mr. W. Jones Anstey.

### County Lectures

Each course consists of five or ten Lectures given in the evenings at intervals of one week. Each Lecture may be followed by a class at which questions may be asked of the Lecturer. Before the University enters into any arrangements with a locality for the delivery of such a course of Lectures, a Local Committee must be appointed with a secretary to correspond with the University. The Local Committee will be required to guarantee a certain average

attendance, also the local expenses, consisting of hire of hall, advertising, &c. With these exceptions the Lectures will be given free.

The Lecturer in Forestry at the Armstrong College, Newcastle-on-Tyne, is available for Lectures in Forestry at approved Centres in the three Ridings of Yorkshire.

## **Farm Institute Classes**

### **Agriculture**

Organised Courses of Instruction in the subject of Agriculture will be conducted at approved centres in the three Ridings under the Farm Institute Scheme of the Board of Agriculture.

Agriculture will be the principal subject of the Course, but the subjects of Chemistry, Botany, Zoology, and Geology in their applications to Agriculture will receive attention.

The Courses will be conducted throughout the Winter, and as far as practicable meetings will also be held during the Summer. Students will be expected to keep careful notes and take part in the experimental work.

### **(6) Poultry Keeping**

Special organized courses of practical instruction in Poultry Keeping will be conducted, at approved centres, during the Summer months.

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Communications with reference to these Classes should be addressed to "The Professor of Agriculture, The University, Leeds."

## **Advisory Work**

Under a scheme of the Board of Agriculture, the facilities have been extended whereby members of the staff of the Department of Agriculture can give technical advice to farmers, horticulturists, poultry-keepers, etc., and undertake the investigation of local problems.

Provision is made for the determination of fat and other solids in new milk.

Communications, with reference to Advisory work, etc., should be addressed to "The Professor of Agriculture, The University, Leeds."

### **Dairy Instruction**

The Dairy School at Garforth is open for practical instruction from April to October. Three courses each of six weeks' duration are usually given in Butter and Soft Cheese making.

The Fee for the course is £3. Board and Lodging are provided in the Hostel at Garforth for women students for the period of six weeks for the sum of £5.

Single Demonstrations on Butter-making and addresses on Cheese-making are given during the winter months.

### **Field Experiments**

The University undertakes the laying out and supervision of Field Experiments to illustrate the principles of Agricultural and Horticultural practice.

Reports on these experiments may be had on application to the Professor of Agriculture.

### **Instruction in Horticulture in Schools in the East and West Ridings**

The University supervises the instruction in School Gardens connected with various Day and Evening Schools in the East and West Ridings.

### **Teachers' Saturday Training Courses in Horticulture**

A course of Horticulture and Experimental Plant Physiology will be conducted on Saturdays at the University and the Manor Farm, Garforth, commencing

in September, 1919, and concluding about the end of the following May. The class is for qualified teachers intending to teach the subject of Horticulture. The mornings will be given to the discussion of the principal horticultural processes and their actual practice in the garden, and the afternoons to Botany.

Similar courses will also be conducted at Bentley.

Special fee for the course, £1 12s. 6d.

Arrangements may be made for a Third Year Course related to Horticulture to be held daily in the University during June, July and September.

### **Instruction in Farriery**

Instruction in Horse Shoeing has been provided for and takes the form of Practical Demonstrations in the making of shoes and the shoeing of horses in smithies easily accessible to apprentice smiths in different localities. The work is so arranged that the apprentices attend one afternoon or evening in each week during the period the Instructor is in attendance. The Classes are preceded by a public Lecture on the Foot of the Horse and the Principles of Horse Shoeing, and at the conclusion of the Lecture those smiths who intend to join the Practical Class are asked to give in their names.

## GENERAL TIME TABLE

	9.30—10.30.	10.30—11.30.	11.30—12.30.
MONDAY.	Greek F <sub>1</sub> . Latin Int. English H <sub>2</sub> . German F. History F <sub>5</sub> . Math. I, II & F <sub>3</sub> . Physics Int. <i>a</i> . Chemistry F <sub>1</sub> . and H <sub>2a</sub> . Botany F <sub>1</sub> . Engineering II A. Elec. Engrg. I a. Mine Surveying F <sub>4</sub> .	Greek H. English Int. and F <sub>1</sub> . French S <sub>1</sub> . German H. History H <sub>5</sub> . Economics H <sub>1</sub> . Physics F <sub>1</sub> . Zoology Int. Geology Int. 10.30-12.30. Bot. S <sub>1a</sub> Engineering VI. Leather III. Mining F <sub>2</sub> .	Greek S <sub>2</sub> . Latin F <sub>1</sub> and H. English H <sub>6</sub> . French Int. 1. History F <sub>3</sub> <i>a</i> . Mathematics F <sub>2</sub> . Chemistry Int. and H <sub>1</sub> <i>a b</i> . Elect. Engrg. II and III. Col. Chem. I <i>a</i> . and II <i>b</i> .
TUESDAY.	Greek F <sub>2</sub> . French H. History F <sub>4</sub> and F <sub>6</sub> . Education F <sub>2</sub> A. Chem. F <sub>2</sub> and H <sub>4</sub> . Botany Int. Engineering IV. Mechanics. Fuel II <i>a b</i> and XI <i>a c</i> . Leather I.	Latin Int. (Comp). History Int. F <sub>1</sub> and H <sub>3</sub> . Education F <sub>3</sub> A. Engineering VII A. Leather II.	Latin F <sub>1</sub> and F <sub>2</sub> (Comp.). English H <sub>8</sub> . History Int. 1, F <sub>2</sub> . and H <sub>2</sub> . Mathematics F <sub>1</sub> . Physics Int. <i>a</i> . Chemistry F <sub>3</sub> . Zoology F. Elect. Engrg. II & III. Fuel I.
WEDNESDAY.	Greek F <sub>1</sub> . Latin Int. English H <sub>3</sub> . German F. History F <sub>5</sub> . Math. I, II and F <sub>3</sub> . Chemistry F <sub>1</sub> . and H <sub>2a</sub> . 9.30-11.30—Botany Int. <i>a b c</i> . Botany F <sub>1</sub> . Engineering II A. Elec. Engrg. I a. Mine Surveying F <sub>4</sub> .	Greek H. English Int. and F <sub>1</sub> . German H. History H <sub>5</sub> . Physics S <sub>1</sub> . Botany S <sub>1</sub> <i>a</i> . Geology Int. Engineering VI. Leather III. Mining F <sub>2</sub> .	Greek S <sub>2</sub> . Latin F <sub>1</sub> and F <sub>2</sub> . English H <sub>7</sub> . French Int. i. Mathematics F <sub>2</sub> . Chemistry Int. and H <sub>1</sub> . <i>a b</i> . Zoology F. Geology H <sub>3</sub> . Geology S <sub>1</sub> <i>a b</i> . Fuel IXA <i>a b</i> . Col. Chem. I <i>a</i> and II <i>b</i> .

*a*—1st Term. *b*—2nd Term. *c*—3rd Term.

\* Exclusive of Textile and Agricultural Courses which will be found in previous pages.

# DAY LECTURE COURSES\*

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2-3.	3-4.	4-5.
<p>French F1. German S1. Mathematics Int. Geology F1. Engineering II B <i>b</i>. Elect. Engrg. I.</p>	<p>Latin F2. English H1. German Int. Physics Int.</p>	<p>French Int. 2 and H. German S2. Education F1. Inter. Law 2. Engineering I. Engineering II C <i>a c</i>.</p>
<p>Latin H. English H5. French F1. 2-5 Botany Int. <i>a b c</i>.</p>	<p>French Int. 3, <i>a</i>. French F2. Economics H2 <i>a b</i>. Accountancy.</p>	<p>German S3 Accountancy. Geology S3 <i>b c</i>. Engineering III. Col. Chem. IV <i>a b</i> and VI <i>c</i>.</p>
<p>Engineering II B <i>b</i>.</p>	<p>Physics Int.</p>	<p>French Int. 2. Engineering I. Elect. Engrg. IV. Col. Chem. VI <i>b c</i>.</p>

Classes not marked meet throughout the Session.  
The times for other Classes to be arranged with Students.

## GENERAL TIME TABLE

	9.30—10.30.	10.30—11.30.	11.30—12.30.
THURSDAY.	Greek F2. Latin Int. (Comp.) French H. History F4 and F6. Education F2 B. Chemistry F2. Botany Int. Engineering IV. Mechanics. Fuel IIA. Leather I.	Greek H. German Int. History F1 and H3. Education F3 A. Engineering VII A. Leather II.	Greek H (Comp.) English H1. History Int. 1. F2, H2. Mathematics F1. Physics Int. a. Chemistry F3. Zoology F. Elect. Engrg. II and III. Col. Chem. III. a c.
FRIDAY.	Greek F1. Greek F2. Latin Int. a b. 9-10.30. English H9. French S1. German F. History H6. Math. I, II & F3. Chemistry F1. and H2 a. Botany F1. 9.30-11.30. Bot. S1 a. Engineering II A. Elec. Engrg. I a. Mining F3 a b.	Greek H. English F1. German H. Economics H1. Physics F1. Zoology Int. Geology Int. Engineering VI. Leather III. Mining F2.	Greek S2. Latin F1 and H. English H4. French Int. 1. History F3 a Mathematics F2. Chemistry Int. and H1 a b. Geology H3. Geology S1 a b. Elec. Engrg. IV.
SATURDAY.	Greek S1. Education F2 A. Chemistry F2. 9.30-12. Bot. S2. Engineering VIIIA.	10.15-12.15. French S2 and S3. 10.30-12.30. German S6 and S7. 10-12. Zoology S. Engineering IV. and VIIb Engineering VIIIB. Leather IV.	Greek S2 (Comp.). Chemistry F3. Engineering III.

a—1st Term. b—2nd Term. c—3rd Term

# DAY LECTURE COURSES (*Continued*).

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2-3.	3-4.	4-5.
<p>German Int. Education F<sub>3</sub> B. Engineering IIB <i>b</i>.</p>	<p>3-4-30. Education F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>. (Criticism).</p>	<p>Inter. Law 2. Engineering III. Elect. Engrg. I. Col. Chem. IV <i>a b</i> and VI <i>c</i>.</p>
<p>French F<sub>1</sub>. German S<sub>1</sub>. Mathematics Int. Geology F<sub>1</sub>. Elect. Engrg. I. Coal Mining F<sub>1</sub>.</p>	<p>Latin F<sub>2</sub>. English H<sub>1</sub>. German Int. Economics H<sub>1</sub>. Physics Int.</p>	<p>French Int. 2. German S<sub>2</sub>. Education F<sub>1</sub>. Engineering I. Col. Chem. V.</p>

Classes not marked meet throughout the Session.  
The times for other Classes to be arranged with Student

## Course for the First Examination in Medicine

Time Table

	9.30—10.30.	10.30—11.30.	11.30—12.30.	2—3.	3—4.	4—5.
MON.	Phys. Int. <i>a</i>	Zool. Int. <i>a</i>	Chem. Int.	Chemical Laboratory,	2—5	
TUE.	Practical 9.30—	Zoology 11.30	Phys. Int. <i>a</i>	Botany,	2—5 ( <i>xy</i> )	
WED.	Botany, 9.30—11.30	( <i>xy</i> )	Chem. Int.	Physical Laboratory,	2—5.	
THU.	Practical 9.30—	Zoology 11.30	Phys. Int. <i>a</i>	Chemical Laboratory,	2—5.	
FRI.	..	Zool. Int. <i>a</i>	Chem. Int.	Chemical Laboratory,	2—4.	Chem. Suppl.
SAT.						

*xy*, 2nd and 3rd terms.

This course will meet the requirements of students preparing for the First examination in Medicine (M.B., Ch.B.), for Parts I and II of the First examination in Dental Surgery (B.Ch.D.) of the University of Leeds or for the Conjoint Board Examinations (L.R.C.P. and M.R.C.S.). It includes lectures in Chemistry, Physics, Biology (Zoology and Botany), with the requisite attendance in the Chemical, Physical, and Biological laboratories.

Composition fee for the course (including Library and Union fees) £27 11s.

Students preparing for the Preliminary examination in Science for the Diploma in Dental Surgery, will attend classes in Physics and Chemistry as above during the first and second terms. Fee (including Library and Union fees), £15 11s., but students who elect to continue attendance in the third term will be charged an additional £4.

## THE SCHOOL OF MEDICINE

Session 1919-1920

### UNIVERSITY TERMS

The University session or academic year in the School of Medicine is divided into three terms. The first term begins on Wednesday, October 1, 1919, and ends on Thursday, December 18, 1919; the second term begins on Thursday, January 8, 1920, and ends on Saturday, March 20, 1920; the third term begins on Tuesday, April 20, 1920, and ends on Saturday, July 3, 1920.

### ADMISSION OF STUDENTS

The Dean will enter students at the School of Medicine for courses of instruction from 12 (noon) to 1 p.m., on October 1 and 2, 1919; and on April 20 and 21, 1920. The Fees due must be paid at the same time to the Accountant, who will be present to receive them. The Composition Fee or the first instalment is payable at the commencement of the Long Vacation term of the *first* year at the University.

The Dean is generally in his office in the School of Medicine from 12 (noon) to 1 p.m. daily, and can be seen at other times by appointment. Inquiries about medical studies should be made to him.

Applications to attend the instruction on Infectious Diseases at the Leeds City Hospitals, and to attend instruction in Vaccination, must be lodged with the Dean in the first week of each term.

Inquiries relating to hospital attendance should be addressed to the Clinical Sub-Dean, 29, Park Square, between the hours of 12 noon and 1 p.m.

Every student is required on entering the School to sign the following declaration :

*I, the undersigned, being a student in the School of Medicine of the University of Leeds, hereby undertake to comply with all rules and regulations of the University, and to conduct myself on all occasions in an orderly manner. I fully understand that no*

*allowance whatever will be made, and that I have no claim upon the Council of the University in respect of any fees paid by or due from me, in case such fees are forfeited by any irregularity or misconduct on my part.*

Students pursuing the first year's course of study are admitted at College Road according to the arrangements published on page 104.

## FEES

*All fees are payable in advance to the Accountant. Cheques should be made payable to "The University of Leeds," and crossed "Beckett & Co."*

### 1. Union Fee

As in the other Faculties. See page 110.

### 2. Lecture and Laboratory Fees

The fees for separate lectures will be found under Courses in Medicine.

The fees payable for laboratory for and practical work are at the uniform rate of £3 a session for each half-day per week, a half-day being reckoned as three hours in either the morning or afternoon of any one day. For two terms, three-quarters of these amounts will be charged. For one term, half of these amounts will be charged.

### 3. Fees for Research Students

Persons desirous of pursuing original Research will be admitted on the conditions specified on page 113.

### 4. Composition Fees

The following are the composition fees for students preparing for University degrees in Medicine :

(a) For the complete course qualifying for the First examination of the University, or the Preliminary Scientific (M.B.) examination of the University of London (Section I), the fee is £27 11s., inclusive of Library and Union fees.

(b) For students preparing for University degrees, who have already taken the course of instruction for the First examination of the University, or the Preliminary

Scientific (M.B.) examination of the University of London, the fee is £115 2s. 6d. if paid in one sum on entrance, or £37 12s. on entrance, £37 12s. one year later, £22 in the following January, and £22 at the end of a further twelve months. This entitles to attendance upon one course of the subjects in Sections II and III, and the practice of the Infirmary. Students usually begin their work in the School of Medicine in the long vacation term of the first year, viz., in July. The privilege extends over *eight years* only from the date of the first instalment.

(c) For students preparing for University degrees, who have passed the Second examination, the fee is £90 16s. 6d., and entitles to attendance upon one course of the subjects in Section III and the practice of the Infirmary. The privilege extends over *six years* only.

## SECTION I.

Physics.  
Chemistry.

Zoology.  
Botany.

## SECTION II.

Descriptive Anatomy, General and Advanced Courses.

Use of Dissecting Room with tutorial instruction covering five terms.

Physiology, general and advanced courses.

Practical Physiology and Histology.

Materia Medica.

Practical Pharmacy.

## SECTION III.

Pharmacology and Therapeutics.

Pathology and Bacteriology.

Practical Pathology.

Medicine.

Do. a second course.

Surgery.

Practical Surgery.

Obstetrics.

Gynaecology.

Intern Maternity

Forensic Medicine.

Practical Toxicology

Mental Diseases.

Ophthalmology and Otolary.

Public Health.

Applied Anatomy.

Infectious Diseases

Vaccination

Additional courses of lectures and practical or tutorial classes which may be rendered necessary by failure to pass any examination, or by the refusal of the Board of the Faculty of Medicine to certify satisfactory attendance on any course, will be charged for as the Board may direct.

### 5. Examination Fees

No fee will entitle to admittance to more than *one* examination.

For the First examination for the degrees of M.B. and Ch.B., £5; and for each subsequent examination, £2.

For the Second examination for the degrees of M.B. and Ch.B., £5; and for each subsequent examination, £2.

For the Final examination for the degrees of M.B. and Ch.B., £5; and for each subsequent examination, £2.

For the examination for the degree of Ch.M., £5; and for each subsequent examination, £2.

For the examination for the diploma in Public Health, £5 5s. for each part, and for each subsequent examination in the same part, £3 3s.

For the examination for the diploma in Psychological Medicine, £5 5s., and for any subsequent examination in each part, £1 11s. 6d.

On application for the degree of M.D., £5.

### 6. Degree Fees

On conferment of the degree of Ch.M. or M.D., £5.

## REGULATIONS FOR STUDENTS

1. All students are required to enrol their names at the Dean's office at the beginning of the first and third terms. Students who from any unavoidable cause are prevented from personally attending at that time must communicate with the Dean by letter.

2. Should a student change his residence during the session, he must inform the Dean of the change of his address without delay.

3. Regular, punctual, and orderly attendance at lectures, demonstrations, and class-examinations is required of every student, in order to obtain certificates of attendance. In the case of persistent neglect of work, repeated failure at professional examinations, or unreasonable delay in presenting himself for such examinations, a student may be required to withdraw from the University.

4. In case of illness or other unavoidable cause of non-attendance at any lecture, demonstration, or class examination, a written explanation accompanied, when necessary, by a medical certificate, must be sent to the Dean, with as little delay as possible, otherwise excuses for absence cannot be accepted. Hospital work is not counted as an excuse for non-attendance upon lectures excepting in the case of the week's casualty dressership and for actual attendance upon cases of midwifery, all of which must be duly certified. Consequently students must not take any resident hospital appointments which involve absence from lectures or classes in the School, unless they have previously informed, and obtained the permission of, the Dean.

5. Prizes will be granted only when the work and conduct of the student are satisfactory, and certificates or prizes may be refused on the ground of unsatisfactory conduct.

6. Smoking is allowed only in the Students' Common Room, the Refectory after 1 p.m., and under certain restrictions in the Dissecting Room.

7. Students will be required to make good, to the satisfaction of the Council, any loss, wilful damage or injury they may occasion to the property of the University.

8. Students in the School of Medicine are amenable to the discipline and general regulations of the University as well as to the rules made by the Board of the Faculty of Medicine. Violation of these regulations and rules renders a student liable to immediate dismissal, and to the forfeiture of all fees, certificates, and privileges as a student of the University.

#### **Lockers**

Lockers are provided for the safe keeping of coats, books, &c. The rent is 2s. 6d. per annum, commencing at the 1st or 3rd terms, with a deposit of 1s., which will be returned when the key is given up, if the locker is undamaged.

#### **Residence**

See particulars of Hall of Residence (page 124), and Registered Lodging and Boarding Houses (page 123).

**Refectory**

A well-appointed Refectory, which is open daily, excepting Saturdays, has been provided in the School of Medicine. It is under the combined management of the Board of the Faculty of Medicine and of the Students' Representative Council. Luncheon is served from 12 (noon) to 2 p.m. Tea, coffee, and light refreshments may be obtained until 5 p.m.

**LIBRARY**

*Honorary Librarian* : Professor HELLIER

The Library contains a valuable collection of books, composed of the united libraries of the School of Medicine and of the Leeds and West Riding Medico-Chirurgical Society. The Library of the Old Infirmary, rich in medical classics, became the property of the School of Medicine in 1865.

The Library is supplied with most of the modern works of importance, and the chief English and foreign periodicals.

*Rules*

1. The Library is open to students daily, between the hours of 9 a.m. and 5 p.m., except on Saturdays, when it will be closed at 1 p.m. During these hours, books can be obtained for use in the Library.

2. Students wishing to borrow books for home use are allowed to do so under the following regulations :—

(a) Every student wishing to take books away from the Library shall deposit half-a-guinea as caution money; this sum, or the balance of it remaining, shall be refunded to the depositor on the return of his Library card.

(b) The student will, on payment of the deposit, receive a Library card with his name upon it. This card must always be presented whenever the student desires to borrow a book.

(c) Books borrowed for home use must be returned to the Library within two weeks from the date of issue. One volume only can be borrowed at a time. A fine of 2d. a day is incurred for every day that it has been detained beyond the time allowed.

(d) No periodical for the current year may be removed from the Library.

(e) In case of loss of or damage to any book, the loss or damage must be made good by the borrower.

(f) Every book must be returned to the Library at the end of the winter and summer sessions respectively.

NOTE.—Practitioners residing in Leeds or its neighbourhood may be admitted to the use of the Library upon certain conditions, and upon the payment of a subscription.

## MUSEUMS

The MUSEUM OF PATHOLOGY contains, in addition to preparations illustrating the ordinary pathological processes, many rare specimens, some of historical interest. It draws largely for its supply from the General Infirmary, as well as from other institutions in the City. A collection of microscope sections from specimens in the Museum is available for the use of students on application.

A complete type collection of MATERIA MEDICA specimens is also placed here for the convenience of students.

The ANATOMY MUSEUM AND BONE ROOM adjoins the Dissecting Room, and has been fitted up, under the direction of the Professor of Anatomy, with a valuable collection of specimens specially arranged for study, which are also used in illustration of the lectures on Anatomy. Amongst them are a complete set of bones marked with the muscular attachments, and mounted in revolving cases ; and several series of wax models, illustrating the development of the foetus.

## DEGREES IN MEDICINE AND SURGERY

The Degrees in Medicine and Surgery shall be :

Ordinance	Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.) Doctor of Medicine (M.D.) Doctor of Philosophy (Ph.D.) Master of Surgery (Ch.M.).
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### Degrees of Bachelor of Medicine and Bachelor of Surgery

1. Candidates for the degrees of Bachelor of Medicine and of Surgery are required to present certificates showing that they will have attained the age of twenty-one years on the day of graduation, and that they have attended courses of instruction approved by the University extending over not less than five years, two of such years at least having been passed in the University, at least one year being subsequent to the date of passing the First examination.

Regulations     During the first four years, a year of medical study must include attendance upon at least *two* of the prescribed courses of lectures or laboratory work, or one such course and hospital practice, in each term, if that year is to count as part of the degree course. In the fifth year clinical work will suffice. The attendance must be given at the University or at a college, medical school, or hospital recognised by the University.

Ordinance     2. Candidates for the degrees of Bachelor of Medicine and of Surgery are required to satisfy the Examiners in the several subjects of the following examinations, entitled respectively :

The Matriculation examination, or such other examination as may have been recognised by the Joint Matriculation

Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham in its stead ; the First examination ; the Second examination ; the Final examination.

Except as provided below, candidates must present themselves and pass in all the subjects of any part of an examination at the same examination. But candidates who have failed (*a*) in Chemistry or Physics at the First examination for the degrees of M.B. and Ch.B., or (*b*) in Anatomy or Physiology at the Second examination for the degrees of M.B. and Ch.B., or (*c*) in any subjects of Part II and III of the Final examination for the degrees of M.B. and Ch.B. may be exempted from re-examination in such part of the examination as the combined Examination Committee may determine. Provided that this exemption shall not be allowed except at the examination next following that at which such candidates have failed when presenting all the subjects.

#### **First Examination**

3. The First examination shall consist of two parts :

Ordinance

PART I. Physics  
Chemistry.

PART II. Biology.

4. Candidates, before presenting themselves for the First examination, are required to furnish certificates of having attended courses of instruction in accordance with the Regulations of the University, and to have passed the Matriculation examination.

5. Candidates who have passed the Intermediate examination for the degree of Bachelor of Science in Chemistry, Physics, Zoology, and Botany, will, on payment of the required additional fee, be regarded as having passed the First examination for the degrees of Bachelor of Medicine and Bachelor of Surgery.

6. The names of candidates who have satisfied the Examiners in either part of the First examination shall be published in alphabetical order.

Candidates for the First examination are required to furnish certificates of having attended approved courses

Regulations

of instruction at the University or at an institution recognised for this purpose by the University; or of having attended, at some other institution, courses of instruction which shall be accepted by the University as equivalent.

The courses of instruction shall be as follows:

1. Chemistry, Inorganic and Organic: lectures and laboratory work: at least one year.
2. Physics: lectures and laboratory work: at least one year.
3. Biology (Zoology and Botany): lectures and laboratory work: at least one year.

The examination will include laboratory work in the three subjects. Candidates may pass in each part separately.

This examination is held in each session in June and September. The last date of entry and payment of fees will be MARCH 1st and AUGUST 1st.

### Second Examination

Ordinance 7. The Second examination shall consist of two parts:

PART I. Anatomy  
Physiology.

PART II. Pharmacy.

8. Candidates, before presenting themselves for the Second examination, are required to furnish certificates of having attended courses of instruction in accordance with the Regulations of the University, and to have passed the First examination.

9. The names of candidates who have satisfied the Examiners in either part of the Second examination shall be published in alphabetical order.

Regulations Candidates for the Second examination are required to have passed the First examination, and to have attended complete courses of instruction, approved by the University, in Anatomy and in Physiology during four terms; in *Materia Medica* and in Pharmacy for one term. The certificates must shew (1) that dissection has been practised during

five terms at least<sup>1</sup>; (2) that laboratory instruction, approved by the University, has been received in Physiology; (3) that practical instruction, approved by the University, has been received in Materia Medica and Pharmacy.

*Subjects of examination*

PART I.

Anatomy. Candidates may, at the discretion of the Examiners, be required to perform actual dissection.

Physiology includes laboratory work in Physiological Chemistry, Histology, and Experimental work.

PART II.

Practical Pharmacy. Candidates will be required to recognise drugs, and to compound medicines.

Candidates may pass in each Part separately.

Candidates who fail to satisfy the Examiners in Part I or Part II must before being readmitted to examination produce evidence of having pursued such further study as may have been required by the Examiners.

N.B.—This examination is held in each session in December and June.

**Final Examination**

10. The Final examination shall consist of three parts:      Ordinance

PART I. Pathology and Bacteriology

This may be taken at the end of the 10th term.

PART II. Forensic Medicine

Public Health.

PART III. Medicine

Surgery

Obstetrics and Gynæcology

Pharmacology and Therapeutics

Parts II. and III. may be taken at the end of the 15th term, either separately or together.

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<sup>1</sup> Work in the vacations is counted as one term, if satisfactory.

11. Candidates, before presenting themselves for any part of the Final examination, are required to have passed the Second examination, and to furnish certificates of having attended courses of instruction, in accordance with the Regulations of the University.

12. The names of candidates who have satisfied the Examiners in the first part of the Final examination shall be published in alphabetical order.

13. The names of candidates who have satisfied the Examiners in all the subjects of the Final examination, and are recommended for degrees, shall be published as follows :

1. Those awarded First Class Honours
2. Those awarded Second Class Honours
3. Those who have satisfied the Examiners.

The names shall be in alphabetical order in each case.

### *Certificates of attendance*

**Regulations** Candidates, before presenting themselves for any part of the Final examination, are required to have passed the Second examination, and to have completed the tenth term of medical study. Candidates, before presenting themselves for the second or third part of the Final examination, are required to have passed the first part of the Final examination and to have completed the fifth year of medical study. Candidates must furnish certificates of having attended courses of instruction approved by the University, in the University, or in a medical school recognised for this purpose by the University, in the subjects in which they offer themselves for examination.

Candidates are required to furnish certificates as follows :

A. Of having attended courses of instruction, approved by the University, in the University or in a medical school or hospital recognised for this purpose by the University, in the following subjects :

1. Pharmacology and Therapeutics, one term.

2. Pathology and Bacteriology, three terms.  
The certificate in Pathology and Bacteriology must in all cases testify that the candidate has attended a course of laboratory instruction in these subjects, approved by the University.
3. Forensic Medicine, one term.  
The certificate in Forensic Medicine must in all cases testify that the candidate has attended a course of practical instruction in Toxicology, approved by the University.
4. Public Health, one term.
5. Obstetrics and Gynæcology, two terms.  
The certificate in Obstetrics and Gynæcology must in all cases testify that the candidate has attended a course of practical instruction approved by the University, in the use of obstetrical and gynæcological instruments.
6. Surgery, three terms ; Practical Surgery, two terms ; Ophthalmology, one term.
7. Medicine, four terms.  
The certificate in Medicine must in all cases testify that the candidate has attended, during one term in each case, courses of instruction approved by the University in (a) Mental Diseases : (b) Infectious Diseases.

*B.* In respect of Hospital work.

1. In Medicine and Surgery, of having attended the medical and surgical practice of a hospital or hospitals, approved by the University, during at least two and one-half years, of which years two at least must be subsequent to the date of passing the Second examination, except when exemption has been granted by the Senate, after report from the Board of the Faculty of Medicine. Clinical Medicine, two years of clinical lectures. Clinical Surgery, two years of clinical lectures.
2. In Pathology and Morbid Anatomy, of having attended during at least twelve months demonstrations in the post-mortem room of a hospital, including practical instruction.
3. In Obstetrics, (a) of having attended during not less than one month the indoor practice of a lying-in hospital or the lying-in wards of a general hospital approved by the University, and (b) of having personally conducted not less

than twenty cases of labour, subsequently to having acted as surgical dresser and clinical clerk.

The certificate must in all cases (*a*) testify that such attendance has been given under the direct supervision of a medical officer of the hospital, and (*b*) regarding the personal conduct of cases of labour, be signed by a member of the staff of a hospital or a maternity charity.

4. In Gynæcology, of having, during at least three months, received in either a general or a special hospital, approved by the University, such clinical instruction in the diseases peculiar to women as shall be approved by the University.
5. Of having received clinical instruction in diseases of the eye, ear, throat, and skin.
6. Of having received instruction in the administration of anæsthetics.
7. Of having acquired proficiency in vaccination.
8. Of having acted as a surgical dresser for six months, as a clinical clerk for six months, and as a clerk for three months in the post-mortem room of a hospital recognised by the University.

N.B.—This examination is held in each session in December and June.

### *Detailed subjects of examination*

#### PHARMACOLOGY AND THERAPEUTICS.

#### PATHOLOGY AND BACTERIOLOGY.

Candidates will be examined practically on Bacteriology, Pathological Anatomy, Histology, and Chemistry.

#### FORENSIC MEDICINE AND TOXICOLOGY AND PUBLIC HEALTH.

Candidates will be required to conduct a qualitative analysis of poisonous substances selected from the following list :

CLASS I. (In simple solution) Carbolic Acid, Alcohol, Chloroform, Chloral Hydrate, Strychnine, Brucine, Morphine, Meconic Acid.

CLASS II. (In combination with various organic substances) Mineral Acids, Oxalic Acid, Hydrocyanic Acid and the Cyanides, Caustic Alkalies, Phosphorus, Compounds of arsenic, antimony, mercury, lead, barium, zinc, copper, and silver.

They may also be required to determine the character of stains and stained fabrics, microscopically and chemically, and to recognise poisonous articles of the *materia medica*.

OBSTETRICS AND GYNÆCOLOGY: SYSTEMATIC, CLINICAL AND PRACTICAL.

Candidates will be required to show their practical acquaintance with obstetrical and gynæcological manipulations and instruments by the use of the phantom or otherwise, and will also be examined on museum preparations.

Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.

SURGERY: SYSTEMATIC, CLINICAL, AND PRACTICAL.

Candidates will be examined on the use of surgical instruments and apparatus, and on museum preparations; they may also be required to perform operations on the dead body.

Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.

MEDICINE: SYSTEMATIC AND CLINICAL, INCLUDING MENTAL DISEASES AND DISEASES OF CHILDREN.

Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.

In determining the award of Honours account will be taken of the results of the Second examination.

In the paper on Medicine, passages of French and German relating to medicine will be included for translation into English. The marks obtained for such translation will be taken into account in determining the award of Honours, but not in determining the passing or rejection of any candidate.

Candidates who fail to satisfy the Examiners in any subject of the examination must, before being re-admitted to examination, produce evidence of having pursued such further study as may have been required by the examiners.

## Degree of Doctor of Medicine

1. No candidate shall be admitted to the degree of Doctor Ordinance. of Medicine unless he has previously received the degrees of Bachelor of Medicine and Bachelor of Surgery, and at least one year has elapsed since he passed the examination for those degrees.

2. Candidates for the degree of Doctor of Medicine are required to present a dissertation, and, if the dissertation be accepted, to pass an examination. The dissertation, of which the subject must previously have received the approval of the Board of the Faculty of Medicine, must embody the results of personal observations or original research, either in some department of medicine or of some science directly related to medicine, provided always that original work, published in scientific journals or in the Proceedings of learned societies, or separately, shall be admissible in lieu of or in addition to a dissertation specially written for the degree. Candidates will be required to write a short extempore essay on some topic connected with medicine, and to answer questions on the history of medicine. They will also be examined orally on the dissertation or other work submitted. Any candidate may be exempted from a part or the whole of the examination if the Board of the Faculty so decide. No candidate will be admitted to the degree unless his application, after report from the Board of the Faculty of Medicine, shall have been accepted by the Senate.

3. The names of candidates who have been approved for the degree of Doctor of Medicine shall be published in alphabetical order.

Regulation Candidates for the degree of Doctor of Medicine are required to furnish three copies (printed or type-written) of the dissertation or published work which they desire to submit, together with any drawings or specimens which may be necessary for their illustration. These copies shall be sent in to the Clerk to the Senate and will be retained by the University.

### **Degree of Doctor of Philosophy**

(See page 160).

### **Degree of Master of Surgery**

Ordinance 1. No candidate shall be admitted to the degree of Master of Surgery unless he has previously received the degrees of Bachelor of Medicine and Bachelor of Surgery, and at least one year has elapsed since he passed the examination for those degrees.

2. Every candidate, before presenting himself for the examination for the degree of Master of Surgery, is required to have graduated as Bachelor of Medicine and Bachelor of Surgery, and to furnish certificates of attendance in accordance with the Regulations of the University.

3. *Subjects of Examination :*

Surgical Anatomy  
Surgery  
Operative Surgery  
Clinical Surgery  
Ophthalmology  
Pathology and Bacteriology.

4. The names of candidates who have satisfied the Examiners shall be published in alphabetical order.

Candidates, before admission to the examination for the degree of Master of Surgery, are required to furnish certificates which shall be deemed satisfactory by the University that they, since taking the degree of Bachelor of Medicine and of Surgery, have held, for not less than six months, a Surgical appointment in a public hospital or other public institution affording full opportunity for the study of Practical Surgery. Regulations

Candidates proposing to present themselves for this examination are required to give notice, in writing, to the Clerk to the Senate and pay the fee on or before June 1st.

Candidates for the degree of Master of Surgery are also required to furnish certificates :

1. Of having attended a special course of instruction on Operative Surgery, approved by the University, and of having personally practised the principal surgical operations on the dead body.
2. Of having attended a systematic course of instruction, including practical work, approved by the University, on Bacteriology.
3. Of having attended a course on Ophthalmology, and of having received instruction in Ophthalmic Surgery approved by the University.

## Courses in Medicine

### I. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD

#### PHYSICS

Professor

MR. ALLEN

The course designed to meet the wants of candidates for the First examination of the University of Leeds or the First Examination for Medical Degrees of the University of London, will consist of experimental lectures on Mondays at 9.30 a.m., Tuesdays and Thursdays at 11.30 a.m., during the session.

*Subjects:* The elements of electricity, magnetism, sound, light, heat and the properties of matter.

The Physical laboratory is open daily, from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m.

#### CHEMISTRY

Professor SMITHELLS, Professor COHEN  
and Demonstrators.

##### I. Medical Course

During the session on Monday, Wednesday and Friday, at 11.30 a.m., and at some other time to be arranged.

##### II. Practical Chemistry

During the session, on Monday, from 2 to 5 p.m.; on Thursday from 2 to 5 p.m.; and on Friday, from 2 to 4 p.m.

##### III. Organic Chemistry

During the session, at 11.30 a.m. on Tuesday, Thursday and Saturday.

##### IV. Practical Organic Chemistry

During the third term, 4 hours per week.

*(Classes III and IV are suitable for the examination in Organic Chemistry for the London M.B.)*

### V. Sanitary Chemistry

For practitioners who are preparing for a diploma or degree in Public Health. During the second and third terms, on Tuesday and Thursday from 2 to 5 p.m. The hours are subject to re-arrangement.

*N.B.—For students who wish to take additional practical work of whatever kind, the Chemical Laboratory is open daily from October to June inclusive.*

## BIOLOGY

Professor GARSTANG, Professor PRIESTLEY  
and Demonstrators

Medical Students preparing for the First examination of the University of Leeds, or other Licensing Body, take the courses specified on pages 273 and 275.

Lectures on Zoology during the session on Monday and Friday at 10.30 a.m. Lectures on Botany during the second and third terms only on Tuesday (2 to 5 p.m.) and Wednesday (9.30 to 11.30 a.m.). Practical work in the Zoological laboratory throughout the session on Tuesday and Thursday mornings (9.30 to 11.30 a.m.); practical work in the Botanical laboratory during the second and third terms only on Tuesday afternoons (2 to 5 p.m.) and on Wednesday mornings (9.30 to 11.30 a.m.).

Each student will be required to provide himself with a microscope (suitable also for his subsequent studies), a dissecting case, a biological drawing book, and some simple instruments for microscopic work.

## II. COURSES HELD IN THE SCHOOL OF MEDICINE

### ANATOMY

Professor JAMIESON

#### I. Systematic and Descriptive Anatomy

Daily, at 9.15 a.m., in the first and second terms.

Tuesday, Thursday and Saturday, at 9.15 a.m., in the third term.

The general course of lectures begins in the Long Vacation term and extends over this term (July) and the

following first and second terms. For students who cannot begin their anatomical studies till the winter, special arrangements are made to enable them to follow the lectures with profit.

The advanced course of instruction consists of meetings which are held in the 3rd and 1st terms following on the general course.

Systematic tutorial classes are held in connection with the above courses, and attendance on these is obligatory.

Medical students are required to attend both courses before being signed for one full course of anatomy.

## II. Practical Anatomy

Professor JAMIESON and Demonstrators

The dissecting room is open daily from 9 a.m. till 5 p.m., (Saturday until 12.30 p.m.) Special instruction is given to all students who are about to present themselves for examination, particularly to those preparing for the higher examinations, such as University degrees and the Primary F.R.C.S., Eng.

Only those students are admitted into the Dissecting-room who have entered for the Anatomy course, or who have paid the fee for the use of the room.

	<i>Fees</i>	£	s.	d.
Descriptive Anatomy:—				
General Course ... ..		7	7	0
Advanced Course ... ..		3	3	0
Use of Dissecting-room, with tutorial instruction, during attendance on the anatomical course, covering five terms ... ..		7	7	0
Use of Dissecting-room, with tutorial instruction, for every three months or portion of three months during the two years subsequent to the above period ... ..		2	2	0
Use of Dissecting-room, with tutorial instruction under all other circumstances, for three months, £3 3s. ; for six months ... ..		5	5	0

## III. Applied Anatomy

The class meets on Monday and Thursday at noon, during the first and third terms, in the Anatomy Theatre. It is intended for senior students and for qualified practitioners.

Fee, £2 2s.

## PHYSIOLOGY AND BIO-CHEMISTRY.

Professor RAPER, Lecturer and Demonstrator

### I. General Course

This course of lectures treats of Physiology generally, and is illustrated by experiments. Monday, Tuesday, Wednesday, Thursday, and Friday, at 11.45 a.m., during the first and second terms, and during the third term on Monday, Wednesday and Friday, at 9.30 a.m.

Fee, £8 8s.

### II. Microscopical Demonstrations

Held at 11 a.m. every Saturday throughout the session, and are open to all students attending courses of Physiology.

### III. Practical Physiology

*A. Practical Histology.*—During the third term, on Monday, Wednesday, and Friday, 10.30 a.m. to 12.45 p.m.

*B. Chemical Physiology.*—During the second term, on Monday, Wednesday, and Friday, at 2 p.m.

*C. Experimental Physiology.*—During the first term, on Monday, Wednesday, and Friday, for two hours in the afternoon.

Fees for *A*, £6 6s.; for *B* and *C*, £4 4s.

### IV. Practical Physiology for Dental Students

A three months' course for Dental Students preparing for the Diploma in Dental Surgery, which will include Histology, Dental Microscopy, and the elements of Chemical Physiology.

### V. Chemical Physiology

A special course of lectures for candidates taking this as an elective subject for the B.Sc. with Honours in Chemistry. Time to be arranged.

**VI. Physiological Demonstrations and Catechetical Classes**

These classes are held regularly during the session at such times as are found most convenient.

**VII. Recapitulatory Class**

Short laboratory courses for the repetition of laboratory work are formed in the second and third terms, and will meet twice a week, usually in the morning.

Fee, £2 2s.

**The Physiological Laboratories**

These laboratories are open daily for research. Special instruction is arranged for those preparing for Honours courses and Higher examinations (F.R.C.S. Eng., &c.).

**PATHOLOGY AND BACTERIOLOGY**

Professor STEWART, Lecturers and Demonstrators

**I. General Pathology including Practical Pathology and Bacteriology**

The course consists of lectures with correlated practical work on the succeeding day or days on Morbid Histology, Bacteriology and Pathological Chemistry. Students will make and mount preparations for microscopical examination and will make bacteriological investigations required for

Tuesday, Wednesday, and Friday, from 12 to 1.30 p.m. during each term.

Fee, £9 9s.

**II. Tutorial Classes in Medical, Surgical and General Pathology**

will be held from time to time as may be arranged.

**III. Bacteriology for D.P.H.**

(See page 429)

Fee, £7 7s.

**IV. Bacteriology for Science Students**

Held in the second term at hours to be arranged.

Fees as arranged.

**V. The Laboratories of Pathology and Bacteriology**  
are open daily for research work.

In this department the various bacteriological and pathological investigations required by county and municipal authorities and by private practitioners are carried out.

**PRINCIPLES AND PRACTICE OF MEDICINE.**

Professor GRIFFITH

Dr. WATSON

The lectures are given by Professor Griffith at 9 a.m. during the second and third terms. Students attend during both terms in their first year after passing the second M.B. examination, and in the following year they attend again during the third term.

Tutorial classes are held by Dr. Watson at hours which are arranged.

Fee, £6 6s. (including Clinical Medicine).

**CLINICAL MEDICINE**

Professor BARRS

A course of lectures chiefly Clinical is given in the first term at 9.10 a.m. on Wednesday. These lectures are based upon cases at the time in the wards. Attendance upon them is required as part of the course of instruction in Medicine, and they do not take the place of the ordinary Clinical lectures given by the physicians at the Infirmary.

**SURGERY**

Professor KNAGGS

Mr. COUPLAND

Tuesday and Saturday, at 9 a.m., during the second and third terms.

Fee, £6 6s. (including Clinical Surgery).

**CLINICAL SURGERY.**

Professor SIR BERKELEY MOYNIHAN

A course of lectures chiefly Clinical is given in the first term at 9.10 a.m. on Tuesday. Attendance upon them is required as part of the course of instruction in Surgery, and they do not take the place of the ordinary Clinical lectures given by the surgeons at the Infirmary.

**PRACTICAL SURGERY**

Mr. DOBSON

Monday and Thursday at 12 noon, during the second and first terms.

Fee, £4 4s.

**OPERATIVE SURGERY**

Mr. COLLINSON

Classes will be formed for the performance of operations on the dead body, under the superintendence of the lecturer at times to be arranged. As all the important operations will be done by the students, every opportunity will be given for gaining practical experience in this branch of surgery.

Fee, £12 12s. divided in equal shares among a class of not more than four students.

**OBSTETRICS**

Professor CROFT

Monday, Wednesday and Friday, at 9 a.m. during the second term.

Tutorial classes are also held from time to time.

The necessary facilities for clinical instruction in Obstetrics are given by the Maternity department of the Infirmary, and the Leeds Maternity Hospital.

Every student is required to take a month's clerkship in the extern maternity department of the Infirmary and to attend not less than 20 labours.

This must be preceded by at least one month's attendance on intern maternity practice at the above-named Hospitals.

Fee, £5 5s. ; together with Gynæcology, £6 6s.

**GYNÆCOLOGY**

Dr. OLDFIELD

Tuesday, Friday and Saturday, at 9 a.m. in the third term.

Fee, £3 3s. ; together with Obstetrics, £6 6s.

**PHARMACOLOGY AND THERAPEUTICS**

Professor

and Dr. VINING

Monday, Wednesday and Friday, at 4 p.m. during the second term.

Fee, £3 3s.

**PHARMACY**

Professor

Mr. J. H. GOUGH

In July, at hours to be arranged.

*Subjects :*

(a) *Materia Medica.*

(b) *Practical Pharmacy.*

The first hour is given to demonstrations and tutorial teaching in *Materia Medica*, the remaining time being devoted to *Practical Pharmacy*.

Fees: *Materia Medica*, £4 4s.; *Practical Pharmacy*, £3 3s.

**PUBLIC HEALTH**

Professor ANGUS

Wednesday and Saturday, at 9 a.m., during the first term.

Fee, £3 3s.

N.B. For candidates for degrees or diplomas in Public Health, the course is supplemented by additional lectures dealing more fully with vital statistics (including the estimation of populations and other calculations of death rates); the registration and following up of infectious cases; the examination of dwellings; water supplies; refuse destructors; disinfecting stations; the general management of a health department; the examination of School children.

**FORENSIC MEDICINE**

Professor EURICH

**i. Toxicology**

Monday, Tuesday, Thursday, and Friday at 9 a.m. during the first term.

Fee, £5 5s.

**OPHTHALMOLOGY**

Mr. WHITEHEAD

Monday, Thursday and Friday at 9 a.m. during half of the first term.

**OTOLOGY**

Mr. BAIN

Monday, Thursday and Friday at 9 a.m. during half of the first term.

Fee, £3 3s. (including Ophthalmology).

**MENTAL DISEASES**

Professor BOLTON

Systematic lectures are given at the School of Medicine on Thursday and Friday at 4 p.m., and clinical lectures and demonstrations at the West Riding Asylum, on Tuesday, at 3 p.m., during the third term.

Fee, £3 3s.

**HOSPITAL PRACTICE**

1. While for the Leeds M.B. degree two and one-half years' hospital practice are required, for certain degrees three years' hospital practice is necessary, and *one* of these should be taken before the Second examination has been passed. Students intending to take such degrees should enter their names upon the Infirmary Register at *the beginning of the third year of their studies in medicine*. Failure to do this will prevent them from completing the necessary attendance by the time when they would normally present themselves for the Final examination. For the degree of the University of Leeds students enter their names at the beginning of the eighth term.

2. In order to be entered upon the Infirmary register students must first interview the Clinical Sub-Dean (Mr. Collinson) at 29, Park Square, from whom advice can be obtained in arranging their work at the Infirmary.

3. The attention of students is directed to the necessity for carefully arranging, beforehand, the time at which they

propose attending at the Fever hospital, as during the period of such attendance they are excluded from the surgical, ophthalmic and gynæcological wards and cannot act as maternity clerks.

Full information as to clinical instruction and appointments offered to students is contained in the prospectus of the School of Medicine.

### **Leeds General Infirmary**

The medical and surgical practice required by medical students is taken at this institution, which offers abundant opportunities for clinical study. Situated in the centre of a densely populated manufacturing and mining district, and drawing patients also from a wide surrounding area, its wards present an ample field for the study of diseases and injuries. The concentration of medical, surgical, gynæcological, ophthalmic, aural, children's and skin diseases in one hospital leads to much economy in time and labour to the student.

The nature of the work done in the Leeds Infirmary makes the clerkships and dresserships of great value, and the resident appointments involve so much practical work and personal responsibility as to give the holders a very varied and valuable experience.

### **Leeds Public Dispensary**

About 35,000 medical and surgical cases are treated annually, partly as out-patients, and partly at their own homes. There are one senior and four junior resident medical officers, and to each of the latter a separate district of the city is assigned.

The practice of the Dispensary is open to any student on application to one of the honorary staff.

### **Leeds City Fever and Small Pox Hospitals**

Students are admitted at the Leeds City Hospitals (Medical Superintendent, Mr. A. E. Pearson) on having obtained sanction from the Dean of the Faculty of Medicine, subject to such regulations as may be made from time to time by the Leeds City Council.

Students must abide by the rules laid down as to disinfection and other matters, and must satisfy the Corporation authorities that they are sufficiently protected against small-pox by vaccination.

Courses lasting two months are held in each term on three afternoons in each week.

At the Small Pox hospital a minimum period of one week's residence may be required with payment in advance of 12s. a week for board and lodging.

The hospitals are not open to students during April, August, and September. Clinical lectures and demonstrations on infectious diseases will be given by the Medical Superintendent of the hospitals, and the attendance of students at these lectures and on the practice must be completed during the term for which they enter.

Those desirous of attending the practice outside the ordinary classes or clinical instruction, and not requiring a certificate of their attendance, must apply for permission to the Medical Officer of Health of the City of Leeds, at his office, 12, Market Buildings, Vicar Lane, between the hours of 10 and 11 a.m.

Fee for the three months' course, £2 2s.

### Hospital for Women and Children

The gynæcological wards contain 48 beds. The maternity department contains 5 beds for cases of delivery, of which a large portion are abnormal. A large number of cases of diseases associated with pregnancy are also treated in the hospital. Students appointed as *Maternity Clerks* are required to attend the midwifery practice of the hospital in accordance with the University regulations. Two resident *House Surgeons*, who must be legally qualified, are appointed every six months, with a salary at the rate of £50 per annum with board. Two *Anæsthetists*, who must be legally qualified, are appointed annually. Each receives an honorarium of £20 per annum. Honorary *Clinical Assistants* are also appointed by the Honorary Staff. These appointments are specially valuable to those wishing to do post graduate work in gynæcology and diseases of children.

### **Leeds Maternity Hospital**

The practice of the Maternity Hospital (70 beds), 42, Hyde Terrace, is available for the instruction of students, subject to regulations laid down by the Hon. Medical Officers.

### **West Riding Lunatic Asylum, Wakefield**

This institution, which accommodates 2,250 patients, offers unusual advantages to those who desire to make themselves conversant with the treatment and management of the insane. A hospital containing 330 beds has been provided for the treatment of acute insanity, and a separate home for 70 imbecile and idiot children has been lately opened. Clinical lectures and demonstrations are given at the Asylum by Professor J. Shaw Bolton, Medical Director of the Asylum.

### **Instruction in Vaccination**

This instruction is given under the control of the Local Government Board at the General Infirmary at Leeds, on Thursdays at 3 p.m., by Mr. A. T. Bacon, Instructor in Vaccination. Classes begin in October, February, and May. Each class consists of seven meetings, six of which must be attended, four of them consecutively. Not more than ten students can be admitted to any one class.

Fee, £1 11s. 6d.

## DIPLOMA IN PUBLIC HEALTH

**Regulations**    The examination is held twice in each year, in June and December, under the following

### Regulations.

1. The examination is in two parts, and is written, oral, and practical.

2. Candidates, before entering for the first part of the examination, must have held for not less than twelve months a registrable qualification in Medicine, Surgery, and Midwifery, and must present satisfactory certificates,

- i. Of having attended an approved course of instruction in Public Health in the University, or in a college or medical school recognised for this purpose by the University; or of having attended, at some other institution, courses of instruction which shall be accepted by the University as equivalent.
- ii. Of having attended, after obtaining a registrable qualification, during at least six months practical instruction in laboratories approved by the University, the courses including Chemistry as applied to Public Health, Bacteriology, and the Pathology of those diseases of animals which are communicable from animals to man. At least 240 hours must be spent in laboratory instruction, of which not more than 120 may be devoted to Chemistry. Three months at least must be spent in attendance on courses in the University.

Candidates before entering the second part of the examination must present certificates,

- iii. Of having, after obtaining a registrable qualification, attended at least twice weekly during not less than three months the clinical and administrative practice of a hospital for infectious diseases approved by the University.

- iv. Of having, after obtaining a registrable qualification, during six months of not less than 60 working days (of which at least three months shall be distinct and separate from the period of laboratory instruction required under ii), been diligently engaged in acquiring a knowledge of the duties, routine and special, of Public Health administration under the supervision of (a) the medical officer of health of a county, or of a single sanitary district having a population not less than 50,000, or (b) a medical officer of health devoting his whole time to Public Health work, or (c) a medical officer of health who is also a teacher in the Department of Public Health of a recognised medical school, or (d) a sanitary staff officer of the Royal Army Medical Corps having charge of an Army Corps, district or command, recognised for the purpose by the General Medical Council, *or* of having attended during three months as required above, and during three months, after obtaining a registrable qualification, having attended a course or courses of instruction, approved by the University, in subjects bearing on Public Health Administration.

3. Part I is divided into five sections, as shown under "Subjects of Examination" below. Candidates may present themselves for Part I, Sections 1 and 2, Part I, Sections 3, 4 and 5, and Part II separately or at the same time, provided that no candidate be allowed to pass in Part II unless he has already passed in Part I. No candidate's name will be published until he has satisfied the Examiners in both parts of the examination.

4. The fee for each part is £5 5s., and must be paid at least fourteen days before the commencement of the examination. For any subsequent examination in the same part the fee will be £3 3s.

Every candidate who has passed both parts of the examination, and who is legally registered, will receive a diploma in Public Health.

Medical Practitioners registered or entitled to be registered on or before January 1, 1890, may be exempted from producing the above required certificates of study.

### Subjects of Examination

#### *Part I*

1. CHEMISTRY AS APPLIED TO PUBLIC HEALTH :

Chemistry, with special reference to the examination of air and water. Methods of qualitative and quantitative analysis.

2. PHYSICS AS APPLIED TO PUBLIC HEALTH :

Elements of Heat, with special reference to warming, ventilation, and meteorology. Meteorological instruments and their use.

#### *Part I*

3. ÆTIOLOGY OF DISEASE :

Pathology of epidemic and endemic diseases, including diseases of animals communicable to man. Influence of unwholesome food, air, water, occupation, dwelling, climate, season, soil.

4. PRACTICAL PATHOLOGY AND BACTERIOLOGY :

Practical Bacteriology, detection and cultivation of vegetable parasites, bacteriological analysis of air and water. Recognition of parasites and of the lesions which they produce in man. Recognition of diseased meat.

5. MICROSCOPY AS APPLIED TO PUBLIC HEALTH :

Foods, their adulterations, contaminations, and parasites. Air and water, their microscopical impurities.

#### *Part II*

1. ENGINEERING AS APPLIED TO PUBLIC HEALTH :

Water supply. Drainage, sewerage, and disposal of refuse. Construction of dwellings, schools, hospitals, including their warming and ventilation. Geological data referring to the above. Interpretation of plans.

2. SANITARY LAW AND ADMINISTRATION :

Domestic and general sanitation of houses, villages, and towns. Regulation of offensive, dangerous, or unhealthy trades and occupations. The prevention and control of epidemic disease by isolation, disinfection, vaccination, and other methods. Statutes and bye-laws relating to Public Health. The control of the food supply.

3. VITAL STATISTICS.

4. SANITARY REPORTING :

The candidate will be required to visit and report upon the sanitary condition of some locality assigned to him by the Examiners.

**COURSES OF INSTRUCTION FOR CANDIDATES  
PREPARING FOR DIPLOMA IN PUBLIC HEALTH**

The following courses of instruction are arranged to prepare for the University diploma, and for those of other examining bodies :

**1. Public Health.** (See page 421).

**2. Sanitary Chemistry.** In the Chemical laboratory, College Road. (See page 270).

**3. Bacteriology.** At the School of Medicine during the second and third terms at hours to be arranged.

Fee, £1 7s.

**4. Attendance at a Hospital for Infectious Diseases.** A special course, including instruction in administration, is given in the Leeds City Hospitals in accordance with the requirements of the General Medical Council. Times of attendance to be arranged.

Fee, £5 5s.

**5. Practical Work in Sanitation.** With the sanction of the Sanitary Authority of Leeds, the Medical Officer of Health arranges courses of six months' instruction in out-door and office sanitary work. Fee for the course, payable in advance to the Medical Officer of Health, at his office, 12, Market Buildings, Vicar Lane, between 10 and 11 a.m., £10 10s.

## DIPLOMA IN PSYCHOLOGICAL MEDICINE

### Regulations

1. The examination is in two parts, and is written, oral and practical.

2. Candidates, before entering for the first part of the examination must produce evidence

(A) 1. Of being graduates in Medicine of at least one year's standing.

2. Of having attended approved courses of instruction on the subjects of examination during six months at least after graduation.

3. Of having acted as Clinical Clerk or Assistant Medical Officer in an Asylum, recognised for this purpose, for a period of at least six months.

4. Of having attended a course of systematic instruction on the normal and morbid anatomy of the brain for a period of six months in the recognised laboratories of the University.

(2, 3 and 4 may be taken concurrently, and as evidence of (4) must be produced a laboratory note book record of practical work which has been regularly inspected and signed by a recognised teacher.)

(B) 1. Of having acted as Assistant Medical Officer in an Asylum of not less than 500 beds for a period of at least two years.

2. Of having attended a course of systematic instruction on the normal and morbid anatomy and histology of the brain for a period of six months in the recognised laboratories of the University.

(As evidence of this must be produced a laboratory note book record of practical work which has been regularly inspected and signed by a recognised teacher.)

3. In addition to the laboratory work under (2), or in lieu of three months thereof, candidates may submit a dissertation which must embody the results of personal observations or original research in relation to psychological medicine, provided always that original work, published in scientific journals, or in the proceedings of learned societies, or separately, shall be admissible in lieu of or in addition to a dissertation specially written for the diploma.

### Subjects of Examination

#### PART I.

- (i.) The Development, Anatomy, Histology and Physiology of the Brain (Human and Comparative).
- (ii.) The Morbid Anatomy and Morbid Histology of the Brain from both theoretical and practical aspects.

#### PART II.

- (iii.) Psychology, with especial reference to the symptomatology of Mental Disease.
- (iv.) Clinical Psychiatry, Asylum Administration, and the Medico-Legal aspects of Insanity.

Candidates, in order to pass, must satisfy the examiners in the clinical part of the examination.

Candidates may present themselves for Parts I and II separately or at the same time, provided that no candidate be allowed to pass in Part II. unless he has already passed in Part I. No candidate's name will be published until he has satisfied the Examiners in both parts of the examination.

The fee for the examination is £5 5s., and must be paid at least fourteen days before the commencement of the examination. For any subsequent examination the fee in each part will be £1 11s. 6d.

Every candidate who has passed both parts of the examination and is legally qualified and registered, will receive a diploma in Psychological Medicine.

## DEGREES IN DENTAL SURGERY

- Ordinance    1. The degrees in Dental Surgery shall be :
- Bachelor of Dental Surgery (B.Ch.D.)
- Master of Dental Surgery (M.Ch.D.)

### Degree of Bachelor of Dental Surgery

2. All candidates for the degree of Bachelor of Dental Surgery shall be required to have passed the Matriculation examination, to have pursued thereafter approved courses of study for not less than five academic years, two of such years at least having been passed in the University subsequently to the date of passing Parts I and II of the First examination, and to have completed such period of pupilage or hospital attendance, or both, as may be prescribed by the Regulations of the University. No candidate shall be admitted to the degree who has not attained the age of twenty-one years on the day of graduation.

3. All candidates shall be required to have passed the following examinations: The First examination, the Second examination, the Final examination.

4. Each examination shall include practical work in the subjects offered.

5. All candidates shall be required, before presenting themselves for examination, to furnish to the Registrar certificates testifying that they have attended the prescribed courses of instruction in accordance with the Regulations of the University in each of the subjects which they offer, and that they have fulfilled the other requirements of the Ordinance and Regulations in respect of such examination.

- Regulation    In each examination the names of candidates who have satisfied the Examiners shall be published in alphabetical order.

**First Examination**

6. The First examination shall consist of three parts : Ordinancee

PART I. Physics  
Chemistry.

PART II. Biology.

PART III. Dental Mechanics  
Dental Metallurgy.

7. Candidates shall be allowed to pass in each part separately.

8. Candidates who have passed the Intermediate examination for the degree of Bachelor of Science, and have in that examination satisfied the Examiners in Chemistry, in Physics, or in Biology, shall, on payment of the difference between the fees required for the two examinations, be regarded as having satisfied the requirements of Parts I and II of the First examination for the degree of Bachelor of Dental Surgery, in those subjects in which they have passed.

9. Candidates shall be required, before presenting themselves for Parts I and II of this examination, to have passed the Matriculation examination, and to have attended courses of instruction in accordance with the Regulations of the University.

10. Candidates shall be required, before presenting themselves for Part III of this examination, to have completed two years from Matriculation, and to have attended courses of instruction in accordance with the Regulations of the University.

Candidates for the First examination are required to Regulations  
furnish certificates of having attended approved courses of instruction at the University or at an institution recognised for this purpose by the University ; or of having attended, at some other institution, courses of instruction which shall be accepted by the University as equivalent.

The courses of instruction shall be as follows :—

1. Chemistry, Inorganic and Organic ; lectures and laboratory work : at least one year.

2. Physics : lectures and laboratory work : at least one year.
3. Biology (Zoology and Botany) : lectures and laboratory work : at least one year.

The examination will include laboratory work in the three subjects. Candidates may pass in each Part separately.

Every candidate for Part III of the First examination shall be required to have spent two years in the Prosthetic Department of a recognised Dental or General Hospital, or in pupillage to a qualified and registered dental surgeon, and to have attended, during at least one year, courses of lectures and practical instruction approved by the University, in the subjects of the examination, namely: Dental Mechanics (including electrical appliances used in Dentistry): lectures and laboratory work. Dental Metallurgy: lectures and laboratory work

The First examination shall be held twice in each calendar year.

### Second Examination

**Ordinance** 11. The subjects of the Second examination shall be :

Anatomy  
Physiology  
Dental Anatomy and Physiology  
Dental Materia Medica.

12. Candidates shall be required, before presenting themselves for the Second examination, to have passed the First examination not less than one year previously, and to have attended courses of instruction in accordance with the Regulations of the University.

**Regulations** Candidates for the Second examination shall be required to have attended courses of instruction approved by the University, as follows: Anatomy lectures, two terms; Practical Anatomy and demonstrations, including the dissection of the head and neck, three terms; Dental Anatomy and Physiology, one term; Dental Microscopy, one term; Physiology lectures, two terms; Physiological

Laboratory, one term ; Practical Histology, one term ;  
Dental Materia Medica, one term.

The Second examination shall be held twice in each  
calendar year.

**Final Examination.**

13. The subjects of the Final examination shall be : Ordinance  
Dental Surgery  
Dental Pathology and Bacteriology  
Operative Dental Surgery  
Medicine and Surgery.

14. Candidates shall be required, before presenting themselves for the Final examination, to have passed the First examination not less than two years previously, to have passed the Second examination not less than six months previously, and to have attended courses of instruction in accordance with the Regulations of the University.

Candidates for the Final examination shall be required to have attended courses of study, approved by the University, as follows : Surgery lectures, two terms ; Special Surgery of the Mouth, six lectures ; Medicine lectures, two terms ; Dental Surgery and Pathology lectures, two terms ; Operative Dental Surgery lectures, one term ; Demonstrations on Anæsthetics, two terms ; Dental Bacteriology, lectures and practical work, one term ; Dental Clinical Lectures, two terms.

Candidates shall be required to present certificates of two years Medical, Surgical and Dental practice at hospitals recognised by the University. These certificates must show that practical instruction has been received in Medicine, Surgery, and the administration of Anæsthetics. Every candidate shall be required to have acted as clerk and as dresser, for three months in each case, in a hospital recognised by the University.

The Final examination shall be held twice in each  
calendar year.

## DIPLOMA IN DENTAL SURGERY

**Regulations**    Candidates for the diploma in Dental Surgery (L.D.S.) are required to present certificates showing that they have attained the age of twenty-one years, that they have attended courses of instruction, approved by the University, extending over not less than four years, two of which must have been spent in the University after passing the Preliminary Examination in Science.

Candidates are required to satisfy the Examiners in the several subjects of the following examinations :

A Preliminary examination in Arts ; a Preliminary examination in Science ; the First Professional examination ; and the Final examination.

### Preliminary Examination in Arts

The requirements of the Preliminary examination in Arts shall be fulfilled by passing an examination recognised for this purpose by the General Medical Council.

### Preliminary Examination in Science

The Preliminary examination in Science shall be held twice yearly. Its subjects shall be :

Chemistry

Physics.

Candidates are required to have attended courses of instruction at the University as follows : Chemistry, lectures and laboratory, two terms ; Physics, lectures and laboratory, two terms ; *or* to present evidence of having given adequate attendance, at some other institution, upon courses of instruction which shall be accepted by the University as equivalent to the above courses.

N.B.—This examination is held in June and September. The latest dates of entry and of payment of fees are MARCH 1st and AUGUST 1st respectively.

**First Professional Examination**

The subjects of the First Professional examination are :

Dental Metallurgy

Dental Mechanics.

Candidates are required to have passed the Preliminary examination in Science not less than six months previously, and to have attended courses of instruction, recognised by the University, in the subjects of the examination, according to the syllabus of the Royal College of Surgeons. They are also required to give evidence of having been engaged for two years in pupilage.

**Final Examination**

The Final examination shall consist of two parts :

PART I. Anatomy

Physiology

Dental Anatomy and Physiology

PART II. Surgery

Dental Surgery, Pathology and Bacteriology

Operative Dental Surgery (Practical)

Dental Materia Medica and Therapeutics.

Candidates must pass in Part I before being examined in Part II, and may pass the two Parts separately. The examination in Part II shall be held immediately after that in Part I, so that the two Parts may be passed, if desired, in immediate succession.

Candidates, before presenting themselves for examination in Part I, are required to have passed the First Professional examination not less than one year previously, and to have attended courses of instruction recognised by the University, as follows : Anatomy lectures, two terms ; Practical Anatomy, three terms ; Physiology lectures, two terms ; Practical Physiology, one term ; Dental Anatomy and Physiology lectures, two terms ; Practical Dental Histology, one term ; Surgery lectures, two terms.

Candidates before presenting themselves for examination in Part II, must have passed in Part I, and must produce evidence of having (1) completed four years from the beginning of their pupilage; (2) completed two years Medical and Surgical practice at hospitals recognised by the University; (3) completed two years' Dental Hospital practice; (4) attended courses of instruction recognised by the University, as follows: Medicine, one term; Dental Surgery Therapeutics and Pathology lectures, two terms; Dental Bacteriology lectures, one term; Dental Materia Medica, one term; Operative Dental Surgery lectures, one term; Six Special Anæsthetic demonstrations; Special Surgery of the Month, six lectures; Surgery Lectures, two terms; Dental Clinical Lectures, two terms. The certificates of Medical and Surgical practice must show that practical instruction has been received in Medicine and Surgery, and in the administration of Anæsthetics.

N.B.—The First Professional and Final examinations are held in December and June.

#### **Fees for Dental Classes**

The fees for lectures and practical work in Dentistry are as follows: Dental Surgery and Pathology, 6 guineas; Operative Dental Surgery, 4 guineas; Dental Anatomy and Physiology, 6 guineas; Dental Mechanics, lectures 3 guineas and practical work 3 guineas; Dental Metallurgy, lectures 3 guineas and practical work 3 guineas; Dental Microscopy, 3 guineas; Dental Bacteriology, 2 guineas; Dental Materia Medica, 2 guineas.

#### **Composition Fees**

For the degree in Dental Surgery the composition fees are as follows:

- (a) Fee covering all the requisite courses is 65 guineas, payable in two instalments of 45 and 20 guineas respectively, or £65 if paid in one sum.
- (b) Fee for the courses, excluding Parts I and II of the First examination, £55.
- (c) Fee for the courses for the Second and Final examinations, £48.

For the diploma in Dental Surgery the composition fees are as follows :

- (a) Fee covering all the requisite courses is 60 guineas, payable in two instalments of 40 and 20 guineas respectively or £60 if paid in one sum.
- (b) Fee for the courses for the First Professional and Final examinations, £52.
- (c) Fee for the courses for the Final examination (Parts I and II), £45.

#### **Fees for Dental Examinations**

For the First examination for the degree of B.Ch.D., £5 ; and for each subsequent examination, £2.

For the Second examination for the degree of B.Ch.D., £4 ; and for each subsequent examination, £2.

For the Final examination for the degree of B.Ch.D., £4 ; and for each subsequent examination, £2.

For the Preliminary examination in Science for the diploma of L.D.S., £2 ; and for each subsequent examination, £1.

For the First Professional examination for the diploma of L.D.S., £2 ; and for each subsequent examination, £1.

For Part I of the Final examination for the diploma of L.D.S., £3 ; and for each subsequent examination £1.

For Part II of the Final examination for the diploma of L.D.S., £3 ; and for each subsequent examination, £1.

#### **Degree Fees**

For conferment of degree or diploma, £5.

## Courses in Dental Surgery

### 1. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD

The courses arranged in Physics, Chemistry, and Biology will be found under Courses in Medicine.

### 2. COURSES HELD IN THE SCHOOL OF MEDICINE

The courses arranged in Anatomy, Physiology and Histology, Pathology and Bacteriology, Principles and Practice of Medicine, and Surgery, will be found under Courses in Medicine.

### DENTAL SURGERY AND THERAPEUTICS

Mr. PHILLIPS

Thursday at 12 during the first and second terms.

Fee, £6 6s.

### OPERATIVE DENTAL SURGERY

Mr. S. H. HEY

Wednesday, at 4 p m., during the third term.

Fees, £4 4s.

### DENTAL ANATOMY AND PHYSIOLOGY

Mr. MAWER

Thursday at 4 p.m. during the first and second terms.

Fees, £6 6s.

### Practical Physiology and Dental Microscopy

A three months' course for dental students preparing for the Diploma in Dental Surgery, which will include Histology, Dental Microscopy, and the elements of Chemical Physiology.

**DENTAL MECHANICS**

Mr. RIPPON

Tuesday at 3 p.m. during the third and first terms.

Fees, Lectures, £3 3s.; Practical, £3 3s.

**DENTAL METALLURGY<sup>1</sup>**

Mr. LOWSON

Monday and Friday at 10.30 a.m. during the first half of the third term (lectures).

Thursday at 2 p.m. during the first term (practical).

N.B. The lectures will be supplemented by practical work in the laboratory.

Fees, Lectures, £3 3s.; Practical, £3 3s.

**MATERIA MEDICA**

Professor

Mr. J. H. GOUGH

In July at hours to be arranged.

Fees, £2 2s.

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<sup>1</sup> These lectures will be given at College Road.

## EVENING COURSES.

Advanced Technological Courses are held in the following Departments of the University :

- Civil and Mechanical Engineering
- Electrical Engineering
- Coal Mining
- Textile Industries
- Colour Chemistry and Dyeing
- Leather Industries
- Geology.

Students who have reached 22 years of age may be admitted at the discretion of the Head of the Department concerned, without examination.

So far as Leeds students are concerned, the instruction given in the Evening Courses in the University is co-ordinated with the City Scheme for evening instruction in Technology, and Leeds students who are under 22 years of age will be required to produce certificates of satisfactory attendance at these preparatory City Evening Classes, or, failing that, to pass an Entrance examination, or give other evidence of adequate preparation.

Those intending students who have previously been in attendance at the Central Technical School (or at other Technical Evening Schools of the City) should enrol for the University course by calling at the Central Technical School any evening (except Saturday) in the week preceding the opening of the Evening Class Session. Certificates will be given to such students, if qualified, admitting them to the University without Entrance examination on payment of the prescribed fee.

Students resident in the administrative area of the West Riding County Council, who are under 22 years of age, will be required to produce certificates of satisfactory attendance at Technical Schools aided or maintained by the County

Council, or, failing that, to pass an Entrance examination, or give other evidence of adequate preparation. Those who have attended a Technical School or Schools, must prior to September 1st, submit to the Education Department, County Hall, Wakefield, full particulars of the courses of instruction previously followed, and examination successes gained. Certificates will be issued to such students, if qualified, admitting them to the University Course without Entrance Examination, on payment of the usual fees.

In the case of students who are under 22 years of age, other than those holding certificates from the City of Leeds and the West Riding, an entrance test will be required unless certificates of satisfactory attendance at preparatory classes are produced, or other satisfactory evidence of sufficient preliminary training is afforded.

The opening date for the Evening Class Session will be Monday, September 22nd, 1919. The first term ends on Friday, December 19th, 1919. The second term begins on Thursday, January 8th, 1920, and ends on Wednesday, March 31st, 1920. For dates of the Mining session see page 456.

The fee for the whole, or any part of a group course, is 10s. 6d., payable to the Accountant in advance.

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## THE ENGINEERING DEPARTMENTS

For each of the Engineering Departments, Evening Class students resident in the City of Leeds who are under 22 years of age must produce certificates of satisfactory attendance at Leeds Municipal Evening Courses in Mathematics, Mechanics, and Machine Drawing for four sessions, or must be able to furnish evidence that they have taken similar work elsewhere in a Technical Institution of a corresponding standard.

For students who cannot satisfy these tests an Entrance examination will be held in the subject which they propose

to take in the University, also in Elementary Mathematics, including Algebra up to quadratic equations, Logarithms, Trigonometry up to the solution of triangles, and Geometry equivalent to Euclid, books I. and II.

West Riding students who are under 22 years of age desiring to enrol for evening group courses in any of the Engineering Departments of the University, must produce evidence of satisfactory attendance and work at group courses of at least the Fourth Year grade in local Technical Schools, embracing at least the subjects of Mathematics, Mechanics, and Machine Drawing; or evidence that they have satisfactorily taken similar work elsewhere of a corresponding standard. Such students will, nevertheless, in accordance with the arrangements entered into between the University and the Education Authorities of the City of Leeds and the West Riding respectively, be required to attend at the Central Technical School, Leeds, for such portions of the further course of instruction desired as are shewn below to be conducted at the Technical School.

Students who have reached 22 years of age may be admitted at the discretion of the Head of the Department, without examination.

Students are strongly recommended to take up one of the group courses authorised by the Leeds City Council or the West Riding County Council before enrolling at the University.

The courses of the Leeds City Council are set out below.

West Riding students will usually commence attendance in connection with the Fifth or Sixth Year of these group courses.

West Riding students who are under 22 years of age desiring to enrol for less than the complete evening group course indicated in the University Prospectus may receive authorisation for enrolment at the University on application to the Education Department, County Hall, Wakefield, before September 1st.

**CIVIL AND MECHANICAL ENGINEERING**

Professor GOODMAN

Mr. GILCHRIST

Mr.

The evening courses are arranged to cover the work required for the examination for Associate membership of the Institution of Civil Engineers.

**Enrolment of Students**

Students enrolling at the Central Technical School must attend at the University on Wednesday, September 17th, at 7.30 p.m., to bring their exemption certificates.

All others who intend to become evening students must also attend at the same time in order to confer with the Head of the Department as to their training, eligibility and proposed courses of instruction, and to produce any certificates obtained either from the Board of Education or from other educational authorities.

The examinations for those who do not produce exempting certificates will be held as follows, the standard in all cases being that of the "Lower Examination," or former second stage, of the Board of Education :

Friday, September 19th, at 7.30 p.m., Electrical Engineering. Mechanical Laboratory Courses.

Monday, September 22nd, at 7.30 p.m., Mathematics.

Tuesday, September 23rd, at 7.30 p.m., Strength of Materials and Structures. Heat Engines. Hydraulics.

*After these dates students will only be admitted in very exceptional circumstances.*

## Course A (Mechanics)

YEAR.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
THIRD ..		Machine Drawing (34 <i>a</i> ), or on Thursday (34 <i>b</i> ).		Mechanics, Theoretical and Practical. (33 <i>a</i> ), or on Tuesday (33 <i>b</i> ).	Practical Mathematics. (30 <i>a</i> ), or on Wednesday (30 <i>b</i> ).
FOURTH.		Machine Drawing (35 <i>a</i> ).	Practical Mathematics (31 <i>a</i> ), or on Monday (31 <i>d</i> ), or on Thursday (31 <i>c</i> ).		Applied and Practical Mechanics (38 <i>a</i> ), or on Monday (38 <i>b</i> ).
FIFTH ..	Applied Mechanics Strength of Materials (39 <i>a</i> ), or Applied Mechanics Machines (39 <i>b</i> ), Practical Mechanics (39 <i>d</i> ), or Graphic Statics (45).		Optional. { Heat Engines (43), Steam Calculations. (43 <i>a</i> ).	Machine Construction (36), Mechanical Engineering (46), or Machine Tuesday (35 <i>c</i> ) Mathematics (32), or on Th	Drawing on and Practical on Friday (31 <i>c</i> ).
SIXTH	<i>To be selected from the</i> Engineers' Quantities (40), or Graphic Statics (45)	<i>above or from</i> Engineering Laboratory Testing of Materials (University)	<i>above or from</i> Structures I Strength of Materials. (University).	<i>Courses 11b, 11c, or from:</i> Machine Construction (36), Mechanical Engineering (46),	<i>Courses 11b, 11c, or from:</i> Machine Design (36 <i>d</i> ), or Practical Mathematics (32).
SEVENTH	<i>To be selected from the</i>	<i>above or from</i> Engineering Laboratory (University)	<i>above or from</i> Structures II Hydraulics (optional) (University).	<i>Courses 11b, 11c, or from:</i>	<i>Courses 11b, 11c, or from:</i> Machine Design (36 <i>d</i> ).

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Technical School Prospectus, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth and Fifth Year Courses, which are available in Technical Schools within the West Riding, may be obtained from the Education Department, County Hall, Wakefield.

Course B (Prime Movers)

YEAR.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
THIRD ..		Machine Drawing (34 <i>a</i> ), or on Thursday (34 <i>b</i> ).		Mechanics Theoretical and Practical (33 <i>a</i> ), or on Tuesday (33 <i>b</i> ).	Practical Mathematics (30 <i>a</i> ), or on Wednesday (30 <i>b</i> ).
FOURTH.	Applied and Practical Mechanics (38 <i>b</i> ), or on Friday (38 <i>a</i> ).	Machine Drawing (35 <i>a</i> or 35 <i>c</i> ).	Heat Engines (43), Steam Calculations (43 <i>a</i> )		
FIFTH ..	Practical Mathematics (31 <i>a</i> ).		Heat Engines Laboratory (44 <i>p</i> ).	Machine Construction (36), Heat Engines (44).	
SIXTH ..	<i>To be selected from Courses IIa or IIc, or from:</i>				Machine Design (36 <i>p</i> ), provided Machine Construction (36) be done, or Practical Mathematics (32).
		Engineering Laboratory Heat Engines I (University)	*Theory of Heat Engines, A, or B alternate years (University).	Gas Power Engineering (44 <i>a</i> ), Mechanical Engineering (46),	
SEVENTH	<i>To be selected from the above, or from Courses IIa, IIc, or from:</i>				Machine Design (36 <i>p</i> ), provided Machine Construction (36) be done.
		Engineering Laboratory Heat Engines II (University)	*Theory of Heat Engines B, or A in alternate years (University).		

\* Includes Turbines.

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Technical School Prospectus, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth and Fifth Year Courses, which are available in Technical Schools within the West Riding, may be obtained from the Education Department, County Hall, Wakefield.

## Course C (Hydraulics)

YEAR.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
THIRD ..		Machine Drawing (34a), or on Thursday (34b).		Mechanics, Theoretical and Practical (33a), or on Tuesday (33b).	Practical Mathematics (30a), or on Wednesday (30b).
FOURTH ..		Machine Drawing (35a).	Practical Mathematics (31a), or on Monday (31d), or on Thursday (31c).		Applied and Practical Mechanics (33a), or on Monday (38b).
FIFTH ..	Applied Mechanics, Hydraulics (39c). Graphic Statics. (45).			Machine Construction (36), Mechanical Engineering (46), or Machine Tuesday (35c) Mathematics (31c), or on	Drawing on and Practical on Thursday Friday (32).
SIXTH ..	<i>To be selected from Courses 11a, 11b, or from:—</i>	Engineering Laboratory, Hydraulics I (University).	Hydraulics Lecture I (University).	Machine Construction (36), Mechanical Engineering (46).	Machine Design (36d), or Practical Mathematics (32).
SEVENTH	<i>To be selected from the above, or from Courses 11a, 11b, or from:—</i>	Engineering Laboratory, Hydraulics II (University).	Hydraulics Lecture II (University).		Machine Design (36d).

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Technical School Prospectus, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth and Fifth Year Courses, which are available in Technical Schools within the West Riding, may be obtained from the Education Department, County Hall, Wakefield.

**Engineering Laboratory**

N.B.—Only those students who have attended or are attending the corresponding Lecture Courses will be admitted to the Laboratory classes.

Courses of instruction will be given in the Engineering Laboratory, on Tuesdays, from 7.30 to 9.30 p.m., beginning on September 30th, as follows :

*Course A. Testing of Materials*

The testing of iron, steel, alloys, &c., in tension, torsion, compression, bending, and shearing. This work is done on:

1. A 100-ton Buckton testing machine, fitted with an autographic recorder.
2. An Olsen machine of 50,000 lbs. capacity.
3. A Denison machine of 5,000 lbs. capacity.
4. A Buckton machine for torsion testing.
5. A Denison machine for testing the hardness of metals

*Course B. Steam, Gas, and Oil Engines  
Elementary Course*

*Indicating.*—The high and low pressure cylinders of the 30 h.p. Fowler steam engine, and the 70 h.p. Willans' engine; Green's steam driven boiler pump; air pump of the Fowler engine; Campbell oil engine; petrol engine (by manograph); air compressor.

The mechanical efficiency of the above-mentioned plant is obtained by dynamometer brakes or other suitable apparatus.

*Testing.*—Simple steam engine and boiler trials; efficiency test of a Pulsometer steam pump. Trials on the oil engine, petrol engine, and De Laval steam turbine.

*Advanced Course*

Complete compound engine trials with saturated and superheated steam; complete boiler trials; measurement of the flow of steam through nozzles; analysis of furnace gases and exhaust gases from the oil engine.

*Course C. Hydraulics*

Experiments on the flow of water over weirs and through orifices, the friction of water in pipes, the resistance of valves and obstructions, the pressure of jets on surfaces, the bursting strength of pipes, &c., by a Berry's high pressure test pump.

Tests of a Pelton wheel; a Gilkes' turbine, fitted with a Kent Venturi water meter; a 6"  $\times$  4" Green reciprocating pump; a Hett centrifugal pump.

A student attending laboratory classes will be held responsible for the apparatus with which he is working, and will be required to make good any damage.

No student will be admitted to any lecture course unless he is taking, or has taken, the corresponding laboratory course.

**Hydraulics**

Mr.

(Engineering Lecture Theatre)

Wednesdays, 7.30 to 8.30 p.m., beginning on September 24th.

Pressure due to head; total pressure on immersed surfaces; centre of pressure; flow of water through orifices, over notches and weirs; time required to empty tanks through orifices and sluices.

Bernoulli's stream line law; Venturi water meter.

Losses of head due to sudden contractions and enlargements in pipes and channels; friction of water in pipes and channels; pressure of jets on flat and curved surfaces; turbines and water wheels.

**The Strength and Elasticity of Materials**

Mr.

(Engineering Lecture Theatre)

Wednesdays, from 8.30 to 9.30 p.m., beginning on September 24th.

*Part I.*—Relation of stress and strain. Stresses due to alteration of temperature.

Determination of total thrust, shear, and bending-moment.  
Strength of material under tension, bending, and torsion.  
Use of Euler, Gordon, and Rankine strut formulae.

*Part II.*—Distribution of stress due to bending and torsion.

Maximum stress due to combined stresses.

Deflection of beams and springs.

Diagrams for load intensity, shear, bending-moment, slope,  
and deflection for beams initially straight.

NOTE:—Part II. will not be included in the course unless a sufficient proportion of the class shows proficiency in Part I. during the 1st Term.

*Columns:* Euler and Gordon theories. Effect of end holding. Columns loaded eccentrically.

*Book recommended:*

GOODMAN'S "Mechanics Applied to Engineering" (Longmans, 9s. net).

### Heat Engines

Wednesdays, 7.30 to 9.30 p.m.

If a sufficient number of advanced students desire to have a course of Lectures on Steam Turbines and Internal Combustion Engines, arrangements will be made on the first night of the session, otherwise a course of Lectures on General Thermodynamics with applications to Steam and Internal Combustion Engines will be given.

### Structural Engineering I

Mr. GILCHRIST

Wednesdays, from 7.30 to 8.30 p.m., beginning on September 24th.

*Typical Structures.*—Bridges, roofs, cranes, skeleton or framed buildings, walls and dams.

*Elements of Structures.*—The plate web girder; methods of design with numerical examples. Arrangement of plate girders in bridges, buildings, &c. Lattice girders; types of girders and methods of calculation. Design of the flange and web members, and their joints and connections.

*Continuous Girders.*—Simple cases of two and three spans.

*Masonry.*—Properties of stone, brick, cement, concrete, &c. Principles of design of masonry structures. Reinforced concrete; beams and columns.

**Structural Engineering II**

Mr. GILCHRIST

Wednesdays, from 8.30 to 9.30 p.m., beginning on September 24th.

If a sufficient number of students present themselves, an advanced course will be arranged, the course to consist of the complete study of some special branch, such as the theory of continuous girders, arches, &c.

The subject will be arranged with the class.

**ELECTRICAL ENGINEERING**

Mr. FRENCH

To meet the requirements of those who are engaged during the day, but have spare time at their disposal in the evening, there is an advanced evening course of instruction in electrical engineering. This consists of an advanced lecture and a Problem class on Thursdays, beginning September 25th, from 7.15 to 8.15 p.m., and from 8.30 to 9.30 p.m., on Alternating Current Practice. The course is arranged to meet the requirements of the electrical examination for the Associate Membership of the Institution of Civil Engineers, and the Institution of Electrical Engineers.

All who intend to become evening students should send in their names to the Secretary of the University not later than Wednesday, September 17th, and should give full particulars as to their training, eligibility and proposed courses of instruction. They should also mention any certificates they have obtained either from the Board of Education or from other educational authorities.

**Dates of Entrance Examination**

The Entrance Examination for those who do not hold exempting certificates will be as follows, the standard in all cases being that of the "Lower Examination" or former second stage of the Board of Education.

Friday, September 19th, at 7.30 p.m., Electrical Engineering.

Monday, September 22nd, at 7.30 p.m., Mathematics.

*After these dates students will not be admitted unless under very exceptional circumstances.*

**Course D**  
(For Electrical Engineers)

YEAR.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
THIRD ..	Mechanics, Practical and Theoretical.		Practical Mathematics, I.	Electricity and Magnetism (Practical and Theoretical) I.	
FOURTH.	Electrical Engineering, I. (Practical and Theoretical)	Practical Mathematics, II.		Mechanical Drawing.	
FIFTH ..	Electrical Engineering, II. O.G. (Lecture and Drawing). Direct Current Work.	Laboratory Calculations. Practical Mathematics, III.	Electrical Engineering Testing, II.		
SIXTH ..		Electrical Engineering Testing, III. Alternating Current Work (University).		Electrical Engineering III. O.G. Alternating Current Work (University).	

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Handbook of Technical Education, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth, and Fifth Year Courses which are available in Technical Schools within the West Riding, may be obtained from the Education Department, County Hall, Wakefield.

**Laboratory Course**

The course of advanced practical work in the electrical engineering laboratories in connection with lecture courses consists of about 26 attendances on Tuesdays, from 7 to 9-30 p.m., commencing September 30th, at 7 p.m. The course will embrace the following advanced practical work :—

Calibration and standardisation of all commercial instruments and meters; photometry; efficiency and commercial testing of secondary cells, of direct and alternating current generators and motors, transformers and rotary converters.

For the laboratory course, students must get Parr's Advanced Electrical Engineering Testing (Chapman & Hall, 9s. net).

## MINING

Professor HUMMEL

*[The four years' Coal Mining Course, mentioned below, though regarded now as a Day Course, is inserted here for the convenience of students.]*

### Four Years' Coal Mining Course

This course is intended for miners and sub-officials who are occupied in or about collieries, and can only attend for one afternoon per week, but desire to qualify themselves for Managers' Certificates under the Coal Mines Act, 1911, and particularly for those who have attended complete courses of instruction in Mining at one of the local centres appointed by the West Riding County Council, or have attended the preparatory evening courses of the Leeds City Council.

Students who have reached 22 years of age may be admitted to this course at the discretion of the Head of the Department.

Students resident in the City of Leeds, who are under 22 years of age, will be required to produce certificates of satisfactory attendance at the preparatory evening courses in Mining of the Leeds City Council\* for at least two sessions, or to have made satisfactory attendance at the West Riding Mining Course of Fourth Year grade, or to give evidence of possessing equivalent knowledge in the subjects of Mathematics, Mechanics and English.

Students resident in the West Riding Administrative Area, who are under 22 years of age, desiring to enrol for the four

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\* Particulars regarding progressive Mining Courses available in Leeds may be obtained at the City Education Department.

years' course in the Mining department, will be required to produce evidence of satisfactory attendance at courses of at least the Fourth Year grade in a Technical School or Class within the Riding, if available†; or evidence that they have taken a similar course in a Technical School elsewhere.

For students who cannot satisfy these tests an Entrance examination will be held on Monday, September 29th, 1919, at 7-30 p.m.

The course extends over four years. The first, third and fourth year students attend on Mondays, beginning on October 13th, from 3 to 7 p.m.; the second year students on Tuesdays during the same hours, beginning on October 14th. Students must call at the University office on either October 13th or 14th, between 2 and 3 p.m. to register their names and take out their class tickets.

The instruction in Engineering, Electrical Engineering, and Geology will be given in the respective Departments, the remaining subjects in the Mining Department. In the class on Mathematics the subject will be dealt with entirely from the mining point of view, the examples being taken from mining practice. Students will be given mining data in the examples set, and will be required to copy these out into an indexed pocket-book to form a nucleus for the observations which they subsequently make as a result of their own experience. A similar mode of treatment will be adopted for the Chemistry course, the properties of matter and chemical change being illustrated as far as possible from ordinary examples to be met with at a coal mine. In addition to the course of Surveying drawing, a course of practical work in the use of surveying instruments is given during the third term. Lectures will be given in connection with the two Surveying courses as they become necessary to explain the work in hand.

A certificate will be awarded to each student completing the course whose attendance at the lectures and work in the examinations has been satisfactory to the examiners. Students

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†Particulars regarding Mining Courses available in the West Riding may be obtained from the Education Department, County Hall, Wakefield.

who wish to repeat an examination, or go in for one from which they have been absent, or to complete work which should have been done by them, may do so in any subsequent session without repeating attendance on the lectures or laboratory work in question. All decisions affecting the award of this Certificate in any case, will rest finally with the Committee of lecturers and examiners concerned. The Certificate will be filled in at the end of a student's fourth year of attendance.

The attention of students attending this course is directed to the information respecting Scholarships, Laboratory Work, Office Work, &c., appearing in the Prospectus of Day Classes in the Mining Department.

Although attendance on this course is sufficient to qualify students who have fulfilled the other conditions to be examined by the University for Surveyors' Certificates under the Coal Mines Act, 1911, the present short course in Mine Surveying is not intended to cover the syllabus for this examination. Candidates for Surveyors' Certificates and others who desire to do extra work in Mine Surveying are advised to attend the ordinary lecture course in Mine Surveying and to do additional Practical and Office Work in this subject.

The work of the session will be taken in three terms as follows :

Monday, October 13th to Tuesday, December 16th, 1919.

Monday, January 12th to Tuesday, March 16th, 1920.

Monday, April 26th to Tuesday, June 22nd, 1920.

### **Syllabus**

<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>
Mathematics	Mining	Mining
Engineering	Chemistry of Coal	Electricity
Engineering Laboratory	Mining	Electrical Engineer-
Mining	Mine Surveying	ing Laboratory
	Geology	
	Geology Laboratory	
<i>Fourth Year</i>		
	Mining	
	Electricity	
	Electrical Engineering Laboratory.	

**First Year Time Table**

		3 to 4.	4 to 5.	5.30 to 7.
1st TERM.	MON.	Mathematics.	Engineering.	Engineering Laboratory.
2nd TERM.	MON. ..	Mining.	Mathematics.	Engineering Laboratory.
3rd TERM.	MON. ..	Mining.	Engineering.	Engineering Laboratory.

**Second Year Time Table**

		3 to 4.	4 to 5.	5.30 to 7.
1st TERM.	TUE. ..	Mining.	Chemistry of Coal Mining.	Mine Surveying, Drawing, and Calculations.
2nd TERM.	TUE. ..	Mining.	Geology.	Geological Laby.
3rd TERM.	TUE. ..	Mining	Geology.	Practical Mine Surveying.

**Third Year Time Table**

		3 to 4.	4 to 5.30.	6 to 7.
MONDAY	.. ..	Electricity.	Electrical Engineering Laboratory.	Mining

**Fourth Year Time Table**

		3 to 4.	4 to 5.30	6 to 7.
MONDAY	.. ..	Electricity.	Electrical Engineering Laboratory.	Mining.

Fee for each year in the above course 10s. 6d.

**TEXTILE INDUSTRIES**

Professor BARKER

Mr. HOLLIS

Mr. PRIESTMAN

Mr. YEWDALL

Mr. LAW

MR. FARLEY

Mr. PICKLES

The Evening Courses in the Department of Textile Industries are primarily designed to meet the requirements of those who, having already passed through approved courses of study in Day or Evening Classes, wish to take up some particular line of Research work, or to conduct trade investigations necessitating the use of such special equipment as the Department possesses. The Evening session commences on 22nd September, 1919.

Students are required to submit their work, under the conditions indicated in each class, for examination at the end of each term.

### **Courses Qualifying for Research Work and Trade Investigations**

The following Courses A, B, and C, are accepted as qualifying students for advanced work :—

#### *A. Special Lecture and Practical Demonstration Course in Textile Industries.*

Alternate Tuesday evenings from 7.30 to 9.30.

NOTE.—Students under twenty-two years of age will not, as a rule, be admitted to this Course unless they present such Certificates as are indicated under Scheme C.

#### **LECTURE I.**

Sheep and Wool. Typical Breeds of Sheep and Mendelian Theories. The conditions of Marketing Wool.

#### **LECTURE II.**

Wool and Top Qualities. Wool Sorting. Wool Washing. The Physical, Chemical and Mechanical Principles involved. Wool Drying.

#### **LECTURE III.**

The Re-manufactured Materials. Woollen Blending. Carding and Mule Spinning.

LECTURE IV.

The Various Types of Woollen Yarns and Fabrics.  
The Economical Principles involved.

LECTURE V.

Long and Short Wool Preparation or Carding for  
Wool Combing. Combing. Finishing and Conditioning.

LECTURE VI.

Worsted Drawing—English, Cone and French Systems.  
Worsted Spinning—Flyer, Cap, Ring, and Mule. Twisting.  
Yarn Finishing Processes.

LECTURE VII.

Wool, Cotton, Silk, &c., Yarns. Warping, Dressing,  
Twisting-in, and Looming. The Principles of Weaving.

LECTURE VIII.

Cloth Construction. The use of Point Paper. The  
Simpler Classic Makes. Colour in Textiles.

LECTURE IX.

The Dobby and Jacquard Looms. Box Mechanism.  
The Production of Figured Styles.

LECTURE X.

The more complex Cloth Structures, including Double-  
cloths, Figured Styles, Plushes, and Gauzes.

LECTURE XI.

Defects in Fabrics. Testing and Testing Machinery.

LECTURE XII.

The Principles of Finishing. Typical Styles of Finish.

NOTE.—The Lectures will occupy about an hour, the second hour  
being devoted to the study of the actual operations dealt with.

TEXT BOOK—*Textiles* (Constable & Co.).

*B. Elementary and Intermediate\*Courses in Yarn  
Spinning, Weaving, Designing, &c.*

Students will not be admitted to these Courses, save  
under exceptional circumstances, until they have passed  
through the Third Year Preparatory Textile Course held in

the Central Technical School (Leeds Institute) or its equivalent elsewhere.

Students resident in the Administrative Area of the West Riding County Council will be admitted to these Courses subject to the provisions of the 1st paragraph of page 442, regard being had to the standard they have reached in their own local schools.

### Woollen and Worsted Yarn Spinning

#### *General Course*

Lectures, Thursdays, from 7.15 to 8.15 p.m.

Recording Experiments and Testing, Thursdays, 8.15 to 9.15 p.m.

**SUBJECTS.**—*Materials*: Their character, qualities, uses and relative values.

*Processes* through which the materials are passed in preparation for the carding, preparing, drawing, and spinning operations.

*Machinery*: Particulars of machines for ducting, steeping, scouring and drying; also for the treatment of soft and hard wastes, and the production of mungo and shoddy.

*Calculations*: Relating to materials and machinery.

### 1. Woollen Yarn Spinning

#### *First Year*

Lectures, Thursdays, from 8.15 to 9.15 p.m.

Machine Study and Testing, Fridays, 7.15 to 9.15 p.m.

Recording Experiments and Testing, Thursdays, 7.15 to 8.15 p.m.

*Processes*: For carbonising, burring, blending, scribbling and carding.

*Machinery*: The various types of machinery used for carbonising, burring, teasing, blending, oiling, scribbling and carding.

*Calculations*: Dealing with materials, blends and machinery.

*Second Year*

Lectures, Wednesdays, from 7.15 to 8.15 p.m.

Recording Experiments and Testing, Wednesdays, 8.15 to 9.15 p.m.

Machine Study and Testing, Fridays, 7.15 to 9.15 p.m.

*Processes* : For condensing, spinning and folding.

*Machinery* : The principles and construction of the various types of condensers, of spinning machines on the intermittent (self-actor mule), and continuous systems and twisting frames.

*Calculations* : Concerning machinery output, and also on results.

**Course Br. Woollen Yarn Spinning**

YEAR.	MONDAY.	TUESDAY.	WEDNES- DAY.	THURSDAY.	FRIDAY.
FIRST and SECOND YEARS.	Taken in Branch Artizan Schools.				
THIRD YEAR.	Lecture on Textile Industries.	Textile Mathe- matics.			Textile Mechanics.
	Taken in Central Technical School.				
FOURTH YEAR (1st Year University).		Special Lectures.		Lecture, 7.15-8.15. Experi- mental Work, 8.15-9.15.	
FIFTH YEAR (2nd Year University).				Experi- mental Work, 7.15-8.15. Lecture, 8.15-9.15.	Machine Study and Testing, 7.15-9.15.
SIXTH YEAR (3rd Year University).			Lecture, 7.15-8.15. Experi- mental Work, 8.15-9.15.		Machine Study and Testing, 7.15-9.15.

**2. Worsted Yarn Spinning***First Year :*

Lectures, Fridays, from 7.15 to 8.15 p.m.

Recording Experiments and Testing, Fridays, from 8.15 to 9.15 p.m.

**SUBJECTS.**—Principles underlying the construction of a typical worsted thread ; the influence of materials on the character of a thread.

*Processes :* Preparing long and medium wools by gilling ; preparing medium and short wools by carding, backwashing, combing, and finishing.

*Machinery :* Gill boxes ; carding engines ; backwashers ; combing machines on various principles, &c.

*Calculations :* Relating to speeds, drafts, weights, &c.

*Second Year :*

Lectures, Fridays, from 8.15 to 9.15 p.m.

Recording Experiments and Testing, Fridays, from 7.15 to 8.15 p.m.

Machine Study and Testing, Mondays, from 7.15 to 9.15 p.m.

**SUBJECTS.**—*Materials :* Tops, their qualities, defects, and values.

*Processes :* Re-combing ; mixing ; drawing ; spinning ; doubling ; twisting and yarn finishing.

*Machinery :* The different types of drawing, spinning, doubling, and twisting frames, with particulars of setting and manipulation.

*Calculations :* On speeds, drafts doublings, twists, weights and production.

## Course B2. Worsted Yarn Spinning

YEAR.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
FIRST and SECOND YEARS.	Taken in Branch Artizan Schools.				
THIRD YEAR.	Lecture on Textile Industries.	Textile Mathematics.			Textile Mechanics.
	Taken in Central Technical School.				
FOURTH YEAR (1st University).		Special Lectures.		Lecture, 7.15-8.15. Experimental Work. 8.15-9.15.	
FIFTH YEAR (2nd University).					Lecture, 7.15-8.15. Experimental Work, 8.15-9.15.
SIXTH YEAR (3rd University).	Machine Study and Testing. 7.15-9.15.				Experimental Work, 7.15-8.15. Lecture, 8.15-9.15.

## 3. Designing and Weaving

*First Year :*

Lectures and Demonstrations, Tuesdays, from 7.15 to 9.15 p.m.

Pattern Analysis and Calculations, Fridays, 7.15 to 9.15 p.m.

**SUBJECTS.**—Designing: Principles of cloth construction, plan making; drafting, materials, yarns and settings, simple patterns due to arrangement of coloured threads.

*Calculations:* For woollen, worsted, cotton and union yarn, and fabrics.

*Machinery*: Hand looms:—treadle loom, single and double action witch machines; Power looms: the tappet loom; shedding, picking, beating-up, letting-off the warp and setting-up the cloth.

TEXT BOOK.—*Textile Design* (Methuen & Co.).

*Second Year :*

Lectures on Designing and Weaving, Wednesdays, 7.15 to 8.15 p.m.

Lectures on Colouring, Wednesdays, 8.15 to 9.15 p.m.

Pattern Analysis and Calculations, Mondays, 7.15 to 9.15 p.m.

\*Experimental Work and Machine Study, Tuesdays, 7.15 to 9.30 p.m.

SUBJECTS.—*Designing*: Combinations of weaves to form stripe, check, diagonal, and other patterns; also backed, imitation backed, and other compound fabrics.

*Machinery*: The principal makes of power looms for woollen and worsted fabrics.

*Calculations*: On setting and costing fabrics, speeds of looms.

*Colouring*: Theories of colouring, qualities of colours, analogy, various styles of patterns produced by colours in solid colour threads, twists, marls and mixtures.

TEXT BOOK

*Analysis of Woven Fabrics* (Scott, Greenwood & Son).

*Third Year :*

Lectures on Designing, Mondays, from 7.15 to 8.15 p.m.

Lectures on Colouring, Mondays, 8.15 to 9.15 p.m.

Pattern Analysis and Calculations, Thursdays, from 7.15 to 9.15 p.m.

Experimental Work and Machine Study, Wednesdays, 7 to 9.30 p.m.

SUBJECTS.—*Designing*: The principles of designing compound fabrics, including double and treble-make cloths, vestings, matelasses, rugs, shawls, gauzes, velvets, and plushes.

*Colouring*: Application of colour to compound cloths.

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\* Under exceptional circumstances exemption from this work will be granted.

*Machinery*: Shuttle box motions and pattern chain making, the Jacquard or harness loom.

The looms for the use of Third Year students are mounted to weave backed and double-make textures for trouserings, suitings and mantlings, also for Jacquard patterns in dress fabrics, vestings, rugs and shawls.

### Course B3. Designing and Weaving

YEAR.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
FIRST and SECOND YEARS.	Taken in Branch Artizan Schools.				
THIRD YEAR.	Lecture on Textile Industries.	Textile Mathematics.			Textile Mechanics.
	Taken in Central Technical School.				
FOURTH YEAR (1st University).		Lecture and Demonstrations, 7.15-9.15.			Pattern Analysis and Calculations, 7.15-9.15.
FIFTH YEAR (2nd University).	Pattern Analysis and Calculations, 7.15-9.15.	Experimental Work 7.15-9.15.	Lecture, 7.15-8.15. Lecture on Colour, 8.15-9.15.		
SIXTH YEAR (3rd University).	Lecture on Design, 7.15-8.15. Lecture on Colour, 8.15-9.15.		Experimental Work, 7.0-9.30.	Pattern Analysis and Calculations, 7.15-9.15.	

*C. Courses corresponding to (A) or (B) at the Bradford, Huddersfield or Halifax Technical Colleges; or Approved Courses at any Technical School in the West Riding of Yorkshire.*

Students making application for admission to Advanced Courses of Study in the University, on the strength of having

passed through one of these Courses are required to present a Certificate of Attendance at the College or school concerned, together with a Certificate showing that a reasonable standard has been attained in the Sessional examinations.

Students from a Technical School in the Administrative Area of the West Riding will also be required to present a certificate, for which application should be made, prior to the 1st September, to the Education Department, County Hall, Wakefield.

#### **Research Work : Trade Investigations**

Those wishing to conduct Researches or Investigations of interest to the Textile Industries must fill in and forward to the Professor of Textile Industries, on or prior to September 15th, the special form (supplied on application) specifying the particular problem or problems they wish to investigate, and the number of evenings per week they propose to devote to such investigations.

Notification of the acceptance or otherwise of such proposed Researches or Investigations will be forwarded on or before September 20th, and students will be expected to commence work on September 22nd, or the nearest possible date to this.

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Special attention is drawn to the fact that the Department is equipped with complete sets of machinery for Woollen Carding and Spinning (Fine and Medium qualities), Worsted Preparing, Combing, Drawing and Spinning (English, Cone, and French Systems), Hand and Power Loom Weaving and Cloth Finishing, along with the necessary Laboratories for the conducting of Scientific Investigations.

#### **The Designing of Figured Textiles**

Advanced University students and specially qualified students from the City School of Art may attend in the Art Rooms on Monday, Wednesday and Thursday evenings to study approved Figured Textiles and to prepare their Sketches and Point Paper plans for the Loom.

## DEPARTMENT OF TEXTILE INDUSTRIES

## Time Table.—Evening Classes

	7.15 to 8.15	8.15 to 9.15
MONDAY . . . .	2nd Year Machine Study Worsted Yarn  2nd Year Pattern Analysis 3rd Year Lecture, Designing and Weaving. Figure	and Experimental Work, Spinning.  Analysis and Calculations.  3rd Year Textile Colouring. Designing.
TUESDAY . . . .	1st Year Lecture, Designing and Weaving.  2nd Year Experimental (7.15 to 9.30) Special Lectures	1st Year Tutorial Work, Designing and Weaving.  Weaving and Machine Study. (9.30) alternate Tuesdays.
WEDNESDAY . . . .	2nd Year Lecture, Designing and Weaving. 2nd Year Lecture, Woollen Yarn Spinning.  3rd Year Experimental Weaving. (7 to 9.30) Figure	2nd Year Textile Colouring.  2nd Year Experimental Work, Woollen Yarn Spinning.  Experimental Weaving. (9.30) Designing.
THURSDAY . . . .	General Woollen and Worsted Yarn Spinning.  1st Year Experimental Work, Woollen Yarn Spinning.  3rd Year Pattern Analysis Figure	1st Year Experimental Work, General Woollen and Worsted Yarn Spinning.  1st Year Lecture, Woollen Yarn Spinning.  Analysis and Calculations. Designing
FRIDAY . . . .	1st Year Lecture, Worsted Yarn Spinning.  2nd Year Experimental Work, Worsted Yarn Spinning.  1st & 2nd Year Machine Study Woollen Yarn  1st Year Pattern Analysis	1st Year Experimental Work, Worsted Yarn Spinning  2nd Year Lecture, Worsted Yarn Spinning.  and Experimental Work, Spinning.  Analysis and Calculations.

Research and Investigations of Trade Difficulties on any evening throughout the session.

**DYEING**

Professor PERKIN

Mr. KING

The courses of instruction will consist of Lectures and Laboratory Work and are intended to meet the requirements of practical men, foremen dyers, and apprentices, as well as for students intending to take the City and Guilds examinations in dyeing. When possible, students should also attend a class in Organic Chemistry at the Central Technical School or elsewhere.

Students who have reached 22 years of age may be admitted at the discretion of the Head of the Department without examination.

Students resident in the City of Leeds who are under 22 years of age, will be required to produce certificates of satisfactory attendance at the Central Technical School upon the third year's work of the group course arranged for students of Dyeing, or failing that, to pass an entrance examination, or give other evidence of adequate preparation.

Students resident in the Administrative Area of the West Riding, who are under 22 years of age, will be required to produce certificates of satisfactory attendance at courses up to at least the Fourth Year grade (including Organic Chemistry) in a Technical School aided or maintained by the County Council, or to furnish evidence that they have taken work elsewhere to a corresponding standard.

Other students under 22 years of age must give evidence of possessing equivalent knowledge in the subject of Chemistry, or may be required to pass an entrance examination which will be held at a date to be fixed by the Head of the Department.

**Lecture Course**

A course of twenty-six lectures on the Technology of the Textile Fibres, Dyeing and Dyeing Materials will be given on Monday evenings from 7 to 10 p.m., beginning on September 22nd, 1919.

- (a) *Textile Fibres*.—Wool, mohair, silk and artificial silks, cotton, ramie, linen, jute and hemp. Properties of the various fibres, identification and estimation in mixtures. Scouring, bleaching, weighting of silks, chlorination of wool, carbonising, mercerising, methods of treatment to resist dyeing and to increase dyeing properties, mordants, mordanting assistants, detection and remedying of faults in textiles, shoddy and its recognition, &c.
- (b) *Dyeing*.—Colour, fading of colours, matching of shades, machinery used in dyeing, application to different fibres of the various classes of dyestuffs, basic, acid, salt, mordant, acid mordant, vat, sulphide dyes, logwood, fustic, indigo, turkey red, para red, aniline black and cutch. Shoddy and union dyeing, testing and detection of dyes on the fibre. Relative fastness to milling, washing, light, cross-dyeing, carbonising, stoveing, &c.

#### Experimental Dyeing Course

This class is held on Monday evenings, between 7 and 10 p.m., beginning on September 22nd, 1919. It is intended for apprentice and foremen dyers, or others engaged in practical work during the day, and will also be found useful for all those who in their daily business handle dyed materials or who are otherwise interested in the dyeing industry. No previous knowledge of dyeing is demanded from those attending.

*First Year*.—Students in this class will make systematic dyeing trials on wool with the different groups of natural and artificial dyestuffs and study the effect of different assistants and mordants.

*Second Year*.—The work will comprise dyeing trials upon cotton unions and shoddy, shade matching (using a Dalite-lamp), valuation of dyestuffs, analysis of dyers' materials and the identification of dyestuffs on the fibre.

Special courses are arranged for students desiring to investigate any particular branch of work.

**LEATHER INDUSTRIES**

Professor McCANDLISH

Mr. ATKIN

Mr. THOMPSON

A course of lectures on "The Materials of Leather Manufacture," will be given on Wednesdays, at 7 p.m.

†A practical class for the analytical investigation of materials used in leather manufacture, will be held from 6.45 to 9.45 p.m. in the laboratory of the Leather Department on Tuesdays, and a course of lectures on "Analytical Chemistry of Leather Manufacture," in conjunction with this class will be given by Mr. Thompson on Wednesdays, at 8 p.m.

Evening Class students resident in the City of Leeds, who are under 22 years of age, must produce certificates of satisfactory attendance at the third year's work of the group course arranged for students of Leather Industries, or failing that, must pass an Entrance examination, or give other evidence of adequate preparation.

Students resident in the Administrative Area of the West Riding, who are under 22 years of age, desiring to enrol at the University for evening courses in Leather Industries, are required to furnish evidence of satisfactory attendance at courses of at least the Fourth Year grade (including Organic Chemistry) in a Technical School aided or maintained by the County Council, or evidence that they have taken similar work elsewhere of a corresponding standard.

Other students must give evidence of possessing equivalent knowledge in the subject of Chemistry, or may be required to pass an Entrance examination which will be held at a date to be fixed by the Head of the Department.

Students desiring to take Analytical lectures and laboratory work must have passed through Chemistry of the fourth year course at the Central Technical School, or must have otherwise attained the necessary practical knowledge of Chemical Analysis.

† These classes, which are arranged by the City Education Authority were given at the Central Technical School, but are now, for greater convenience, given at the University

The practical class will begin on Tuesday, September 23rd, 1919, and the opening lecture will be on Wednesday, September 24th, 1919.

For further information on these courses application should be made to the Central Technical School for special pamphlets.

## **GEOLOGY**

Professor KENDALL

### **Geology applied to Sanitary and Civil Engineering**

About fifteen lectures on Mondays, at 5 p.m., beginning January 12th, 1920.

**SYLLABUS.** Stratified rocks, their mode of origin and physical peculiarities. Forms of stratification, folds, joints, and faults.

General succession and lithological characters of the stratified rocks.

The origin and distribution of the drift deposits.

British rainfall, its measurement and variations. The destination of this water. Evaporation, discharge by rivers and percolation, how they are proportioned and upon what conditions they depend. The mode and rate of percolation of underground water. The water-bearing capacity of sandstones and limestones. How water is stored in these rocks.

The principal water-bearing strata of Britain. and the character of the supplies which they yield. Some detailed examples of the supply of water from deep wells.

The application of geological knowledge to selection of sites for bridges, roads, tunnels, puddle-trenches, sewage-farms, &c.

## EXTENSION LECTURES

### I. UNIVERSITY EXTENSION METHOD

The essential features of the University Extension method consist of the delivery of a weekly or fortnightly lecture upon the lines of a syllabus previously issued for the guidance of the students, followed by a class in which the lecturer discusses with the students any points of difficulty which may have arisen during the lecture. Thus, while the lecture audience consists of those who are interested in the subject generally, the class is attended by those students who are prepared to work at home in connection with the teaching. At the end of each lecture, essay subjects are given out by the lecturer, to whom the papers are sent by the students, in order that the written work may be returned by the lecturer at the next week's class. In their choice and use of books the students are assisted by the printed syllabus, which gives an analysis of the lectures and contains lists of books recommended for private study. In connection with each course, the University issues a travelling library which contains, as far as possible, copies of the books recommended by the lecturer. The library is returned to the University at the end of the course. At the end of the course an examination is held, if the local committee so desire, by an examiner other than the lecturer, appointed by the University. Entrance to the examination is optional and open to all students, over 15 years of age, who have attended not less than three-fourths of the classes during the course and have satisfied the lecturer with their written work. Certificates are granted to successful candidates, and distinction is awarded on the joint recommendation of the lecturer and the examiner.

The majority of University Extension courses deal with subjects drawn from Language and Literature, History, Geography, Art and Economics, or with such aspects of physical science as may conveniently be treated in a course which is designed for a comparatively large audience. The lectures and classes are arranged in courses of six and upwards. The lectures are given at weekly or fortnightly intervals, as may be preferred.

## II. APPLICATIONS FOR COURSES

The University requires that the responsibility for each course should be undertaken by a local committee, which may be:—

- (a) A Committee specially formed for the purpose ;
- (b) A public body, such as the Education Committee of a County or County Borough, the Education Committee of a Co-operative Society or Trades Union Council, the Committee of a Public Library or of some other institution.

The Local Committee is required to guarantee a fund sufficient to cover the University's charges for the lecturer's services and other expenses of the course.

The Secretaries and Members of the University Committee are glad to do anything in their power to assist Local Committees in the organisation of a course.

Applications for courses of University Extension Lectures should be addressed to The Secretary for University Extension, The University, Leeds, and should state:—

1. The name of the lecturer or lecturers desired.
2. The subject of the proposed course.
3. The number of lectures required in the course.
4. The day of the week preferred for the lectures and whether the lectures should be at weekly or fortnightly intervals.
5. The nature of the Committee which makes itself responsible for the local organisation and expense, and the name and address of the Local Secretary.

The Local Committee is responsible for providing a suitable lecture room and, in the case of a course illustrated by lantern slides, a lantern and operator.

It is requested that the Local Secretary will communicate with the lecturer at least a week before the first lecture as to the detailed arrangements which have been made for the course.

## III. FEES

The courses, particulars of which will be given on application, are divided into two series. The fees mentioned below include the services of the lecturer, the supply of not more than 100 copies of the syllabus of the course, and the loan of a travelling library of suitable books. The only other charges paid to the University are the travelling expenses of the lecturer and a fee of not less than two guineas (varying according to the number of candidates) for the examination if one is held.

## Series A

Number of lectures  
in the course.

Fee for lectures,  
syllabuses  
and books.

						£	s.	d.
6	...	...	...	...	...	22	10	0
8	...	...	...	...	...	28	10	0
10	...	...	...	...	...	34	10	0
12	...	...	...	...	...	40	10	0
24	...	...	...	...	...	76	10	0

## Series B

6	...	...	...	...	...	16	10	0
8	...	...	...	...	...	20	10	0
10	...	...	...	...	...	24	10	0
12	...	...	...	...	...	28	10	0
24	...	...	...	...	...	52	10	0

All incidental local expenses, such as hire and lighting of hall, advertising, etc., are borne by the Local Committee.

## IV. EXAMINATIONS

The University is prepared to conduct an examination at the conclusion of a course of Extension Lectures held under the authority of the University, but certificates will not be awarded except on a course of not less than ten lectures.

When an examination is desired the Local Committee should communicate with the Secretary of the University at least twenty-one days before the date proposed for the examination, and should state, approximately, the number

of candidates. A special form (No. K4) is issued on which the details of the examination are to be entered. After the hour and date of the examination have been confirmed by the Secretary no change may be made without his consent.

Students will not be admitted to the certificate examination unless they have attended at least three-fourths of the lectures and classes, and have satisfied the lecturer with their written work. Candidates must be not less than 15 years of age.

The examination will be conducted by means of printed or typewritten papers and will be, as a rule, of three hours duration.

The Local Committee is required to make arrangements for a suitable room for the examination, to appoint a qualified supervisor, or supervisors, and to provide the necessary materials.

The Secretary of the University will send the Examination Papers to the Secretary\* of the Local Committee, who will be responsible for their safe custody.

The packets of papers must not be opened until the commencement of the examination, nor in any other place than in the examination room.

A form (No. K5) on which the names of the candidates are to be entered, together with a copy of these Regulations, will be forwarded with the examination papers.

The Supervisor (or one of the Supervisors) must be present during the whole time of examination, and will be responsible for giving out the papers, for preserving silence, for preventing copying from books or otherwise by any of the students, for collecting the papers when the allowed time has expired, and generally for the orderly and proper conduct of the examination.

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\* Should the Secretary be a candidate at the examination the local committee must nominate some other person to receive the papers. In any circumstances if preferred, the papers will be sent direct to the Supervisor.

On the completion of the examination the Supervisor or the Local Secretary shall, without delay, despatch :—

- (a) the candidates' answers ;
- (b) copies of the examination paper ;
- (c) Form K5, properly filled up,

by registered post to the Secretary, University Extension Committee, The University, Leeds, or to such other person as may be named by the University Secretary.

When the papers have been judged by the Examiner the University will send a list of the names of the successful candidates arranged in alphabetical order to the Secretary of the Local Committee. An asterisk will be placed against the name of any candidate to whom the Examiner has awarded distinction.

Fees for the examination, including the cost of certificates, &c., are as follows :—

For the examination of 21 candidates or			
any lesser number	...	...	Two guineas.
For each additional candidate up to 40			Two shillings.
"	"	"	beyond 40
			One shilling.

## V. TRAVELLING LIBRARIES

The University issues travelling libraries to University Extension lecture centres without any additional fee. The libraries, each of which contains a selection of books chosen by the lecturer, are the property of the University and are placed by them in the hands of the Local Committee, who are responsible for their care and are required to replace any volume or volumes that may be damaged or lost while the books are in their charge. The travelling library must be returned to the University within one month of the completion of the course.

In order to provide for the students special facilities for obtaining books bearing on the courses, Local Committees are advised to invite the co-operation of the authorities of public libraries in their district.

It is further recommended that in all centres students' associations should be formed for the purpose of supplementing the work done in the lecture room.

## VI. INTRODUCTORY COURSES OF LECTURES

In addition to the provision of University Extension Lectures of the ordinary type, the Committee are also prepared to receive applications for Introductory Courses of Lectures.

The Courses in question will consist of not less than four, and usually not more than six, Lectures, and will be given by Lecturers appointed by the University Extension Committee. The subjects will be dealt with in a manner adapted to interest those who have not made a previous study of the questions, and will aim at stimulating a desire for further knowledge. Each lecture will usually occupy an hour, and opportunity for discussion will be given at the close.

As the object of these Introductory Courses is to prepare the way for University Extension Courses proper (including class-work as well as lectures), the Committee are not prepared to arrange for an Introductory course at a centre where University Extension teaching has already been provided or for more than two such Courses at any centre

Applications must be made to the Secretary for University Extension, the University, Leeds.

The fees payable for Introductory Courses are as set out below :—

					£	s	d.
4 lectures	...	...	...	...	4	14	6
5 lectures	...	...	...	...	5	15	6
6 lectures	...	...	...	...	6	16	6

The Local Committee will also be responsible for defraying the third-class travelling expenses of the Lecturer, together with all local expenses, *e.g.*, the hire of room, heating, lighting, advertising, etc., and, where necessary, the cost of providing a lantern and operator.

The amount due for fees and travelling expenses will become payable immediately after the completion of a course, and must be remitted to the Accountant, the University, Leeds. Payment should not be made directly to the Lecturer.

### UNIVERSITY TUTORIAL CLASSES

The purpose of these Classes is to bring University Teaching in appropriate subjects within the reach of those who would otherwise not be able to obtain it and to reproduce, so far as conditions permit, that close personal contact between Tutor and Student which is so valuable a phase of University life. The arrangements as to the subject to be studied as well as the day and time of meeting will be largely controlled by the students themselves, and ample opportunity will be afforded for the free interchange of thought and opinion, the theory being that the members of the Classes will be not merely pupils, but co-operators with the teachers in the quest of knowledge. The size of the Classes will be such as to admit of individual attention being given to the students, while the Tutors will be ready to give advice and guidance not merely in Class, but at other times, personally or by letter. The regular preparation and examination of Essays will prove a most valuable aid in this direction. The Classes are open to women equally with men; but, if desired, special Classes for women only will be arranged for.

The scheme provides for the organisation of Classes with little, if any, financial risk to Local Centres, and at so nominal a charge to students as to be easily within reach of all. The number of classes which can be organised is limited by the funds at the disposal of the Advisory Committee.

Applications for the formation of Tutorial Classes may be made by any responsible local body, such as a Local Education Authority, a Branch of the Workers' Educational Association or a Co-operative Society. In every case, however, it is very desirable at the outset to seek the

sympathy and co-operation of educational and working-class organisations, and usually to hold a conference of representatives of such bodies.

Among the subjects in which Classes may be arranged are the following :—Economics, Industrial History, General Modern History, Literature, and Natural History.

The course of instruction<sup>1</sup> for each Class will cover a period of three Winter Sessions of 24 weekly meetings each. Each lesson will be of two hours' duration—one hour's Lecture by the Tutor, followed by an hour for questions and discussion. A certain number of essays (not usually more than twelve) will be required from each student during the Session on subjects set by the Tutor.

No Class will be established unless there are at least twenty-four students, approved by the Committee and pledged (unless prevented by illness, circumstances of work, or other unavoidable causes) to attend throughout the whole Course and to do all the essays and exercises set by the Tutor. Not more than thirty-two students may be admitted to a Class on its formation.

Subject to the sanction of the Joint Committee, the members of any Class will be allowed to choose the subject of study, and the day and hour of meeting.

FELLOWSHIPS, SCHOLARSHIPS,  
EXHIBITIONS, BURSARIES,  
FREE STUDENTSHIPS, AND PRIZES

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GENERAL REGULATIONS

1. No election to a Scholarship will take place unless the candidate has attained a sufficient standard of merit. A candidate who has attained such standard may, if the Senate think fit, be elected to a Fellowship or Scholarship without emolument.

2. All Scholarships are held subject to the good behaviour of the Scholar. The University reserves the power to determine the tenure of a Scholarship for the Scholar's irregularity in attendance at lectures, or for any other sufficient cause. A Scholar who fails in any University examination for which he prepares in the University, or who is reported unsatisfactory in the aggregate of his terminal examinations during the session, will forfeit his Scholarship, unless his retention of it be specially allowed.

3. Scholars are required to devote the whole of their time to their studies, except so far as stated below. The undertaking by a Scholar of outside work, such as teaching, or the acceptance of any post of profit outside the University will involve surrender of the Scholarship, unless such work be undertaken with the sanction of the Vice-Chancellor. The Clothworkers' Scholars and others preparing for any profession or trade, the principles of which are taught in the University, will be granted special exemption from this rule if the Senate is satisfied that an adequate cause has been shown for such exemption, and approves the arrangement proposed in each particular case.

4. The Senate reserves power to declare any Scholarship or Exhibition vacant or to reduce its value on the ground that the Scholar has previously or subsequent to his election

acquired another Scholarship. In cases where a student holds more than one Scholarship the aggregate amount will not normally be allowed to exceed £75, though consideration may be given to special cases.

5. Scholars who are preparing for University degrees are required to present themselves for the degree examinations of the University of Leeds, and are not allowed (except by the special permission of the Senate) to present themselves for the examinations of any other University.

*Applicable to Entrance Scholarships*

6. Candidates for an Entrance Scholarship may be required to undergo a *vivâ voce* examination, in addition to the examination by written papers.

*Applicable to Scholarships awarded at Matriculation*

7. Candidates for these Scholarships must satisfy one of the following conditions:—

(1) Candidates who have passed the Matriculation Examination of the Joint Matriculation Board in a previous year, or have obtained exemption from the Matriculation Examination before entering for the Scholarships, are required to take only the papers of the Higher Certificate Examination in the subjects prescribed by the regulations of the respective scholarships for which they are competing.

(2) Candidates who have not previously passed or obtained exemption from the Matriculation examination of the Joint Matriculation Board must

(a) Take the papers of the Higher Certificate examination in the subjects prescribed by the regulations of the respective scholarships for which they are competing and

(b) Obtain a certificate of matriculation by passing at the same time in the other subjects required

by the regulations of the Matriculation Examination.

In no case will Scholarships be awarded to candidates who have not passed or obtained exemption from the Matriculation examination.

8. The University does not charge any fee to candidates who present themselves at the Matriculation examination *as Scholarship candidates only* and who do not require any certificate of having passed the examination for Matriculation purposes.

9. Those who are candidates for Matriculation as well as for Scholarships must conform to the Regulations of the Joint Matriculation Board as to filling up the prescribed entrance form and paying the Matriculation fee of £2.

10. In certain cases (see Regulations for the separate Scholarships), successful candidates are required to pursue degree courses in the University as a condition of the tenure of their Scholarships. Should such candidates not have paid the Matriculation fee of £2 prior to the examination, they will be required to pay it before entrance at the University. On payment of it they will be entitled to Matriculation certificates.

## ENTRANCE SCHOLARSHIPS

*The latest date of Entry for Entrance Scholarships is April 25th, after which no application will be received.*

### I. SUMMARY

The following Entrance Scholarships, tenable from October, 1920, at day classes in the University of Leeds, will be offered for competition to candidates who have not been registered students of the University. Attendance on University classes or laboratories not exceeding three hours a week in any session will not be held to preclude a student from becoming a candidate for an Entrance Scholarship under this regulation.

Awarded by the University

(a) On Results of Examinations held by the Joint Matriculation Board.\*

Name of Scholarship	Number Offered.	Annual value of each.	Periods for which tenable.	Departments in which tenable.
Emsley .. ..	One ..	£20	2 years	Arts, Sci., Tech, exc. Text.
Edward Baines ..	One ..	£20	2 years	Arts, Sci., Tech, exc. Text.
Charles Wheatley ..	One ..	£25	3 years	Arts
William Summers ..	One ..	£35	3 years	Arts
Brown .. ..	One ..	£40	2 years	Science, Tech.
Akroyd .. ..	Two ..	£40	and renewable 2 years	Science, Tech.
Craven .. ..	One ..	£25	and renewable 3 years	Tech. (Engineering.)
Medical .. ..	One ..	Fees for course.		Medicine

(b) By Special Examination or Selection

Corbet Woodall ..	One ..	£50	3 years	Tech. (Gas Engineering).
William Cooke & Co.	One ..	£21	and renewable 3 years	Tech. (Mining)
Clothworkers (Evening) ..	Twelve	£2 10s.	1 year	Textile

Awarded by Public Bodies or Trustees

Name of Scholarship.	Number Offered.	Annual value of each.	Periods for which tenable.	Departments in which tenable.
Local Education Authorities ..	Not specified	Various		Arts, Sci., Tech.
Board of Education Assisted Students	Not specified	Various		Science, Tech.
William Walker Exhibitions ..	Two ..	£70-90	3 years and renewable	Fuel and Leather

\*The Examinations to which reference is made in these Regulations are those conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham. The next Examinations will be held in July, 1920. Syllabuses of the Examinations may be obtained from the Secretary to the Board, Joint Matriculation Board, 315, Oxford Road, Manchester, to whom all enquiries with regard to these Examinations must be addressed and to whom the fee, and the entry form for the Examination duly filled up, must be sent direct before April 25th.

## II. AWARDED BY THE UNIVERSITY

### In the Faculties of Arts, Science or Technology

#### EMSLEY

This Scholarship was endowed in 1886 by the late Thomas Emsley, Esq., of Burley-in-Wharfedale, who bequeathed £1,000 for the purpose of founding one or more Scholarships in the Yorkshire College.

There will, as a rule, be offered one Scholarship annually, of the value of £20, tenable for two years.

The Scholar will be required to pursue a course of study prescribed for a degree in Arts, Science or Law of the University, or an alternative course in the Faculties of Arts, Science, or Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

This Scholarship is awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take Higher Certificate Papers in three "Full" subjects at this examination, at their own choice.* Applications from candidates for this Scholarship on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1887	Croft, Emily	1904	Brook, Annie
1888	Houfton, Ernest Henry	1905	Leslie, May Sybil
1889	Hurst, Thomas Ockerby	1906	Wigglesworth, Frank
1890	Byles, William Esdaile	1907	Claridge, Marjorie Muriel
1891	Oyston, William Fletcher	1908	Wilkinson, Eric Fitzwater
1892	Jackson, Edwin	1909	No award
1893	Bell, Ambrose John	1910	Wurzal, Joseph
1894	Barley, Bunten Archibald Hurd	1911	Richardson, Herbert
1895	Corrie, William Edward	1912	Clayton-Booth, Ethel Jane Driver, Constance Jennie
1896	Christien, Alfred Eustace	1913	Whitaker, Elsie Dinah
1897	Oddy, Annie Maude	1914	Atkin, John
1898	Hunt, Arthur Douglas	1915	Anderson, Margaret Lucy
1899	Robinson, Ethel Margaret	1916	Brown, Winifred
1900	Findlay, George Hindson	1917	Miller, George
1901	Landman, Samuel	1918	Aspinall, Arthur
1902	Convers, Hilda	1919	<sup>1</sup> Cooper, William Ralph
1903	Bibby, Edward Ernest		<sup>1</sup> Fletcher, Evelyn

<sup>1</sup> Scholarship divided.

EDWARD BAINES

The Edward Baines Scholarships, founded in 1885, are established by the University in consideration of the sum of £3,000 which was raised to commemorate the public services of the late Sir Edward Baines. One-half of the sum annually devoted to this purpose is awarded by the University in the form of a Scholarship tenable by candidates who have attended a Public Elementary School within the City of Leeds; the other half is awarded in the form of a Scholarship by the Yorkshire Union of Institutes. For full particulars of the latter Scholarship see pages 498-9.

Candidates for the Edward Baines Scholarship must be not less than 17 years of age at the date of the award; they must have attended a Public Elementary School in the City of Leeds, and must state the name of such School on the prescribed form of application.

There will, as a rule, be offered in each year one Scholarship, of the value of £20 a year, tenable for two years.

The Scholars will be required to pursue a course of study prescribed for a degree in Arts, Science or Law of the University, or an alternative course in the Faculties of Arts, Science, or Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

This Scholarship is awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take Higher Certificate Papers in three "Full" subjects at this examination, at their own choice.* Applications from candidates for this Scholarship on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1886	Hutchinson, Herbert	1896	Scholes, Thomas Wilfrid
1888	Legg, Thomas Percy	1897	Westerman, Ethel
1891	Dawson, Harry Medforth	1898	Stevenson, Ethel Mary
1892	Parker, George Robert	1899	Savage, Hilda
1894	Hampshire, Florence	1900	McKeand, Maggie Wood-
	Elizabeth		row
1895	Warmington, Edith	1901	Calam, Harold

1902	Robinson, Lilian Dorothea	1913	Seanor, Kathleen Mary
1903	Wilson, Florence Grey	1914	Eckstein, Dorothy Mary
1904	Hargreaves, Edith	1915	Hopkin, Jessie Melville
1905	Christie, John Hugh		Sinovitch, Israel
1906	Marsh, Frank Salton	1916	Taylor, Emily Augusta
1907	Guy, Ernest		Williams, Margaret
1908	Dawes, Ivy Emily	1917	Brown, George Middleton
1909	Stephenson, Cyril Richard		Warhurst, Jennie Phedora
	William	1918	Slcare, Mabel
1910	Mawson, Constance		Wainwright, Amy
1911	Webster, Fred	1919	Raisman, Jacob
1912	Kirkwood, Winifred		

## In the Faculty of Arts

## CHARLES WHEATLEY

This Scholarship was established by the University in 1903, in consideration of the sum of £1,500 given by the Misses Robinson of Mirfield and Mrs. Steele of Kettering, in memory of the late Charles Wheatley, Esq., of Mirfield. In case of equality of candidates, a preference is to be given to residents in Mirfield.

The Scholarship is of the annual value of £25, tenable for three years, and will be awarded as often as the funds at the disposal of the Trust admit.

The Scholar elected will be required to pursue a course of study at the University preparatory for the B.A. or LL.B. degree of the University.

This Scholarship is awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take Higher Certificate papers in three "Full" subjects, at least two of which must be chosen from English Literature, English History, Greek, Latin, French, German.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1904	Scholes, Katherine Louise	1912	No award
1905	Frank, Dorothea Ethel	1913	Dean, William Henry
1906	Batchelor, Edith	1914	Tesh, Elsie
1908	Redfearn, Florence Mary	1915	Kaye, Ruth Armitage
1909	Cass, Muriel	1916	McLeannan, Florence Lilian
1910	Greenwood, Josem��e	1917	No award
	Marguerite	1918	Cordukes, Redvers Baden
1911	No award	1919	Opie, Eleanor Mary

## WILLIAM SUMMERS

This Scholarship was founded by Mr. and Mrs. Buckley, of Ryecroft Hall, Audenshaw, near Manchester, in memory of William Summers, Esq., late M.P. for Huddersfield, and for many years a member of the Court of the Victoria University.

Candidates for this Scholarship must have been resident in the Parliamentary Borough of Huddersfield during one full year previous to the 1st of June of the year in which they compete, or must have attended a public school in the said Borough for the same period.

The Scholarship is of the annual value of £35, and is tenable for three years. Any accumulations of the Scholarship Fund will be expended by the Council as it may from time to time determine in prizes or exhibitions for candidates who shall have acquitted themselves sufficiently well in the examination without having obtained the Scholarship.

The successful candidate will be required to pursue in the University of Leeds a regular course of study in one of the following Honours Schools: (1) Classics; (2) English Language and Literature; (3) Modern Languages and Literatures; (4) History; (5) Philosophy; or any other Honours School in the Faculty of Arts approved by the Senate. Such course must be commenced in the October next after election to the Scholarship.

The Scholarship is awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take Higher Certificate papers in three "Full" subjects, at least two of which must be chosen from English Literature, English History, Greek, Latin, French, German.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1905	Hirst, John Crosland	1913	No award
1906	Dearnley, Charles	1914	No award
1907	Hobson, Julia	1915	Whitley, John
1908	Carter, John Wilfrid	1916	No award
1909	No award	1917	No award
1910	No award	1918	Schofield, Beatrice Rachel
1911	No award	1919	No award
1912	No award		

## In the Faculties of Science and Technology

## BROWN

These Scholarships were endowed in 1877 by the late Henry Brown, Esq., of Bradford and Rawdon, who bequeathed £5,000 to the Yorkshire College for the purpose of founding five or more Scholarships to be called the Brown Scholarships, for students attending the said College and receiving instruction in the various branches of those Sciences which are applicable to the Industrial Arts.

In general there will be offered in each year one or two Scholarships of £40 a year, each tenable for two years, with power of extension. *Applications for extension must be sent to the Clerk to the Senate before the end of the second term.*

A preference will be given, *cæteris paribus*, to candidates who have declared their intention of entering some industry, instruction in the principles of which is given in the University, or of engaging in the teaching of Science. In the case of equality of candidates, a preference will be given to residents in Bradford or natives of Bradford.

The selected Scholars will be required to pursue a course of scientific or technical study which will qualify for a degree in Science, or for a diploma of the University, or otherwise to devote themselves, in a manner approved by the Senate, to the study of one or more branches of pure or applied science taught in the University.

Brown Scholarships are not tenable by students who propose to enter, or who have already entered, on courses of study in the Faculty of Medicine, unless they are reading for the B.Sc. degree of the University of Leeds. They are now awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take in this examination Higher Certificate Papers in three "Full" subjects, at least two of which must be chosen from Pure Mathematics, Higher Pure Mathematics, Applied Mathematics, Physics, Chemistry, Botany, Zoology. The following subjects must not be taken together: (a) Pure Mathematics and Higher Pure Mathematics, (b) Pure Mathematics and Applied Mathematics, (c) Higher Pure Mathematics and*

*Applied Mathematics, (d) Physics and Applied Mathematics.*  
Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1880	Senior, William Otté	1898	Hummel, Alfred Roland
	Skirrow, Benjamin Beck		Ure
1881	Overend, Wilkinson		Lodge, Harry Livingstone
	Easterfield, Thomas Hill	1899	Goodson, Ethel Elizabeth
1882	Courtice, George Robert		Grimshaw, Norman
	Aulton	1900	Gough, Alfred
1883	Teanby, George William	1901	Booth, Meyrick
	Alvey	1902	Armes, Henry Percy
1885	Marriner, William Wright		Crosland, Percy Field
1886	Jennison, Francis Herbert		Lord, William Ernest
1887	Hartley, Thomas	1903	Hodsman, Henry James
1888	Mann, Harold Hart	1904	McGill, Ernest Arthur
	Parkin, Ernest	1905	Barker, Christopher James
1889	Smith, James Cowlshaw		Watson, James Arthur
	Cobb, John William	1906	Wood, George
1890	Crouch, John Peachey	1907	<sup>1</sup> Lee, Elsie
	Norman, Frank Meade	1908	<sup>2</sup> Atkin, William Rearden
	Peatfield, Albert Edward	1909	<sup>1</sup> Stocks, Herbert Holroyd
1891	Dewhurst, Wilfrid Arthur	1910	Seville, Robert Ockleston
	Liversidge, Will	1911	Lunn, Reginald William
	French, James Wilson	1912	Chapman, Robert Edward
	Duncan, John	1913	Seymour-Jones, Frank Leslie
1892	White, Arthur Lee	1914	Monkhouse, Allan Cuthbertson
	Barber, John Watson	1915	Chappell, Norman
	Conyers, James Reeve		Robinson, Ralph Lozulu
1893	Chapman, Harold Percy	1916	Jordinson, Frank
1894	Dalton, John Edwin		Stevenson, Francis Malcolm
1895	Leach, Elsie	1917	Lister, Flora
	Robinson, Elizabeth Clare		Rea, Rosamond Mary Lloyd
1896	Blackburn, William	1918	Le Fevre, Helen
	Broughton		Rhodes, Oswald Stanley
1896	Hinchcliff, Joseph Henry	1919	Marshall, Clarence Bolus
1897	Forsyth, Christina Brand		Thorpe, Dora
	Hunt, Francis William		

# AKROYD

These Scholarships are maintained by funds accruing from the Akroyd Trust, and are intended for the encouragement of the study of Natural Science.

<sup>1</sup> Renewed for a third year.

<sup>2</sup> Renewed for a fourth year.

In general there will be offered in each year one or two Scholarships of £40 a year, each tenable for two years, with power of extension. *Applications for extension must be sent to the Clerk to the Senate before the end of the second term.*

Women are not eligible for the Akroyd Scholarship.

Akroyd Scholars will be required to pursue such a course of study in the Faculties of Science and Technology, as shall, in the opinion of the Senate, constitute an effective preparation for a degree in Science or for a scientific calling.

Akroyd Scholarships are not tenable by students who propose to enter, or who have already entered, on a course of study in the Faculty of Medicine, unless they are reading for the B.Sc. degree of the University of Leeds.

These Scholarships are awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take in this examination Higher Certificate Papers in three "Full" subjects, at least two of which must be chosen from Pure Mathematics, Higher Pure Mathematics, Applied Mathematics, Physics, Chemistry, Botany, Zoology. The following subjects must not be taken together: (a) Pure Mathematics and Higher Pure Mathematics, (b) Pure Mathematics and Applied Mathematics, (c) Higher Pure Mathematics and Applied Mathematics, (d) Physics and Applied Mathematics.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1877	Bothamley, Charles Herbert	1883	Hick, Herbert Edward
1878	Briggs, William		Wilson, Edwin
	Ingle, Herbert	1884	Fry, Ernest Bickersteth
1879	Wilson, Albert Edward		Moore, Ira
	Atkinson, Thomas Francis		Wheelwright, Edwin
1880	Stables, William Herbert		Whitfield
1881	Taylor, Arthur		Pocklington, Henry Cabourn
1882	Wright, Joseph		Thompson, George Robert
	Allen, Harold Newman		Booth, Robert Davis
	Hurtley, William Holdsworth	1885	Duncan, William
	Wright, George Ward		Watmough, Benjamin
1883	Dibb, John Hustwick		Dains, Herbert Henry
	Speak, Savannah Johnson	1886	Hunt, Tom Harold
	Tucker, Clara		Ives, James Percy

1886	Sykes, Ernest	1905	Marshall, Francis
1887	Holmes, Harry Slater		Riley, Frank
	Booth, Frederick William	1906	<sup>2</sup> Dudley, Harold Ward
	Horrell, Ernest Charles		Hurst, Frank
1888	Miall, Stephen	1907	<sup>2</sup> Rawling, Francis George
	Nicholls, Percy		<sup>1</sup> Varley, Gilbert
	Myers, John Ellis	1908	<sup>2</sup> Pearson, William
	Sowry, George Herbert		<sup>2</sup> Staveley, John
1889	Porter, John Fletcher	1909	<sup>1</sup> Rawling, Arthur
	Sunderland, Arthur		<sup>1</sup> Taylor, Ernest
	Acott, Richard Harry	1910	Douglas, Frank
1889	Midgley, Harry		Hartley, John Alfred
1890	Mitchell, Clifford	1911	Gibson, Wilfrid
	Archdeacon, William Henry		Harrap, Frank Nettleton
1891	Holt, John Lupton	1912	Hanby, Thomas
	Halliwell, Edward		Mountford, Christopher
1892	Turton, Edward		Archibald
	Brown, James Herbert	1913	Hey, Arthur Marsden
1893	Gough, William		Umanski, Arthur Joseph
1894	Calvert, Harry Thornton		Victor
1895	Grocock, Henry Lloyd	1914	Crowther, Edward Mortimer
	Robinson, Harold		Ward, Harry
1896	Shepherd, Arthur Burton	1915	Hutchinson, Charles
1897	Middlemiss, James Ernest		Rowland
1898	Livesey, Charles Edwin		Sykes, Leonard Sheard
	Leonard		Whattam, Thomas William
1899	White, Herbert Leslie	1916	Clarkson, William Edward
1900	Scholefield, Fred		Gordon, Morris
	Willey, Edward		Milne, Geoffrey
1901	Radcliffe, Norman Brooke	1917	Pinder, William Leatham
	Zortman, Israel Hyman		Townend, Donald Whiteley
1902	Brown, John Duncan		Woodall, Herbert
	Hollins, Cecil	1918	Cockcroft, James Philip
1903	Harris, Marks Solomon		Crosland, Eric Bentley
	Horsfall, Ronald Smith		Peel, Samuel Longley
1904	Davies, Hamilton	1919	Davies, David John
	Sinson, Israel Lewis		Garner, Walter
1905	Jenkins, Gilbert Ramsden		Rabinovitch, Michel

### In the Faculty of Technology

#### CRAVEN

This Scholarship was established in the year 1887, by a number of the Engineers of Leeds, in recognition of the services rendered by the late Joseph Craven, Esq., to the Mechanical Engineering trades of the district.

The Scholarship will be awarded triennially to the Engineering student who, having passed the Matriculation

<sup>1</sup> Renewed for a third year.

<sup>2</sup> Renewed for a fourth year.

examination of the Joint Matriculation Board, has done best in the ordinary papers in Mathematics and Mechanics. It is of the annual value of £25 and is tenable for three years, subject to the conditions as to conduct and attendance laid down in the General Regulations applicable to all Scholarships. Not less than four-fifths of the value of the Scholarship is to be spent in fees. The balance will be paid to the scholar in cash.

Candidates must have been, previous to the day of examination, resident in the City of Leeds for a period or periods amounting together in the aggregate to at least five years, and be so resident at the time they present themselves for examination. Applications from candidates for these Scholarships on the prescribed forms, which are obtainable from the Office of the University, must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1888	Banks, Arthur	1909	No award
1890	Perkin, Herbert	1910	No award
1892	Hammond, Joseph Wetheril	1911	No award
1894	Millard, Frederick Stanley	1912	No award
1900	Sturgeon, Robert Alexander	1913	Woodcock, Victor Joseph
1900	Anderson, Robert	1914	No award
1901	Frazer, Edgar Hamilton	1915	Wray, Arthur Alexander
1903	Maddison, Wilfred Guy	1916	Burn, Ernest Francis
1905	No award	1917	Begley, Lawrence Gordon
1906	No award	1918	No award
1907	Gerard, Inglis Joseph	1919	No award
1908	No award		

#### CORBET WOODALL SCHOLARSHIP IN GAS ENGINEERING

This Scholarship was endowed in 1915 by Sir Corbet Woodall, through the Institution of Gas Engineers, and is to be held at the University of Leeds. The annual value of the Scholarship is £50, and is tenable for three years, with power of extension for a fourth year on the recommendation of the Senate to the Corbet Woodall Scholarship Committee. The continuation of the Scholarship each year after the first will depend on the work done by the scholar in the previous year being reported to the Committee as satisfactory.

The Scholarship is intended to enable a student to take a course of study in Gas Engineering at the University, in preparation for a responsible position as a gas engineer. Candidates for election to the scholarship are required (i) to produce evidence of having reached a standard of scientific or technological education sufficient to enable them to take advantage of the B.Sc. degree, or Diploma course in Gas Engineering, and (ii) to give an undertaking of their intention to follow the profession of gas engineer. On each vacancy the award of the scholarship will ordinarily be made during the month of June, after due advertisement in the technical press. The Scholarship will be awarded by the Senate after consultation with the Corbet Woodall Scholarship Committee.

Each candidate is required to submit (i) a statement of his previous education and of his scientific or technological qualifications, (ii) testimonials (*a*) from the head of the Institute in which he received his previous education, (*b*) if he has been already engaged in a gas engineering works, from the engineer of the works. The Senate, in conjunction with the Corbet Woodall Scholarship Committee, will determine what examination, if any, is necessary in order to guide them in the award of the scholarship.

1916 Ingram, Leslie Peel

#### WILLIAM COOKE & COMPANY

This Scholarship was instituted in 1906 by Messrs. William Cooke & Co., of Sheffield.

It is of the annual value of £21, and is tenable for three years. It is awarded triennially.

Candidates must be either (*a*) mining students articled to mining engineers, colliery managers, or colliery proprietors; or (*b*) persons who are actually employed underground at a colliery, or who have been employed underground for a period exceeding three years.

The Scholar will be required to pursue the course of study prescribed for the diploma in Coal Mining, and to present himself, as soon as he is properly qualified, as a candidate for that diploma, and also for the Colliery Manager's First

Class Certificate of competency to manage a Mine. He must attend this course regularly, and must take his examinations in the proper order and at the time laid down by the regulations of the University.

The Scholarship will be awarded on the result of an examination in (1) English Composition ; and (2) Mathematics (Arithmetic ; Algebra, including quadratic equations ; the Elementary Geometry of triangles, parallelograms, and circles, and of similar rectilinear figures), which two subjects are compulsory on all candidates ; and also in one or more of (3) Mechanics ; (4) Physics ; and (5) Chemistry.

In 1920, the examination will be held about the middle of June. Applications from candidates for this Scholarship must be sent to the Clerk to the Senate not later than May 1st, after which date no application will be received.

1917 Berry, Samuel

#### CLOTHWORKERS' FREE STUDENTSHIPS (EVENING)

The Worshipful Company of Clothworkers of the City of London offer twelve Free Studentships, each of the value of £2 10s., to selected students from certain Technical Schools in the West Riding who may desire to attend the advanced Evening Classes in the Department of Textile Industries in the University of Leeds. Each Free Studentship is tenable for one year.

#### In the Faculty of Medicine

##### MEDICAL

This Scholarship was instituted by the Leeds School of Medicine in 1888. It consists of free admission to the lectures and practical instruction given in the University for the M.B. course. It does not include Infirmary and Fever Hospital practice and instruction in Vaccination and Intern Maternity which are given outside the University buildings. The Scholarship is awarded on papers set in the Higher Certificate examination of the Joint Matriculation Board. *Candidates are required to take in this examination Higher Certificate Papers in three "Full" subjects, at least two of which must be chosen from*

*Mathematics, Higher Pure Mathematics, Applied Mathematics, Physics, Chemistry, Zoology, Botany. The following subjects must not be taken together: (a) Pure Mathematics and Higher Pure Mathematics, (b) Pure Mathematics and Applied Mathematics, (c) Higher Pure Mathematics and Applied Mathematics, (d) Physics and Applied Mathematics.*

Candidates must have declared their intention, if elected, of entering the University of Leeds as students in the Faculty of Medicine.

The successful candidate will be required to enter at the University of Leeds as a student in the Faculty of Medicine, in the October immediately following the examination, to pursue, at the University of Leeds and at the General Infirmary at Leeds, the curriculum for a medical degree in the University of Leeds; and to proceed to such degree. But should the successful candidate desire to take a degree in Science or a fuller course of scientific work, before entering upon his professional studies, he shall give immediate notice of his wish to the Senate, which may, if it so determine, allow the Scholar, after passing the First M.B. examination, to postpone his attendance in the School of Medicine for one year only, during which time he shall pursue such course of study at the University as the Senate may authorise.

Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1889	Houfton, Ernest Henry	1901	Gough, Alfred
1890	Callum, Harold Sidney Hill	1902	<sup>1</sup> Booth, Sydney Herbert
1891	Greenwood, Henry Harold	1902	<sup>1</sup> Rawlings, Harry Richardson
1892	Towse, Walter	1903	Hamilton, William Douglas
1893	Field, Richard Cullingworth	1904	No award
1894	Turton, Edward	1905	Thoseby, John Norman
1895	Gough, William		Lonsdale
1896	Radcliffe, Percy Alexander	1906	Little, Cuthbert Joseph
	Hurst		Harwood
1897	Coupland, James Alane	1907	Kirk, George William Lister
1898	Middlemiss, James Ernest	1908	Knowles, Henry Rylands
1899	Boyle, Alan	1909	No award
1900	Edmondson, Watts	1910	Leake, Charles Edward

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<sup>1</sup> Scholarship divided.

1911	Dudley, Charles William	1916	Levy, Simon
1912	Adler, Saul	1917	Lewis, George Edward
1913	Bertwistle, Alfred Pilkington		Andrew
1914	Sheard, Arthur	1918	Sunley, George Raine
1915	Blackburn, John Taylor	1919	Curtis, Francis Roy

### III. AWARDED BY PUBLIC BODIES OR TRUSTEES

#### CITY AND COUNTY COUNCIL SCHOLARSHIPS

Scholarships tenable at the University of Leeds in scientific and technical subjects (including Agriculture), as well as in Arts subjects, are offered by the Leeds City Council and the County Councils of the North, East, and West Ridings of Yorkshire. In the West Riding, Exhibitions are also offered in Coal Mining, and Free Studentships tenable at the University.

In certain cases assistance is offered to students in Evening Classes.

For further information application should be made as follows :—

For Leeds City Council Scholarships : To the Director of Education (Higher Section), Education Department, Leeds.

For West Riding Scholarships and Free Studentships : To the Education Department, County Hall, Wakefield. Applicants should ask for Section X of Part II of the Handbook of the Education Committee.

For North Riding Scholarships : To the Secretary, County Education Offices, County Hall, Northallerton.

For East Riding Scholarships : To the Clerk, East Riding County Council, Beverley.

*In all cases where there is a possibility of Scholarships being renewed, application for renewal should be made to the Clerk to the Senate not later than the end of the second term.*

#### BOARD OF EDUCATION ASSISTED STUDENTSHIPS

The Board of Education pay three-fourths of the fees in the following Day classes, and one-half of those in the Evening classes, for a limited number of teachers engaged in science teaching.

\* Applications for this privilege must be made to the Secretary, Board of Education, Victoria and Albert Museum, Exhibition Road, South Kensington, London, S.W., 7, not later than the beginning of September in each year.

#### DAY CLASSES

*Physics*: Any of the lecture courses, not exceeding two in number; laboratory instruction for not less than half a day per week.

*Chemistry*: Lectures and laboratory as above.

*Geology*: Lectures and laboratory as above.

*Civil and Mechanical Engineering*: Lectures and laboratory as above.

*Electrical Engineering*: Lectures and laboratory as above.

*Zoology*: The lecture courses, Intermediate, Final and Honours; laboratory instruction as above; Nature Knowledge (lectures and practical work).

*Botany*: The lecture courses, Intermediate and Final; laboratory as above; Nature Knowledge (lectures and practical work).

*Mathematics*: Any of the lecture courses, not exceeding two in number.

*Agriculture*: Any of the lecture courses, not exceeding two in number.

*Agricultural Chemistry*: Any of the lecture courses, not exceeding two in number. Laboratory instruction for not less than half a day per week.

#### EVENING CLASSES

*Electrical Engineering*: Any of the lectures and the practical classes.

*Civil and Mechanical Engineering*: Any of the lecture classes, laboratory or drawing instruction.

#### WILLIAM WALKER EXHIBITIONS

These Exhibitions are intended to enable students to obtain at Leeds University scientific instruction of an advanced character in the Technology of Coal and its Bye-products and in the Technology of Leather. Each Exhibition is of the annual value of from £70 to £90 and (subject to the condition named below) is tenable for three years, with power of extension by the trustees for a fourth year in the case of an Exhibitioner who has shown exceptional promise during his course of training at the University. The continuation of the Exhibition each year after the first will depend on the work done by the Exhibitioner in the previous year being reported to the Trustees as satisfactory. The Trustees may, if they think proper, divide the income of each Exhibition between two candidates, or only award part of it in certain cases, as determined by circumstances.

Candidates for election to the Exhibitions must be natives of, or living in the Poor Law Unions of Whitehaven and Bootle, except the Urban District of Millom, and between the ages of 16 and 22.

Applications for leave to enter for the examination and any inquiries for further information should be addressed to the Secretary, Mr. J. M. Nelson, The Tannery, Whitehaven.

1916 Mott, Reginald Arthur  
Tyson, Gilbert John Gilbanks

#### YORKSHIRE UNION OF INSTITUTES

(EDWARD BAINES)

This Scholarship is intended for students of either sex who have done satisfactory work at Evening Technical Schools, or Classes; a suitable amount of workshop or mill experience will also ordinarily be required. Candidates must have been members of, or students at, an Educational Institute in affiliation with the Yorkshire Union of Institutes for at least twelve months prior to the date of application, and must have had two years' practical experience, which, in the opinion of the Council of the Union, is of a character allied to the trade or profession in preparation for which the Scholarship would be utilised. Applicants must not be under 18, or over 30 years of age.

The Scholarship will be of the value of £40 per year. This amount will cover the tuition fees, and leave a margin available for books, travelling expenses, &c. The Scholarship will be awarded in the first instance for one year, renewable for a second and a third year in the event of satisfactory progress.

If the holder of a Scholarship ceases to follow the approved Course of Instruction at the University during the currency of any educational year, the payments made on his or her behalf for such year, or such part of them as the Council of the Union may determine, must be refunded by the holder (or by the parent or guardian) unless the leaving be due to

illness or some other cause which may be considered sufficient by the Council of the Union. Each holder (or his or her parent or guardian) must enter into an agreement to carry out this condition.

Applications must be made on Forms which may be obtained from the Secretary, The Yorkshire Union of Institutes, Victoria Chambers, Leeds. These Forms must be filled up in every particular and despatched so as to reach the Office of the Union on, or before, June 30th, in the year when the Scholarship is offered.

Applicants for Scholarships should give full particulars of the whole of their previous work in fundamental or allied subjects, and preference will be given to any one who may have followed a Group Course of Instruction on recognised lines. Applicants will be required to give evidence of having studied for at least two winters in a Technical School, and to produce a nomination or recommendation from the Managers of the School, endorsed by their employers.

The selection will be based mainly upon the results obtained by the Candidates at the Examinations of the Board of Education, and the City and Guilds of London Institute, respectively; the Council of the Union reserve the right to hold any further examination, or impose any further requirement, in order to assist them in their selection of candidates.

## **FORMER SCHOLARSHIPS, NOW DISCONTINUED**

### **Akroyd and Brown Senior Scholarships**

Formerly part of the income of the Akroyd and Brown Scholarship funds was applied to the maintenance of Senior Scholarships, awarded after examination to registered students of the University, and tenable in the Faculties of Science and Technology, but the Senate resolved on May 15, 1905, to apply such income to the continuance of Scholarships originally awarded as Entrance Scholarships.

1882 Parkin, Alfred  
1883 Taylor, Arthur

1884 Wright, Joseph  
1885 Speak, Savannah Johnson

*Former Scholarships*

1886	Wilks, Stephen Longmore	1895	Rigby, William
	Butterworth		King, Herbert
	Wheelwright, Edwin Whit-	1896	Calvert, Harry Thornton
	field		Jowett, Albert
	Courtice, George Robert		Tansley, George Edward
	Aulton	1897	Storr, Bertram Vincent
1887	Hastings, Hugh		Cooper, Albert Henry
1888	Stoney, William Walter	1898	Grocock, Henry Lloyd
1889	Ingle, Harry	1898	Shepherd, Arthur Burton
1890	Miall, Stephen	1899	Hunt, Francis William
	Mann, Harold Hart		Gawler, Robert
1891	Cobb, John William	1900	Grant, Charles Henry
1892	Archdeacon, William Henry		Thompson, John Thomas
1893	Wise, Julian Stanton	1901	Denton, Ernest
	Welpton, William Parker		Gray, Arthur Lambert
	Guthrie, Thomas	1902	Raper, Henry Stanley
1894	Wilson, Harold Albert	1903	Zortman, Israel Hyman
	Haworth, Frederic	1904	Phillipson, Abram

*Brown Senior Scholars*

1880	Ingle, Herbert	1892	Davis, Frederick William
	Passavant, Laura Maude		Daniel
1881	Wilson, Albert Edward		Marsland, Roland
	Armstrong, Wilhelmina	1893	Dawson, Harry Medforth
	Maria		Motley, Parker
1882	Senior, William Ottè	1894	Eurich, Hermann Oskar
	Stables, William Herbert	1895	Guthrie, Thomas
1883	Allen, Edgar Johnson	1896	Dalton, John Edwin
	Ahrns, Ernest Leopold	1897	Broadbent, Francis James
1884	Potter, Arthur Edward		Skirrow, Frederick William
	Schmitz, Herman Emil	1898	Findlay, Mary Grace
1885	Dibb, John Hustwick	1899	Whiteley, Charles Edward
	Hurtley, William Holdsworth	1900	Chapman, Fitzroy Tozer
1886	Pocklington, Henry Cabourn		Unwin, Ernest Ewart
	Thompson, George Robert	1901	Hummel, Alfred Roland
1887	Duncan, William		Ure
	Thorp, Walter		Stoddard, Arthur Askwith
1888	Sykes, Ernest	1902	Dell, John Alexander
1889	Watson, Frank Leslie		Goodson, Ethel Elizabeth
1890	Nicholls, Percy	1903	Calam, Harold
	Myers, John Ellis		

**Leeds City Council Entrance Scholarship.**

This Scholarship of the annual value of £50 was founded by the Council of the Yorkshire College, in 1892, out of the sum voted by the Leeds City Council, and up to 1912 was awarded as an Entrance Scholarship tenable

for three years in the Faculties of Arts, Science and Technology. In 1912 the Council of the University, on the recommendation of the Senate and with the approval of the City Education Committee, decided that the funds should be utilised instead for the purpose of extending the courses of deserving and necessitous Leeds students in attendance at the University.

1892	Hefford, Charles Nelson	1902	Mellor, Fred
1893	Watson, Herbert Wood	1903	Klein, Harris
1894	Cooper, Albert Henry	1904	Crowther, William Edmund
1895	Findlay, Mary Grace	1905	<sup>1</sup> Simpkiss, Nellie
1896	Whiteley, Charles Edward		<sup>1</sup> Webster, Herbert William
1897	Chapman, Fitzroy Tozer	1906	Bannister, Albert
1898	Gray, Arthur Lambert	1907	Brodie, Morris
1899	Grant, Frederick Ernest	1908	No award
1900	Cunningham, Jean Orme	1909	Woodroffe, David
1901	Phillipson, Abram	1910	Whincup, Harry Hynes

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<sup>1</sup> Scholarship divided.

## SENIOR SCHOLARSHIPS

In Arts, Science or Technology

## UNIVERSITY

A limited number of University Scholarships may be offered annually, and will ordinarily be awarded to students who have shown special merit in the Final examinations of the Honours Schools of the University. In the election to Scholarships, preference will ordinarily be given to students who are prepared to undertake advanced study or research. When such advanced study or research is undertaken in the University, or in some other University or learned institution, or under suitable guidance in a manner approved by the Senate, an additional maintenance grant not exceeding £50 may be made; in other cases the Scholarship will be of the value of £25.

Scholars who receive a grant additional to the £25 will be required to furnish a report of the work done by them during the tenure of the Scholarship, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Scholarship, in order that it may be laid before the Senate. Scholarships may be renewed for a second year when the scholar is undertaking advanced study or research.

*Applications for renewal must be sent to the Clerk to the Senate before the end of the second term.*

- 1905 Armes, Henry Percy (Chemistry).  
<sup>1</sup>Gunnell, Doris (Modern Languages).  
<sup>1</sup>Holmes, Carrie (English)  
 Edwards, Maud Mary (Modern Languages)  
 Gregory, Frederick Maurice (Engineering)
- 1906 Hodsman, Henry James (Chemistry)  
 Butterworth, George William (Classics)  
 Holgate, Edward (Engineering)
- 1907 Cross, William Ernest (Chemistry)  
 Davies, Hamilton (Chemistry)  
 Fairley, Barker (Modern Languages)  
 Shuttleworth, Newton (Electrical Engineering)

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<sup>1</sup> Renewed for a second year.

- 1907 Thorp, Hilda (Modern Languages)  
Walker, Jessie (English)
- 1908 Blockey, John Reginald (Chemistry)  
Jackson, Colin Gyrth (Chemistry)  
Leslie, May Sybil (Chemistry)  
Riley, Frank (Chemistry)  
<sup>1</sup>Strange, Edward Howard (Philosophy)
- 1909 Dudley, Harold Ward (Chemistry)  
Peel, Albert (History)
- 1910 Duffin, Joseph Francis (Physics)  
Powis, Frank (Chemistry)
- 1911 Chapman, Sarah Elizabeth (Geology)  
Woodman, Herbert Ernest (Chemistry)
- 1912 Dawson, Thomas Rayner (Chemistry)  
Ogden, Herbert (Physics)
- 1913 Dry, Francis William (Zoology)  
Dutt, Pavitra Kumar (Chemistry)  
Smith, Jane Elizabeth (Botany)  
Sugden, Reginald (Chemistry)  
Varey, Mary (Modern Languages)  
Whincup, Harry Hynes (Classics)  
Woodroffe, David (Chemistry)
- 1914 Dougill, George (Gas Engineering)  
Gibson, Wilfrid (Chemistry)  
Irish, Edward (Chemistry of Leather Manufacture)  
Quarmby, Frederick (Physics)  
Randall, William (Mining Engineering)  
Smithells, Colin James (Chemistry)  
Versey, Henry Cherry (Geology)
- 1915 Crann, Thomas William (Chemistry)  
Edmondson, John (Civil Engineering)  
Holliday, Marjorie Tate (Modern Languages)  
Horsley, Ernest (English)
- 1916 Balsaert, Arthur Joseph Alphonse (Textiles)  
Ives, Frank (English)  
Mountford, Christopher Archibald (Chemistry)  
Percival, Edward (Zoology)  
Sutcliffe, Dorothy (History)  
Umanski, Arthur Joseph Victor (Mathematics)  
Whitaker, Elsie Dinah (Geology)  
Woodcock, Hester Elizabeth (Modern Languages)
- 1917 Dowson, Evelyn Rhoda (Modern Languages)  
Marsden, Hilda (English)  
Perry, Francis Charles (English)  
Tesh, Elsie (History)

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<sup>1</sup> Renewed for a second year.

- 1918 Berry, Arthur (English)  
 Denison, Ruby Gladys Martha (Modern Languages)  
 1919 Barker, Doris Wright (Modern Languages).  
 Speed, Marie Elizabeth (English).  
 Taylor, Emily Augusta (History).

## LEIGHTON

These Exhibitions were instituted in 1894 by the Trustees of the late Mrs. Isabel Leighton of Leeds.

Candidates must be registered students of the University of not less than two terms standing. They must have attended a Public Elementary school or schools in the City of Leeds for not less than three years.

Three Exhibitions are ordinarily offered each year, each of the annual value of £10, and are tenable for two years, and renewable subject to the reports on the student's work during the first year of tenure being satisfactory.

The Exhibitions will not be awarded on any special examination, but *those students who are desirous of becoming candidates are required to send in their names to the Clerk to the Senate not later than May 1st in each year.*

In recommending candidates for appointment, the Senate will be guided by the position held by the candidates in their terminal examinations, and also by their general work and conduct. The need of the applicants for pecuniary assistance will also be taken into consideration.

The Exhibitions are tenable by day students pursuing any course of study in the Faculties of Arts, Science and Technology, and may, with the consent of the Trustees, be held in conjunction with any other Scholarship.

The election will be made in the third term of the session, provided that there be suitable applicants.

- |                             |                          |
|-----------------------------|--------------------------|
| 1894 Gough, William         | 1899 Phillipson, Coleman |
| 1895 Hampshire, Florence    | 1900 Savage, Hilda       |
| Elizabeth                   | Robinson, Ethel Margaret |
| 1896 Shacksnovis, Reuben    | 1901 Burgess, Lillie     |
| 1897 Porritt, Florence Mary | Schofield, Fred          |
| Scholes, Thomas Wilfrid     | 1902 Calam, Harold       |
| 1898 Gawler, Robert         | Landman, Samuel          |
| 1899 Crossfill, John        | Stead, Frank Cawthron    |

1903	Appleyard, John Ernest		Mallin, Hubert Patrick
	Robinson, Lilian Dorothea	1912	Cohen, Sam
	Waite, Joseph Henry		Hutton, Charles William
1904	Carlton, George Westerdale		Marshall, Herbert
	Maddison, Wilfred Guy	1913	Blair, James
	Thorp, George		Chapman, Robert Edward
1905	Lacy, Arthur		Kirkwood, Winifred
	Vernon, Edgar		Normington, Nellie
1906	Hogan, Kathleen	1914	Ellis, Myer
1907	Everett, Percy Newton		Parker, Isabel Wilson
	Marsh, Frank Salton		Whitaker, George Robert
	Turner, Frederick William	1915	Butterfield, Hilda
1908	King, Norman		Denham, Basil Marmaduke
	Mann, Clarissa	1916	Mathers, John Stanley
	Powis, Frank		Sinovitch, Israel
	Webster, Herbert William		Stevenson, Hilda
	Wood, Louis Albert	1917	Eastwood, Elsie
1909	Ellis, Henry Carl Noel		Williams, Margaret
	Taylor, Arthur	1918	Holdsworth, Marjorie
	Worsnop, Edgar		Stevenson, Hilda
1910	Goldstone, Cecilia	1919	Rosenbloom, Philip
	Lee, Harry		Spencer, George Douglas
	Libbish, Barnett		Wainwright, Amy
1911	Dawson, Thomas Rayner		

## LEEDS CITY COUNCIL.

This Scholarship was founded by the Council of the University, in 1892, out of the sum voted by the Leeds City Council, and up to 1912 was awarded as an Entrance Scholarship. In 1912 the Council, on the recommendation of the Senate and with the approval of the City Education Committee, decided to utilise the money in extending the courses of deserving and necessitous Leeds students in attendance at the University. As in the case of the Leighton Scholarships, the need of the applicant for pecuniary assistance will be taken into consideration by the Senate, who will also be guided by the position held by candidates in their Terminal Examinations and by their general work and conduct.

*Applications must be sent in to the Clerk to the Senate not later than May 1st in each year.*

1913	Whincup, Harry Hynes		Stevenson, Hilda
	Wurzal, Joseph		Wilkins, Phyllis Florence
1914		1918	Prince, Eleanor Edith
1915	Mee, Winifred		Speed, Marie Elizabeth
	Parsons, George		Stevenson, Hilda
	Rimington, Miriam		Williams, Margaret
1916	Kaye, Ruth Armitage	1919	Speed, Marie Elizabeth
1917	Prince, Eleanor Edith		Spencer, George Douglas
1917	Speed, Marie Elizabeth		Williams, Margaret

## In the Faculty of Arts

## SALT

This Scholarship was founded by the late Sir Titus Salt, Bart., in 1875.

Candidates must be scholars or registered students of the University in at least their sixth term.

The value of the Scholarship is £20 a year, and it is tenable for two years.

The Scholarship is awarded at the discretion of the Senate, with or without examination.

The Scholar elected will be required to pursue a course of study at the University preparatory for a degree in Arts of the University of Leeds. In the event of graduation at the end of the first year of tenure, the Scholar will be required to pursue a course of postgraduate study satisfactory to the Senate.

Applications from candidates for these Scholarships must be sent to the Clerk to the Senate of the University *not later than May 1st* in each year.

1882	Wright, Benjamin	1905	Gill, William Conrad
1885	Barker, Arthur Henry	1908	Dean, Arthur Ernest
1887	Jackson, Thomas Chalice	1910	Phillips, Samuel
1891	Hurst, Thomas Ockerby	1912	Pickering, Jessie
1893	Cleasby, Mabel	1914	Kirkwood Winifred
1895	Hornby, George Goodall	1915	No award
1897	Robinson, Elizabeth Clare	1916	<sup>1</sup> Denison, Ruby Gladys
1899	Melville, Ellen Louisa		Martha
1901	Stevenson, Ethel Mary		<sup>1</sup> Rhodes, Evelyn Marion
1903	Davis, William Hathaway	1917	No award
1904	Landman, Samuel	1918	Speed, Marie Elizabeth

## JOHN RUTSON

This Scholarship was founded by Mr. Henry Rutson of Northallerton, in memory of his brother Mr. John Rutson. It has been assigned to the Faculty of Arts for the encouragement of research, and the Scholar will be chosen from amongst those who have shown promise of ability to conduct such research.

The Scholarship is of the annual value of about £70 and is tenable for one year, but may be renewed for one year more.

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<sup>1</sup> Scholarship Divided.

The successful candidate shall be required to undertake advanced study or research in the University, or in some other University or learned institution, or under suitable guidance in a manner approved by the Senate.

The Scholar shall also be required to furnish a report of the work done by him or her during the term of the Scholarship, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Scholarship, in order that it may be laid before the Senate.

*Applications for renewal must be sent in to the Clerk to the Senate before the end of the second term.*

1908	<sup>1</sup> Hogan, Kathleen	1915	No award
1910	Peel, Albert	1916	No award
1911	Heaton, Herbert	1917	No award
1912	Jameson, Margaret Ethel	1918	No award
1913	Richardson, William Rowson	1919	No Award
1914	Allott, Wilfrid		

#### GILCHRIST STUDENTSHIP IN MODERN LANGUAGES

This Studentship was instituted in 1905 by the Gilchrist Educational Trust (founded by Dr. Gilchrist, who died in 1841) for "the benefit, advancement and propagation of education and learning in every part of the world, as far as circumstances permit." It is of the value of £80, is tenable for one year, and is open to graduates of either sex who have taken Honours in Modern Languages in the Final degree examination of the University, and who are proposing to enter the profession of teaching in secondary schools. The purpose of the Studentship is to enable the holder to pursue a special course of study abroad with a view to qualifying himself (or herself) for teaching modern languages in a secondary school.

The regulations are as follows:

1. The Studentship is awarded annually by the Gilchrist Trustees.
2. Candidates must have obtained Honours in Modern Languages in the Final examination for a degree, and be recommended by the University after consultation with the

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<sup>1</sup> Renewed for a second year.

Professors concerned, and after special inquiry into the suitability of the candidates for the profession of teacher in a secondary school. If possible, two names shall be submitted each year to the Trustees for their consideration. Save in exceptional circumstances, of which the Trustees shall be the sole judges, the examination must be that immediately preceding the date of application.

3. The holder of the Studentship will be required to follow a course of preparation for the profession of Modern Language teacher, and must submit his (or her) proposed course of work for the approval of the Trustees, who will take steps to satisfy themselves that the course of preparation proposed to be undertaken is suitable for the purpose in view.

4. The tenure of the Studentship is for one year beginning on the date of election, and the emoluments will be paid half yearly by the University on production of evidence that the proposed course of preparation is being satisfactorily carried out.

5. The Student will be required, at the expiration of the tenure of the Studentship, to send in to the Clerk to the Senate a report to the University, setting out the course of work and preparation which has been pursued, and this report together with a covering communication from the University shall be forwarded to the Trustees.

1906	Edwards, Maud Mary	1911	Carter, John Wilfrid
1907	Thorp, Hilda	1912	Greenwood, Emily Maud
1908	Murphy, Bertha Mary	1913	Stead, Lilian Mary
1909	Longbottom, Nellie	1914	Caldwell, Constance Mary
1910	Hobson, Julia	1915-18	<i>Studentships suspended</i>
		1919	Edelstein, Charles Solomon

#### BODINGTON MEMORIAL FUND

The Bodington Memorial Fund commemorates the work of the late Sir Nathan Bodington as Principal of the Yorkshire College and first Vice-Chancellor of the University of Leeds. It is devoted to the encouragement of advanced study in Greek and Latin (including language, literature, history, philosophy, and archæology) among graduates of the University.

The scheme for the administration of the Fund includes the following provisions :—

An award or awards will be made annually by the University whenever there are competent applicants.

The income will be allowed to accumulate when no awards are made, the accumulations to be treated as current year's income.

The award or awards will take the form of a Fellowship, Scholarship, Prize, or Grant, or any combination of these, as may seem from time to time practicable and desirable.

The income annually awarded is approximately £45.

Since the foundation of the Fund, grants have been made for the purchase of books and for visits to libraries or other centres of research. Awards of money may, however, be made for any other objects cognate to the Trust. It is hoped that when the accumulated funds allow, a Fellowship or Scholarship tenable for one year may be awarded to a graduate who has published or prepared for publication a work of distinction in the field of classical learning.

Applications should be sent in to the Clerk to the Senate *not later than June 1st* in each year.

Grants in aid have been made to the following :—

1914	Bibby, Edward Ernest
	Butterworth, George William
	Walker, Algernon Stanley
	Whincup, Harry Hynes
1915	Butterworth, George William
	Whincup, Harry Hynes
1916	No Award
1917	No Award
1918	<i>Bodington Memorial Fellowship:</i>
	Butterworth, George William
1919	No Award

#### In the Faculties of Science or Technology

##### 1851 EXHIBITION SCHOLARSHIP

Since 1891 the Commissioners for the Exhibition of 1851 have placed at the disposal of the University, the nomination to one Scholarship of the annual value of £150, tenable

ordinarily for two years, and in rare instances for three years. The continuation each year after the first will depend upon the work done in the previous year being satisfactory to the Scientific Committee appointed by the Commissioners.

The Scholarships are intended, not to facilitate attendance on ordinary collegiate studies, but to enable students who have passed through a College curriculum and have given distinct evidence of capacity for original research, to continue the prosecution of science with the view of aiding its advance, or its application to the industries of the country.

Candidates must (*a*) be British subjects ; (*b*) be *bonâ fide* students of science of three years' standing at least in Universities or Colleges in which special attention is given to scientific study ; (*c*) either have been engaged in study at the University for a full year prior to the 1st of April following the date of application, or have been students of the University for a full year ending within twelve months prior to the 1st of April following the date of application, and, having since ceased to be students, have been engaged solely in scientific study ; (*d*) indicate high promise of capacity for advancing science or its applications by original research.

A recommendation can only be made in favour of a student who has already given proof of both ability and desire to make original investigations. In the opinion of the Commissioners the most suitable evidence that a candidate possesses these qualifications is a satisfactory account of a research already completed by him, and they will decline to confirm a recommendation unless such an account is furnished, or there is other equally distinct evidence that the qualifications of the candidate are such as are above indicated.

Applications will be received by the Clerk to the Senate of the University *up to the last day of February* in each year.

1891	Ingle, Harry
1892	Mann, Harold Hart
1893	Myers, John Ellis
1894	Dent, Frankland
1896	Dawson, Harry Medforth
1897	Wilson, Harold Albert
1898	Calvert, Harry Thornton
1899	Skirrow, Frederick William

1900	Varley, William Mansergh
1901	Denison, Robert Beckett
1902	Dakin, Henry Drysdale
1903	Gaunt, Rufus
1904	Raper, Henry Stanley
1905	Zortman, Israel Hyman
1906	Armes, Henry Percy
1907	Hodsman, Henry James
1908	Cross, William Ernest
1909	Leslie, May Sybil
1910	Dudley, Harold Ward
1911	Powis, Frank
1912	Woodman, Herbert Ernest
1913	Ogden, Herbert
1914	Hollings, Harold
1915-18	<i>Scholarships suspended</i>
1919	No award

## 1851 EXHIBITION INDUSTRIAL BURSARY

The Commissioners for the Exhibition of 1851 have established a scheme of Industrial Bursaries for young men who, after a course of training in a University or approved Technical College, desire to take up Engineering, Chemical or other industrial work. The Bursaries are intended, not to facilitate the continuance of collegiate studies by means of post graduate work, but to enable suitable applicants to tide over the period between their leaving College and obtaining remunerative employment in industry. The value of the Bursary will depend on the circumstances of the candidate, but will as a rule not exceed £100 a year.

A Bursar will be elected in the first instance for one year, but the tenure of his Bursary will ordinarily be prolonged for a second year provided that the Commissioners are satisfied with the work done by the Bursar during his first year. In special circumstances a Bursary may be renewed for a third year. The appointments to the Bursaries will be made by the Commissioners from among candidates recommended by the Authorities of certain selected Universities and Technical Schools.

N.B.—In the consideration of these recommendations great weight will be given to evidence that a candidate has the practical ability likely to lead to his advancement in industrial work; academic success alone is not a sufficient recommendation.

The candidate must be a British subject, under the age of 25, and must have been a *bona fide* student of Science for a term of three years. He must further satisfy the Commissioners :—

- (a) That he has obtained, or can, within one month of election, obtain an industrial post to be approved by them.
- (b) That he is in need of pecuniary assistance to enable him to accept such a post.

A Bursar may, if the Commissioners approve, spend part of the tenure of his Bursary in studying a special industrial process or processes in works either at home or abroad. No Bursar shall enter a firm as a premium pupil without the special consent of the Commissioners. A Bursar must submit to the Commissioners, on the expiration of each year of his Bursary, a satisfactory report of his work from his employers.

Applications will be received by the Clerk to the Senate *not later than June 1st* in each year.

1911	Stillwell, Samuel Thomas Cryer
1912	Rawling, Arthur
1913	No Award
1914	Stainsby, William
1915-18	<i>Bursaries suspended</i>
1919	No award

### In the Faculty of Technology

#### CLOTHWORKERS' RESEARCH SCHOLARSHIP IN COLOUR CHEMISTRY AND DYEING

This Scholarship, of the value of £60 a year, tenable in the Department of Colour Chemistry and Dyeing, will be awarded annually upon the results of the Final examination for the B.Sc. degree, preference being given to candidates who graduate with Honours in Applied Chemistry (Colour Chemistry and Dyeing).

The Scholarship will be awarded for one year, but may, at the discretion of the Examiners, be extended to a second year.

The Scholar will be required to devote his whole time to carrying out some special branch of research in Colour Chemistry or Dyeing.

1907	Baddiley, James	1912	Johnson, William
1908	<sup>1</sup> Woodhead, Arthur Edmund	1913	Stocks, Herbert Holroyd
1910	Bearder, Ernest Arthur	1914	Siderfin, Norman Edward
1911	Rowe, Frederick Maurice		

#### CLOTHWORKERS'

These Scholarships were founded in 1875 by the Worshipful Company of Clothworkers of the City of London, who offer three Scholarships, each of the value of £20, to students in the Department of Textile Industries. Two of these Scholarships are awarded to students of the first year on the result of the second term examinations, and one to a student of the second year on the result of the second term examinations.

Each Scholarship is tenable for one year. Students holding these Scholarships will be required to attend for not less than three full days in each week an Advanced Course in Textile Industries, and the Senior Class in Applied Art. These Scholarships are only tenable by students not more than twenty-four and not less than sixteen years of age on the 1st of October following the date of examination.

Students holding Scholarships are expected to present themselves for examination (in the University) by the City and Guilds of London Technical Institute, in one of the following subjects, viz. : Textile Fabrics—Spinning and Weaving of (a) Wool and Worsted, (b) Cotton, (c) Linen, (d) Silk.

The Scholarships will be awarded on the result of the second term examinations, which in the case of the first year students will be in

- (a) Designing and Weaving,
- (b) Textile Colouring,
- (c) Applied Art ;

and in the case of second year students in

- (a) Designing and Weaving,
- (b) Textile Colouring,
- (c) Cloth Finishing,
- (d) Applied Art.

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1 Renewed for a second year.

Regard also will be had to the general progress candidates have made in their theoretical and experimental studies.

Applications from candidates for these Scholarships must be sent to the Clerk to the Senate *not later than January 31st* in each year.

1901	Grimshaw, Norman	1909	Bradley, William
	Wilson, Stanley Ewart Ashley		Eadie, Thomas Tait
	Brigg, Lawrence Heriot		Twohig, John Patrick
	O'Flynn, James	1910	Stevenson, William
1902	Mellor, Cecil Smith		Turnbull, Kenneth
	Duncan, Harold		Twohig, John Patrick
	Gaunt, Frederick William	1911	Bonhomme, Jean Raymond
	Munro, William Thow		Dircks, Hugh Douglas
1903	Smith, Lister		Kyle, John William
	Rayner, Harold Kingsbury	1912	Baines, Arthur Richard
	Hodgson		Dolphin, Thomas Charles
	Horsham, Wilfred Robert		Rogers, Simeon
	Beaumont, Frank	1913	Blair, James
1904	Whitworth, Abraham		<sup>1</sup> Healey, James Russell
	Hart, Harry Leatham		<sup>1</sup> Pollock, James Huey Hamill
	Horsham, Wilfred Robert		Baines, Arthur Richard
	Holloway, Joseph	1914	Baker, Brian Bernard
1905	Mills, James		Davison, Emerson
	Hart, Harry Leatham		Kay, Charles Bagnall
	Bradley, Jim	1915	Bennett, John
	Broadbent, Lees		Chadwick, Arthur Leslie
1906	Broadbent, Lees		Davison, Emerson
	Cockcroft, Ernest Edward	1916	Stewart, Marcus
	Mills, James		Wilby, Arthur Hinchliffe
	Sutcliffe, Arthur Livsey	1917	Barker, James
1907	Cockcroft, Ernest Edward		Cooper, Roland
	Fairburn-Hart, George		Grattan, Henry
	Stanley		Mettrick, Donald
1907	Wilson, James Blackburn	1918	Hardy, Harry
1908	Eadie, Thomas Tait		Lord, Frederick
	Pfenniger, Paul		Trimnel, Frederic
	Wilson, James Blackburn	1919	Lord, Frederick

### In the Faculty of Medicine

#### INFIRMARY SCHOLARSHIP

This Scholarship was founded in 1888 by the Faculty of the Leeds General Infirmary. It is of the value of 40 guineas and consists of a free ticket to the clinical teaching of the Leeds Infirmary. The holder is required to enter as a student for the whole medical curriculum at the University in the session following the date of examination.

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<sup>1</sup> Scholarship divided.

This Scholarship is now awarded, after a report from the examiners, on the results of the First M.B. examination of the University of Leeds. Candidates must send in their names to the Clinical Sub-Dean (Mr. Collinson), 29, Park Square, Leeds, *not later than June 1st* in each year.

1889	Fearnside, Philip Henry	1905	No award
1890	Gross, Phineas	1906	Fisher, John Barugh
1891	Greenwood, Henry Harold	1907	Sinson, Julius Barnet
1892	Field, Richard Cullingworth	1908	Metcalfe, John Clifford
1893	Dewhirst, Wilfrid Arthur	1909	Sinson, Harry Abram
1894	Andrews, Joseph Dalby	1910	Shochet, Harry
1895	Pegler, William Vernon	1911	Holt, Herbert Mainwaring
1896	Matthews, Crawford Tait	1912	Dudley, Charles William
1897	Middlemiss, James Ernest	1913	Parker, Joseph Henry
1898	Heald, Samuel Linley	1914	Bertwistle, Alfred Pilkington
1899	Smailes, William Herbert	1915	Currie, Donald Irvine
1900	Gough, Alfred	1916	Blackburn, John Taylor
1901	Rawlings, Harry Richardson	1917	Levy, Simon
1902	Pickles, William Norman	1918	Trewick, John Arthur
1903	Carlton, George Westerdale	1919	Rosenberg, Gerald
1904	No award		

#### THORP SCHOLARSHIP IN FORENSIC MEDICINE AND HYGIENE

The Thorp prizes, instituted by the late Dr. Disney L. Thorp, one of the original founders of the Leeds School of Medicine, are now awarded as one annual Scholarship of about £25 to a student or graduate of the University prepared to carry out some research work in some subjects bearing upon Forensic Medicine or Public Health. For particulars, application should be made to the Dean of the Faculty of Medicine.

##### *Prizes in Forensic Medicine*

1900	Gough, William	1907	Dunbar, Dean
1901	Cundall, Edward	1908	No award
1902	Boyle, Alan	1909	Cross, George Harold
1903	No award	1910	Sinson, Julius Barnet
1904	Parkinson, Alfred Howard	1912	Sinson, Harry Abram
1905	Shacknovis, Reuben		
1906	Heppenstall, Clement Hoyle		

##### *Prizes in Public Health*

1900	Radcliffe, Adolphus Harold	1906	No award
1901	Braithwaite, Leonard Ralph	1907	No award
1902	Tomlin, Herbert	1908	Brown, John Perrin
1903	Legge, James Huntly	1909	Cross, George Harold
1904	No award	1910	Walker, John Perry
1905	Hamilton, William Douglas		

## FELLOWSHIPS

## UNIVERSITY

University Fellowships may be awarded to graduates of the University within three years from the date of graduation. Such Fellowships will be of the value of £100 tenable for one year. The object of the Fellowships is the encouragement of research, and the Fellow will be required to devote the whole of the time during which he continues to hold the Fellowship to the pursuit of such research under conditions approved by the Senate. In special cases an additional grant not exceeding £20 may be made to the Fellow by a special vote of the Senate and Council to assist him in carrying out his researches. No Fellow shall be permitted to hold any paid appointment, or to undertake remunerative work without previous permission from the Senate, which shall have power in such cases to reduce the value of the Fellowship.

Fellowships will not be awarded except to candidates who have given evidence of qualifications for undertaking original work. Fellows are required to send in to the Clerk to the Senate a report of the work done by them during the tenure of the Fellowship before June 1st of the year following the award of the Fellowship, in order that it may be laid before the Senate. The Fellowships may, in exceptional instances, and with the consent of the Senate and Council, be renewed for a second year.

*Applications for renewal must be sent in to the Clerk to the Senate before the end of the second term.*

- |      |   |
|------|---|
| 1905 | Marshall, Joseph, B.Sc. (Chemistry)     |
|      | Waterhouse, Osborn, B.A. (English)      |
| 1911 | Charlton, Henry Buckley, B.A. (English) |
| 1912 | Heaton, Herbert, M.A. (History)         |
| 1914 | Dry, Francis William, M.Sc. (Zoology)   |
| 1917 | Whitaker, Elsie Dinah, M.Sc. (Geology)  |

## GAS RESEARCH

The Fellowship, of the value of £100 per annum, will be awarded by the Senate, on the recommendation of the Board of Science and Technology, to a duly qualified

candidate for the prosecution of post-graduate research in gas chemistry. Preference will be given to candidates who have signified their intention of entering the coal gas industry, or in default of any such candidate, to a person qualifying for some other branch of fuel industry.

The award of the Fellowship will be made annually during the month of June, after due advertisement of it in the technical press and other appropriate journals. *Applications for the Fellowship must be made to the Clerk to the Senate of the University on or before May 1st of each year.*

It will always be within the power of the Senate, on the recommendation of the Board of Science and Technology, to renew the Fellowship to the holder of the same for a further period of a year, instead of proceeding to a fresh election.

The holder of the Fellowship shall undertake research work in the University under the direction of the Professor of Fuel and Metallurgy on some subject connected with the chemistry of gases and combustion. The selection of the subject, and the method of carrying on the work, will be left to the judgment of the Professor responsible for its direction.

The University will provide, free of charge, all reasonable accommodation and facilities required for the prosecution of the research undertaken by the holder of the Fellowship, including working space and the use of such instruments and appliances installed as part of the equipment of the Fuel and Metallurgical Department. Any *special* expenses, not exceeding £25, incurred during the prosecution of the research will be defrayed by the Institution of Gas Engineers.

A report of the research work carried out by the holder of the Fellowship shall be submitted to the Council of the Institute of Gas Engineers, as well as to the Senate of the University, on or before May 1st of each year, together with copies of any papers published in connection with the research.

- 1907 Forshaw, Arthur, M.Sc.
- 1909 Hartley, Harold, M.Sc.
- 1912 Hollings, Harold, B.Sc.
- 1919 Hanby, Thomas, B.Sc.

RESEARCH FELLOWSHIP IN COLOUR AND  
TEXTILE CHEMISTRY

A Research Fellowship of the value of £100 per annum, instituted by the Council on the recommendation of the Textile Industries and Dyeing Committee, will be offered from time to time by the Senate upon the recommendation of the Board of Science and Technology, for the prosecution of scientific investigations in Textile and Colour Chemistry, under the direction of the Professor of Colour Chemistry. Preference will be given to candidates who have graduated in the University of Leeds with Honours in Colour Chemistry.

The Fellow will be required to devote the whole of his time to the pursuit of the research in question, and (unless the results are published in the form of a communication to a scientific or technical journal) to present a report of the work to the Senate, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Fellowship. It will be within the power of the Senate, on the recommendation of the Board of Science and Technology, to renew the Fellowship to the holder of the same for a second year, instead of proceeding to a fresh election.

1912 Rowe, Frederick Maurice  
1914 Lewcock, William

## THE "JAMES EDMONSON ACKROYD" FELLOWSHIP

By a Deed executed in 1918, in memory of the late J. E. Ackroyd, Esq., the relatives of Mr. Ackroyd placed in the hands of the University a sum of £4,000 to be held in trust for the maintenance of a Scholarship, or Fellowship, for the promotion of research work for the furtherance of the Textile Industry of the West Riding of Yorkshire.

In accordance with the provisions of the Trust Deed, a Fellowship entitled the "James Edmondson Ackroyd Fellowship" of the value of not less than £150 per annum will be awarded by the Senate on the recommendation of the Board of the Faculties of Science and Technology.

The Fellowship shall ordinarily be awarded for a period of three years, which may be extended by a special resolution of the Senate for a further period not exceeding three years.

The Fellow shall be required to devote his whole time to the prosecution of research on some subject or subjects, approved by the Board of Science and Technology, bearing upon the production of wool, silk or other textile materials, or the manufacture of textile fabrics.

A Committee shall be appointed by the Board of Science and Technology to exercise a general supervision over the conduct of the research.

In the award of the Fellowship preference will be given to graduates in Science or Technology, but the essential qualification shall be capacity to pursue the research proposed, and it shall be in the power of the Senate to award the Fellowship to a suitable candidate although he is not a member of the University. Preference will be given (*ceteris paribus*) to candidates born in the City of Bradford or resident there for a period of not less than five years immediately before the date of the appointment.

The award of the Fellowship will be made ordinarily in the month of June. Applications for the Fellowship should be made to the Clerk to the Senate of the University on or before the 1st of May preceding the date of the award.

Grants out of the surplus moneys of the Fund may be made by the Senate on the recommendation of the Board of the Faculty of Science and Technology to increase the value of the Fellowship in any year, or to provide additional facilities for the prosecution of the research by the Fellow.

Provisional reports of the research work conducted by the Fellow shall be laid by the Supervising Committee before the Senate on or before the completion of each year of tenure of the Fellowship. At the expiration of the full period of tenure a final report shall be submitted to the Senate, together with copies of any papers published in connexion with the research.

## PRIZES

## Gladstone Memorial Prize

The Trustees of the Gladstone Liberal Memorial Fund have established Gladstone Memorial Prizes to be given in books at the Universities and University Colleges in England, Scotland, and Wales for special proficiency in History, Political Science, and Economics. An annual prize of the value of £5 has been offered to and accepted by the Council of the University, and will be awarded under the following conditions :

1. The prize will be awarded in June of each year for an Essay on some subject connected with History or Political Science or Economics, and the subjects of the Essays will be announced in the preceding June.
2. It will be open to competition among all students of Day Classes of the University who are in attendance upon University lectures for not less than four hours per week. Dissertations sent in for the degree of B.A. with Honours upon subjects connected with History, or Political Science or Economics will be regarded as competing for the Essay.
3. No student who has once obtained the prize may compete a second time.
4. No Essay in consideration of which either wholly or in part, a University Fellowship or Scholarship shall have been awarded, shall be admissible for other than honorary recognition.
5. The Essay must be sent in to the Clerk to the Senate *not later than May 1st* in each year.

1902	Savage, Hilda	1910	Pickering, Harry
1903	Davis, William Hathaway	1911	Firth, John Rupert
1904	Gill, William Conrad	1912	<sup>1</sup> Standing, Christine
1905	Butterworth, George		<sup>1</sup> Taylor, Bertha
	William	1913	Mawson, Constance
1906	Findlay, Sarah Kennedy	1914	<sup>1</sup> Dykes, Janet
1907	<sup>1</sup> Simpkiss, Nellie		<sup>1</sup> Wright, Claude Ernest
	<sup>1</sup> Winter, John Edgar	1915	Sutcliffe, Dora
1908	Dean, Arthur Ernest	1916	Evans, Alice Mabel
1909	<sup>1</sup> Peel, Albert (£3)	1917	Tesh, Elsie
	<sup>1</sup> Phillips, Samuel (£2)	1918	Pickles, Gladys
		1919	<sup>1</sup> Lumby, May
			<sup>1</sup> Preston, Edith May

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<sup>1</sup> Prize Divided.

## The Ripon English Literature Prize

The Committee formed to obtain for the University, by subscriptions, a portrait of the late Chancellor, the Marquis of Ripon, K.G., presented to the University the surplus funds, amounting to £180, for investment, with a view to providing an Annual Prize in the subject of English Literature to be called "The Ripon English Literature Prize." A Prize to the value of £6 will accordingly be awarded annually, under the following conditions.

1. The prize will be awarded in June of each year for an Essay on some subject connected with English Literature, and the subjects of the Essays will be announced in the preceding June.
2. It will be open to competition among all students of Day Classes of the University who are in attendance upon University lectures for not less than four hours per week. Dissertations sent in for the degree of B.A. with Honours upon subjects connected with English Literature will be regarded as competing for the Essay.
3. No student who has once obtained the prize may compete a second time.
4. No Essay, in consideration of which, either wholly or in part, a University Fellowship or Scholarship shall have been awarded, shall be admissible for other than honorary recognition.
5. The Essay must be sent in to the Clerk to the Senate *not later than May 1st* in each year.

1911	Charlton, Henry Buckley
1912	Cowling, George Herbert
1913	Cox, William
1914	Cohen, Sam
1915	Stuart, Emily
1916	Russell, Ada Minnie
1917	Todd, Helena
1918	West, Hilda
1919	Williams, Margaret

**Leblanc Medal**

The Leblanc Memorial Committee presented the Victoria University with a portion of the surplus from the fund raised in France for the erection of a statue of the distinguished chemist, Nicholas Leblanc, the amount to be devoted to the encouragement of the study of Chemistry. On the foundation of a separate University in Leeds a share of the fund was vested in the University of Leeds.

Leblanc Medals may be awarded at the Final Examination for the Degree of B.Sc. in the Honours Schools of Colour Chemistry, Leather, and Fuel and Metallurgy to such students as are reported by the Examiners to have shown special distinction, and who are recommended jointly by the Internal Examiners in these subjects.

1891	Ingle, Harry	1910	Bearder, Ernest Arthur
1892	Mann, Harold Hart		Seymour-Jones, Arnold
1898	Skirrow, Frederick William	1911	Rowe, Frederick Maurice
1905	Davies, Arthur Hugh	1912	Johnson, William
1907	Baddiley, James	1914	Hollings, Harold
1908	Rhodes, Norman		Woodroffe, David
	Woodhead, Arthur Edmund		

**The Thorpe Scholarship in Forensic Medicine and Hygiene.**

The Thorpe prizes, instituted by the late Dr. Disney L. Thorpe, one of the original founders of the School of Medicine, are now awarded as one annual Scholarship of about £25 to a student or graduate of the University prepared to carry out some research work in some subject bearing upon Forensic Medicine or Public Health.

**Hardwick Prize in Clinical Medicine**

This prize, of the value of ten pounds, is given annually on a competition which is held early in June. Candidates must have been students in the School of Medicine of the University of Leeds for not less than eight terms; they must be attending the medical practice of the Leeds Infirmary; and they must have held or be then holding the office of Clinical Clerk in that Institution.

1900	Willans, Charles Rudolph	1903	Matthews, Crawford Tait
1901	Saville, Edwin	1904	Tomlin, Herbert
1902	Coupland, James Alane	1905	Gough, Alfred

1906	No award	1909	Thoseby, John Norman
1907	No award		Lonsdale
1908	Mitchell, Guy Annesley Carter	1910	Hooton, William Henry
		1911	Sinson, Julius Barnett
		1914	Wilson

#### McGill Prize in Clinical Surgery

This prize, of the value of ten pounds, is given annually on a competition which takes place in the month of May. Candidates must be students in the School of Medicine of the University of Leeds who have not at the time of the examination entered on their sixth year, and who have held at the Leeds Infirmary the following appointments:—In-patient dresser, ophthalmic dresser, in-patient medical clerk, post-mortem clerk, and gynæcological dresser.

1900	Gough, William	1907	No award
1901	Keeling, Hugh Neville	1908	Mitchell, Guy Annesley
1902	Coupland, James Alane		Carter
1903	Braithwaite, Leonard Ralph	1909	Thoseby, John Norman
1904	Brierley, Wilfred Edward		Lonsdale
1905	Gough, Alfred	1910-1919	No awards
1906	No award		

#### Scattergood Prize in Obstetrics and Gynæcology

This prize, instituted in memory of the first Dean of the Medical Department, Yorkshire College, is awarded annually on a competition in Obstetrics and Gynæcology held in the third term.

The value of the prize, which consists of books or instruments, is five pounds.

1900	Acomb, John	1908	Hooton, William Henry
1901	Coates, Richard	1909	Bernstein, Isaac Barnett
1902	Tomlin, Herbert	1910	No award
1903	Smailes, Herbert William	1911	No award
1904	No award	1912	Angel, Harry
1905	Hamilton, William Douglas	1913	Kitson, Frederick Hubert
1906	Heppenstall, Clement Hoyle	1914-1919	No Awards
1907	Thoseby, John Norman		
	Lonsdale		

#### Gold Medal

A Gold Medal of the value of ten pounds is awarded on the collated results of the prize examinations in the following subjects:—(1) Surgery; (2) Medicine; (3) Pathology; (4) Obstetrics; (5) Forensic Medicine; (6) Clinical Medicine (Hardwick Prize); (7) Clinical Surgery (McGill Prize); (8) Gynæcology, Clinical Obstetrics and Gynæcology

(Scattergood Prize); (9) Public Health; (10) Pharmacology and Therapeutics; (11) Practical Surgery; (12) Ophthalmology; (13) Mental Diseases. To qualify for the Gold Medal the candidate must have attended all his final classes, *i.e.*, must have completed and not have exceeded his fifth year of study, and must present four prizes or their equivalent. Of these prizes one must be either the Surgery or the McGill Prize, and another either the Medicine or the Hardwick Prize. Should a student desire to spend an additional year antecedent to the study of the subjects in Part III in preparing for a Science degree, Honours, or the Primary Fellowship of the Royal College of Surgeons of England, such time need not be counted as one of the five years.

1900	Gough, William	1907	No award
1901	Saville, Edwin	1908	Mitchell, Guy Annesley Carter
1902	Coupland, James Alane	1909	Thoseby, John Norman Lonsdale
1903	No award	1910	No award
1904	No award		
1905	Gough, Alfred		
1906	No award		

#### Silver Medal

The Junior Medal (Silver) is awarded upon the results of the prize examinations in the following subjects:—(1) Junior Anatomy; (2) Senior Anatomy; (3) Physiology; (4) Practical Physiology (including the experimental portion of part iii); (5) Pharmacy; that is to say, upon the subjects of the second year and the first and second terms of the third year in the "Normal Course for the M.B.Ch.B. of the University of Leeds." To qualify, the candidate must obtain two prizes or their equivalent.

1899	Coupland, James Alane	1907	Cross, George Harold
1900	Braithwaite, Leonard Ralph	1908	Hooton, William Henry
1901	Boyle, Alan	1909	Robinson, William
1902	Gough, Alfred	1910	Mellis, George Pickard
1903	No award	1911	Sinson, Harry
1904	No award	1912	Wilkinson, John
1905	Hamilton, William Douglas	1913	Leake, Charles Edward
1906	Mitchell, Guy Annesley Carter		

#### Class Prizes

Book prizes and Certificates of Honour are given in the various classes in the School of Medicine at the end of each session.

## FELLOWS, SCHOLARS AND EXHIBITIONERS, 1918-19

	Date of Election	
<i>University Fellowship</i>	1918	Whitaker, Elsie Dinah, M.Sc.
<i>Bodington Memorial Fellowship</i>	1918	Butterworth, George William, M.A.
<i>University Scholarships</i>	1917	Tesh, Elsie, B.A.
"	1918	Berry, Arthur, B.A.
"	...	Denison, Ruby Gladys Martha, B.A.
<i>Salt Scholarship</i>	1918	Speed, Marie Elizabeth
<i>Infirmity Scholarship</i>	1916	Blackburn, John Taylor
"	1917	Levy, Simon
"	1918	Trewick, John Arthur
<i>Clothworkers' Textile Scholarships</i>	1918	Hardy, Harry
"	...	Lord, Frederic
"	...	Trimnel, Frederic
<i>Leighton Exhibitions</i>	1917	Eastwood, Elsie
"	...	Williams, Margaret
"	1918	Holdsworth, Marjorie
"	...	Stevenson, Hilda
<i>Emsley Scholarship</i>	1917	Miller, George Miller
"	1918	Aspinall, Arthur
<i>Edward Baines Scholarships</i>	1917	Brown, George Middleton
"	...	Warhurst, Jennie Phedora
"	1918	Slare, Mabel
"	...	Wainwright, Amy
<i>Charles Wheatley Scholarship</i>	1918	Cordukes, Redvers Baden
<i>William Summers Scholarship</i>	1918	Schofield, Beatrice Rachel

	Date of Election	
<i>Brown Scholarships</i> ...	1916	Jordinson, Frank
"		Stevenson, Francis Malcolm
"	1917	Lister, Flora
"		Rea, Rosamond Mary
"		Lloyd
"	1918	Lefevre, Helen
"		Rhodes, Oswald Stanley
<i>Akroyd Scholarships</i> ...	1916	Clarkson, William Edward
"		Gordon, Morris
"		Milne, Geoffrey
"	1917	Pinder, William Leatham
"		Townend, Donald
"		Whiteley
"		Woodall, Herbert
"	1918	Cockroft, James Philip
"		Crosland, Eric Bentley
"		Peel, Samuel Longley
<i>Medical Scholarship</i> ...	1915	Blackburn, John Taylor
"	1916	Levy, Simon
"	1917	Lewis, George Edward
"		Andrew
"	1918	Sunley, George Raine
<i>Craven Scholarship</i> ...	1916	Benn, Ernest Francis
"	1918	Begley, Laurence G.
		Jordan
<i>William Cooke &amp; Company Scholarship</i>	1917	Berry, Samuel
<i>Corbett Woodall Scholarship</i>	1916	Ingram, Leslie Peel

## GRADUATES OF THE UNIVERSITY OF LEEDS

*(The names of deceased graduates are printed in italics)*

## Honorary Graduates

*Doctor of Laws*

- |      |                                  |      |                                |
|------|----------------------------------|------|--------------------------------|
| 1904 | Lady Frederick Cavendish         | 1906 | <i>Lord Wenlock</i>            |
|      | <i>Archbishop Maclagan</i>       |      | <i>Sir Owen Roberts</i>        |
|      | <i>The Duke of Devonshire</i>    | 1909 | The Archbishop of York         |
|      | The Earl of Harewood             |      | Thomas Walter Harding          |
|      | <i>Viscount Cross</i>            | 1910 | The Duke of Devonshire         |
|      | <i>Lord Herries</i>              |      | Rt. Hon. Herbert Henry         |
|      | <i>Lord Allerton</i>             |      | Asquith, M.P.                  |
|      | Rt. Hon. Arthur Herbert          |      | The Earl of Crewe, K.G.        |
|      | Dyke Acland                      |      | The Marquis of Lans-           |
|      | <i>Sir Francis Sharp Powell,</i> |      | downe, K.G.                    |
|      | <i>Bart., M.P.</i>               |      | Rt. Hon. James William         |
|      | <i>Sir John Barran, Bart.,</i>   |      | Lowther, M.P.                  |
|      | <i>M.P.</i>                      |      | Sir Hugh Bell, Bart.           |
|      | <i>Sir Charles Hubert</i>        |      | <i>Field Marshall the Rt.</i>  |
|      | <i>Hastings Parry, Bart.</i>     |      | <i>Hon. Lord Nicholson,</i>    |
|      | Sir Alexander Campbell           |      | <i>G.C.B.</i>                  |
|      | Mackenzie                        |      | Sir Alfred Hopkinson           |
|      | Sir Charles Villiers             |      | Arthur Greenhow Lupton         |
|      | Stanford                         | 1912 | Arthur Cooper                  |
|      | Sir Edward Elgar                 |      | <i>Anna Paulina Eddison</i>    |
|      | <i>Sir William Bousfield</i>     |      | Sir William Edward             |
|      | Henry Walford Davies             |      | Garforth, LL.D.                |
|      | <i>Rt. Hon. Charles George</i>   |      | <i>The Rev. William Hulton</i> |
|      | <i>Milnes Gaskell</i>            |      | <i>Keeling, M.A.</i>           |
|      | Charles Wood                     |      | <i>Sir Swire Smith</i>         |
|      |                                  | 1915 | David Forsyth                  |

*Doctor of Letters*

- |      |                                |      |                                  |
|------|--------------------------------|------|----------------------------------|
| 1904 | Sir Albert Kaye Rollit         | 1907 | <i>The Rev. Robert Collyer</i>   |
|      | <i>Afred Austin</i>            | 1910 | Francis John Haverfield          |
|      | <i>Andrew Martin Fairbairn</i> |      | Arthur Sidgwick                  |
|      | Joseph Wright                  | 1914 | Charles Edwyn Vaughan            |
| 1906 | <i>Bishop Boyd Carpenter</i>   |      | <i>Emile Verhaeren</i>           |
|      | (formerly Bishop of            | 1915 | <i>The Rev. Charles Hargrove</i> |
|      | Ripon)                         |      | The Rev. Philip Henry            |
|      | <i>Sir Charles Holroyd</i>     |      | Wicksteed                        |

*Doctor of Science*

- |      |                                 |      |                           |
|------|---------------------------------|------|---------------------------|
| 1904 | <i>The Earl of Rosse</i>        | 1904 | <i>Sir William Henry</i>  |
|      | <i>Lord Kelvin</i>              |      | <i>Boadbert, Bart.</i>    |
|      | <i>Lord Airedale</i>            |      | <i>Sir Arthur William</i> |
|      | <i>Sir Isaac Lowthian Bell,</i> |      | <i>Rucker</i>             |
|      | <i>Bart.</i>                    |      | <i>Tempest Anderson</i>   |

1904	Sir Jonathan Hutchinson <i>John Hughlings Jackson</i> Louis Compton Miall Arthur William Mayo- Robson, C.B. Thomas Pridgin Teale Sir Thomas Edward Thorpe <i>Claudius Galen Wheel- house</i>	1906	Heinrich Rubens Herbert Hall Turner
		1909	Sir James Crichton- Browne Sir Ronald Ross, K.C.B. Lord Rayleigh
		1910	<i>Sir Clements Richard Markham, K.C.B.</i> Sir William Osler, Bart. Charles Carpenter
1906	<i>Sir William Henry Perkin</i> Sir Thomas Clifford Allbutt <i>Heinrich Caro</i> Alfred Grandidier Albin Haller Sir Edwin Ray Lankester Carl Theodor Liebermann Carl Alexander von Martius Paul Pelseneer	1912	<i>Adolph Greiner</i> <i>Sir Robert A. Hadfield, Bart.</i> <i>Thomas Newbigging</i> Friedrich Springorum John Edward Stead <i>Sir Corbet Woodall</i>
		1914	Henry Richardson Procter
		1915	Harold Wager

*Master of Science*

1914	Thomas Scales Carter	1915	John William Taylor
1915	<i>Thomas Hudson Nelson</i> <i>William Denison Roebuck</i> Thomas Sheppard		John Grimshaw Wilkinson Thomas William Woodhead

*Master of Arts*

1906	<i>Thomas Percy Sykes</i>	1917	Herbert Austin Fricker
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## Graduates

*\* Indicates membership of Convocation.*

## Faculty of Arts (including Commerce and Law)

*Doctor of Letters*

1915	*Peel, Albert	1919	Butterworth, George William
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*Master of Arts*

1919	Arnold, Jane	1908	*Blackburn, Elizabeth Maria
1908	*Ashburner, Frederick	1916	Blakeley, Emily Sylvia
		1912	Boden, Cecil Arthur
1912	Bartle, Arthur	1915	Breckin, Ivy
1907	Bibby, Edward Ernest	1905	*Briggs, Maude (Mrs. Chapman)
1911	*Birtles, Arthur		

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|--------------------------------|-------------------------------------|
| 1917 Broadley, Mary Anne       | 1908 *Gill, William Conrad          |
| 1912 Brown, Ralph Noel         | 1919 Gillman, Marguerite            |
| 1919 *Butcher, Charles Sydney  | 1911 Gittleson, John                |
| 1915 Byrne, Richard Hugh       | 1915 *Green, David                  |
| Desmond Garritt                | 1913 Greenwood, Emily Maud          |
|                                | 1910 *Gunnell, Doris                |
| 1911 Caldwell, Sarah Jane      |                                     |
| 1918 Cawthraw, George          | 1913 *Halliday, Wilfrid Joseph      |
| Edward                         | 1907 Hand, William Thomas           |
| 1915 Chadwick, Florence Maud   | 1918 Harrison, Amy Geraldine        |
| 1908 Chapman, Harry Garfield   | 1907 *Hastings, Margaret            |
| 1914 Charlton, Henry Buckley   | 1915 Head, Jane                     |
| 1909 Cohen, Alexander          | 1912 Heaton, Herbert                |
| 1907 *Conyers, Hilda           | 1917 *Hinckley, Philip              |
| 1914 Cowling, George Herbert   | 1909 *Hirst, John Crosland          |
| 1911 Cox, Herbert              | 1909 Hobson, Elsie Irene            |
| 1912 *Cridland, Dorothy Walker | 1912 Hobson, Julia                  |
|                                | 1909 Hodges, Raymond John           |
| 1906 *Davis, William Hathaway  | 1905 *Hodgson, Charles Edward       |
| 1908 Daykin, John Bertram      | 1909 *Hogan, Kathleen               |
| 1913 Dean, Arthur Ernest       | 1915 Hole, Ellen Mary               |
| 1915 Dickinson, Frederick      | 1907 Holmes, Carrie                 |
| Walter                         | 1911 *Howarth, Fred                 |
| 1919 *Dobson, Alan             | 1913 <i>Huffington, Thomas</i>      |
| 1912 Dransfield, Henry Ewart   | 1916 Hurworth, Arthur               |
| Stanley                        | 1917 Hutton, Charles William        |
| 1916 Dykes, Janet              | 1914 *Hyde, Francis Austin          |
|                                |                                     |
| 1909 Edwards, Maud Mary        | 1907 <i>Illingworth, Maria Emma</i> |
| 1913 *Ellis, Henry Carl Noel   | ( <i>Mrs. Schofield</i> )           |
| 1918 *Evans, Alice Mabel       |                                     |
|                                |                                     |
| 1910 *Fairley, Barker          | 1914 Jameson, Margaret Ethel        |
| 1912 Fawcitt, Edwin Henry      | ( <i>Mrs. Clarke</i> )              |
| 1908 Findlay, George Hindson   | 1910 *Johnson, Florence Annie       |
| 1908 *Findlay, Sarah Kennedy   | 1913 Jordan, George Jefferis        |
| 1915 Findlay, William          | 1907 *Jowett, Jessie                |
| Gillanders                     |                                     |
| 1913 *Firth, John Rupert       |                                     |
| 1913 *Fisher, Frederick        | 1912 *Kirk, Kathleen Hylda          |
| Broughton                      | 1907 *Kitchener, Ernest Edward      |
| 1914 Fox, Arthur               | 1918 Kitson, Ethel                  |
| 1907 *Frank, Sarah (Mrs.       |                                     |
| Bonsall)                       |                                     |
|                                | 1912 *Laird, Marjorie Jean          |
|                                | ( <i>Mrs. Exley</i> )               |
| 1919 *Garton, Ida Mary         | 1919 Lambert, Nellie                |
| 1911 *Gendall, Philip Parsons  | 1907 Landman, Samuel                |
| Watkins                        | 1917 *Lawson, Leah Gardner          |
| 1913 Gibson, George William    | 1912 Lee, Harry                     |

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|---|---|
| 1906 *McKeand, Maggie Woodrow                       | 1905 *Scholes, Thomas Wilfrid               |
| 1912 Maddock, William                               | 1913 *Scott, Julia Penketh                  |
| 1909 Mallinson, Dorothy                             | 1909 <i>Simpkiss, Nellie</i>                |
| 1911 *Martin, Alice Walford                         | 1916 *Smith, Annie                          |
| 1915 Masterman, Dorothy                             | 1907 Smith, Egerton                         |
| 1908 *Matthews, Felix Hackett                       | 1919 *Spencer, Frances Mary Elvira          |
| 1910 *Maud, Ida Marian                              | 1906 *Stables, William Herbert              |
| 1918 Mawson, Constance                              | 1916 Standing, Christine                    |
| 1906 *Melville, Ellen Louisa                        | 1915 Stapleton, Arthur Leonard              |
| 1916 Mitchell, Edith Alice Ann                      | 1914 Stead, Lilian Mary                     |
| 1907 *Molland, Theodora Mary                        | 1910 Strange, Edward Howard                 |
| 1909 Monahan, Alexander James                       | 1910 Strong, Robert                         |
| 1908 Moulden, John William                          | 1914 *Strothard, Hubert Turner              |
| 1910 Murphy, Bertha Mary (Mrs. Maine)               |   |
|   | 1908 <i>Ten Bruggenkate, George Herbert</i> |
| 1907 *Naylor, Nellie Noble                          | 1915 Thomas, William Calvert                |
| 1907 *Neville, Ethel May                            | 1912 *Thornton, William George Squire       |
| 1907 *North, Fanny Caroline                         |   |
|   | 1910 *Thorp, Hilda                          |
| 1913 Papworth, Harold Charles                       | 1913 Tomlinson, John Lansdowne              |
| 1912 Parker, Frank                                  |   |
| 1914 *Parkinson, Harold Shaw                        |   |
| 1913 *Parnaby, Harry                                |   |
| 1919 *Partridge, William                            | 1912 Walker, Algernon Stanley               |
| 1917 Pay, Thomas Wilfrid                            | 1908 Walker, Jessie (Mrs. Daykin)           |
| 1913 Peacey, Basil William                          | 1908 Wallace, Harry Bruce                   |
| 1913 Perfect, Douglas                               | 1912 Warren, Albert Edmund                  |
| 1917 *Perry, Francis Charles                        | 1912 *Waterhouse, Osborn                    |
| 1912 *Phillips, Samuel                              | 1919 Whitaker, George Robert                |
| 1911 Pobjoy, Harold Norman                          | 1906 *White, Ethel                          |
|   | 1907 Whitehead, Mary                        |
| 1913 Ramsden, Arthur                                | 1906 *Wilson, Florence                      |
| 1914 Rennard, Thomas Ambler                         | 1908 Wilson, Florence Grey                  |
| 1913 Rhodes, Arthur Wellesley                       | 1905 Wilson, George William                 |
| 1905 <i>Robinson, Ethel Margaret</i>                | 1914 Wortz, Frederick Robert                |
|   | 1913 Wright, Beatrice Hilda                 |
| 1905 *Savage, Hilda                                 | 1916 Wright, Claude Ernest                  |
| 1908 Scholes, Katherine Louise (Mrs. A. J. Monahan) | 1915 Wright, Gladys                         |

## Bachelor of Arts

- |                            |                              |
|----------------------------|------------------------------|
| 1908 Abrahams, Solomon     | 1906 *Anderson, John         |
| 1914 Abrams, Sam Philip    | 1918 Anderson, Lucy Margaret |
| 1909 Allott, Effie Gwen    | 1912 Anderson, Mabel Maud    |
| 1914 Allott, Wilfrid       | 1909 Anderton, Louisa        |
| 1916 Alton, Beatrice Mabel | 1912 Anson, Jane Ridsdale    |

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|------|--|------|--|
| 1913 | Armitage, Catharine                            | 1905 | Brigham, Fanny Muriel                        |
| 1905 | *Armitage, John Henry                          | 1917 | Broadbent, Edith                             |
| 1906 | *Armstrong, Liliast Eveline                    | 1915 | Broadbent, Minnie Ann                        |
| 1911 | Arnold, Edith                                  | 1913 | Brock, Stella Caborn                         |
| 1913 | Aston, Marian Gladys<br>Stewart                | 1907 | Brown, Constance Mabel<br>(Mrs. H. Paterson) |
| 1905 | *Atkinson, Janet                               | 1913 | Brown, Cyril Graham                          |
|      |  | 1914 | *Brown, Ethel                                |
| 1917 | *Bainbridge, Dorothy<br>Mary                   | 1912 | Brown, George Frederick                      |
| 1918 | Bairstow, Dorothy                              | 1915 | *Brown, Harold Havelock                      |
| 1918 | Baker, Ruth Eveline                            | 1916 | *Brown, Nellie                               |
| 1917 | *Banks, Evelyn                                 | 1919 | Broxup, Dorothy                              |
| 1912 | Banks, John Cook<br>ley                        | 1917 | Broxup, Eva Annie                            |
| 1919 | Barker, Doris Wright                           | 1910 | Bucknall, Charles John                       |
| 1919 | Barnes, Walter Egbert                          | 1913 | Bucknall, Paul Damien                        |
| 1919 | Barran, Emma Bottomley                         | 1905 | *Burgess, Lillie (Mrs.<br>Harvey)            |
| 1905 | *Barras, Elsie Clara<br>(Mrs. J. G. Hammond)   | 1905 | *Burley, Leo Le Gay                          |
| 1906 | Bartle, Ida                                    | 1917 | Burrow, Hannah Louise                        |
| 1909 | Batchelor, Edith                               | 1910 | Butler, Gloxinia<br>(Mrs. A. M. Godfrey)     |
| 1919 | Bates, Nellie                                  | 1917 | Butterfield, Hilda                           |
| 1917 | Bayliffe, Jennie                               | 1918 | Butterfield, Janet                           |
| 1911 | Bean, William Harold                           |      |  |
| 1919 | *Beeforth, Laura                               | 1918 | Caiger, Hugh                                 |
| 1911 | Beevers, Sydney                                | 1914 | *Caldwell, Mary Constance                    |
| 1916 | Bellerby, Margaret Hope                        | 1917 | Campion, Winifred                            |
| 1918 | Benn, Laura Harriet                            | 1917 | Carr, Catherine                              |
| 1908 | Bentley, Hannah<br>Grimshaw                    | 1917 | Carr, Cecily Alice May                       |
| 1912 | Bentley, Owen                                  | 1915 | Carter, Jessie May                           |
| 1918 | *Berry, Arthur                                 | 1911 | <i>Carter, John Wilfrid</i>                  |
| 1912 | *Bevan, Albert Edward                          | 1915 | *Catterall, Albert                           |
| 1910 | Billam, Bertram                                | 1912 | Caukill, Francis                             |
| 918  | *Billam, Lois Ethel                            | 1909 | Cawthron, Edwin                              |
| 1916 | Birch, Doris                                   | 1905 | *Chard, Edith Annie                          |
| 1916 | Birch, Dorothy Ellen                           | 1908 | Charlesworth, Alice                          |
| 1917 | Birch, Thomas Albany                           | 1917 | Childe, Gertrude May                         |
| 1905 | *Bishop, Sarah Elle                            | 1910 | Claridge, Marjorie Muriel                    |
| 1906 | Boardman, Ernest<br>Edmund                     | 1911 | Clarke, Charles Dougan                       |
| 1913 | Boden, Reginald Stanley                        | 1915 | Clayton-Booth, Ethel Jane                    |
| 1906 | *Bradley, Florence Mar-<br>garet (Mrs. Rydall) | 1919 | Cocking, Ethel Annie                         |
| 1905 | *Braithwaite, William<br>Dalston               | 1914 | Coggill, Wilfrid                             |
| 1915 | Bridson, Edmund                                | 1914 | <i>Cohen, Adolph Broadfield</i>              |
| 1916 | Briggs, Elsie Powell                           | 1916 | Cohen, Ben Zion                              |
| 1916 | Briggs, Maud                                   | 1914 | Cohen, Sam                                   |
|      |  | 1915 | *Coley, Norman Clarence<br>Herbert           |
|      |  | 1915 | Cooper, Maud Louise                          |
|      |  | 1910 | Coppock, Laura                               |
|      |  | 1919 | Cordingley, Christine                        |

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|------|---|------|---|
| 1913 | Corson, Olive                           | 1912 | Emsley, Edith                                     |
| 1908 | Cowling, Alice Beatrice                 | 1915 | Emsley, Rosella                                   |
| 1913 | Cox, William                            | 1919 | *Exley, Cecil Frederick                           |
| 1918 | Crabtree, Margaret                      |      |   |
| 1914 | Craven, Percy Charles                   | 1905 | *Fairbrother, Jessie                              |
| 1910 | Croft, Alice Mary                       | 1911 | Fairley, Duncan                                   |
| 1912 | *Cross, Ernest                          | 1914 | Farrer, Evelyn                                    |
| 1911 | Crossland, Elsie                        | 1916 | *Fawcett, Ernest                                  |
| 1914 | Crowther, Daisy Isabel                  | 1914 | Fenton, Kate                                      |
| 1914 | *Crowther, Florence                     | 1916 | *Fletcher, Bernard George                         |
| 1914 | *Crowther, Ivy Emma                     | 1907 | Flynn, Bridie                                     |
| 1914 | Cuckow, Philip Edwin                    | 1905 | Foggitt, Emma (Mrs.<br>W. A. Cornaby)             |
| 1915 | Cusworth, Eustace<br>Fretwell           | 1911 | *Foggitt, Ida                                     |
|      |   | 1913 | Foreman, Jeanie<br>Christine                      |
| 1905 | *Dalton, John Edwin                     | 1905 | *Fox, Arthur Cunliffe                             |
| 1906 | Darycott, Ernest<br>Jenkinson           | 1908 | *Frank, Dorothea Ethel                            |
| 1911 | Dawson, Thomas Henry                    |      |   |
| 1917 | Deane, Doris                            | 1906 | Gale, Florence<br>(Mrs. Reeves)                   |
| 1912 | Dearden, Gladys May                     | 1912 | Galpine, Dorothy                                  |
| 1909 | Dearnley, Charles                       | 1917 | Garforth, Christina                               |
| 1905 | *Denby, Maurice                         | 1905 | *Garside, Bertha                                  |
| 1918 | Denison, Ruby Gladys<br>Martha          | 1905 | *Gascoigne, Evelyn May<br>(Mrs. Blackburn)        |
| 1910 | *Dixon, Annie                           | 1913 | *Gawthorpe, Wilfrid                               |
| 1919 | Dixon, Dorothy<br>Whitley               | 1919 | Gibson, Christine<br>Madeleine                    |
| 1906 | Dixon, Elizabeth                        | 1917 | Gibson, Gladys Louise                             |
| 1917 | *Dixon, Ella                            | 1918 | Gladstone, Muriel                                 |
| 1905 | *Dobson, Constance<br>(Mrs. Wheatley)   | 1908 | Golding, Mary Muriel                              |
| 1907 | Donaldson, Lawrence<br>Richard Leverton | 1916 | Gottwaltz, Florence<br>Winifred                   |
| 1910 | Doody, Ellie                            | 1919 | Grant, Jessie                                     |
| 1917 | *Dowson, Evelyn Rhoda                   | 1917 | Grassham, Muriel                                  |
| 1915 | Driver, Constance Jennie                | 1905 | *Gray, Arabella Hyde<br>Janet, Ethel              |
| 1913 | Dyson, Fred                             | 1905 | *Gray, Catherine Isabella<br>(Mrs. W. P. Welpton) |
|      |   | 1910 | Gray, Isabel                                      |
| 1905 | *Easterfield, Thomas Hill               | 1913 | Green, Benjamin Cecil                             |
| 1919 | Edelstein, Charles<br>Solomon           | 1907 | *Greening, Edward<br>Baptist                      |
| 1913 | Edmond, William<br>Seaward              | 1915 | Greenwood, Harold                                 |
| 1913 | *Effron, George Henry                   | 1914 | Greenwood, Josémeé<br>Marguerite                  |
| 1913 | Elliot, Gilbert Bernard                 | 1916 | Greenwood, Phyllis                                |
| 1911 | Elliot, Ruth                            | 1918 | *Griffiths, Dorothy                               |
| 1905 | *Elliott, Spencer Hayward               |      |   |
| 1910 | Ellis, Arthur Harold<br>Carteret        |      |   |

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|-------------------------------|---|
| 1910 Groves, Winnifred        | 1915 Huddleston, Mabel                    |
| 1915 *Halliday                | 1910 Hudson, Harry                        |
| 1915 *Gurney, Denies St. John | 1913 *Hudson, John                        |
| Cecil                         | 1905 *Hudson, Margaret Ellen              |
|                               | (Mrs. Parnaby)                            |
| 1916 Haigh, Margery           | 1917 Huggins, Emma                        |
| 1917 Hainsworth, Ivy          | 1913 Huggins, John                        |
| 1910 Hale, Agnes              | 1919 *Hughes, William James               |
| 1909 Hand, Harry Aram         | 1917 Hunter, Helen                        |
| 1912 Harding, Reginald        | 1913 Hunter, Nelson Ackroyd               |
| 1915 Hardwick, Arthur         | 1905 *Hurst, Thomas Ockerby               |
| 1918 Hartley, Joan            | 1914 Hutchinson, Albert                   |
| 1915 Hayes, Allan             |   |
| 1918 Haythorne, Arnold        | 1917 Illingworth, Mabel                   |
| 1914 Head, Edward Keith       | Winifred                                  |
| 1917 Heath, Winifred May      | 1914 *Ingle, James William                |
| 1905 *Hepworth, Frank         | 1919 *Irvine, Jessie                      |
| 1905 *Hepworth, Minnie        | 1916 Ives, Frank                          |
| 1916 Herbert, Mabel           |   |
| 1915 *Hewson, Constance Freda | 1906 Jackman, Elizabeth                   |
| 1912 Hewson, Frank Richard    | 1906 Jackson, Mabel                       |
| Hick                          | 1912 *Jenkins, Elsie Mary                 |
| 1905 *Hield, Esther Margaret  | 1915 Jennings, Elsie Emmie                |
| 1915 Hill, Harold Harrison    | 1911 Johnson, Dorothy                     |
| 1915 Hillas, Norman           | 1914 *Jole, Nora Bancroft                 |
| 1913 Hirst, Beatrice May      | 1919 Jones, Annie Frances                 |
| 1905 *Hirst, Miriam           | Saville                                   |
| 1905 Hitcham, Charlotte Elsie | 1914 Jones, Arthur Owen                   |
| 1914 Hoar, Harold Stanley     | 1918 Jones, Eric George                   |
| 1916 Hobson, Mary Elizabeth   | 1917 Jones, Marjorie Elizabeth            |
| 1919 *Hogley, Marian          | 1914 Jordan, George Douglas               |
| 1916 Holdsworth, Maude        |   |
| Marion Elizabeth (Mrs.        | 1918 *Kaye, Ruth Armitage                 |
| Cuckow)                       | 1916 *Kerry, Herbert                      |
| 1905 *Holgate, Jane           | 1914 Kershaw, Maud Harriet                |
| 1915 *Holliday, Marjorie Tate | 1919 Kidd, Pearl                          |
| 1919 *Hollings, Mary          | 1912 *Kirk, Leonard Bertram               |
| 1905 *Holmes, Ethel           | 1911 Kirtland, Dorothy Mary               |
| (Mrs. Chapman)                | 1915 *Kirkwood, Winifred                  |
| 1919 Holroyde, Doris Helena   | 1913 Kitson, Fanny Edith                  |
| 1918 *Hopkin, Jessie Melville | 1912 Kitson, Mary Ellen                   |
| Hopkins, Eric Arthur          | 1910 Klamborowski, Wilfred                |
| 1911 *Horne, Mary Osyth       | Stephen                                   |
| 1919 Horne, Winifred Louise   | 1919 Kniveton, Marjorie Ann               |
| 1908 Horsfall, Jessy Eveline  | 1919 Knowles, Doris Annie                 |
| 1915 Horsley, Ernest          | Williamson                                |
| 1911 Hosking, John            |   |
| 1908 *Howe, Grace Alice       | 1914 Ladell, Arthur Randolph              |
| 1912 Hoyle, Harold            | 1918 Lamb, Phyllis Gertrude               |
| 1917 Huddleston, Edith May    | 1916 Lambert, Charles Henry               |
|                               | 1919 *Lang, <sup>1</sup> Dorothy Margaret |

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|------|-----------------------------|------|----------------------------|
| 1907 | Langstaff, Bilton, B.Sc.    | 1910 | Mellors, Clarissa Florence |
| 1918 | Lawrence, Elsie Irene       |      | Horsley                    |
| 1913 | Lawson, Tom                 |      | (Mrs. J. J. Ilett)         |
| 1907 | Lea, George William         | 1911 | Miller, Florence Clark     |
| 1909 | *Lee, Catherine             | 1910 | Miller, Henry Claude       |
| 1914 | Leech, Dorothy Edith        | 1911 | Miller, Solomon            |
| 1916 | Legge, Marian               | 1917 | Mitchell, Florence Mary    |
| 1913 | Levy, Sissie Emma           | 1916 | *Mitchell, Gladys Mary     |
| 1919 | Lewis, Amy Irene            | 1906 | *Mitchell, Margaret        |
| 1912 | Libbish, Barnet             | 1905 | *Mitchell, Myra            |
| 1906 | Lidbetter, James Staples    | 1911 | Moody, Sydney              |
| 1917 | Lightfoot, Edith Margaret   | 1919 | Moore, Charles Herbert     |
| 1906 | *Linforth, Edith Mary       | 1918 | Moore, Ethel               |
|      | Elizabeth (Mrs. W. T. Rowe) | 1917 | Moore, Ruth                |
| 1915 | Lister, Dorothy Daisy       | 1913 | Moorhouse, Herbert         |
| 1905 | *Lister, Martha             | 1915 | Morland, Leonard Mark      |
| 1908 | <i>Lock, John</i>           | 1909 | Morrell, Frank             |
| 1909 | Longbottom, Nellie          | 1917 | *Moss, Helenor             |
| 1913 | Longstaff, Annie            | 1918 | Mothersdill, Doris May     |
| 1911 | *Longstaffe, Stella         | 1905 | Mountain, Eliza            |
|      | Marguerite                  | 1917 | *Munday, Madeleine         |
| 1916 | Loxley, Margaret Isabel     |      | Constance                  |
| 1918 | Lumb, Sybil Victoria        | 1909 | *Murphy, Grace Louisa      |
| 1919 | Lumby, Mary                 | 1914 | Myers, Amy                 |
| 1914 | Lund, Annie Eleanor         | 1913 | *Myers, Marion             |
| 1913 | Lupton, Margaret Ella       |      |                            |
|      |                             | 1908 | Naylor, Alice Maude        |
| 1905 | Maccoby, Sarah Judith       | 1915 | Naylor, Charley            |
| 1912 | McKay, Annie Armstrong      | 1913 | Neale, Charles Sidney      |
| 1919 | McLeannan, Florence         | 1915 | *Nesbit, John Christopher  |
|      | Lilian                      | 1917 | *Newstead, Fannie          |
| 1911 | Major, Irene Carlotta       | 1906 | Nicholson, Ethel           |
| 1913 | Mallin, Hubert Patrick      | 1913 | *Nixon, Dora               |
| 1916 | *Mann, Enid                 | 1915 | Normington, Nellie         |
| 1913 | Marriott, Edward            | 1918 | *Noxon, Marion             |
| 1918 | Marsden, Doris              | 1914 | Nuttall, Marguerite Mary   |
| 1917 | Marsden, Hilda              |      | Teresa                     |
| 1913 | Marshall, Herbert           | 1916 | Ogden, Mary                |
| 1911 | Martin, Ismae Knox          | 1910 | Ostrehan, Arthur           |
| 1909 | Martin, Thomas Haigh        |      | Clement Henry              |
| 1909 | Matthews, Basil Wilfred     | 1907 | *Outram, Edith May         |
|      | Barrow                      | 1905 | *Owen, Florence            |
| 1917 | Maud, Annie                 | 1913 | Padgett, Wilfred Wood      |
| 1915 | *Maude, Edgar Ringrose      | 1915 | *Padman, May               |
| 1911 | Mawson, Bertha              | 1916 | *Parker, Isabel Wilson     |
| 1915 | Mee, Winifred Ellen         | 1913 | Parry, Clarise Hilda       |
| 1919 | Mellis, Victoria Rudolph    | 1907 | Partridge, Doris Kathleen  |
| 1918 | Mellor, Doris               | 1919 | Patterson, Marjorie        |
|      |                             |      | Wilson                     |

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|------|---------------------------|------|---------------------------|
| 1908 | Pearson, Eunice           | 1905 | Robinson, Lilian          |
| 1908 | Perkins, Sarah Elizabeth  |      | Dorothea                  |
| 1910 | Phillips, Dorothy         | 1905 | Rogers, Hannah            |
| 1910 | Pickering, Harry          | 1905 | Rogers, Violetta          |
| 1914 | Pickering, Jessie         |      | (Mrs. Grimshaw)           |
| 1911 | Pickett, Bertram Arthur   | 1918 | Ross, Frances Hilda       |
| 1919 | *Pickford, Margaret       | 1914 | Rolleston, Lancelot       |
| 1918 | Pickles, Gladys           |      | Charles                   |
| 1918 | Pidd, Jessie              | 1916 | Russell, Ada Minnie       |
| 1910 | Pilling, James Arthur     |      |                           |
| 1911 | Pollard, Mabel            | 1912 | Sampson, Catherine Ruby   |
| 1917 | Poole, Shirley            | 1911 | Sanderson, Tom            |
| 1905 | *Porritt, Florence Mary   | 1919 | *Saville, Clara           |
|      | (Mrs. Bennett)            | 1919 | Sawkins, Violet Vera      |
| 1911 | Potter, Hilda             | 1905 | *Scruton, Harriett Annie  |
| 1911 | <i>Pounder, Benjamin</i>  | 1906 | *Scruton, Kate Ellen      |
|      | <i>William</i>            | 1916 | Seanor, Kathleen Mary     |
| 1907 | Poynton, Lucy Ellen       | 1915 | Semper, Constance         |
| 1917 | Pratt, Richard            |      | Margaret Eleanor          |
| 1905 | *Precious, Julia Hopper   | 1917 | Senior, Lilian            |
| 1919 | *Preston, Edith May       | 1912 | Shackleton, Arthur        |
| 1919 | Prince, Eleanor Edith     |      | Percival                  |
| 1914 | Pullan, Francis Norman    | 1917 | Sharp, Phyllis May        |
|      |                           | 1914 | Shaw, George              |
| 1910 | Quarterman, John Richard  | 1910 | Shaw, George Lawson       |
|      |                           | 1905 | Sheard, Dora              |
| 1911 | Race, Ida Cunningham      | 1914 | Sheard, Kathleen          |
| 1912 | Radford, Conrad William   | 1905 | *Sheard, Mary Beatrice    |
|      | Rich                      | 1911 | Sheldon, Clara            |
| 1912 | Raisman, Abraham          | 1915 | Shepherd, Dorothy         |
| 1905 | *Raven, Hilda Mary        | 1911 | Shout, Leonard West       |
|      | (Mrs. P. Davies)          | 1916 | Silverman, Herbert Albert |
| 1915 | *Rayner, Ellen            | 1916 | Simpson, Helen Mary       |
| 1910 | Reakes, Gilbert Spofforth | 1905 | *Skinner, Mabel           |
| 1911 | Redfern, Florence Mary    | 1919 | Smart, Dorothy            |
| 1910 | Rennie, William Heron     | 1917 | Smith, Helen              |
|      | Maxwell                   | 1915 | *Snowden, Elizabeth       |
| 1912 | *Reynolds, Carrie         | 1916 | Solloway, Mildred Nancy   |
| 1918 | Rhodes, Evelyn Marion     |      | Langdale                  |
| 1913 | Richards, Charles         | 1907 | Southern, Alfred          |
|      | Threlfall                 |      | Collingwood               |
| 1917 | Richardson, Matthew       | 1918 | Sowden, Marie             |
| 1913 | Richardson, William       | 1919 | *Sparling, Herbert        |
|      | Rowson                    | 1919 | *Speed, Marie Elizabeth   |
| 1906 | *Rider, Martha Hannah     | 1910 | Speight, Philip Henry     |
| 1905 | *Ridge, William Sheldon   | 1912 | *Speight, Rose Emma       |
| 1917 | Robertson, Margaret       | 1910 | Spruce, Gladys            |
|      | Janet                     | 1910 | Stainsby, George William  |
|      |                           | 1916 | Stell, Donald             |
|      |                           | 1918 | *Stevenson, Hilda         |

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|--|---|
| 1916 *Stewart, John                          | 1909 *Ward, Alice Rose                            |
| 1907 Storey-Bates, William Edward            | 1906 Warnes, Sarah Catherine                      |
| 1910 Stradling, Ethel Milnes                 | 1905 Watson, George Alstone                       |
| 1915 Stuart, Emily                           | 1907 Weatherell, Thomas Bertram                   |
| 1915 Sutcliffe, Dora                         | 1914 *Webster, Fred                               |
| 1916 Sutcliffe, Dorothy                      | 1912 Webster, Herbert                             |
| 1917 *Sutcliffe, Helen May                   | 1915 Webster, Michael Harold                      |
| 1919 Swales, Hilda Mary                      | 1914 Weeks, Norley Cecil                          |
| 1919 Sykes, Helen                            | 1911 *West, Evangeline                            |
|  | 1918 West, Hilda                                  |
| 1912 *Taylor, Bertha                         | 1913 Wharton, James Henry Sheilds                 |
| 1918 *Taylor, Dora                           | 1913 Whincup, Harry Hynes                         |
| 1919 Taylor, Emily Augusta                   | 1906 White, Arthur Ernest                         |
| 1910 Taylor, William Alexander               | 1916 White, Herbert Marmaduke                     |
| 1916 *Teale, Alice Dorothea                  | 1919 *Whitehead, Dorothy                          |
| 1913 Tempest, Mabel Dorothy                  | 1918 *Whiteley, Joseph Travis                     |
| 1917 Tesh, Elsie                             | 1912 Whitley, Arthur                              |
| 1917 Thompson, Elsie Elizabeth               | 1914 *Whitworth, William Wilson                   |
| 1919 *Thompson, Wilhelmina                   | 1919 Wigham, Wilfred Southall                     |
| 1917 Thornton, Betsy Marguerite              | 1919 *Wilkins, Phyllis Florence                   |
| 1917 Todd, Helena                            | 1919 Williams, Margaret                           |
| 1917 Topham, Ethel                           | 1915 *Williams, Thomas                            |
| 1906 Townsend, Florence Emma                 | 1914 <i>Willis, George Henry</i>                  |
| 1918 Townsend, Gladys Elizabeth Gwendolyn    | 1919 *Wilson, Elizabeth Jane                      |
| 1905 Turner, Harriet Marie                   | 1919 *Wilson, Muriel Ellen Elizabeth              |
| 1912 Twitchin, Elizabeth Edwards             | 1910 Wilson, Muriel Margaret (Mrs. G. H. Cowling) |
|  | 1905 *Wilson, Selina Ethel                        |
| 1913 Varey, Mary                             | 1908 Winter, John Edgar                           |
| 1911 Varley, Annie                           | 1910 Witty, John Robert                           |
| 1913 Varley, Bessie                          | 1905 *Wood, Jessie Graham (Mrs. A. C. Bruce)      |
| 1919 Venables, Ethel Mary                    | 1917 Wood, Mary Freda                             |
|  | 1915 Woodall, Ethel Margaret                      |
| 1918 Wake, Kathleen Harriet                  | 1916 Woodcock, Hester Elizabeth                   |
| 1905 *Walker, Ada (Mrs. Bentley)             | 1918 Wormwell, Sarah Ethel                        |
| 1912 Walker, Emily Ethel                     | 1910 <i>Worsnop, Edgar</i>                        |
| 1918 Walker, Harry                           | 1911 Wright, Bertha Helen                         |
| 1905 *Walker, Julia Beatrice (Mrs. Thompson) | 1905 *Wrigley, Isaac                              |
| 1917 Walker, Kathleen Susan                  |   |
| 1911 Wallace, Dorothy Kate                   |   |

*Doctor of Laws.*

- 1914 \*Robson, William Newby, M.A. (*Cantab.*)

*Master of Laws*

1916 \*Turnbull, Donald

*Bachelor of Laws*

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|-------------------------------|-------------------------------------|
| 1915 Bastide, Ernest Percival | 1915 Lieberman, Reuben              |
| 1908 Beecroft, Philip Beilby  | 1906 *McConnell, John William       |
| 1907 *Brayshay, Stanley, B.A. | 1908 Maude, Arthur Percy            |
| 1909 *Croft, Thomas Lister    | Lees                                |
| 1909 <i>Daiches, Salom</i>    | 1911 *Milner, James                 |
| 1909 *Fisher, Arthur Samuel   | 1913 *Morgan, Owen                  |
| 1915 Frankland, Cecil James   | 1910 * <i>Morgan, Richard Felix</i> |
| 1908 Gundill, Edward Norman   | 1906 *Scott, Hubert Edward          |
| 1910 Harrison, William        | 1910 *Scriven, Charles              |
| 1911 Ineson, Donald Gordon    | 1905 *Sykes, James                  |
| 1915 *Kaye, Sidney Herbert    | 1906 *Wade, James Mervyn            |
| 1910 *Knowles, Geoffrey       | 1913 Wurzal, Joseph                 |
| 1905 Lee, Edmund              |                                     |

**Faculties of Science and Technology**

*Doctor of Science*

- |                               |                                      |
|-------------------------------|--------------------------------------|
| 1910 *Briggs, Samuel Henry    | 1913 *Jowett, Albert                 |
| Clifford                      | 1918 *Leslie, May Sybil              |
| 1915 *Calvert, Harry Thornton | 1905 *Mann, Harold Hart              |
| 1909 Dakin, Henry Drysdale    | 1918 *Marshall, Joseph               |
| 1907 *Dawson, Harry Medforth  | 1910 *Raper, Henry Stanley,          |
| 1907 *Denison, Robert Beckett | M.B., Ch.B.                          |
| 1905 *Dwerryhouse, Arthur     | 1913 *Shorter, Sydney Alfred         |
| Richard                       | 1907 *Standing, Herbert Fox          |
| 1905 *Frankland, John Naylor  | 1917 <i>Stoddard, Arthur Askwith</i> |
| 1918 Gilligan, Albert         | 1905 *Varley, William Mansergh       |
| 1905 Ingle, Harry             |                                      |

*Master of Science*

- |                              |                              |
|------------------------------|------------------------------|
| 1919 Abrams, Nathan          | 1918 *Bell, Elsie Mary       |
| 1905 *Agar, Herbert William  | 1907 *Bennett, Hugh Garner   |
| 1916 Anderson, Leonard       | 1914 Bennett, William Gordon |
| 1905 *Andrews, William Allen | 1905 Bevan-Lewis, William    |
| 1912 Appleyard, Alfred       | 1908 Bibby, Joseph Richard   |
| 1911 *Ark, Harry             | 1909 Blockey, John Reginald  |
| 1910 *Armin, Edwin Bates     | 1906 *Bothamley, Charles     |
| 1908 Ashby, William Ewart    | Herbert                      |
| 1912 *Atkin, William Rearden | 1906 *Brayshay, Maurice      |
|                              | William                      |
| 1918 Bates, Sidney Hartley   | 1912 *Brier, Albert          |
| 1906 Barker, Aldred Farrer   | 1912 Bright, Alfred          |
| 1911 Bearder, Ernest Arthur  | 1908 *Brittain, Charles      |
| 1905 *Beaumont, Roberts      | Edward, M.Sc. <i>Vict.</i>   |
| 1906 *Beeley, Arthur         | 1911 *Brown, Thomas          |

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|---------------------------------|---|
| 1905 <i>Brown, Walter Henry</i> | 1905 *Gawler, Robert                          |
| 1914 *Burton, Donald            | 1912 Gerard, Inglis Joseph                    |
| 1916 Butterfield, James Arthur  | 1915 Gibson, Wilfrid                          |
|                                 | 1911 Gilchrist, David                         |
| 1907 *Calam, Harold             | 1912 Glick, Nathan Bernard                    |
| 1913 Chapman, Sarah Elizabeth   | 1905 *Goodman, John                           |
| 1906 *Chapman, Thomas William   | 1907 *Goodson, Ethel Elizabeth (Mrs. Osborne) |
| 1911 *Charlesworth, John Kaye   | 1905 *Grant, Charles Henry                    |
| 1914 *Chester, Richard          | 1905 *Green, Arthur George                    |
| 1914 Collinson, James Arthur    | 1916 Greenwood, Edward Joseph Bernal          |
| 1905 *Cooper, Albert Henry      | 1915 *Grindle, William George                 |
| 1907 Cooper, William Arthur     | 1911 *Guy, Ernest                             |
| 1905 *Copley, Frederick         |   |
| 1906 *Coulson, Alfred           | 1910 Haigh, John Henry                        |
| 1911 Couper, George Augustus    | 1905 *Hammerton, Jonas                        |
| 1916 Crann, Thomas William      | 1915 Harrap, Frank Nettleton                  |
| 1915 *Crockatt, Arthur John     | 1919 <del>Harrison, William</del>             |
| 1915 Croft, George Henry        | 1915 Hartley, John Alfred                     |
| 1918 *Crowther, Edward Mortimer | 1913 Hayes, Robert Andrew                     |
| 1915 Cusworth, Emily Ann        | 1905 *Hefford, Charles Nelson                 |
|                                 | 1916 *Hewlett, Mary                           |
| 1911 Das, Biraj Mohan           | 1912 Hickson, Bernard                         |
| 1907 Davies, Arthur Hugh        | 1911 Hill, James                              |
| 1913 Dawson, Thomas Rayner      | 1910 Hinckley, Arthur                         |
| 1905 *Dent, Frankland           | 1907 *Hodsman, Henry James                    |
| 1911 Dixon, Frank Metcalfe      | 1913 Hole, Herbert Wray                       |
| 1914 Dougill, George            | 1914 *Hollings, Harold                        |
| 1915 *Douglas, Frank            | 1913 Holroyd, Thomas Arthur                   |
| 1914 Dry, Francis William       | 1917 Hornby, Clement Denton                   |
| 1910 Dudley, Harold Ward        | 1907 Horsfall, Ronald Smith                   |
| 1908 *Dudley, James             | 1912 *Houldsworth, Hubert Stanley             |
| 1912 Duffin, Joseph Francis     | 1919 Hudlikar, Madhav                         |
| 1915 Duthie, Charles Sydney     | 1905 *Hummel, John James                      |
| 1913 Dutt, Pavitra Kumar        | 1910 *Hurst, Frank                            |
|                                 |   |
| 1905 *Edwards, Ernest John      | 1908 Jackson, Colin Gyrth                     |
| 1916 Edmondson, John            | 1905 *Jackson, Harry Percival                 |
| 1918 Ellingworth, Samuel        | 1915 *Jagger, Mary Elizabeth Marguerita Anne  |
|                                 | 1909 Jenkins, Gilbert Ramsden                 |
| 1905 *Findlay, Mary Grace       | 1915 *Johnson, John William Haigh             |
| 1912 Fort, Morris               | 1913 *Johnson, William                        |
| 1908 *Frank, George Herbert     | 1907 Jordan, Albert                           |
| 1905 *Fry, George Cecil         |   |
|                                 | 1912 Kench, Henry                             |
| 1906 *Gardner, Walter Myers     | 1905 *Kendall, Percy Fry                      |
| 1907 Gaunt, Rufus               |   |
| 1910 *Gaut, Robert Charles      |   |

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|-------------------------------|-----------------------------------|
| 1907 *King, Charles Arthur    | 1911 Rawling, Francis George      |
| 1905 <i>King, Herbert</i>     | 1913 Redfearn, George Richard     |
| 1911 King, William Norman     | 1912 Rhodes, Norman               |
| 1905 *Kirby, Frederick Oscar  | 1917 Richardson, Herbert          |
|                               | 1907 Richardson, John Stocks      |
| 1917 *Lee, Fang Tsung         | 1916 Robinson, Fred               |
| 1907 Lister, Mary Florence    | 1917 Rodwell, Robert Ascough      |
| Grace (Mrs. Appleton)         | 1919 Rosenbaum, Joseph            |
| 1905 Littlewood, Harry        | Louis                             |
| 1915 Lloyd, Llewellyn         | 1912 Rowe, Frederick              |
| 1915 Lunn, Reginald William   | Maurice                           |
|                               | 1919 *Ruston, Arthur Gough        |
| 1915 McCandlish, Douglas      |                                   |
| 1917 *McFarlane, Archibald    | 1913 *Scouller, Walter Daly       |
| 1908 McGill, Ernest Arthur    | 1910 Sen, Rajendra Nath           |
| 1919 Mann, Ernest Edwin       | 1911 <i>Seymour-Jones, Arnold</i> |
| 1913 Marsh, Frank Salton      | 1914 *Shulman, Isaac              |
| 1909 Marshall, Francis        | 1908 Shuttleworth, Newton         |
| 1912 Mellor, Fred             | 1915 Siderfin, Norman Edward      |
| 1919 Midgley, Harry           | 1908 Sinson, Israel Lewis         |
| 1914 Midgley, James           | 1905 *Skirrow, Frederick          |
| 1910 *Mitchell, John Arnold   | William                           |
| 1907 *Morrison, James Alex-   | 1906 *Slater, John Henry          |
| ander Shepherd                | 1907 Smailes, Alan                |
| 1905 *Motley, Parker          | 1915 Smith, Jane Elizabeth        |
| 1910 Mountain, Frank          | 1910 Steinthal, Paul Telford      |
| 1917 *Mountford, Christopher  | 1913 *Stephenson, Cyril           |
| Archibald                     | Richard William                   |
|                               | 1914 Stocks, Herbert Holroyd      |
| 1905 *Norminton, Harold       | 1914 Sugden, Reginald             |
|                               | 1908 Sykes, Albert Howarth        |
| 1918 *Oates, Thomas           |                                   |
| 1910 Omar, Abdel Mageed       | 1912 Taylor, Arthur               |
| 1908 *Outram, Nora Aline Jane | 1914 *Taylor, Ernest              |
|                               | 1912 Thompson, Frederick          |
|                               | Charles                           |
| 1910 Paniker, Manakath        | 1915 Thompson, Harold             |
| Allampatafth Ramunni          | Winsor                            |
| 1905 *Parr, George Dudley     | 1905 *Thompson, John Thomas       |
| Aspinall                      | 1911 *Thornton, Harold            |
| 1911 Parsons, Ernest          | Priestley                         |
| 1914 Pearson, William         | 1907 *Thorp, George               |
| 1914 Perry, Robert            | 1914 Tillott, Harry               |
| 1911 <i>Powis, Frank</i>      | 1907 Townsend, Robert             |
| 1905 *Procter, Henry Richard- | 1907 Turner, Florence Mary        |
| son                           | Beatrice (Mrs.                    |
|                               | Thomson)                          |
| 1913 Raistrick, Harold        |                                   |
| 1916 Ram, Khub                | 1919 Umanski, Arthur Joseph       |
| 1919 *Randall, William        | Victor                            |
| 1911 *Rankin, William Munn    | 1906 *Unwin, Ernest Ewart         |

*Graduates in Science*

1911	Varley, Gilbert	1915	*Wilson, Ernest Percival
1915	Versey, Henry Cherry	1912	Wilson, John Harry
		1917	Wilson, John Joseph
1911	Walker, Emily Farrington	1917	Wilson, Maurice Lowell
1905	Walker, Henry Secker	1915	*Wolfe, Harold Maurice
1910	Ward, Herbert	1911	Wood, George
	Wainwright	1909	Woodhead, Arthur
1909	<i>Webster, Herbert William</i>		Edmund
1910	Westerman, Mabel	1912	Woodman, Herbert
1918	Whitaker, Elsie Dinah		Ernest
1919	Whitaker, Henry	1919	Woodmansey, Arnold
1909	Whitaker, Herbert	1914	Woodroffe, David
1911	*White, Robert George	1918	Worsnop, Edith
1905	*Whiteley, Charles	1905	<i>Wright, Charles James</i>
	Edward		

*Bachelor of Science*

1915	*Acklam, William Richard	1910	Bayley, John Henry
1905	*Ackroyd, John Prest		Stewart
1912	Ackroyd, Louis	1909	Beckwith, Kathleen Mary
1909	*Addison, Herbert		(Mrs. Norman)
1911	Airey, Cecil Philip	1910	Bell, Alfred Glaize
1911	*Aldersley, Arthur Howard	1907	Bell, Herbert Nutter
1905	*Allen, Lilian	1909	Bendrey, Hilda
	(Mrs. Moore)	1912	Bennett, Percy
1915	*Allen, Spencer	1917	Benson, Marjorie
1906	*Anson, Emily		Washington
1909	Appleyard, Ada Evelyn	1919	*Bentley, Esther Cluderay
	(Mrs. Hammond)	1912	Best, Thomas Edward
1905	*Appleyard, John Henry	1919	*Bickerdike, Doris Mary
	Ross	1907	Birkenhead, Florence
1905	Armes, Henry Percy		Ethel
1906	*Armes, Jane Prue	1911	Blackburn, Clarice
1908	Armitage, Harry		Lawton
1912	*Armstrong, William Leslie	1916	*Blair, James
1909	*Arnold, Joseph Sykes	1917	Blankley, Hannah
1913	Atkinson, Elsie May	1910	Bond, James Ryding
1914	Auty, Clifford Marshall	1905	Booth, Meyrick
		1907	Bowes, George Robert
1907	Baddiley, James	1905	*Boyd, Simeon
1908	Bailey, Annie Rosa	1910	*Boyle, Henry Kirk
1910	Bainbridge, James Scott	1918	*Bradley, Agnes
1909	*Bannister, Albert	1911	Brekke, Lorentz Oliver
1908	Barker, Christopher	1912	Briggs, Margery Haining
	James	1905	*Briggs, William, M.A.,
1905	*Barlow, Percival Smith		LL.D. (Camb.)
1913	Barrett, John Douglas	1905	*Broadhead, James Arthur
1916	Bartholomew, Gertrude	1906	*Broadley, William
1905	*Barton, Edith Beatrice	1916	Bromley, Elsie

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|------|---|------|----------------------------------|
| 1907 | Brook, Annie (Mrs. A. Temple)                 | 1906 | Crosland, Percy Field            |
| 1905 | *Brook, Harry                                 | 1907 | Cross, William Ernest            |
| 1914 | Brooke, Harold William                        | 1912 | Crowther, Fred                   |
| 1912 | Brooksbank, Ethel                             | 1906 | *Crowther, Herbert               |
| 1917 | Brown, Flora Marion Violet                    | 1908 | Crowther, Philip Townsend        |
| 1914 | Browne, Walter Lord                           | 1907 | Crowther, William Edmund         |
| 1919 | Browning, Dorothy May                         | 1909 | *Cundall, Leonard Bertram        |
| 1905 | Bruce, Mary Walbrand (Mrs. McCrae)            | 1905 | *Cunningham, Jean Orme           |
| 1912 | Bull, Walter                                  | 1911 | Curtis, Horace                   |
| 1905 | *Bulman, John Arthur                          |      |                                  |
| 1905 | *Burgess, William Ernest                      | 1916 | Dalton, Jennie                   |
| 1908 | Burras, Catherine                             | 1907 | Davies, Hamilton                 |
| 1919 | *Busfield, William                            | 1908 | Davies, Henry                    |
| 1915 | Butterworth, Sarah Elizabeth                  | 1905 | Davies, Ivor Parry               |
|      |   | 1910 | Davison, Irene Edith             |
| 1910 | Callender, George Dougal                      | 1911 | Davison, Florence Mary           |
| 1907 | Cameron, James Neild                          | 1910 | Dawson, John Barkas              |
| 1906 | Carlton, George Westerdale                    | 1905 | Denbigh, George James            |
| 1909 | Carter, Frederick Edward                      | 1905 | *Dickinson, Cyril                |
| 1914 | Cass, Edith Annie                             | 1909 | Dixon, James Harvey              |
| 1906 | Claridge, Margaret Elsie (Mrs. W. D. Stedman) | 1906 | Draper, Alick Darby              |
| 1914 | Clayton, Charles Flesher                      | 1910 | Duchesne, Henry                  |
| 1905 | *Cobb, John William                           | 1906 | Dudley, Nora                     |
| 1912 | Cobbold, Hazen Nevill Herbert                 | 1910 | Dugdale, Norris                  |
| 1910 | Cockburn, Edward Colin                        |      |                                  |
| 1910 | Colbert, Thomas Henry                         | 1918 | Earle, Frances Marjorie          |
| 1911 | Coldbeck, Malcolm Stanley                     | 1910 | Earle, Frank Maynard             |
| 1909 | Coope, Hilda (Mrs. Rose)                      | 1915 | *Earnshaw, Norman Stephenson     |
| 1906 | Cooper, John George                           | 1918 | *Eastwood, Elsie                 |
| 1912 | *Coultas, Harold Wilberforce                  | 1908 | Ebbage, Edith Mabel              |
| 1911 | Courtice, George Robert Aulton                | 1906 | Elliott, Bertram Warren          |
| 1918 | *Cox, Dorothy Emma                            | 1905 | *Ellis, James John               |
| 1905 | *Coxon, Lawrence Adams                        | 1906 | *Ellis, John Newman              |
| 1905 | Craig, David                                  | 1918 | *Emsley, Lena                    |
| 1905 | *Crawshaw, Annie                              | 1905 | *Everett, James Herbert          |
| 1914 | Crawshaw, Dorothy                             |      |                                  |
| 1909 | *Crawshaw, Nellie                             | 1911 | Farnish, John                    |
| 1909 | Crosby, Berkley Cecil                         | 1916 | *Fathy, Mohamed Amin             |
| 1905 | *Crosfill, John                               | 1905 | *Fearnley, Lewis William Knapton |
| 1915 | Crosland, Frank                               | 1910 | Feather, Myra                    |
|      |   | 1906 | Field, Margaret                  |
|      |   | 1910 | Fielden, Harold                  |
|      |   | 1905 | *Finn, Cornelius Philip          |
|      |   | 1913 | *Firth, Maurice                  |
|      |   | 1907 | Fletcher, Alfred Edgar           |

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|--------------------------------------|----------------------------------|
| 1919 Forster, John Baker             | 1905 <i>Heptinstall, Richard</i> |
| 1905 *Forsyth, Christina Brand       | 1916 Hepworth, William           |
| 1908 Fottrell, Edward Joseph         | 1910 Hewerdine, Harry            |
|                                      | 1912 Hewitt, Percy George        |
| 1908 *Gaunt, Louis Henry             | 1912 Hey, Minnie                 |
| Armistead                            | 1918 Hickman, Ella Martin        |
| 1905 Goddard, Clara Annie            | 1905 *Hield, Mary Elsie          |
| 1908 Goddard, Edith Eleanor          | 1905 Hilary, Daisy               |
| 1908 Goddard, Ethel Mary             | 1915 Hill, Jessie                |
| 1912 Goldstone, Cecilia              | 1916 Hind, Mildred               |
| 1908 Goodson, Arthur Godfrey         | 1905 *Hirst, Henry Reginald      |
| 1905 *Gomersall, Ernest              | 1905 *Hobart, John William       |
| Edward                               | 1905 *Hobley, Robert Arthur      |
| 1916 *Gordon, Isaac                  | 1906 Holgate, Edward             |
| 1910 Gould, Percy                    | 1913 Holgate, James              |
| 1910 Graham, Hugh Colborne           | 1913 Hollings, Dorice Mary       |
| 1905 *Grant, Frederick Ernest        | Clotilda                         |
| 1913 *Green, Arthur Eatough          | 1909 Holroyd, Eleanor Mary       |
| 1919 *Green, Clara                   | 1911 Hoppenstadt, Isaac          |
| 1912 *Green, Thomas Edwyn            | 1914 *Hou, Yen-Ping              |
| 1905 *Greenwood, Arthur              | 1905 *Hummel, Alfred Roland      |
| 1907 Gregg, Herbert Atkinson         | Ure                              |
| 1905 Gregory, Frederick              | 1907 *Hummel, Ernest Lonsdale    |
| Maurice                              | 1905 *Hunt, Francis William      |
| 1915 *Gregory, George Archibald      | 1905 *Hunter, Herbert            |
| 1911 *Gregson, Annie                 | 1918 *Hurst, Harold Robert       |
| 1909 Grocock, Helena                 | 1905 *Hurtley, William           |
| 1905 *Gunter, John Henry             | Holdsworth                       |
| 1918 *Guy, Hilda                     | 1905 *Hutchinson, Florrie        |
|                                      | 1905 Hutton, Wilfred             |
| 1905 *Haler, Percy James             |                                  |
| 1910 Hall, William                   | 1905 *Ingle, Herbert             |
| 1911 Hamer, Ernest Fenton            | 1913 <i>Irish, Edward</i>        |
| 1905 *Hampshire, Florence            | 1910 Ismail, Mohammed            |
| Elizabeth                            |                                  |
| 1916 *Hanby, Thomas                  |                                  |
| 1906 Hansell, John Bentley           | 1905 *Jackson, Arthur            |
| 1905 Harding, Oswald Jackson         | 1914 Jackson, Herbert Guy        |
| 1910 Hardisty, Victoria              | 1911 Jackson, Percy Gladstone    |
| Lavinia                              | 1910 Johnson, Charles Lester     |
| 1905 *Hardy, Joseph                  | 1919 *Jones, Zillah Verbena      |
| 1907 *Hargreaves, Edith              | 1912 Judd, Harold Arthur         |
| (Mrs. Thorp)                         |                                  |
| 1915 <i>Hargreaves, James Harold</i> |                                  |
| 1905 *Hartley, Percival              | 1912 Kaminski, Rebecca           |
| 1908 Haworth, Richard                | 1905 *Kay, Douglas John          |
| 1914 Hayes, Harry                    | 1905 <i>Kaye, Edward Percy</i>   |
| 1913 Hebron, Arthur                  | 1911 Kendall, Percy Fry (Jnr.)   |
| 1905 *Hefford, George Winfield       | 1915 Kettlewell, Ethel           |
| 1914 Henderson, William              | 1905 *Knowles, George William    |
| Albert                               | M.A. (Royal Univ. Ire.)          |

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|---|--|
| 1907 Lacy, Arthur                                 | 1914 Mountain, John William  |
| 1914 Lakeman, Robert Meredew                      | 1912 Mukerjee, Kshitish Chandra  |
| 1905 *Langstaff, Bilton                           | 1908 Mulcahy, Julia  |
| 1907 Law, Marion Rosalind                         | 1905 *Murphy, Harold Newton  |
| 1916 Laycock, Edith                               | 1914 Musgrave, Evelyn  |
| 1910 Lee, Elsie                                   | 1919 Musgrave, Sarah Maude Elizabeth                                   |
| 1911 Lishman, Arthur Vincent                      | 1906 Myers, Mary Alice   |
| 1905 *Livesey, Charles Edwin Leonard              | 1905 *Nicholls, Percy  |
| 1905 *Lodge, Harry Livingston                     | 1908 Normington, May (Mrs. H. Hugh-Jones)                              |
| 1905 Lord, William Ernest                         | 1919 North, Edith Emily  |
| 1905 *Lowson, William                             | 1911 North, Neville Marriott   |
| 1907 Loyd, Jessie                                 | 1905 *Novis, Rupert Stanley  |
| 1914 *McGeorge, Alexander                         | 1914 Nuttall, Thomas Henry   |
| 1912 McKee, Sarah Mary                            | 1905 *Oddy, Annie Maude  |
| 1912 McMillan, Mary McWhirter (Mrs. J. H. Wilson) | 1912 *Ogden, Herbert   |
| 1919 Maden, James                                 | 1905 Owen, Samuel Joseph   |
| 1907 Maddison, Wilfred Guy                        | 1917 Parker, Irvin   |
| 1911 Makinson, Nora Isabel                        | 1913 <i>Parkinson, Ben</i>   |
| 1913 *Mallinson, Eric                             | 1915 Parsons, George   |
| 1905 *Manasseh, Antonius Joseph                   | 1905 *Peacock, Arthur  |
| 1910 Mann, Clarissa                               | 1906 Pearce, Cyril Thomas  |
| 1908 Mann, James William                          | 1911 Pearson, William  |
| 1915 <i>Mao, Shen Shan</i>                        | 1918 *Pearson, William   |
| 1909 <i>Margetts, Percy Alexander</i>             | 1913 Peatfield, Albert Edward  |
| 1905 *Marriner, William Wright                    | 1919 Peckitt, Elsie Peckitt  |
| 1905 *Marsden, Ernest Vane                        | 1913 Peniston, Annie (Mrs. Redman King)                                |
| 1916 <i>Marsden, Frank</i>                        | 1916 *Percival, Edward   |
| 1914 Marsh, William Alfred                        | 1915 Petch, Frank  |
| 1905 *Marshall, Herbert                           | 1912 Pickard, Miriam   |
| 1910 Mason, George Samuel                         | 1905 *Phillipson, Abram  |
| 1914 Mathers, Ronald Cyril                        | 1915 Pillai, Mudijil Kerula Govinda                                    |
| 1909 Mawson, John Halliwell                       | 1916 *Place, William Illingworth                                       |
| 1917 *Meyer, Ellen Grace                          | 1908 Platts, Matthew George  |
| 1911 *Midgley, Michael Mortimer                   | 1905 *Pocklington, Henry Cabourn, B.A. ( <i>Cantab. D.Sc., Lond.</i> ) |
| 1913 Milner, David William                        | 1919 *Poole, Harold Charles  |
| 1918 *Milnes, Thomas Wray                         | 1915 Powell, Joseph Arthur   |
| 1917 *Monkhouse, Allan Cuthbertson                | 1910 Priestley, Edmund   |
| 1919 *Moore, Lawrence                             | 1912 <i>Priestman, Kenneth Mallorie</i>                                |
| 1905 *Morris, Florence Annie                      | 1906 <i>Procter, Herbert</i>   |
| 1905 *Morton, Dora                                | 1913 Purdon, Arthur Oscar  |
| 1910 Morton, Gordon                               |  |
| 1915 Moses, Abram                                 |  |
| 1905 *Moss, Charles Edward                        |  |
| 1915 Moulden, Mary                                |  |

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|------|---|------|---|
| 1914 | Quarmby, Frederick                          | 1905 | Standing, Edwin Mortimer                    |
| 1916 | Raine, Alfred Holgate                       | 1913 | Staveley, John                              |
| 1907 | <i>Raistrick, John William</i>              | 1905 | *Stead, Frank Cawthorn                      |
| 1915 | Raistrick, Margaret Walker                  | 1916 | Stead, Freda Elizabeth (Mrs. G. A. Gregory) |
| 1919 | Ralph, Harry                                | 1905 | *Stewart, Tom                               |
| 1912 | *Rawling, Arthur                            | 1911 | Stillwell, Samuel Thomas Cryer              |
| 1905 | *Rayner, Herbert Emmett                     | 1905 | *Stocks, Arthur                             |
| 1912 | Rhodes, Alfred Irving                       | 1919 | *Stott, Clarence                            |
| 1912 | Richardson, Charles Richard Sugden          | 1905 | *Studley, Charles Wilcock                   |
| 1919 | *Richardson, James Reginald                 | 1907 | Sutcliffe, James                            |
| 1910 | Richardson, Mark Alexander                  | 1905 | *Taylor, Francis                            |
| 1907 | Rider, Charles Matthew                      | 1914 | Taylor, John Robinson                       |
| 1908 | Riley, Frank                                | 1916 | *Tetley, Humphrey                           |
| 1915 | Rimington, Miriam                           | 1915 | Thistlethwaite, Hilda                       |
| 1909 | Roberts, Augustus Alphonso                  | 1913 | Thomas, Walter Morgan                       |
| 1912 | *Robinson, Milton                           | 1905 | *Thompson, George Robert                    |
| 1915 | Roff, Evelyn Mary                           | 1905 | *Thompson, Hubert                           |
| 1906 | Ross, William Oatey                         | 1909 | Thornton, Edwin                             |
| 1915 | *Rothwell, Percy                            | 1905 | *Thorp, Samuel                              |
| 1906 | *Rydall, George Herbert                     | 1905 | *Thorp, Walter                              |
|      |   | 1905 | *Tiffany, Frank                             |
|      |   | 1905 | *Tiffany, Joseph Edgar                      |
|      |   | 1910 | Tingle, Robert Lacey Aubrey                 |
| 1914 | *Saba, el Saed Mohamed                      | 1907 | Tomlinson, John Arthur                      |
| 1919 | Scanlon, Caroline Teresa                    | 1906 | Tomlinson, Thomas Fowler                    |
| 1905 | *Scholefield, Fred                          | 1907 | Turner, Frederick William                   |
| 1906 | *Schmitz, Herman Emil                       | 1908 | Tunnicliffe, Eveline Mary (Mrs. Hinckley)   |
| 1905 | *Scruton, Harold Adams                      |      |   |
| 1913 | <i>Sen, Jagendranath</i>                    | 1919 | Umpleby, Dorothy                            |
| 1913 | *Senior, Alan                               |      |   |
| 1919 | Senior, Elsie                               | 1912 | Vaughan, John David                         |
| 1911 | Senior, George                              | 1908 | Vernon, Edgar                               |
| 1913 | Seville, Robert Ockleston                   | 1908 | Vince, Eva Mary                             |
| 1914 | *Shepherd, Reginald Vernon                  |      |   |
| 1911 | Simpson, Thomas Cooper                      | 1905 | *Wagstaffe, George William                  |
| 1905 | *Skirrow, Benjamin Beck                     | 1905 | *Waite, Joseph Harold                       |
| 1908 | Smith, Bracewell                            | 1905 | *Walbank, Wilfrid Stephen                   |
| 1905 | *Smith, Henry Archbold                      | 1913 | *Walker, Albert George                      |
| 1915 | Smith, Norman                               | 1912 | *Walker, Evelyn                             |
| 1914 | *Smithells, Colin James                     | 1910 | *Walker, James                              |
| 1916 | Sowden, Willie                              | 1905 | *Walker, Joshua                             |
| 1905 | *Sowerbutts, Edith Utley (Mrs. N. Campbell) |      |   |
| 1914 | Stainsby, William                           |      |   |

1908 Walker, Leonard	1907 Wilkinson, Eltoft Wray
1919 Ward, Florence Eleanor	1914 Williams, Thomas Rhondra
1906 Ward, Margaret Naomi (Mrs. Lasker)	1905 Wilson, Frances Annie
1906 *Warin, Phillipson	1913 Wilson, Otto Bob
1905 *Warmington, Edith	1905 Wise, Julius Stanton
1917 Watson, Clara Evelyn	1918 *Woffenden, Lettice May
1908 Watson, James Arthur	1912 Wood, George
1908 Watts, Frank Maxfield	1910 *Wood, Louis Albert
1908 West, William Ernest	1905 *Wood, Margaret (Mrs. Priestman)
1905 *Whaley, James	1918 *Wood, Sarah Jane
1914 Whalley, Fred	1910 Woodhead, Gertrude Ramsden
1910 Whalley, Lewis	1910 Woodward, Arthur
1912 Wharram, Charles Etherington	1919 *Woodward, Ida
1913 *Wheatley, Arnold Herbert Maurice	1912 *Wray, John Lampport
1910 *Wheatley, Robert	1911 Wright, Charles
1905 *White, William Henry	1913 Wright, Ernest Francis
1905 Whitehead, Polle	1913 Wright, Fred
1911 Whiteley, Ada (Mrs. E. O. Jones)	1910 Wrigley, Florence Mary
1905 *Whittaker, Croyden Meredith	1908 Zelensky, Lily Aurelia
1909 *Wilby, Arthur Edwin	1905 *Zortman, Israel Hyam

# Faculty of Medicine

## Doctor of Medicine

1906 *Anderson, William Jenkins Webb	1918 Holt, Henry
1915 Brown, Thomas	1914 Macvie, George Ernest
1915 Crawford, James Stirling	1905 *Parkinson, Arthur Stanley
1918 Flint, Horace Lance	1918 Reed, Ernest William
M.B. 1916 1918 *Glover, Emily Eliza Violet	1905 Stoney, William Walter, M.D. (Vict.)
1910 Gloyne, Stephen Roodhouse	1903 *Turton, Edward
1917 *Greenwood, William Osborne	1910 Vallow, Harold

## Master of Surgery

1910 Gough, Alfred

## Bachelor of Medicine and Bachelor of Surgery

1911 Acomb, John	1905 Bailey, Fred
1917 Adler, Saul	1918 Bamford, Jane
1914 Anderton, William Dinsdale	1911 Bastable, Arthur Langford
1912 Angel, Harry	1918 Baxter, Gerald Richard

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|---|---|
| 1918 *Bertwistle, Alfred<br>Pilkington          | 1917 Gabriel, William Lawson<br>Mabson      |
| 1915 Bhalla, Harman Singh                       | 1914 Gillies, John Cruickshanks             |
| 1907 Bibby, James Paley                         | 1918 *Gordon, John                          |
| 1905 *Birtwhistle, Frederick<br>Percy Hewetson  | 1914 Gosney, Charles Marsh                  |
| 1912 *Blackburn, John Holliday                  | 1915 Goss, Francis Hennessey                |
| 1905 *Boyle, Alan                               | 1918 *Graham, Reginald                      |
| 1905 *Braithwaite, Leonard<br>Ralph             | 1905 Greaves, Frederick<br>William Marshall |
| 1905 *Brierley, Wilfred Edward                  | 1905 *Greenwood, Charles<br>Henry           |
| 1905 *Broadley, John                            | 1905 *Greenwood, Henry<br>Harold            |
| 1911 Brown, Charles Suffield                    |   |
| 1905 *Brown, Henry                              | 1906 Hackworth, Vivian<br>Cuthbert          |
| 1910 Brown, John Perrin                         | 1907 Hardy, Digby Wrangham                  |
| 1913 Butler, Leonard Henry                      | 1910 Hart, Walter Sidney                    |
|   | 1905 *Hayes, Frederick William              |
| 1911 Caplan, Harry                              | 1914 Hebblethwaite, Arthur<br>Stuart        |
| 1907 *Carter, Godfrey                           | 1909 Hepworth, Sydney<br>Milverton          |
| 1917 Carter, Hartley Sidney                     | 1910 Hessel, William Thomas                 |
| 1917 Charles, Henry Ernest                      | 1914 Hesterlow, Edward                      |
| 1915 Clarke, Digby Arthur<br>Pebody             | 1917 Holt, Harry Mainwaring                 |
| 1914 Cohen, Sam Nathaniel                       | 1905 *Hopton, Ralph, M.D.<br>Lond.          |
| 1918 Crawford, Margaret                         | 1917 Horsfall, Herbert Victor               |
| 1905 *Cundall, Edward                           | 1906 Hummel, John James,<br>M.Sc.           |
| 1906 Daly, Ramsay Lamy                          | 1917 Hurst, George Frederick                |
| 1905 *Darlow, Francis                           | 1905 Hustler, George Herbert                |
| 1905 *Deane, Arthur Maslen                      | 1916 Hutchinson, Miriam                     |
| 1917 Dibb, William Land                         |   |
| 1915 Dixon, Robert Garside                      | 1910 Ingham, Harold Norman                  |
| 1906 Dobson, Francis George                     | 1916 Ingham, William Leslie                 |
| 1918 Draper, Marion                             |   |
| 1919 Drury, Edward Wilson                       | 1905 *Kellelt, Alfred Feather-<br>stone     |
| 1916 Dudley, Charles William                    | 1906 Kendall, Frank Edward                  |
| 1912 Dunbar, Leslie                             | 1911 Keswick, John Barton<br>Thompson       |
|   | 1914 King, Frank                            |
| 1905 *Eames, Charles William                    | 1913 King, William Douglas<br>Anderson      |
| 1914 Elliott, Thomas                            | 1912 Kirk, George William<br>Lister         |
|   | 1913 Kitson, Frederick Hubert               |
| 1905 Fearnley, Harold                           | 1914 Knowles, Henry Rylands                 |
| 1912 Ferguson, John                             | 1916 Knowles, Cyril Reginald                |
| 1917 Fernandez, Zacharias<br>Peter              |   |
| 1911 Fisher, John Barugh                        |   |
| 1906 Flint, Ethelbert Rest                      |   |
| 1914 Foxton, Hartas                             |   |
| 1916 Franklin, Hyman                            |   |
| 1908 Frobisher, James Hebble-<br>thwaite Martin |   |

1905	*Ladell, Robert George Macdonald	1919	Roberts, Augustus Alphonso
1914	La Touche, John James Digges	1914	Robinson, Henry Whitteron
1915	Leake, Charles Edward	1911	Robinson, William
1905	*Legge, James Huntly	1915	Rosencwige, Jacob
1917	Liberman, Israel	1917	Rowden, William Henry
1905	Lister, Thomas Edmund		
1911	Little, Cuthbert Joseph Harwood	1912	*Samuel, Samuel
1915	<i>Lockwood, Herbert Sinclair</i>	1905	*Seaton, Douglas
1916	Lodge, William Oliver	1915	Seville, Charles Heywood
1914	Lonen, William Hubert	1913	Shackleton, Herbert Park
		1910	Sharpe, Claudius Galen Kaye
1906	McKane, William Oli- phant	1909	Shaw, William
1905	*Mackenzie, Alexander, M.A. ( <i>Camb.</i> )	1917	Shillito, Paul
1905	*Macvean, Herbert James	1914	Shochet, Harry
1905	*Maffin, Harry	1917	Silverstein, Isaac
1905	*Manknell, Arthur	1913	Sinson, Harry Abram
1905	*Matthews, Crawford Tait	1911	Sinson, Julius Barnett
1912	Mellis, George Pickard	1910	Slocombe, Bernard Atkinson
1913	Menon, Kesava	1905	*Smailes, William Herbert
1912	<i>Metcalf, John Clifford</i>	1917	Smith, Charles Holden
1908	Mitchell, Guy Annesley Carter	1905	Smith, Charles Nixon
1912	Mitton, Norman Vernon	1916	Smith, Jessie
1905	*Moorhouse, Charles Herbert	1909	Smith, Reginald Eccles
1905	*Morton, Armitage	1905	<i>Spink, Ernest William,</i> <i>M.D. (Lond.)</i>
1910	Musson, John Percy	1905	*Stansfield, Harry
		1910	Stockdale, George Vincent
1908	Nichol, George Colin Henderson	1905	*Stott, William Atkinson
1911	Nunneley, Francis William	1905	*Suggit, Bertram
		1912	*Symons, Hubert Wallace
1917	Parker, Joseph Henry	1913	Taylor, Herman Louis
1912	<i>Peto, Morton</i>	1909	Thoseby, John Norman Lonsdale
1917	Pick, Norris	1905	Todd, Aldred Bertram Slingsby
1912	Pickles, John Jagger	1905	*Tomlin, Herbert
		1915	Topham, Richard Stanley
1906	Radcliffe, Roland Brooke	1906	*Trumper, Oscar Bagster
1910	*Raper, Henry Stanley	1910	Twist, Norman Stuart
1905	*Reed, John Arthur		
1911	Riley, Arthur	1915	Umanski, Augusta (Mrs. Landman)

1906	Walker, Albert Latimer	1911	Wigglesworth, Frank
1911	Walker, John Perry	1914	Wilkinson, John
1905	Walker, Meville George Leslie	1905	*Wilks, Stephen Long- more Butterworth, M.D. (Lond.)
1911	Walker, Thomas Lock- wood	1905	*Willans, Charles Rudolph
1917	*Walton, Francis	1906	*Williamson, Joshua
1919	Watson, Clifford Riley	1914	Wilson, Colin
1905	*Wells, George Lee	1912	Wood, Bertram William Francis
1905	Whalley, Frederick	1914	Wright, John
1906	Whitehead, Thomas		

*Bachelor of Dental Surgery*

1916 Baxter, Gerald Richard

**DIPLOMAS (UNIVERSITY OF LEEDS)****Education**

- 1905 Barton, Edith Beatrice
- 1906 Conyers, Hilda  
Edwards, Maud Mary  
Owen, Florence  
Robinson, Lilian Dorothea
- 1907 Claridge, Margaret Elsie  
Dunlop, Marian Vaughan  
Illingworth, Maria Emma  
Myers, Mary Alice  
Ourtam, Nora Aline Jane  
Whitehead, Mary
- 1908 Flynn, Bridie  
North, Fanny Caroline  
Thomas Sydney Hardisty  
Walker, Jessie
- 1909 Bailey, Annie Rosa  
Frank, Dorothea Ethel  
Golding, Mary Muriel  
Hirst, John Crosland  
Mallinson, Dorothy  
Normington, May  
Simpkiss, Nellie  
Zelensky, Lily Aurelia
- 1910 Bendrey, Hilda  
Dean, Arthur Ernest  
Hobson, Elsie Irene  
Lawson, Leah Gardner  
Maud, Ida Marian  
Perham, Ethel Kate  
Ward, Herbert Wainwright
- 1911 Butler, Gloxinia  
Caldwell, Sarah Jane  
Phillips, Dorothy  
Wilson, Muriel Margaret
- 1912 Broadley, Mary Anne  
Foggitt, Ida  
Gregson, Annie  
Hooper, Dorothy

*Diplomas*

- 1912 Kirtland, Dorothy Mary  
Miller, Florence Clark  
Wright, Bertha Helen
- 1913 Jenkins, Elsie May  
Reynolds, Carrie  
Standing, Christine  
Sykes, Florence Mary  
Walker, Dorothy
- 1914 Blamires, Florence Mary  
Boothroyd, Elsie  
Brooksbank, Ethel  
Hirst, Beatrice May  
Levy, Sissie Emma  
Mawson, Constance  
Tempest, Mable Dorothy
- 1915 Caldwell, Mary Constance  
Chadwick, Florence Maud  
Crawshaw, Dorothy  
Jöle, Nora Bancroft  
Needham, Alice Margaret  
Sheard, Kathleen
- 1916 Carter, Jessie May  
Ferraby, Margaret Illingworth  
Holliday, Marjorie Tate  
Kirkwood, Winifred  
Kitson, Fanny Edith  
Musgrave, Evelyn  
Rimmington, Miriam
- 1917 Birch, Dorothy Ellen  
Dawes, Marjorie  
Dawson, Esther Mary  
Mee, Winifred Ellen  
Nixon, Hilda  
Simpson, Helen Mary
- 1918 Bellerby, Margaret Hope  
Burrow, Hannah Louise  
Dixon, Ella  
Dowson, Evelyn Rhoda  
Moss, Helenor  
Thompson, Elsie Elizabeth  
Vincent, Janet Lucy  
Wood, Mary Freda

- 1919 Bairstow, Dorothy  
Billam, Lois Ethel  
Eastwood, Elsie  
Hellier, Agatha Sowerby  
Kaye, Ruth Armitage  
Noxon, Marion  
Richeux, Muriel Victoria May le

**Commerce**

- 1904 Whiting, John Roland  
1906 Potts, Roland Beeton  
1910 Barringer, Ronald  
1914 Umanski, Esther Ellen  
Wahab, Ahmed Mohamed abdel

**Teachers of French**

- 1907 Crowther, Jane Elizabeth  
Woodman, Hilda  
1908 Hawkes, Geoffrey  
Holdsworth, Ethel  
Lavington, Mabel Jessie  
Lord, Mabel Alice  
Poustie, Jessie  
Robinson, Joseph  
Spink, Gertrude Annie  
Warren, Frederick  
1909 Abbott, Constance Maude  
Best, Winifred Jane  
Cooke, Sarah Grace  
Frank, Dorothea Ethel  
Hollom, Edith Gertrude  
Ife, Mary Eleanor  
Lingard, Jonas Hartley  
Walker, Theodora Minnie Hirst  
1910 Abbott, Clifford Hewson  
Copland, Marjorie Sempill  
Cromie, Eily Kathleen  
1911 Hutchinson, Herbert Stafford  
Lochore, Beatrice  
Riley, Sarah Annie  
Storr-Best, Gertrude Morfydd  
Ward, Edith  
Young, Constance Evelyn

*Diplomas*

- 1912 Castle, Clara Jane  
 Edwardes, Henry Fred Edgecumbe  
 Irwin, Guendolen  
 Müllett-Ward, Annie  
 North, Kate Victoria  
 Whillier, Agnes  
 Wylde, Jessie Irene  
 Young, Arthur Button
- 1913 Bury, Jane Ellen  
 Dykes, Mary Wall  
 Morrison, Jeannie  
 Sim, Alice Matilda  
 Tomlinson, Alice Marian
- 1914 Padget, Wilfred Wood  
 Rosewitch, Elfiera  
 Rowe, Annie Jane  
 Walsh, Ethel Mary  
 Ward, Clara Mabel  
 West, Evangeline

**Teachers of German**

- 1907 Oates, Ethel Marian
- 1908 Ife, Mary Eleanor
- 1910 Boardman, Ernest Edmund
- 1911 Edwards, Henry Fred Edgecumbe  
 Lingard, Jonas Hartley  
 Palmer, Margaret Elizabeth
- 1912 Bolton, Ethel Addison  
 Broadley, Mary Anne  
 Jones, Anne Elizabeth  
 Kirtland, Dorothy Mary  
 Taylor, Dora
- 1913 Lochore, Beatrice  
 Werquin, Charles Louis  
 Whittaker, Joseph  
 Young, Arthur Button
- 1914 Crowther, Florence  
 Hinckel, Hans  
 Levy, Sissie Emma  
 Wheatley, Bertha

- 1915 Addison, Muriel Mary  
Caldwell, Mary Constance  
Cox, Alice Balkens  
Downsborough, Ernest  
Oates, Jessie Mary

**Diploma in Social Organisation and Public Service**

- 1913 Dixon, Wilfrid  
Dodgshun, Gladys Frankland  
Fairweather, Frances Elizabeth  
Heppenstall, Florence  
Parrish, Florence Emily  
\*Steinthal, Dorothea  
\*Sykes, Emily Gertrude
- 1914 Cohen, Mary  
Collier, Bertram George Curtis  
\*Dodgson, Elsie Mary  
Ellis, Margaret Winifred  
Taylor, Gwendolen Margaret Douglas
- 1915 Umanski, Esther Ellen
- 1916 Wager, Alice Mary
- 1918 \*Cridland, Dorothy  
\*Cridland, Ivy  
Fay, Rosetta Miriam  
Owen, Annie Ethel  
Pickering, Doris Evans
- 1919 \*Johnson, Amy Mary  
Proctor, Luther  
Pugh, Alice Maud  
Singleton, Maude  
Whitaker, Amy Rutherford

**Mechanical Engineering**

- 1905 Wharton, John
- 1909 Tsing, Ming-Poh
- 1911 Farnell, Maurice
- 1913 Clark, Eric Stanley
- 1914 Mosby, Sydney Warrington
- 1915 Wray, Frederick George

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\* With distinction.

*Diplomas***Civil Engineering**

- 1908 Bauer, Noah  
1909 Hsu, Hoon Yu  
1912 Foad, Mohammed  
Kerr, Harold  
1913 Clark, Stanislaus Eustace  
Thorpe, Hugh Stanley  
1914 Magid, Ahmed Abdel  
Mao, Shen Shan  
1916 Liu, Tsou Bing

**Electrical Engineering**

- 1904 Foulds, John Rhodes  
1905 Chippindale, Isaac Murray  
Hamilton, James  
1906 Richardson, Thomas Brook  
1909 Baldwin, Ewart Vernon  
Humphreys, Percy Harry Illingworth  
Peam, Ferdinand  
Pedley, Francis Leonard  
Sheard, Percy  
1913 Milner, Geoffrey  
1914 Croft, Edward Hugh

**Mining Engineering**

- 1904 Frazer, Edgar Hamilton  
Paterson, George Stewart  
Willey, Edward  
1908 Holden, Athole Frederick  
1901 Kay, Stanley Burnett  
Mawson, Frank  
1912 Gill, Joseph  
1913 Campbell, Robert Currie  
1917 Udom, Nai

**Fuel and Metallurgy**

- 1911 Walker, James  
1915 Kerr, Horace

**Gas Engineering**

- 1911 Armstrong, Percy

**Textile Industries**

- 1909 Cockcroft, Ernest Edward  
Chattapadhaya, Nolini Mohan
- 1910 Lo Ting Yu  
Meirielles, Joas Magalhaes de Azevedo  
Wong, Ka Luen  
Kelly, John
- 1912 Bonhomme, Jean Raymond  
Crowley, Frederick Hugh  
Dircks, Hugh Douglas  
Krishna, Raj  
Saruvanov, Dimitre  
Turner, Ernest
- 1913 Ackroyd, John Henry  
Borochin, David  
Clarke, George Walter Scott  
Craven, Thomas Ernest  
Goodall, Herbert  
Ireland, James Alexander  
McErvel, William Alfred  
Siniscalco, Augusto  
Smith, John Rider  
Spencer, Hugh
- 1914 Baines, Arthur Richard  
Blair, James  
Brodsky, Maurice  
Healey, James Russell
- 1915 Baker, Brian Bernard  
Davison, Emerson  
Kay, Charles Bagnall
- 1916 Balsaert, Arthur Joseph Alphonse
- 1918 Saleh, Ibrahim
- 1919 Baily, Bernard Xavier Clarke  
Bennett, John  
Chadwick, Arthur Leslie  
Hardy, Harry  
Trimnell, Frederick William

**Dyeing**

- 1906 Sen, Gopal Chundra
- 1907 Dawson, Walter  
Marchant, Ernest Norman

- 1908 King, Percival Edgar
- 1909 Sen, Rajendra Nath
- 1910 Bearder, Ernest Arthur  
Viccagee, Sohrab Framjee
- 1911 Rowe, Frederick Maurice
- 1912 Fort, Morris  
Hickson, Bernard  
Holroyd, Thomas Arthur  
Johnson, William
- 1913 Shulman, Isaac
- 1916 Jowett, Harold
- 1919 Chang, Ti-Sung  
Saleh, Ibrahim

**Leather Manufacture**

- 1904 Casaburi, Vittorio  
Doikawa, Saichiro  
Prévot, Jules Mathieu
- 1906 Feldheim, Herman Dietrich Ernst  
Mende, Stephan
- 1907 Blyth, James Rupert  
Hardie, Alexander Greenhorn  
Morrison, James Alexander Shepherd
- 1908 Fenner, Joseph Henry
- 1909 Bose, Surendra Nath  
Ellis, Leonard Eric Kensett  
Paniker, Manakath Allampatath Ramunni  
Sen, Atul Chandra  
Seymour-Jones, Arnold
- 1910 Callendar, George Dougal  
Coulthard, Ernest  
Ismail, Mohammed
- 1911 Dobson, Joseph Stanley  
Rashid, Mohammed Abdur
- 1912 Faizuddin, Syed  
Friestedt, Sven Hjalmar  
Hilton, Frank  
Uddin, Syed Mohammed Amin
- 1913 Muckenhirn, Francis Carl
- 1915 Barber, Charles Frederick Lee  
Djambezdis, George Alexander  
Wilson, John Arthur

- 1916 Pickles, John Edward  
1918 Sjoblom, Magnus Erland

**Public Health**

- 1906 Halliwell, Thomas Oates  
1907 Scatterty, William  
Sharpe, Frederick Augustus  
Mason, Harry  
1909 Carnes, William  
Crake, Herbert Milverton  
1910 Greaves, Frederick William Marshall  
Ashmore, Patricius Wallace  
Hitchins, William Mayne  
Mason, John Harold  
1911 Smith, Charles Nixon  
Pickles, Clifford Crawshaw  
1912 Chambers, Guy Oldham  
Dick, Alexander  
Dobson, Donald Frederick  
Horne, Harold Forster  
1913 Lyons, William Campbell

**Dental Surgery**

- 1909 Salt, Charles Frederick  
Wilson, Francis Cecil  
1910 Bentley, Harold Rawbert  
McKay, George Simpson  
Howden, Ernest  
1912 Rushton, Irvine  
1913 Shoesmith, Harold Percy  
1914 Gill, John Edgar  
1915 Fraser, Alexander Lickley  
Rogerson, Ernest Arthur  
Waddington, Horace Victor  
1916 Waring, Laurence  
1917 Macrae, John Munro  
1919 Clubb, Douglas Bailley

**Psychological Medicine**

- 1912 Babington, Alice Elizabeth May  
Moyes, John Murray  
Waldron, Ethel Annie  
1913 Robinson, William

**VICTORIA UNIVERSITY  
FELLOWS, SCHOLARS, AND PRIZEMEN  
(YORKSHIRE COLLEGE STUDENTS)**

**University Fellowships**

1899	Stuart, Wilson	<i>Arts</i>
1900	Stuart, Wilson	<i>Arts</i>
1901	Whiteley, Charles Edward	<i>Science</i>

**University Scholarships**

1898	Stuart, Wilson	<i>Philosophy</i>
1899	Cooper, Albert Henry	<i>Physics</i>
	Dwerryhouse, Arthur Richard	<i>Geology</i>
	Varley, William Mansergh	<i>Physics</i>
1900	Braithwaite, Leonard Ralph	<i>Medicine</i>
	Denison, Robert Beckett	<i>Chemistry</i>
1902	Stelfox, Sydney Herbert	<i>Engineering</i>
	Stoddard, Arthur Askwith	<i>Engineering</i>
1903	Raper, Henry Stanley	<i>Chemistry</i>
1904	Waterhouse, Osborn	<i>English</i>
	Zortman, Israel Hyman	<i>Physics</i>

**Derby Scholarship**

1899	Frankland, John Naylor
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**John Bright Scholarship**

1897	Stuart, Wilson
1899	Hartley, Harold (prizeman)
1906	<sup>1</sup> Waterhouse, Osborn

**Mercer Scholarship**

1901	Dakin, Henry Drysdale
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**Leblanc Prize**

1891	Ingle, Harry
1892	Mann, Harold Hart
1898	Skirrow, Frederick William

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<sup>1</sup> Victoria University of Manchester.

## UNIVERSITY OF LEEDS HONOURS SCHOOLS

## Classics

- 1906 *Class 1* Bibby, Edward Ernest  
 " Butterworth, George William  
*Class 2* Ashburner, Frederick  
 " Matthews, Felix Hackett  
 " TenBruggenkate, George Herbert
- 1907 *Class 2* Hodges, Raymond John
- 1908 *Class 1* Hirst, John Crosland  
*Class 2* Mallinson, Dorothy
- 1909 *Class 2* Dearnley, Charles
- 1910 *Class 2* Croft, Alice Mary  
 " Findlay, William Gillanders  
 " Pilling, James Arthur  
 " Pobjoy, Harold Norman  
 " Reakes, Gilbert Spofforth  
*Class 3* Brown, Ralph Noel
- 1911 *Class 2* Clarke, Charles Dougan  
 " Parker, Frank  
 " Walker, Algernon Stanley
- 1912 *Class 1* Raisman, Abraham  
*Class 3* Webster, Herbert
- 1913 *Class 1* Effron, George Henry  
 " Whincop, Harry Hynes  
*Class 3* Elliot, Gilbert Bernard
- 1914 *Class 2* Jones, Arthur Owen
- 1916 *Class 2* \*Blease, Richard Morris Stanley  
*Class 3* Solloway, Mildred Nancy Langdale  
 " \*Carré, Edward Mervyn
- 1918 *Class 2* Billam, Lois Ethel
- 1919 *Class 3* Holroyde, Doris Helena

## English Language and Literature

- 1905 *Class 1* Gascoigne, Evelyn May  
 " Holmes, Carrie  
*Class 2* Conyers, Hilda
- 1907 *Class 1* Walker, Jessie  
*Class 2* Moulden, John William
- 1908 *Class 1* Hogan, Kathleen

\*Killed in Action. Assessed by Senate in 1915 \*\*in the event of their not returning to complete the prescribed course."

- 1910 *Class 1* Speight, Philip Henry  
*Class 2* Mellors, Clarissa Florence Horsley  
 " Pickering, Harry  
*Class 3* Coppock, Laura  
 " Strothard, Hubert Turner
- 1911 *Class 1* Charlton, Henry Buckley  
 " Fairley, Duncan  
 " Major, Irene Carlotta  
 " Phillips, Samuel  
*Class 2* Bean, William Harold  
 " Dawson, Thomas Henry  
 " Foggitt, Ida  
 " Wright, Bertha Helen
- 1912 *Class 1* Cowling, Geroage Herbert  
 " Jameson, Margaret Ethel  
*Class 2* Hoyle, Harold  
 " \* Huffington, Thomas  
*Class 3* Speight, Rose
- 1913 *Class 2* Cox, William
- 1914 *Class 1* Cohen, Sam
- 1915 *Class 1* Horsley, Ernest  
 " Normington, Nellie  
 " Stuart, Emily  
*Class 2* Hewson, Constance Freda  
 " Nesbit, John Christopher
- 1916 *Class 1* Ives, Frank  
 " Perry, Francis Charles  
 " Simpson, Helen Mary  
 " Stell, Donald  
*Class 2* Birch, Dorothy Ellen  
 " Legge, Marian  
 " Russell, Ada Minnie  
 " Teale, Alice Dorothea  
*Class 3* Parker, Isabel Wilson
- 1917 *Class 1* Marsden, Hilda  
 " Moss, Helenor  
*Class 2* Banks, Evelyn  
 " Birch, Thomas Albany  
 " Carr, Catherine  
 " Gibson, Gladys Louise  
 " Partridge, Doris Kathleen  
 " Todd, Helena  
*Class 3* Newstead, Fannie

- 1918 *Class 1* Berry, Arthur  
 " West, Hilda  
*Class 2* Anderson, Lucy Margaret  
 " Benn, Laura Harriet  
 " Hopkin, Jessie Melville  
*Class 3* Baker, Ruth Eveline  
 " Sowden, Marie  
 " Townsend, Gladys Elizabeth Gwendolyn
- 1919 *Class 1* Speed, Marie Elizabeth  
*Class 2* Bates, Nellie  
 " Broxup, Dorothy  
 " Gibson, Christine Madeleine  
 " Knowles, Doris Annie Williamson  
 " McLeannan, Florence Lilian  
 " Saville, Clara  
 " Williams, Margaret

### Modern Languages and Literatures

- 1905 *Class 1* Edwards, Maud Mary  
 " Gunnell, Doris
- 1906 *Class 2* Hastings, Margaret  
 " Illingworth, Maria Emma  
*Class 3* Whitehead, Mary
- 1907 *Class 1* Fairley, Barker<sup>1</sup>  
 " Thorp, Hilda<sup>2</sup>
- 1908 *Class 1* Cohen, Alexander  
 " Murphy, Bertha Mary
- 1909 *Class 1* Longbottom, Nellie  
*Class 2* Cridland, Dorothy  
*Class 3* Batchelor, Ethel
- 1910 *Class 1* Hobson, Julia<sup>2</sup>  
 " Kirk, Kathleen Hylda  
 " Stadling, Ethel Milnes  
*Class 2* Butler, Gloxinia  
 " Claridge, Marjorie Muriel  
 " Phillips, Dorothy  
 " Ramsden, Arthur  
 " Spruce, Gladys  
 " Wilson, Muriel Margaret  
 " Worsnop, Edgar  
*Class 3* Groves, Winnifred Halliday  
 " Laird, Marjorie Jane

<sup>1</sup> Distinguished in French and German.

<sup>2</sup> Distinguished in German.

1911	<i>Class 1</i>	Carter, John Wilfrid
	<i>Class 2</i>	Elliott, Ruth
	"	Kirtland, Dorothy Mary
1912	<i>Class 1</i>	Greenwood, Emily Maud
	"	Reynolds, Carrie
	<i>Class 2</i>	Jenkins, Elsie Mary
	"	Libbish, Barnet
1913	<i>Class 1</i>	Stead, Lilian Mary
	"	Varey, Mary
	<i>Class 3</i>	Lawson, Tom
	"	Levy, Sissie Emma
1914	<i>Class 1</i>	Allott, Wilfrid
	"	Caldwell, Mary Constance
	<i>Class 2</i>	Pickering, Jessie
	"	Whitworth, William Wilson
	<i>Class 3</i>	Crowther, Ivy Emma
	"	Greenwood, Josémeé Marguerite
1915	<i>Class 1</i>	Holliday, Marjorie Tate
	"	Snowden, Elizabeth
	<i>Class 2</i>	Catterall, Albert
	"	Hayes, Allan
	"	Kirkwood, Winifred
	"	Williams, Thomas
	<i>Class 3</i>	Carter, Jessie May
	"	Mee, Winifred Ellen
	"	Rayner, Ellen
1916	<i>Class 1</i>	Woodcock, Hester Elizabeth
	<i>Class 2</i>	Brown, Nellie
	<i>Class 3</i>	Loxley, Margaret Isabel
1917	<i>Class 1</i>	Dowson, Evelyn Rhoda
	<i>Class 2</i>	Hunter, Helen
	"	Munday, Madeleine Constance
1918	<i>Class 1</i>	Denison, Ruby Gladys Martha
	"	Stevenson, Hilda
	"	Whiteley, Joseph Travis
	<i>Class 2</i>	Bairstow, Dorothy
	"	Kaye, Ruth Armitage
	"	Rhodes, Evelyn Marion
	<i>Class 3</i>	Taylor, Dora
	<i>Honours</i>	* Haythorne, Arnold
1919	<i>Class 1</i>	Barker, Doris Wright
	<i>Class 2</i>	Edelstein, Charles Solomon
	"	Jones, Annie Frances Saville
	"	Prince, Eleanor Edith
	"	Wilkins, Phyllis Florence

\* Not classified.

## History

- 1906 *Class 2* Wilson, Florence Grey
- 1907 *Class 1* Findlay, Sarah Kennedy  
*Class 2* Gill, William Conrad
- 1908 *Class 1* Simpkins, Nellie  
*Class 3* Hobson, Elsie Irene
- 1909 *Class 1* Dean, Arthur Ernest  
 " Peel, Albert  
 " Wortz, Frederick Robert  
*Class 2* Cawthorn, Edwin  
 " Gendall, Philip Parsons Watkins  
 " Morrell, Frank  
*Class 3* Hand, Harry Aram
- 1910 *Class 1* Birtles, Arthur  
 " Caldwell, Sarah Jane  
*Class 2* Cox, Herbert  
 " Ellis, Arthur Harold Carteret  
 " Taylor, William Alexander
- 1910 *Class 3* Hopkins, Eric Arthur  
 " Klamborowski, Wilfrid Stephen  
 " Stainsby, George William
- 1911 *Class 1* Firth, John Rupert  
 " Garton, Ida Mary  
 " Heaton, Herbert  
*Class 2* Hinckley, Philip  
 " Moody, Sydney  
 " Tomlinson, John Lansdowne  
 " Wallace, Dorothy Kate  
 " Warren, Albert Edmund  
*Class 3* Miller, Florence Clark
- 1912 *Class 2* Anderson, Mabel Maud  
 " Harding, Reginald  
 " Sampson, Catherine Ruby  
 " Standing, Christine  
 " Taylor, Bertha  
 " Thomas, William Calvert  
*Class 3* Dearden, Gladys May  
 " Jordon, George Jefferis
- 1913 *Class 1* Richardson, William Rowson  
*Class 2* Hudson, John  
 " Lupton, Margaret Ella  
 " Mawson, Constance  
*Class 3* Pay, Thomas Wilfrid

1914	Class 2	Dobson, Alan
	"	Dykes, Janet
	"	Wright, Claude Ernest
	Class 3	Byrne, Richard Hugh Desmond Garritt
	"	Hutton, Charles William
	"	Ladell, Arthur Randolph
	"	Leech, Dorothy Edith
1915	Class 1	Hillas, Norman
	"	Sutcliffe, Dora
	"	Woodall, Ethel Margaret
	Class 2	Clayton-Booth, Ethel Jane
	"	Coley, Norman Clarence Herbert
	"	Driver, Constance Jennie
	"	Jennings, Elsie Emmie
	"	Shepherd, Dorothy
	Class 3	Gurney, Denies St. John Cecil
1916	Class 1	Evans, Alice Mabel
	"	Sutcliffe, Dorothy
	Class 2	Bellerby, Margaret Hope
	"	Gillman, Marguerite
	"	Haigh, Margery
	"	Herbert, Mabel
	"	Mann, Enid
	Honours	*Hill, Harold Harrison, B.A.
1917	Class 1	Tesh, Elsie
	Class 2	Broxup, Eva Annie
	"	Burrow, Hannah Louise
	"	Butterfield, Hilda
	"	Childe, Gertrude May
	"	Mitchell, Florence Mary
	"	Pratt, Richard
	"	Wood, Mary Freda
1918	Class 1	Lumb, Sybil Victoria
	Class 2	Griffiths, Dorothy
	"	Moore, Ethel
	"	Noxon, Marion
	"	Pickles, Gladys
	"	Ross, Frances Hilda
	Class 3	Butterfield, Janet
	"	Walker, Harry
1919	Class 1	Taylor, Emily Augusta
	Class 2	Hogley, Marian
	"	Irvine, Jessie
	"	Lumby, Mary

\*Not classified.

- 1919 *Class 2* Preston, Edith May  
       " Swales, Hilda Mary  
       *Class 3* Horne, Winifred Louise  
       " Lewis, Amy Irene

### Philosophy

- 1908 *Class 1* Strange, Edward Howard  
 1911 *Class 2* Papworth, Harold Charles  
       " Peacey, Basil William  
 1913 *Class 2* Marriott, Edward  
 1914 *Class 2* Jordon, George Douglas  
       " Whincup, Harry Hynes  
 1916 *Honours* \*Stewart, John

### Economic and Political Science.

- 1916 *Class 2* Silverman, Herbert Albert

### Mathematics

- 1905 *Class 2* Phillipson, Abram  
 1907 *Class 2* Smailes, Alan  
       *Class 3* Ashby, William Ewart  
 1909 *Class 1* Marshall, Francis  
 1912 *Class 2* Hayes, Robert Andrew  
 1916 *Class 1* Umanski, Arthur Joseph Victor  
       *Class 2* Richardson, Herbert

### Physics

- 1905 *Class 1* Mellor, Fred  
 1907 *Class 1* Sykes, Albert Howarth  
       " Townsend, Robert  
 1908 *Class 1* Watson, James Arthur  
       *Class 2* Jenkins, Gilbert Ramsden  
 1909 *Class 3* Ward, Herbert Wainwright  
       " Wood, George  
 1910 *Class 1* Duffin, Joseph Francis  
       *Class 3* Dixon, Frank Metcalfe  
 1911 *Class 1* Houldsworth, Hubert Stanley  
 1912 *Class 1* Ogden, Herbert  
       *Class 2* Bright, Alfred  
       *Class 3* Pearson, William  
       " Stephenson, Cyril Richard William

- 1913 *Class 2* Firth, Maurice  
 " Perry, Robert  
 1914 *Class 1* McGeorge, Alexander  
 " Quarmby, Frederick  
 1915 *Class 2* Ram, Khub  
 1916 *Class 2* Wilson, John Joseph

**Chemistry**

- 1905 *Class 1* Armes, Henry Percy  
 " Bennett, Hugh Garner  
 " Davies, Arthur Hugh  
*Class 2* Crosland, Percy Field  
*Class 3* Booth, Meyrick  
 " McCandlish, Douglas  
 " Morrison, James Alexander Shepherd  
 1906 *Class 1* Hodsman, Henry James  
*Class 2* Horsfall, Ronald Smith  
 " King, Charles Arthur  
 1907 *Class 1* Cross, William Ernest  
 " Davies, Hamilton  
*Class 2* Jackson, Colin Gyrth  
 1908 *Class 1* Blockey, John Reginald  
 " Leslie, May Sybil  
 " Riley, Frank  
*Class 2* Sinson, Israel Lewis  
 1909 *Class 1* Dudley, Harold Ward  
 " Webster, Herbert William  
*Class 2* Carter, Frederick Edward  
*Class 3* Hurst, Frank  
 " Thornton, Edwin  
 " Whitaker, Herbert  
 1910 *Class 1* Bainbridge, James Scott  
 " Hill, James  
 " Johnson, Charles Lester  
 " Powis, Frank  
*Class 2* Appleyard, Alfred  
 " Thornton, Harold  
 " Wheatley, Robert  
 " Wood, Louis Albert  
*Class 3* Fielden, Harold  
 1911 *Class 1* Atkin, William Rearden  
 " Glick, Nathan Bernard  
 " Woodman, Herbert Ernest  
*Class 2* Rawling, Francis George  
*Class 3* Bales, Sidney Hartley  
 " Thompson, Frederick Charles

- 1912 *Class 1* Dawson, Thomas Rayner  
 „ Raistrick, Harold  
 „ Taylor, Arthur  
*Class 2* Ackroyd, Louis  
*Class 3* Wilson, Ernest Percival
- 1913 *Class 1* Stocks, Herbert Holroyd  
 „ Sugden, Reginald  
 „ Woodroffe, David  
*Class 2* Bennett, William Gordon  
 „ *Irish, Edward*  
 „ *Wright, Fred*  
*Class 3* Barrett, John Douglas  
 „ Douglas, Frank  
 „ Taylor, Ernest
- 1914 *Class 1* Burton, Donald, B.Sc.  
 „ Gibson, Wilfrid  
 „ Hartley, John Alfred  
 „ Hayes, Harry  
 „ Smithells, Colin James  
*Class 2* Marsh, William Alfred  
 „ Taylor, John Robinson  
*Class 3* Harrap, Frank Nettleton  
 „ Lunn, Reginald William  
 „ Midgley, James, B.Sc.
- 1915 *Class 1* Crann, Thomas William  
 „ Robinson, Fred  
*Class 3* Abrams, Nathan  
 „ Moses, Abram
- 1916 *Class 1* Ellingworth, Samuel  
 „ Hanby, Thomas  
 „ Mountford, Christopher Archibald  
*Class 3* Hornby, Clement Denton  
 „ McFarlane, Archibald
- 1917 *Class 2* Crowther, Edward Mortimer

**Zoology**

- 1914 *Class 1* Dry, Francis William, B.Sc.  
 1915 *Class 2* Thompson, Harold Winsor

**Botany**

- 1905 *Class 2* Turner, Florence Mary Beatrice  
 1909 *Class 2* Westerman, Mabel  
 1910 *Class 2* Walker, Emily Farrington  
 1913 *Class 1* Peniston, Annie  
 „ Smith, Jane Elizabeth

**Physiology**

- 1905 *Class 1* Loyd, William Ernest  
 1907 *Class 1* Crowther, William Edmund  
 1918 *Class 2* Hickman, Ella Martin

**Geology**

- 1906 *Class 1* Jordan, Albert  
 1909 *Class 2* Parsons, Ernest  
      *Class 3* Haigh, John Henry  
 1910 *Class 3* Guy, Ernest  
      " King, William Norman  
 1911 *Class 1* Chapman, Sarah Elizabeth  
 1914 *Class 1* Versey, Henry Cherry  
 1916 *Class 2* Marsden, Frank  
 1917 *Class 1* Whitaker, Elsie Dinah, B.Sc.  
      *Class 2* Bell, Elsie Mary

**Engineering**

- 1905 *Class 1* Gregory, Frederick Maurice  
      *Class 3* Owen, Samuel Joseph  
 1906 *Class 1* Holgate, Edward  
      " Richardson, John Stocks  
 1907 *Class 1* McGill, Ernest Arthur  
 1908 *Class 1* Barker, Christopher James  
 1909 *Class 1* Addison, Herbert  
      " Mawson, John Halliwell  
      " Omar, Abdel Mageed  
 1910 *Class 1* Varley, Gilbert  
      *Class 2* Couper, Geroge Augustus  
      *Class 3* Boule, Henry Kirk  
 1911 *Class 1* Stillwell, Samuel Thomas Cryer  
      *Class 3* Gerard, Inglis Joseph  
 1912 *Class 1* Coultas, Harold Wilberforce  
      *Class 3* Richardson, Charles Richard Sugden  
 1913 *Class 2* Green, Arthur Eatough  
      " Seville, Robert Ockelston  
 1914 *Class 1* Nuttall, Thomas Henry  
      *Class 2* Jackson, Herbert Guy  
      " Stainsby, William  
      *Class 3* Clayton, Charles Flesher  
 1915 *Class 1* Edmondson, John  
 1916 *Class 2* Fathy, Mohamed Amin

**Electrical Engineering**

- 1907 *Class 1* Shuttleworth, Newton  
*Class 2* Wilkinson, Eltoft Wray
- 1909 *Class 1* Bannister, Albert  
*Class 2* Greenwood, Edward Joseph Bernal
- 1912 *Class 1* Rawling, Arthur
- 1913 *Class 2* Midgley, Harry  
 " Sen, Jagendranath

**Mining Engineering**

- 1909 *Class 2* Gilchrist, David
- 1914 *Class 1* Randall, William

**Gas Engineering**

- 1914 *Class 1* Dougill, George, B.Sc.  
 " Hollings, Harold, B.Sc.

**Fuel and Metallurgy**

- 1915 *Class 2* Wolfe, Harold Maurice

**Colour Chemistry and Dyeing**

- 1907 *Class 1* Baddiley, James  
*Class 2* Frank, George Herbert
- 1908 *Class 1* Rhodes, Norman  
 " Woodhead, Arthur Edmund
- 1910 *Class 1* Bearder, Ernest Arthur
- 1911 *Class 1* Hickson, Bernard  
 " Rowe, Frederick Maurice
- 1912 *Class 1* Holroyd, Thomas Arthur  
 " Johnson, William
- 1913 *Class 3* Shulman, Isaac
- 1914 *Class 2* Crockatt, Arthur John  
 " Siderfin, Norman Edward
- 1915 *Class 3* Rosenbaum, Joseph Louis  
 " Wilson, Maurice Lowell

**Chemistry of Leather Manufacture**

- 1910 *Class 1* Seymour-Jones, Arnold
- 1912 *Class 1* Atkin, William Rearden
- 1913 *Class 2* Thompson, Frederick Charles

- 1914 *Class 1* *Irish, Edward, B.Sc.*  
 „ *Woodroffe, David, B.Sc.*
- 1915 *Class 1* *Harrap, Frank Nettleton*  
 „ *Hayes, Harry*
- 1916 *Class 2* *Gordon, Isaac*
- M.B. and Ch.B.**
- 1908 *Class 1* *Mitchell, Guy Annesley Carter*
- 1909 *Class 1* *Thoseby, John Norman Lonsdale*  
*Class 2* *Flint, Horace Lance*  
 „ *Smith, Reginald Eccles*
- 1910 *Class 1* *Raper, Henry Stanley*  
*Class 2* *Musson, John Percy*  
 „ *Slocombe, Bernard Atkinson*  
 „ *Stockdale, Geroqe Vincent*
- 1911 *Class 1* *Fisher, John Barugh*  
*Class 2* *Caplan, Harry*  
 „ *Robinson, William*  
 „ *Sinson, Julius Barnett*  
 „ *Walker, John Perry*
- 1912 *Class 1* *Mellis, George Pickard*  
 „ *Metcalfe, John Clifford*  
*Class 2* *Angel, Harry*  
 „ *Blackburn, John Holliday*  
 „ *Dunbar, Leslie*  
 „ *Ferguson, John*  
 „ *Kirk, George William Lister*
- 1913 *Class 2* *Sinson, Harry*  
 „ *Taylor, Herman Louis*
- 1914 *Class 2* *Hebblethwaite, Arthur Stuart*  
 „ *Shochet, Harry*  
 „ *Wilkinson, John*  
 „ *Wilson, Colin*
- 1915 *Class 2* *Leake, Charles Edward*  
 „ *Topham, Richard Stanley*
- 1916 *Class 2* *Dudley, Charles William*  
 „ *Lodge, William Oliver*
- 1917 *Class 1* *Carter, Hartley Sidney*  
*Class 2* *Charles, Henry Ernest*  
 „ *Gabriel, William Lowson Mabson*  
 „ *Parker, Joseph Henry*
- 1918 *Class 2* *Baxter, Gerald Richard*  
 „ *Bertwistle, Alfred Pilkington*

VICTORIA UNIVERSITY HONOURS SCHOOLS  
(YORKSHIRE COLLEGE STUDENTS)

**History**

- 1891 *Class 2* Stables, William Herbert  
           *Class 3* Taylor Frank Edward  
 1900 *Class 2* Scholes, Thomas Wilfrid  
 1904<sup>1</sup> *Class 2* Davis, William Hathaway

**English Language and Literature**

- 1904<sup>1</sup> *Class 1* Waterhouse, Osborn  
           *Class 2* Denby, Maurice  
           " Elliott, Spencer Hayward  
           " Hepworth, Frank

**Modern Languages and Literatures**

- 1902 *Class 2* Robinson, Ethel Margaret  
           " Stevenson, Ethel Mary  
 1903 *Class 2* Mann, William Edward Wormald  
 1904<sup>1</sup> *Class 1* Airey, Millicent  
           *Class 2* Dodgson, Sarah Alice  
           *Class 3* Raven, Hilda Mary

**Philosophy**

- 1898 *Class 1* Stuart, Wilson

**Mathematics**

- 1899 *Class 1* Frankland, John Naylor  
 1900 *Class 2* Findlay, Mary Grace

**Physics**

- 1897 *Class 2* Hammerton, Jonas  
 1899 *Class 1* Cooper, Albert Henry  
           " Varley, William Mansergh  
 1900 *Class 1* Shorter, Sydney Alfred  
 1901 *Class 1* Grant, Charles Henry  
           *Class 2* Copley, Frederick  
           *Class 3* Andrews, William Allen  
 1902 *Class 2* Denton, Ernest  
           " Oates, James Holroyd  
           *Class 3* Goodson, Ethel Elizabeth  
 1903 *Class 2* Thorp, Samuel  
 1904<sup>1</sup> *Class 1* Phillipson, Abram

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<sup>1</sup>Victoria University of Manchester.

**Chemistry**

- 1891 *Class 1* Ingle, Harry
- 1892 *Class 1* Mann, Harold Hart
- 1893 *Class 1* Dent, Frankland  
*Class 3* Archdeacon, William Henry
- 1895 *Class 2* Fry, George Cecil  
 " Guthrie, Thomas  
*Class 3* Hirst, Henry Reginald  
 " King, Herbert
- 1896 *Class 1* Sugden, John Henry  
*Class 2* Brittain, Charles Edward  
 " Kin, Arthur  
*Class 3* Watson, Herbert Wood
- 1897 *Class 1* Wilson, Harold Albert  
*Class 2* Harrison, William Hudson
- 1898 *Class 1* Skirrow, Frederick William  
*Class 2* Calvert, Harry Thornton  
 " Storr, Bertram Vincent
- 1899 *Class 2* Dobson, William Henry Noël
- 1900 *Class 1* Dennison, Robert Beckett  
*Class 2* Shepherd, Arthur Burton
- 1901 *Class 1* Dakin, Henry Drysdale  
 " Whiteley, Charles Edward  
*Class 2* Gawler, Robert
- 1902 *Class 1* Briggs, Samuel Henry Clifford  
 " Grant, Frederick Ernest  
 " Taylor, Francis
- 1902 *Class 2* Gaunt, Rufus  
 " Norminton, Harold  
 " Redfern, Herbert Stanley  
 " Thompson, John Thomas  
*Class 3* Coxon, Lawrence Adams
- 1903 *Class 1* Raper, Henry Stanley  
 " Scholefield, Fred  
*Class 2* Ellis, James John  
*Class 3* Rhodes, Edwin
- 1904<sup>1</sup> *Class 1* Gatecliff, John  
 " Hartley, Percival  
 " Marshall, Joseph  
 " Zortman, Israel Hyman

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<sup>1</sup> Victoria University of Manchester.

- 1904 *Class 2* Calam, Harold  
    " Chadwick, Percival Wager  
    " Radcliffe, Norman Brooke  
*Class 3* Barton, Edith Beatrice

**Geology**

- 1898 *Class 1* Jowett, Albert  
1899 *Class 1* Dwerryhouse, Arthur Richard

**Zoology**

- 1901 *Class 1* Standing, Herbert Fox  
1903 *Class 2* Dell, John Alexander

**Physiology**

- 1897 *Class 2* Forsyth, John Andrew Cairns  
1901 *Class 3* Hummel, John James

**Engineering**

- 1891 *Class 1* Nicholls, Percy  
1893 *Class 2* Davis, Frederick William Daniel  
1896 *Class 2* Hefford, Charles Nelson  
1897 *Class 2* Oddy, James  
    " Tansley, George Edward  
1898 *Class 2* Corrie, William Edward  
    *Class 3* Priestman, Harold  
1899 *Class 1* Linskill, William Arthur  
    *Class 2* Grocock, Henry Lloyd  
    *Class 3* Hutton, William Austin  
1900 *Class 1* Mann, Ernest Edward  
1901 *Class 2* Ballardie, George de Caynoth  
    " Pearson, Robert John Addison  
1902 *Class 1* Stelfox, Sydney Herbert  
    " Stoddard, Arthur Askwith  
    " Wetherall, Arthur  
1902 *Class 2* Cryer, Edward  
    *Class 3* Kirby, Frederick Oscar  
1903 *Class 3* Brayshay, Maurice William  
    " Slater, John Henry  
    " Tennant, Norman Scholefield

**M.B. and Ch.B.**

- 1894 *Class 2* Seaton, Douglas  
       " Trumper, Oscar Bagster
- 1895 *Class 1* Ligertwood, Charles Edward  
       *Class 2* Shaw, John Vincent  
       " Trotter, Robert Hale
- 1896 *Class 2* Rowling, Samuel Thompson
- 1897 *Class 2* Moorhouse, Charles Herbert  
       " Taylor, Frank Edward
- 1898 *Class 1* Trotter, Edward  
       *Class 2* Spong, Ambrose  
       " Turton, Edward
- 1899 *Class 2* Hime, Henry Charles Rupert  
       " Illingworth, William Arthur  
       " Morton, Armitage
- 1901 *Class 2* Saville, Edwin
- 1903 *Class 1* Braithwaite, Leonard Ralph  
       *Class 2* Steele, Percy Kingsley
- 1904<sup>1</sup> *Class 2* Boyle, Alan  
       " Tomlin, Herbert

**LL.B.**

- 1902 *Class 1* Sykes, James
- 1903 *Class 1* Jessop, Frederick Hubert

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<sup>1</sup> Victoria University of Manchester.

THE UNIVERSITY OF LEEDS

EXAMINATION LISTS

(September, 1918-June, 1919).

Faculty of Arts (including Commerce and Law)

Litt.D. Examination

Butterworth, George William

M.A. Examination

<i>Latin and History</i>	-	-	-	-	Arnold, Jane
					Lambert, Nellie
<i>History</i>	-	-	-	-	Butcher, Charles Sydney
					Dobson, Alan
					Garton, Ida Mary
					Gillman, Margarite
					Partridge, William
					Spencer, Frances May
					Elvira
					Whitaker, George Robert

Examination for B.A. Degree with Honours

<i>Classics</i>	-	-	-	-	Class 3.	Holroyde, Doris Helena
<i>English Language and Literature</i>	-	-	-	-	Class 1.	Speed, Marie Elizabeth
					Class 2.	Bates, Nellie
						Broxup, Dorothy
						Gibson, Christine Madeline
						Knowles, Doris Annie
						Williamson
						McLeannan, Florence Lilian
						Saville, Clara
						Williams, Margaret
<i>Modern Languages and Literatures</i>	-	-	-	-	Class 1.	Barker, Doris Wright
					Class 2.	Edelstein, Charles Solomon
						Jones, Annie Frances Saville
						Prince, Eleanor Edith
						Wilkins, Phyllis Florence
<i>History</i>	-	-	-	-	Class 1.	Taylor, Emily Augusta
					Class 2.	Hogley, Marian
						Irvine, Jessie
						Lumby, Mary
						Preston, Edith May
						Swales, Hilda Mary
					Class 3.	Horne, Winifred Louise
						Lewis, Amy Irene

**B.A. Final Examination**

Barnes, Walter Egbert	Moore, Charles Herbert
Barran, Emma Bottomley	Patterson, Marjorie Wilson
Beeforth, Laura	Pickford, Margaret
Cocking, Ethel Annie	Sawkins, Violet Vera
Cordingley, Christine	Smart, Dorothy
Dixon, Dorothy Whitley	Sparling, Herbert
Grant, Jessie	Sykes, Helen
Hollings, Mary	Thompson, Wilhelmina
Hughes, William James	Venables, Ethel Mary
Kidd, Pearl	Whitehead, Dorothy
Kniveton, Marjorie Ann	Wigham, Wilfred Southall
Lang, Dorothy Margaret	Wilson, Elizabeth Jane
Mellis, Victoria Rudolph	Wilson, Muriel Ellen Elizabeth

**B.A. Final Examination.***September, 1918.*

Marsden, Doris

**B.A. Intermediate Examination***September, 1918.*

Hemsworth, Laura Alice	Scowcroft, Elsie
Kestelyn, Julian	Simper, Emily
Meadows, Gladys Muriel Joan	Stokes, Victoria
Popplestone, Walter Harold	Warhurst, Jennie Phedora
George	

*June, 1919.*

Beckett, Kathleen Marjorie	Kiernan, Reginald
Boudry, Hilda	Loseby, Henry Victor
Butcher, Doris Maude	Luscott, Edgar
Caruth, Eleanor Margaret Annie	Nowell, Elma Virtue
Ellis, Mabel Doreen	Parkin, Ethel Mary
Farrand, Phoebe Augusta	Perry, Martha Alice
Fitton, Lilian Edith	Rylands, Bernard Lodewyk
Forrest, Frank	Schofield, Florence
Fryer, Constance Louise	Scott, Ethel
Gormley, Mary Elizabeth	Sutcliffe, Annie Eliza
Gray, Olive Rosina	Tolchard, William Charles
Hanby, Edna Mary	Walker, Hilda Hallam
Hinchliffe, Gerald	White, Dorothy Agnes
Hirst, Lucy Kathleen	Whiteley, Evelyn
Hough, Mary	Woodhead, Edith
Jenkinson, Louie	Worth, Dorothy
Jubb, Dorothy Emma	

**B.A. Intermediate Examination (English Honours)**

*September, 1918.*

Barton, Mary Dorothea                      Nutter, Hannah Jane

*June, 1919.*

Batchelor, Mabel Shaw	Sykes, Gladys
Evans, Charles John	Wainwright, Amy
Fawcett, Bertha Rylands	Wimsey, Ada
Lowry, Louise Margaret	
Matilda	

**B.A. Intermediate Examination (History Honours)**

Leach, Nora  
Robinson, Louis  
Whitworth, Marjorie

**B.A. Intermediate Examination (Economics Honours)**

Sclare, Mabel

**B.Com. Intermediate Examination**

*September, 1918.*

Pepitch, Bojidar

*June, 1919.*

Smith, William Herbert  
Witney, Denis

**Diploma in Education**

Bairstow, Dorothy	Kaye, Ruth Armitage
Billam, Lois Ethel	Noxon, Marion
Eastwood, Elsie	Richeux, Muriel Victoria May le
Hellier, Agatha Sowerby	

**Diploma for Teachers of French**

*First Examination.*

Mather, Ethel Mary

**Diploma in Social Organisation and Public Service**

Johnson, Amy Mary (*with distinction*)  
Procter, Luther  
Pugh, Alice Maud  
Singleton, Maude  
Whitaker, Amy Rutherford

**Faculties of Science and Technology****M.Sc. Examination**

<i>Chemistry</i>	- - - - -	Denbigh, George James Ruston, Arthur Gough Whitaker, Henry Woodmansey, Arnold
<i>Chemistry of Leather Manufacture</i>	- - -	Hudlikar, Mahallis Balkrishna

**Ordinary B.Sc. Final Examination**

Bentley, Esther Cludera	Peckitt, Elsie Peckitt
Bickerdike, Doris Mary	Poole, Harold Charles
Browning, Dorothy May	Ralph, Harry
Busfield, William	Richardson, James Reginald
Green, Clara	Scanlon, Caroline Teresa
Jones, Zillah Verbena	Senior, Elsie
Maden, James	Stott, Clarence
Moore, Lawrence	Umpleby, Dorothy
Musgrave, Sarah Maude	Ward, Florence Eleanor
Elizabeth	Woodward, Ida
North, Edith Emily	

**B.Sc. Intermediate Examination***September, 1918.*

Blakeley, Rose	Jackson, Kathleen Mary
Brewin, Nora	Jones, Doris Elissa
Briggs, Elsie Maude	Laboulle, Gaston Felix Lambert
Erdheim, Solomon	Oldham, George Hall
Fleet, Doris Gertrude	Rea, Rosamund Mary Lloyd
Greenwood, Herbert Donald	Rhodes, Oswald Stanley
Hill, Donald John	Thackrah, Elsie
Hunter, Vera Muriel	Woodcock, Hester Elizabeth

*June, 1919.*

Ackroyd, Herbert	Brown, Sydney Clifford
Ambler, Francis William	Brown, William
Armitage, Bernard	Carter, Dick
Bailey, Norman	Cocking, Harold
Banks, Philip Gray	Cornock, Arthur Frederick
Barker, Eric Victor	Craven, Edward
Barker, George	Crosland, Eric Bentley
Barracrough, Harold	Crossley, James Victor
Battye, Marjorie	Dalby, John
Bell, Leslie Charles	Dance, Edward
Birch, Arthur Aubrey	Evans, Elizabeth

Finn, Kathleen Constance	Le Fèvre, Frederick Lucas
Flockton, Edith Gertrude	Lyall, Effie
Fowler, John	Maude, Jessie
Gray, Albert Hilliard	Moore, Marjorie
Hall, Arthur Leonard	Musgrave, Elsie Selina
Hare, Arthur	Narcross, John Watts
Harris, Edward Geoffrey	Newton, Hector
Hawthorne, John Eric	Novakovitch, Dooshan
Hazeldon, John Nicholson	Parkin, Thomas Reginald Victor
Henderson, Alexander	Parrish, Francis Herbert
Hepworth, James Alexander	Potter, Edith Mildred
Herrera, Ricardo Diaz	Rhodes, Edgar
Hoy, Joseph Denzil	Roberts, Victor Genaro
Hoyle, Edmund Jessop	Spence, Samuel
Hull, Marjorie	Stockdale, Leonard Moore
Hutchinson, John Yates	Stoyadinovitch, John
Jarvis, Violet Helena	Thorp, Dora
Jones, Reginald Hugh	Watson, John Christopher
Kendall, Geoffrey Paul	White, Reginald Lever
Lambert-Smith, John Henry	Wilkinson, Reginald Arthur
Leake, Dorothy	Wiseley, Annie

### Diplomas in Technology

<i>Dyeing</i>	- - - - - Chang, Ti Sung
	Saleh, Ibrahim
<i>Textile Industries</i>	- - - - - Baily, Bernard Xavier
	Clarke
	Bennett, John
	Chadwick, Arthur Leslie
	Hardy, Harry
	Trimnell, Frederick William

## Faculty of Medicine

### M.D. Examination

Flint, Horace Lance  
Holt, Henry  
Reed, Ernest William

### Final M.B. and Ch.B. Examination with Honours

*December, 1918*

*Class 2.* Bertwistle, Alfred Pilkington

**Final M.B. and Ch.B. Examination***December, 1918.**Part I.*

Crockatt, Howard Ludbrook	Sacks, Reuben
Gordon, Louis	Science, Jack
Merrington, Harold Douglas	Shernovitch, Morris
Muschamp, Alexander James	Sienblum, Harry
Ives	Smith, Frederick Hugh

*Part II.*

Doherty, Winifred Irene  
 Roberts, Augustus Alphonso

*Part III.*

Crawford, Margaret  
 Drury, Edward Wilson  
 Gordon, John

*June, 1919**Part I.*

Armitage, George	Massey, Arthur
Botwood, Charles Anselm	Sheard, Arthur
Davey, John Milton	Sinson, Archibald
Elmer, Thomas Horner	Solbey, Abraham Isaac
Gleave, Humphrey Hart	Stewart, Alan Benjamin
Goldthorp, Edna	Thornton, Charles Raymond
Hipshon, Isaac	Woodroffe, Edwin Royston
Hollings, George William	

*Part II.*

Drury, Edward Wilson  
 Smith, Frederick Hugh

*Part III.*

Goodman, Hyman  
 Roberts, Augustus Alphonso  
 Watson, Clifford Riley

**Second M.B. and Ch.B. Examination**

*December, 1918.*

*Part I.*

Bebb, Frances Martha	Levy, Simon
Blackburn, John Taylor	McNeice, Elsie Elizabeth
Bolton, Effie Greig	Peacock, Kathleen Mary
Brostoff, Harry	Phelon, Harry Vernon
Cohen, Emmanuel	Phillips, Osra Muriel
Currie, Donald Irvine	Platt, Phyllis Mary
Denton, George	Smithies, Cyril Moulson
Fleming, Geoffrey Dewhurst	Sourasky, Ahron
Goodson, Bessie	Walsh, Nathan
Gordon, Morris	Wheatley, Bertha
Kirk, Reginald Neville	Wilson, Harriette Appleby
Lee, Reginald Walker	Wilson, Kathleen

*Part II.*

Armitage, George	Linfoot, Ernest
Baron, Edward	Lipman, Reuben
Botwood, Charles Anselm	Massey, Arthur
Chamberlain, Digby	Oberman, Percy
Clegg, Frederick	Petch, Horace Craven
Cohen, Isadore Henry	Sheard, Jessie
Cusworth, Florence	Sinson, Archibald
Duck, Henry	Solberg, Abraham Isaac
Erdheim, Solomon	Stross, Barnet
Fowler, Henry Percival	Sutherland, Donald Moody
Goodman, Abraham	Thompson, Sydney
Hare, Christine Mary Bathurst	Trewick, John Arthur
Hellier, Mary	Walker, Joseph Shirley
Holdsworth, Eric Edward	Wesley-Smith, John Leslie
Hyman, Samuel	Woodcock, Hester Elizabeth
Kitson, Margarite	Woodroffe, Edwin Royston
Langley, Doris May	Woodroffe, Percy Esmond
Leake, William Harold	

**First M.B. and Ch.B. Examination**

*September, 1918.*

*Part I.*

Cohen, Leon	Jowett, Ronald Edward
Cusworth, Florence	Sheard, Jessie
Hellier, Mary	Sutherland, Donald Moody
Hyman, Samuel	Thompson, Sydney

*June, 1919.**Part I.*

Abell, William Clifford	Outhwaite, James Edgar
Abrahams, David	Pickard, John Wilfred
Atkinson, John	Rosenberg, Gerald
Bedford, Thomas Henry Booth	Rosenbloom, Philip
Bruce, Herbert	Sawkill, Philip Marston
Cohen, Isadore	Sellers, Geoffrey Hatfield
Fallows, Harold	Sheard, Herbert
Gorstige, Glen	Sunley, George Raine
Hellewell, Herbert Arnold	Taylor, Harry
Holmes, Edwin	Walker, George Frederick
Hunt, Elizabeth	Wardle, Gretta Mary
Jackson, Marjorie Morison	Wilson, Frederick Maynard
Knowles, Marjorie Elaine	Winder, Norman Frederick
Kovolman, Isadore	Wood, Ronald
Masser, Alfred Abram	Yates, Donald
Moulson, Norman	

*Part II.*

Abell, William Clifford	Masser, Alfred Abram
Abrahams, David	Milner, Eric Henry
Atkinson, Jack Crowther	Moulson, Norman
Atkinson, John	Murphy, William
Baxter, Marjorie Elizabeth	Outhwaite, James Edgar
Bedford, Thomas Henry Booth	Petty, Hugh Mortimer
Bernstein, Jacob	Pickard, John Wilfred
Brostoff, Florrie	Prince, Gwendolin
Bruce, Herbert	Pyrar, Leslie Norman
Cainer, Isaac	Rosenberg, Gerald
Cardis, Joseph	Rosenbloom, Philip
Cohen, Isadore	Ross, Ralph Norval
Cohen, Leon	Sawkill, Philip Marston
Cohen, Myer	Sheard, Hubert.
Fallows, Harold	Sunley, George Raine
Foster, Frederick Newton	Sykes, John George
Gorstige, Glen	Taylor, Harry
Helliwell, Herbert Arnold	Wadsworth, Guthrie Morgan
Holmes, Edwin	Walbank, Arthur
Hunt, Elizabeth	Walker, George Frederick
Jackson, Marjorie Morison	Wardle, Gretta Mary
Knowles, Marjorie Elaine	White, Rachel
Kovolman, Isadore	Winder, Norman Frederick
Lodge, Raymond Hutton	Wood, Ronald
Marinkovitch, Radoye	

Diploma in Dental Surgery (L.D.S.)

*Final Examination.*

*December, 1918.*

*Part I.*

Appleyard, Florence Maude

*June, 1919*

*Part I.*

Davey, Norman Henry  
Webb, George Herbert

*Part II.*

Clubb, Douglas Bailley

*First Professional Examination (L.D.S.)*

*December, 1918*

Gisburn, Alfred Ernest (Sen.)

*June, 1919*

Colls, Benjamin Archie  
Knowles, Charle Reginald  
Sutcliffe, John William  
Sykes, John George

## Number of Students

The following table shows the number of Students of different classes who attended the University of Leeds during the last two Sessions :—

Day Students :	1917-18.	1918-19
In Faculty of Medicine (including students who were also in attendance in the Faculty of Science)     ***     ***     ***     ***	123	166
In Faculties of Arts (including Commerce and Law), Science and Technology (including students also in attendance in the Faculty of Medicine)     ***     ***     ***     ***	651	1,218
	<hr/> 774	<hr/> 1,384
Less deducted for students who attended in both the Faculties of Medicine and Science     ***	16	28
	<hr/> 758	<hr/> 1,356
<b>Total number of Day students</b> ***     **		
<b>Evening Students :</b>		
In Faculties of Arts, Science, and Technology (excluding those who only attended short courses of lectures)     ***     ***     ***	225	126
	<hr/> 983	<hr/> 1,482
	<hr/> <hr/>	<hr/> <hr/>

## ENTRANCE SCHOLARSHIPS

The papers set for Entrance Scholarships will be found in the Matriculation Calendar, published by J. E. Cornish, Ltd., 16, St. Ann's Square, Manchester, price 2s. 6d. (by post, 3s.)

## DEGREE EXAMINATIONS

A limited number of Examination papers set at Degree and Diploma Examinations are kept in stock, and may be obtained from the Clerk to the Senate on application, at the price of one penny (by post 1½d.) each paper, or at the rate of 6d. (by post 7d.) per dozen.

## UNIVERSITY SOCIETIES, 1919-20

The sanction of the Senate is required to the Rules and Regulations of any new Society which it is proposed to establish.

**The University Union.** The University Union comprises the Cricket, Football (Rugby and Association), Hockey, Tennis, Lacrosse, Swimming and Fives Clubs, and undertakes the management of the Gymnasium, the Fives Court, the Chess Club, and the Debating Society. The Union has also the management of the University Athletic Ground, and undertakes the arrangement of the Athletic Sports, the *Conversazione*, the Dance, and other entertainments.

The governing body of the Union consist of an Honorary President, Honorary Vice-Presidents, a Staff representative, an Honorary Treasurer, a President, a Vice-President, and an Honorary Secretary, and a Committee elected annually by the students.

The subscription to the Union is one guinea each session. It is payable to the Accountant of the University at the beginning of the session, with the class fees, and is compulsory on each registered student attending for more than six hours per week, with certain exceptions.

Membership of the Union carries with it membership of the various athletic clubs under its control, membership of the Debating Society and Chess Club, and the right of using the Common Rooms and the Gymnasium.

Handbooks, containing all information concerning the Union, its Rules, Officers, Athletic Clubs, and also the various Societies, are issued *gratis* to all members of the Union. They may be had on application to the Hon. Secretary or the Hall Porter.

"The Gryphon" is the magazine of the University, published under the auspices of the Union Committee. Its aim is to be representative of the entire University, and it thus forms a valuable and interesting record of the manifold activities of our collegiate life. All who are in any way

interested in Leeds University should subscribe to "The Gryphon." Annual subscription, 2/6 (postage 9d. extra); single copies, 6d. (postage 1½d).

Further information may be obtained from the Hon. Secretary of the Union.

*Hon. President*—His Grace the Duke of Devonshire, K.G., G.C.M.C., G.C.V.O., LL.D. *Hon. Vice-Presidents*—The Pro-Chancellor; The Vice-Chancellor; The Pro-Vice-Chancellor; Professor J. K. Jamieson, Dean of the Faculty of Medicine. *President and Chairman of Committee*—Mr. F. L. Seymour Jones. *Vice-President*—Mr. W. W. H. Sowrey. *Hon. Secretary*—Mr. H. W. Orton. *Hon. Treasurer*—Professor Connal. *Staff Representative*—Professor Gillespie. *Administrative Staff Representative*—Mr. A. E. Wheeler. *Committee*—Misses M. E. Grange, S. Greenwood, A. Irvine, V. V. Sawkins, F. E. Ward, D. Worth, Messrs. J. Atkin, H. R. Bate, D. Bradley, A. M. Hey, F. Lord, H. Salt, D. P. Stewart, G. S. Thorpe, H. S. Ward, together with six men representatives from the Students' Representative Council of the School of Medicine, and one woman chosen by the women at the School of Medicine.

**The Women's Representative Committee.** This Committee is annually elected by the Women Students. It has control of the Women's Common Rooms and appoints representatives on the University Union Committee and sub-committees.

*President*—Miss F. E. Ward. *Hon. Secretary*—Miss S. Greenwood. *Union Representatives*—Misses M. E. Grange, A. Irvine, V. V. Sawkins, D. Worth. *Committee*—The above and Misses W. Ogden, C. M. Gibson, together with the Presidents from the several residential halls, and a representative from the Women Medical Students.

**The Debating Society.** This Society meets at 5.15 p.m. on alternate Mondays in the first and second terms.

Every student who has paid the Union Fee is *ipso facto* a member of the society, no other subscription for election being necessary.

**The Literary and Historical Society.** This Society meets at 5 p.m. on alternate Mondays during the first and second terms for the reading of papers and discussions on literary and historical subjects. The annual subscription is 3s. 6d.

*President*—Professor Moorman. *Vice-Presidents*—Miss I. Barker, Mr. C. H. Moore. *Treasurer*—Miss Robertson. *Hon. Secretaries*—Miss D. Haygarth, Mr. B. Garside. *Staff Representative*—Professor Connal. *Committee*—The above and three men and three women students to be elected at the Society's first meeting this session.

**The Society for Social Study.** This Society has been formed for the purpose of obtaining a good understanding of social questions and schemes of social reform by means of lectures, discussions and other methods. The meetings of the society are open to all members of the University. Annual subscriptions:—2/6, with tea; 1/-, without tea.

**The Cavendish Society.** The object of this Society is to promote the study of Chemistry, Pure and Applied, and Physics. The meetings are held during the first and second terms. Members take tea together at 5 p.m., after which papers are read and discussions take place. Any present or past student of the University is eligible for membership. Other persons, not eligible for Ordinary membership, may become Associate members subject to the discretion of the Committee. The subscription for Ordinary and Associate members is 4s.; for Life members, £1 1s. During the session excursions are made to neighbouring chemical works, dyehouses, &c.

*President*—Professor Barker. *Staff Vice-President*—Mr. P. E. King. *Student Vice-President*—Mr. W. G. Sewell. *Hon. Treasurer*—Mr. C. Davis. *Hon. Secretary*—Mr. G. S. Thorpe. *Committee*—The above, together with Misses M. Holdsworth, M. North, Messrs. F. Jordinson, H. Salt.

**Natural History Society.**—The Society is open to all past and present members of the University. During the session eight meetings are held, at which papers on subjects connected with Botany, Geology, or Zoology are read, and objects of interest are exhibited. The meetings are held in the Botanical or Geological departments on Thursdays, and are preceded by tea at 5.15 p.m. The social side of the Society is not the least important. A concert and supper follow the first lecture after Christmas, and excursions are arranged in the summer term. The subscription is 2/6 including tea.

**The Education Society.** This Society holds two meetings in each of the first and second terms. At each of these meetings there is a lecture followed by discussion on some topic of interest to those who are, or who are likely to be, engaged in educational work. The annual subscription is 2/6. The Committee for the session 1919-20 will be elected at the beginning of the session.

**The Engineering Society.** This Society has for its object the discussion of subjects bearing upon Engineering and Applied Sciences, the visiting of works and other places of engineering interest, and the promotion of a friendly intercourse amongst its members. It consists of Ordinary, Associate, and Honorary Members and Associates. Any past or present day or evening student of the University is eligible for ordinary membership. Any person not eligible for ordinary membership, but who shall have been actively engaged in engineering for a period of not less than five years, or who shall have passed through an engineering training at any University or University College, is eligible as an Associate Member. Any person may be elected an Honorary Member. Any person is eligible as an Associate who is

recommended by the Committee as a fit and proper person. Members are elected by ballot at the ordinary meetings. The ordinary meetings are held fortnightly at the University, the chair being taken at 7.30 p.m. Each Ordinary and Associate member pays an annual subscription of 5s. (except present day and evening students, who pay 2s. 6d., and receive no notices of meetings), and each Associate not less than 10s. per annum.

**Textile Students' Association.** The objects of the Association are to promote intercourse between its Members, and to advance the interests of the Textile Industries. (a) To promote and maintain communication between Members occupied in the various centres of the Textile Industry of the world; (b) to keep an up-to-date record of careers of Members, such as the Sessions when they attended the University and any appointments they may have obtained; (c) to facilitate mutual help to Members in their industrial and commercial life; (d) to place manufacturers, and others, having vacant appointments, in communication with Members qualified by their training and experience to discharge the duties of such appointments; (e) to promote scientific and technical developments relating to the Textile Industry; (f) to foster and encourage Textile Invention; (g) to establish a library of works on, or relating to, any phase of the Textile Industry; (h) to issue at suitable periods a Journal for the purposes above set forth; (i) to found, when desirable, a Club having a library and other offices.

The Membership consists of:—(a) Members, (b) Associate Members, (c) Life Members, (d) Honorary Members. Former Day Students of the Day Classes of the Textile Department of the University are eligible for election as Members, and Day Students for the time being as Associate Members, and for a period not exceeding four years after their course of study has terminated, when they are eligible for Membership on application. Any Member of the Association can qualify for a Life Membership on the payment of Ten Guineas.

The subscription for Vice-Presidents and Members of Council is One Guinea; Members Half-a-Guinea; Associate Members, Five Shillings per annum.

**The Agricultural Society.** This Society exists for the purpose of fostering the social spirit among students of the Agricultural Department. Meetings are held at 6.30 p.m. on alternate Wednesdays during the winter session, when papers are read or debates take place on agricultural topics. Students of the University and other persons interested in the development of agriculture are eligible for membership. The minimum annual subscription is 1s.

**The Christian Union (Men's Branch).** Affiliated to the Student Christian Movement of Great Britain and Ireland. *Hon. President*—The Vice-Chancellor. *Student President*—Mr. J. B. Middlebrook. *Student Vice-President*—Mr. F. Jordinson. *General Secretary*—Mr. C. Davis. *Study Circle and Prayer Meeting Secretary*—Mr. T. M. Dunwell. *Treasurer*—Mr. J. R. Gentles. *Committee*—Above

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**The Christian Union (Women's Branch).** Affiliated to the Student Christian Movement of Great Britain and Ireland. *President*—Miss E. Toes. *Secretary*—Miss H. Boudry. *Assistant Secretary*—Miss A. Hartley. *Treasurer*—Miss J. Galloway. *Student Volunteer Secretary*—Miss A. E. Hirst. *Social Study Secretary*—Miss M. E. Grange. *Inter-Collegiate Secretary*—Miss M. Williams. *Study Circle Secretary*—Miss E. Briggs. *Literature Secretary*—Miss E. Simper. *Prayer Secretary*—Miss G. Dickinson. *M.S.U.W. Secretary*—Miss L. K. Hirst.

**The Leeds University Working Men's Club.** The object of the club is to provide evening recreation for working lads who have left school. The club-rooms in Berking Avenue, York Road, are open every evening except Sundays, from 8 to 10. The rooms are under the supervision of a committee of the club, controlled by a committee of members of the University. In addition to various games, some intellectual occupation is usually afforded. The Secretary (Professor Cohen) will be glad to furnish a copy of the annual report, and to supply additional information.

### *Societies in School of Medicine*

**The Students' Representative Council.**<sup>1</sup> Elected annually by the students of the Department of Medicine from amongst their own number.

It concerns itself with the affairs of the Medical Students, and appoints representatives to serve on the Committee of the University Union, a proportion of whose funds it has at its disposal.

The Secretary of the Council is *ex-officio* the Medical Secretary of the Union Committee.

The Council further appoints a sub-committee to manage the Students' Medical Society, and two of its number serve upon the Refectory Committee.

**The Medical Society** is managed by a Sub-Committee of the Students' Representative Council. Meetings are held on alternate Fridays during the winter session, when papers dealing with subjects of medical interest are read and discussed. The session usually commences with an address, and there is an annual prize debate.

**Royal Army Medical Corps Territorial Force (West Riding Division).** Medical Students are invited to join this Corps. The active part of the drill season is from the beginning of May to the end

<sup>1</sup> The Officers for 1919-20 are not elected in time for insertion in the Calendar.

of July. Camp is held usually during the first week in August. Instruction is given in First Aid to the wounded, nursing duties, cooking for the personnel and sick, and water and sanitary duties with troops. For further information apply to the Officer Commanding, R.A.M.C. (T.F.), Harewood Barracks, Woodhouse Lane, Leeds.

The following units are stationed in Leeds :—

1st West Riding Field Ambulance.

2nd

No. 2 " " " " Northern General Hospital Nucleus.

West Riding Divisional Clearing Hospital.

A contingent of men for water duties.

A Territorial School of Instruction, for the R.A.M.C. (T.) of the West Riding Division Territorial Force, has its headquarters in Leeds.

### *Societies of Old Students*

**The Old Students' Association (Women).** The aims of the Association are (1) to hold re-unions three times each session ; (2) to provide opportunities of communication between former students by means of a list of addresses to be put in a handbook containing also items of interest from former students, to be sent to all members every two or three years ; (3) to provide a loan fund (*a*) to enable any present student who is in need of pecuniary help to continue her course at College ; (*b*) to aid members of the Association who through illness are temporarily incapacitated from work. Subscriptions : life membership, 15s. ; annual, 2s.

*President*—Miss Robertson. *Vice-President*—Miss Nussey. *Secretary and Treasurer*—Miss E. M. Blackburn. *Assistant Secretary*—Miss J. Jowett. *Editor of Handbook*—Miss Croft. *Committee*—Misses Cunningham, Cuthbertson, Jole, Musgrave, Pickles, Porteous, Skinner, Ward, J. Wilson. *Secretary of London Branch*—Mrs. Chapman. *Secretary of Manchester Branch*—Miss S. Longstaff.

Affiliated with this Society is the University Hall Old Students' Association. Joint subscription—Life membership, £1 2s. 6d. ; annual, 2/6.

**The Leeds Day Training College Club.** The objects of the Club are (1) to provide for a re-union in a social manner of the past students of the Training College, all of whom may become members of the Club ; (2) to supply the members with a means of communicating with each other privately, by the annual issue of a list of members and their addresses ; (3) to establish a fund which may be used at the discretion of the President for the relief of any past or present student of the Training College who may be in financial distress. Subscription—life membership 10s. ; annual, 1/6.

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