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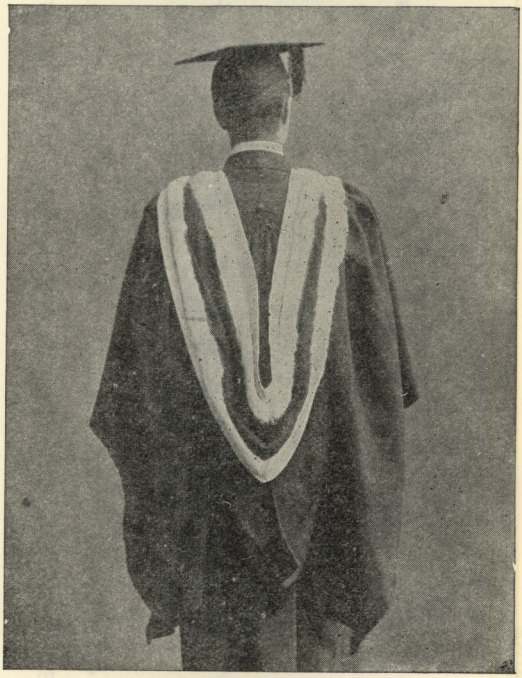

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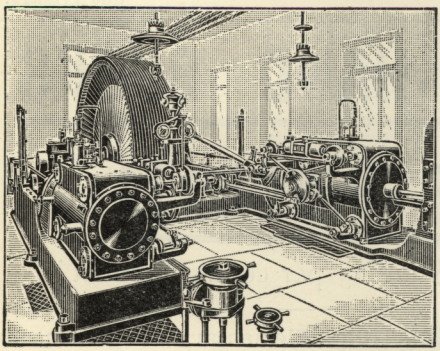

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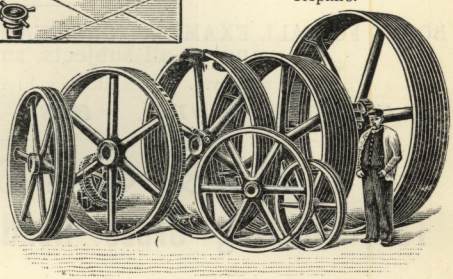

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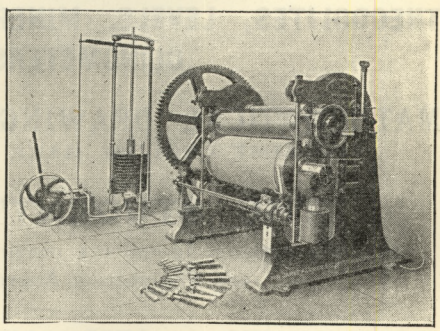

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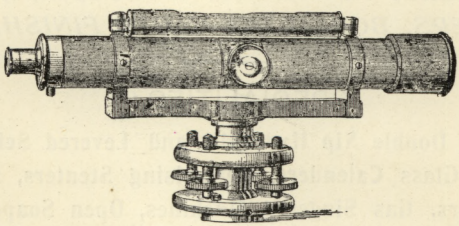

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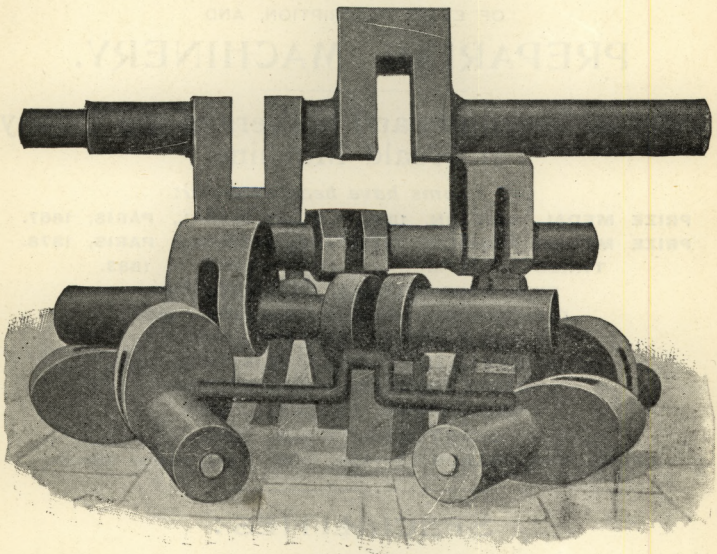

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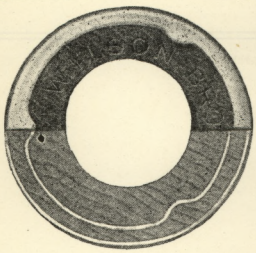

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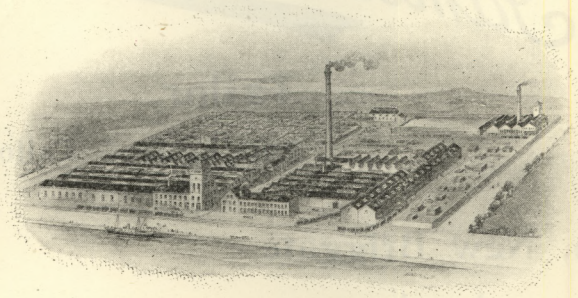

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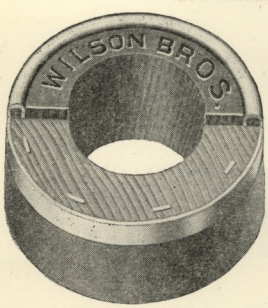

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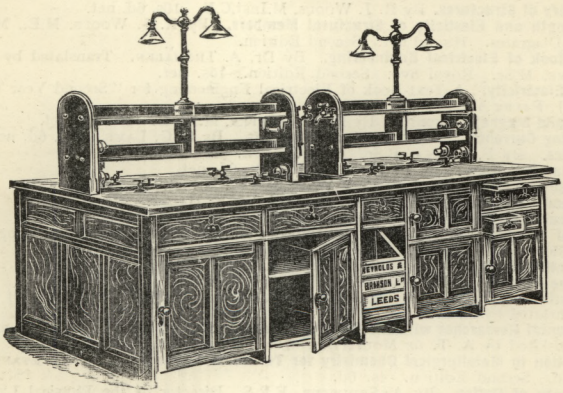

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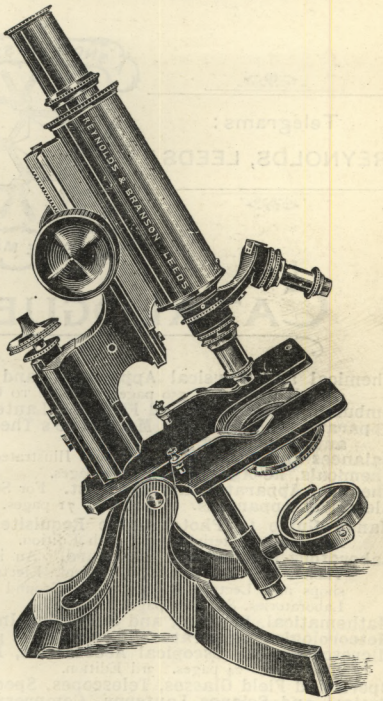

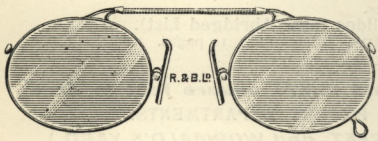

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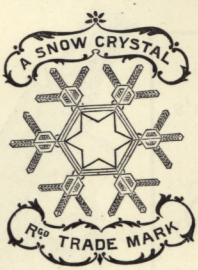

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ALMANAC, 1909-10

SEPTEMBER, 1909

1	W	
2	Th	
3	F	
4	S	
5	**S**	
6	M	
7	Tu	
8	W	
9	Th	
10	F	
11	S	
12	**S**	
13	M	
14	Tu	Supplementary Intermediate examination in Arts and Science, and 1st M.B. examination begins.
15	W	
16	Th	
17	F	
18	S	
19	**S**	
20	M	Evening Class session begins.
21	Tu	
22	W	
23	Th	
24	F	
25	S	
26	**S**	
27	M	
28	Tu	
29	W	
30	Th	Last day for sending in Essays for Gladstone Prize.

OCTOBER, 1909

1	F	**First Term in Faculty of Medicine begins.**
2	S	
3	S	
4	M	**First Term in Faculties of Arts, Science and Technology begins.** Admission of Students.
5	Tu	Admission of students. Entrance examinations at 10 a.m. and 2 p.m.
6	W	
7	Th	
8	F	
9	S	
10	S	
11	M	Winter course in Agriculture (First Term) begins.
12	Tu	
13	W	Meeting of Finance Committee.
14	Th	
15	F	Meeting of Board of Faculty of Medicine.
16	S	
17	S	
18	M	
19	Tu	Meeting of Board of Faculty of Arts.
20	W	Meeting of Council.
21	Th	
22	F	
23	S	
24	S	
25	M	
26	Tu	
27	W	
28	Th	Meeting of Board of Faculties of Science and Technology.
29	F	
30	S	
31	S	

NOVEMBER, 1909

1	M	
2	Tu	
3	W	Meeting of Senate.
4	Th	
5	F	
6	S	
7	S	
8	M	
9	Tu	
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	
19	F	Meeting of Board of Faculty of Medicine.
20	S	
21	S	
22	M	
23	Tu	
24	W	
25	Th	Meeting of Board of Faculties of Science and Technology.
26	F	
27	S	Last day of entry and payment of fees for D.P.H. and Final M.B. and L.D.S. examinations.
28	S	
29	M	
30	Tu	

DECEMBER, 1909

1	W	Meeting of Senate.
2	Th	
3	F	
4	S	
5	**S**	
6	M	
7	Tu	
8	W	Meeting of Finance Committee.
9	Th	
10	F	
11	S	Final M.B. examination (Part II) begins.
12	**S**	
13	M	Final M.B. (Part I) examination, Final and First Professional examinations (L.D.S.), and D.P.H. examination begin.
14	Tu	Meeting of Board of Faculty of Arts.
15	W	Meeting of Council.
16	Th	Terminal Examinations in Faculties of Arts, Science and Technology begin.
17	F	Meeting of Board of Faculty of Medicine.
18	S	**First Term in Faculty of Medicine ends.** Degree Day at School of Medicine. Winter course in Agriculture (First Term) ends.
19	**S**	
20	M	
21	Tu	Library closed until January 1.
22	W	**First Term in Faculties of Arts, Science and Technology ends.** Evening Class Session (First Term) ends.
23	Th	
24	F	
25	S	CHRISTMAS DAY.
26	**S**	
27	M	
28	Tu	
29	W	
30	Th	
31	F	

JANUARY, 1910

1	S	
2	**S**	
3	M	**Second Term in Faculty of Medicine begins.** Library re-opened. Evening Class Session re-opens.
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	**S**	
10	M	Winter course in Agriculture (Second Term) begins.
11	Tu	
12	W	**Second Term in Faculties of Arts, Science and Technology begins.** 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	Meeting of Board of Faculty of Medicine.
22	S	
23	**S**	
24	M	
25	Tu	
26	W	
27	Th	Meeting of Board of Faculties of Science and Technology.
28	F	
29	S	
30	**S**	
31	M	Last day of entry for Clothworkers' Textile Day Scholarships.

FEBRUARY, 1910

1	Tu	Last day of entry for First M.B. (Part I) and Preliminary examination in Science (L.D.S.) examinations in March.
2	W	Meeting of Senate.
3	Th	
4	F	
5	S	
6	S	
7	M	
8	Tu	
9	W	Meeting of Finance Committee.
10	Th	
11	F	
12	S	
13	S	
14	M	
15	Tu	Meeting of Board of Faculty of Arts.
16	W	Meeting of Council.
17	Th	
18	F	Meeting of Board of Faculty of Medicine.
19	S	
20	S	
21	M	
22	Tu	
23	W	
24	Th	Meeting of Board of Faculties of Science and Technology.
25	F	
26	S	
27	S	
28	M	Last day of application for the 1851 Exhibition Scholarship.

MARCH, 1910

1	Tu	Last day of entry and of payment of fees for the June Degree examinations, for City and Guilds Institute examinations, for M.A., M.Sc., for Diplomas in Commerce and for Teachers of French and German, and of application for Litt.D. and D.Sc.
2	W	Meeting of Senate.
3	Th	
4	F	Last day of entry for Second M.B. examination.
5	S	
6	S	
7	M	
8	Tu	
9	W	Meeting of Finance Committee.
10	Th	
11	F	
12	S	
13	S	
14	M	
15	Tu	Meeting of Board of Faculty of Arts.
16	W	Meeting of Council.
17	Th	
18	F	Meeting of Board of Faculty of Medicine. First M.B. (Part I) and Second M.B. examinations and Preliminary examination in Science (L.D.S.) begin.
19	S	Winter course in Agriculture (Second Term) ends.
20	S	
21	M	Surveying Class at Barden begins.
22	Tu	
23	W	**Second Term in all Faculties ends.** Last day of application for Renewal of Scholarships. Evening Class session (Second Term) ends.
24	Th	
25	F	GOOD FRIDAY. University closed.
26	S	University closed.
27	S	EASTER DAY.
28	M	University closed.
29	Tu	University closed.
30	W	
31	Th	

APRIL, 1910

1	F	
2	S	
3	**S**	
4	M	
5	Tu	
6	W	Surveying Class at Barden ends.
7	Th	
8	F	
9	S	
10	**S**	
11	M	
12	Tu	
13	W	Meeting of Finance Committee. Summer course in Agriculture begins.
14	Th	
15	F	
16	S	
17	**S**	
18	M	
19	Tu	
20	W	**Third Term in Faculties of Arts, Science, and Technology begins.** Meeting of Council.
21	Th	
22	F	
23	S	
24	**S**	
25	M	**Third Term in Faculty of Medicine begins.**
26	Tu	
27	W	
28	Th	Meeting of Board of Faculties of Science and Technology.
29	F	
30	S	

MAY, 1910

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

JUNE, 1910

1	W	Meeting of Senate. Last day of entry for the Ch.M. Examination, and for the Infirmary Scholarship.
2	Th	
3	F	
4	S	
5	**S**	
6	M	
7	Tu	
8	W	Meeting of Finance Committee.
9	Th	
10	F	
11	S	Last day of entry for Second and Final M.B. (Parts I. and II.) Examinations; for First Professional and Final Examinations (L.D.S.) and for D.P.H. Examinations.
12	**S**	
13	M	Degree examinations in Faculties of Arts, Science, and Technology begin.
14	Tu	
15	W	Meeting of Council.
16	Th	
17	F	Meeting of Board of Faculty of Medicine.
18	S	
19	**S**	
20	M	
21	Tu	Meeting of Board of Faculty of Arts.
22	W	
23	Th	
24	F	
25	S	Second and Final M.B. (Parts I and II) Examinations, and First Professional and Final Examinations (L.D.S.) begin. Summer course in Agriculture ends.
26	**S**	
27	M	D.P.H. Examination begins.
28	Tu	
29	W	
30	Th	

JULY, 1910

1	F	
2	S	**Third Term in all Faculties ends.** Degree Day.
3	**S**	
4	M	
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	**S**	
11	M	
12	Tu	
13	W	Meeting of Finance Committee.
14	Th	
15	F	
16	S	
17	**S**	
18	M	
19	Tu	
20	W	Meeting of Council.
21	Th	
22	F	
23	S	
24	**S**	
25	M	
26	Tu	
27	W	
28	Th	
29	F	
30	S	Library closed until August 16. Last day of application for Teachers' Assisted Studentships.
31	**S**	

AUGUST, 1910

1	M	BANK HOLIDAY. University closed.
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	Library re-opened.
17	W	
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	Last day of entry for the Baines Evening Scholarships, the Supplementary Intermediate examination in Arts and Science, and 1st M.B. examination.

SEPTEMBER, 1910

1	Th	
2	F	
3	S	Last day of entry for September Matriculation examination.
4	S	
5	M	
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	S	
12	M	Supplementary Intermediate examination in Arts and Science, and 1st M.B. examination begins.
13	Tu	
14	W	
15	Th	
16	F	
17	S	
18	S	
19	M	
20	Tu	
21	W	
22	Th	
23	F	
24	S	
25	S	
26	M	
27	Tu	
28	W	
29	Th	
30	F	Last day for sending in Essays for Gladstone Prize.

OCTOBER, 1910

3	M	**First Term in all Faculties begins.** Admission of Students.
4	Tu	Admission of Students. Entrance examinations at 10 a.m. and 2 p.m.

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 absentiâ 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 otherwise 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 wnatsoever 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 conditions and subjects of the Matriculation examination, which constitutes the entrance to the Degree courses of the University, together with the exemptions and variations from it, shall be regulated by a Joint Board as constituted in the following clauses of this section.

The Joint Board shall consist of eighteen members, five to be annually elected by each of the Universities in Manchester, Liverpool, and Leeds, and, unless by agreement between all the four Universities it shall be otherwise determined, three by the University in Sheffield, with power to co-opt persons of educational experience to the number of four.

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 be referred to each of the four Universities, which shall each then nominate two additional members on the Board for the purpose. The decision of the Board so constituted shall be final.

The Board shall send annual reports to each University.

The regulations of the Board regarding the Matriculation examination shall not affect the power of each University to admit students to such classes and courses as it may think fit.

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

Provided that this Statute shall continue and be in force for seven years from the date of its approval by His Majesty in Council.

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.

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.

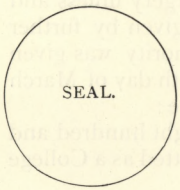
"Regulations" means Regulations made pursuant to the Charter or Statutes.

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.)

Preamble

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:

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):

Short title.

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

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

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

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.

Transfer of liabilities.

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.

Saving for agreements deeds actions &c.

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.

Adjustment of property and liabilities &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.

(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."

Construction of bequests in favour of Yorkshire College.

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.

As to the Charitable Trusts Acts.

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

Copy of Act to be registered.

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.

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.

Costs of Act.

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.

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.

II. DEGREES IN ARTS

1. The degrees in Arts shall be:

Bachelor of Arts (B.A.)
Master of Arts (M.A.)
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.

Ordinary Degree of Bachelor of Arts

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 committees, on report from the separate Examination committee concerned, may determine.

8. Candidates who have failed at a Final examination may present at the June examination of the following year those books and periods in which they have already been examined.

9. 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.

Intermediate Course and Examination

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

i, ii. Two languages from the following list: Greek, Latin, French, German, one of which must be Greek or Latin.

iii. *Either* (*a*) English Literature; *or* (*b*) History (Ancient or Modern), *or* Political Economy.

iv. *Either* (*a*) Logic ; *or* (*b*) Mathematics ; *or* (*c*) one of the following Natural Sciences : Physics, Chemistry, Zoology, Botany, Geology.

v. Any subject under i, ii, iii, iv not already selected, provided that no candidate may take (*a*) both Ancient and Modern History, (*b*) two Natural Sciences.

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

Final Course and Examination

11. 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, History, Philosophy, 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, Philosophy, 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.

Degree of Bachelor of Arts with Honours

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
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 academic years following such Final examination, the second and third years' courses 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 joint Examination committee may determine.

Degree of Master of Arts

I

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. 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. 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 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.

Degree of Doctor of Letters

1. The Degree of Doctor of Letters shall be conferred by the University upon registered Masters of Arts 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.

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 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 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.

III. DEGREE IN COMMERCE

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 committees, 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

8. 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 : the outlines of the economic history of England in the Nineteenth Century, and the general elementary principles of Economics
ii. The economic geography of the British Empire
iii. A modern foreign language (French or German)
iv, v. *Two* of the following :
A second modern foreign language (French or German, whichever of the two has not been offered under iii)
Mathematics
European History from 1763,

and to pass in each of the subjects offered. The examination in each modern foreign language shall include an oral examination.

Final Course and Examination

9. Every candidate shall be required, except as provided in clause 10, 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 (*b*) a special economic subject
ii. A modern foreign language (French or German)
iii. A second modern foreign language (French or German, whichever of the two has not been offered under ii)
iv. Accountancy.

The examination in each modern foreign language shall include an oral examination. An essay shall also form part of the examination.

10. For the second modern foreign language *or* for Accountancy candidates may substitute *two* of the following, studied each for one year as a subsidiary subject :

(*a*) The economic geography of the principal foreign countries

(*b*) Commercial Law

(*c*) Accountancy (unless Accountancy has already been offered as a principal subject).

Candidates may take the course of study in a subsidiary subject in the first year of the Final course, and present themselves at the end of that year for examination in such subject.

IV. DEGREES IN LAW

1. The degrees in Law shall be :

Bachelor of Laws (LL.B.)
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
iv. 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 not be required to attend classes or to be examined in iv.

Final Course and Examination

3. 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.

Degree of Doctor of Laws

1. The degree of Doctor of Laws shall be conferred by the University upon registered Bachelors of Laws 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 Bachelor of Laws 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.

V. DEGREES IN SCIENCE

1. The degrees in Science shall be:—

Bachelor of Science (B.Sc.)
Master of Science (M.Sc.)
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 committees, 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.

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 *vivâ 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.:

i. Physics
Two of the following:
ii, iii. Mathematics
Chemistry
Zoology
Botany
Geology,

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 take an additional subject at the Intermediate standard, selected from the following: Greek, Latin, French, German, English Literature, English Language, Ancient or Modern History, Logic, Economics, Economic Geography, Mathematics, Chemistry, Zoology, Botany, Geology. 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.

Final Course and Examination

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 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 I (Pure)
Mathematics II (Pure and Applied)
Physics
Chemistry
Zoology
Botany
Physiology
Geology
Human Anatomy
Bacteriology
Education (including the teaching of Elementary Science).

Mathematics I and II 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 the following June 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 until the end of the fourth year of study. Such candidates may take the examination in Chemistry at the end of the third 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.

Degree of Bachelor of Science with Honours

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.

6. 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 succeeding year or the two years immediately succeeding) proceed with the course of study in an Honours School.

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 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.

Degree of Master of Science

I

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, 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.

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. Such candidates shall be 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.

Degree of Doctor of Science

1. The degree of Doctor of Science is conferred by the University upon registered Masters of Science 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 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.

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

Degrees of Bachelor of Medicine and Bachelor of Surgery

1. Candidates for the degree 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.

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 and Sheffield in its stead; the First examination; the Second examination; the Final examination.

First Examination

3. The first Examination shall consist of two parts:
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, and Biology, 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.

Second Examination

7. The Second examination shall consist of two parts :

PART I. Anatomy
Physiology.
PART II. Materia Medica
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.

Final Examination

10. The Final examination shall consist of two parts :

PART I. Pathology and Bacteriology
Forensic Medicine
Public Health.
PART II. Medicine
Surgery
Obstetrics and Gynæcology
Pharmacology and Therapeutics.

11. Candidates, before presenting themselves for the first part or the second 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.

Degree of Doctor of Medicine

1. No candidate shall be admitted to the degree of Doctor 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.

Degree of Master of Surgery

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.

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

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.

First Examination

6. The first examination shall consist of three parts:

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.

Second Examination

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.

Final Examination

13. The subjects of the Final examination shall be:

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.

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.

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:

(*a*) 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.

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

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

(*d*) 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:

(*a*) 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.

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

(*c*) The question of the admission to degrees of Associates *honoris causa* shall be deferred.

(*d*) The following Associates by examination and otherwise shall be admissible to the several degrees set against their names respectively, viz.: Herbert Ingle, to the degree of B.Sc.; Charles Arthur Watson to the degree of B.A.; Alfred Parkin to the degree of M.B.; Edgar Johnson Allen, Arthur Edward Potter, Herman Emil Schmitz, William Wright Marriner, Herbert Hutchinson, George Robert Thompson, Julian Stanton Wise, Harry Medforth Dawson, Antonius Joseph Manasseh, Reuben Shacksnovis, Henry Archbold Smith, to the degree of B.Sc.

(*e*) 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. Bachelors of this University of three years' standing and Masters and Doctors 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.

THE UNIVERSITY OF LEEDS

Visitor

His Majesty THE KING

Chancellor

Pro-Chancellor

ARTHUR GREENHOW LUPTON

Vice-Chancellor

SIR NATHAN BODINGTON, M.A., Litt.D., LL.D.,
Late and Hon. Fellow of Lincoln College, Oxford

Pro-Vice-Chancellor

Professor ARTHUR SMITHELLS, B.Sc., F.R.S.

Treasurer

SIR FRANCIS SHARP POWELL, BART., M.A., LL.D., M.P.

Registrar

WILLIAM F. HUSBAND, LL.B.

THE COURT

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

Members Nominated by the Crown

The Most Honourable THE MARQUIS OF ZETLAND, K.T.
The Right Rev. THE LORD BISHOP OF RIPON, D.D., Litt.D., D.C.L.
Sir OWEN ROBERTS, M.A., LL.D., D.C.L.

Members Elected by the Court

The Most Rev. THE LORD ARCHBISHOP OF YORK, LL.D.
The Rev. W. E. BLOMFIELD, B.A., B.D., Principal of Rawdon College
E. KITSON CLARK, M.A.
Major J. W. DENT
Mrs. R. W. EDDISON
WILLIAM BONNALIE GORDON
The Rev. CHARLES HARGROVE, M.A.
EWING MATHESON, M.Inst.C.E.
C. T. WHITMELL, M.A.
EDMUND WILSON

Members for Life

The Right Hon. THE EARL OF HAREWOOD, LL.D., Harewood
The Right Hon. THE VISCOUNT MOUNTGARRET, Ripley
The Right Rev. THE LORD BISHOP OF GLOUCESTER, D.D.
The Right Hon. LORD GRIMTHORPE, Leeds
The Right Hon. LORD ALLERTON, LL.D., F.R.S., Leeds
The Right Hon. LORD FABER, Harrogate
The Right Hon. LORD AIREDALE, D.Sc., Leeds
The Hon. JOHN HENRY SAVILE, Helmsley
The Hon. RICHARD CLERE PARSONS, M.A., London
The Hon. Mrs. WHITTUCK, London
The Right Hon. ARTHUR HERBERT DYKE ACLAND, M.A., LL.D., Felixstowe
The Right Hon. Sir SAVILE BRINTON CROSSLEY, Bart., Somerleyton, Lowestoft
The Right Hon. CHARLES G. MILNES GASKELL, M.A., LL.D., Wakefield
The Hon. W. GERVASE BECKETT, M.P., Leeds
The Hon. RUPERT EVELYN BECKETT, Leeds
The Hon. FRANCIS STANLEY JACKSON, B.A., York
Sir JOHN WILLIAM RAMSDEN, Bart., Byram

Sir Francis Sharp Powell, Bart., M.A., LL.D., M.P., Bradford
Sir Weetman Pearson, Bart., M.P., London
Sir John Nicholson Barran, Bart., B.A., M.P., Ripon
Sir Arthur Tredgold Lawson, Bart., Bedale
Sir Frederick William Fison, Bart., M.A., London
Sir Thomas Freeman Firth, Bart., Heckmondwike
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 Wilfred Lawrence Hepton, Leeds
Sir Nathan Bodington, M.A., Litt.D., LL.D., Leeds
Sir William Edwin Briggs Priestley, M.P., Bradford
William Ackroyd, Leeds
George Appleyard, Southport
Thomas Wade Appleyard, Leeds
John W. Archer, Bournemouth
Robert Armitage, M.P., Farnley, Leeds
Mrs. Ashton, London
Edward Baines, B.A., M.B., Whitby
Talbot Baines, B.A., Hayward's Heath, Sussex
Frederick Horatio Barr, Leeds
Alfred Barran, Leeds
Charles Barran, Totnes
Henry Barran, M.A., LL.B., Leeds
Rowland H. Barran, M.P., Leeds
Somerset Archibald Beaumont, Shere, Guildford
William Beckworth, Leeds
Harry Behrens, M.A., Bradford
Professor de Burgh Birch, C.B., M.D., C.M., F.R.S.E., Leeds
Charles Edward Bousfield, Kingsbridge, S. Devon
Henry Illingworth Bowring, M.A., B.C.L., Leeds
James Braithwaite, M.D., Leeds
John William Bray, Leeds.
John Brigg, M.P., F.G.S., Keighley
John Jeremy Brigg, M.A., LL.M., Keighley
Riley Briggs, Selby
John Arthur Brooke, M.A., Huddersfield
George William Brown, B.A., London
William Brown, Bramley
A. Edmund Butler, Kirkstall
Archibald Campbell, Crieff, N.B.
William Johnson Cheetham, Leeds
William Dewhirst Cliff, Wortley
Walter Cliff, York
Henry Smith Clough, Keighley
George Jack Cockburn, Leeds
William Thomas Crampton, Leeds
John Edward Crowther, Huddersfield
Henry Davey, Ewell, Surrey
Thomas Lane Devitt, London
Thomas Henry Dewhurst, Skipton
John Edwin Eddison, M.D., Leeds

J. Ray Eddy, Skipton
Mrs. Eyres, Evesham
George Denison Faber, C.B., M.P., Leeds
Edward Filliter, London
John Richard Flitch, Leeds
John Rawlinson Ford, Leeds
Robert Henry Fowler, Leeds
William Edward Garforth, Normanton
Conrad Emil Grahl, Kew, Surrey
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Professor Robert S. Seton, B.Sc.
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FRED. T. BAINES, B.A., *Cantab.*

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The VICE-CHANCELLOR
The PRO-VICE-CHANCELLOR
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The LECTURERS OF THE UNIVERSITY
The REGISTERED GRADUATES OF THE UNIVERSITY

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Dr. A. E. CHAPMAN

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Dr. H. C. POCKLINGTON
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REPRESENTATIVES OF THE UNIVERSITY ON COMMITTEES AND OTHER INSTITUTIONS

A. Joint Matriculation Board

	Appointment Expires
[1]The VICE-CHANCELLOR	Dec. 31, 1909
[1]Professor BARBIER	,,
[1]Professor CONNAL	,,
[1]Professor GARSTANG	,,
[1]Professor SCHÜDDEKOPF	,,

B. Courts of other Universities

(*Appointed by the Chancellor.*)

Bristol,	[3]The VICE-CHANCELLOR	Jan. 1, 1912
Liverpool,	[3] ,, ,,	
Sheffield,	[1] ,, ,,	Oct. 26, 1909

C. The General Medical Council

[3]Professor BARRS	Oct. 19, 1910

D. Education Committees

West Riding - . -	The PRO-CHANCELLOR	March, 1910
North Riding - - -	The VICE-CHANCELLOR	March, 1910
East Riding - - -	The Hon. EDWARD WOOD	May, 1910
,, ,, - - -	Professor WELTON	,,
Yorkshire Council for Agricultural Education	SIR J. N. BARRAN Bart., M.P.	March, 1910
,, ,,	The Hon. EDWARD WOOD	
,, ,,	The PRO-CHANCELLOR	
,, ,,	EDWIN WOODHOUSE	
City of York - - -	Professor MACGREGOR	Nov. 9, 1909
Borough of Doncaster -	J. A. CLAXTON	Nov. 9, 1909
,, Harrogate -	Dr. MOORMAN	Nov. 9, 1909

E. East, North, and West Riding Joint Examining Board

The VICE-CHANCELLOR

F. Affiliated Institutions

College of the Resurrection, Mirfield - - -	[3]Professor RHYS ROBERTS	June 16, 1912
Technical College, Huddersfield - -	Professor GARSTANG	Nov. 10, 1910

G. Schools, etc.

Akroyd Foundation - - -	[5]JOHN RAWLINSON FORD	July 19, 1910
	[5]The VICE-CHANCELLOR	,,
Almondbury Grammar School -	[5]C. L. BROOK	Feb. 15, 1910
Barnsley Grammar School -	[3]G. BLAKE WALKER	Nov. 28, 1909
Batley Grammar School -	[3]SAMUEL CROWTHER	Oct. 21, 1911
Bentham—Collingwood and Baynes Foundation	[5]A. O. ALLEN	Dec. 16, 1913
Beverley Grammar School -	MARK SYKES	Feb. 15, 1910
Bingley Grammar School -	[3]Professor BRAGG	May 19, 1912

The number prefixed to a name indicates the number of years in the term of the appointment.

Bishopside (Ripon)—Lupton and Watson's Foundation	[4]Sir JOHN BARRAN, Bart., M.P.	Feb. 19, 1912
Bradford Girls' Grammar School	[4]Miss H. ROBERTSON	March 17, 1913
Bridlington Grammar School		
Brighouse School for Girls	[3]Miss H. ROBERTSON	May 19, 1912
Castleford Secondary School	[3]C. M. GILLESPIE	
Cleckheaton Grammar School	[3]Professor GRÜNBAUM	
Coxwold Charity	[3]Dr. H. M. DAWSON	July 19, 1911
Dewsbury — Endowed Schools Foundation	[5]Professor MACGREGOR	Dec. 20, 1910
Doncaster Grammar School	[3]C. B. COOKE YARBOROUGH	July 19, 1911
Drax Free School	[5]JOHN TAYLOR	July 15, 1913
Giggleswick Grammar School	[5]Professor GRANT	March 18, 1913
Halifax—Heath Grammar School	Professor CONNAL	
Harrogate Secondary School	[3]Miss H. ROBERTSON	
Heckmondwike Secondary School	Professor SCHÜDDEKOPF	
Hipperholme Grammar School	[5]F. H. MATTHEWS	Feb. 18, 1913
Holmfirth Secondary School	Professor GARSTANG	
Ilkley Grammar School	[5]Professor PROCTER	Dec. 16, 1913
Keighley—Drake and Tonson's Charity	[4]C. M. GILLESPIE	June 20, 1910
Knaresborough Grammar School	[3]J. A. EDDISON	Oct. 17, 1909
Leeds Grammar School	[5]The VICE-CHANCELLOR	May 20, 1913
Leeds Girls' High School	[3]Lady BODINGTON	April 28, 1912
Leeds, Mount St. Mary's Secondary School	[3]Miss H. ROBERTSON	June 20, 1909
Malton (Old) Grammar School	[3]HUGH W. PEARSON	July 17, 1910
Normanton Grammar School	[5]Professor SMITHELLS	Dec. 18, 1912
Northallerton Grammar School	[3]W. BROWN	July 15, 1911
Ossett Grammar School	Professor WELTON	
Otley Grammar School	[5]Professor GRANT	July 21, 1912
Otley Secondary School	[3]Miss A. M. COOKE	
Pickering Grammar School		
Pontefract Grammar School	[5]Professor GRANT	March 19, 1912
Rastrick Grammar School	[3]Professor ROBERTS	Dec. 16, 1911
Ripon Grammar School	[3]Sir JOHN BARRAN, Bart., M.P.	Jan. 20, 1912
Ripon Secondary School	Miss H. ROBERTSON	
Sedbergh Grammar School	[5]Professor VAUGHAN	Feb. 15, 1910
Selby Secondary School	Miss H. ROBERTSON	
Settle Secondary School	Miss A. M. COOKE	
Skipton—Ermysted's Grammar School	[5]Professor PHILLIPS	Dec. 16, 1913
Skipton Girls' Middle School	[5]Professor PHILLIPS	June 16, 1914
Slaithwaite Grammar School	[3]J. A. BROOKE	June 19, 1910
Sowerby-in-Halifax—Bairstow's Endowed School	[3]J. A. BROOKE	June 17, 1911
Tadcaster Grammar School	[3]Professor ROGERS	Dec. 16, 1911
Thornton-in-Bradford—Endowed Schools	[5]DR. MOORMAN	Dec. 16, 1913
Wakefield Grammar School	[5]Professor BARBIER	Sept. 18, 1911
York—St. Peter's School	[5]Rev. J. M. MARSHALL	Feb. 17, 1914

The number prefixed to a name indicates the number of years in the term of the appointment.

PROFESSORS, LECTURERS, Etc.

FACULTY OF ARTS

Dean of the Faculty
PROFESSOR CONNAL

Classics . .
Professors: W. RHYS ROBERTS, M.A., Litt. D., *late Fellow of King's College, Cambridge*, LL.D., *St. Andrews*.
B. M. CONNAL, M.A., *Corpus Christi College, Oxford*.
Assistant Lecturer: P. N. URE, M.A., *Gonville and Caius College, Cambridge*.

English Language and Literature
Professor: CHARLES E. VAUGHAN, M.A., *Balliol College, Oxford*.
Assistant Professor: FREDERIC W. MOORMAN, B.A., *London*, Ph.D., *Strassburg*.

French Language and Romance Philology .
Professor: PAUL BARBIER *fils*, M.A., *London*.
Assistant Lecturer: THOMAS B. RUDMOSE-BROWN, M.A., *Aberdeen*, D. Litt., *Grenoble*.

French Literature
Professors: P. H. M. Du GILLON, *Officier d'Académie*; PAUL BARBIER *fils*, M.A., *London*.

German Language and Literature
Professor: ALBERT W. SCHÜDDEKOPF, Ph.D., *Göttingen*.
Assistant Lecturer: CHARLES E. GOUGH, Ph.D., *Basle*.

History . .
Professor: ARTHUR J. GRANT, M.A., *King's College, Cambridge*.
Lecturer: MISS A. M. COOKE, M.A., *Victoria*.

Philosophy . .
Lecturer: C. M. GILLESPIE, M.A., *Trinity College, Oxford*.

Economics .
Professor: D. H. MACGREGOR, M.A., *Fellow of Trinity College, Cambridge*.
Lecturer on Accountancy: W. H. SHAW, F.C.A.

Education . .
Professor of Education: JAMES WELTON, M.A., *Gonville and Caius College, Cambridge*.
Assistant Professor of Education: F. H. MATTHEWS, M.A., *Corpus Christi College, Oxford*.
Master of Method: W. P. WELPTON, B.Sc., *London*.

Education . . *Mistress of Method*: Miss HANNAH ROBERTSON, B.A., *London.*

Assistant Mistress of Method: Miss FLORENCE M. B. TURNER, M.Sc., *Leeds.*

Teacher of Music, Reading and Elocution: T. J. HOGGETT, Mus.B., *Durham.*

Law . . . *Professor*: WALTER R. PHILLIPS, LL.M., *Trinity Hall, Cambridge.*

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 SMITHELLS

Mathematics . *Professor*: LEONARD J. ROGERS, M.A., Mus.B., *Balliol College, Oxford.*

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Physics . . *Cavendish Professor*: W. H. BRAGG, M.A., *Trinity College, Cambridge*, F.R.S.

Assistant Lecturer and Demonstrator: A. O. ALLEN, M.A., B.Sc., *London*, A.R.C.Sc.

Assistant Demonstrators: S. A. SHORTER, B.Sc., *Victoria and Leeds.*
S. A. EDMONDS, F.R.Sc.I., *Liverpool.*
H. B. KEENE, B.Sc., *Birmingham.*

Chemistry . . *Professor*: ARTHUR SMITHELLS, B.Sc., *London and Victoria*, F.R.S.

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W. H. PERKINS, M.Sc., *Victoria.*

Demonstrators: HAROLD CALAM, M.Sc., F.I.C., *Leeds.*
A. T. KING, B.Sc., *London.*

Organic Chemistry . *Professor*: JULIUS B. COHEN, B.Sc., *Victoria*, Ph.D., *Munich*.

Demonstrator: J. MARSHALL, B.Sc., Leeds.

Zoology . . *Professor:* WALTER GARSTANG, M.A., D.Sc., *late Fellow of Lincoln College, Oxford.*

Assistant Lecturer and Demonstrator in Zoology: T. H. TAYLOR, M.A., *Royal University of Ireland.*

Junior Demonstrator in Zoology: MISS MARIE V. LEBOUR, M.Sc., *Durham.*

Assistant and Keeper of the Insect Collections: MISS SIMPSON.

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Demonstrator: W. GIBBS LLOYD, M.Sc., M.B., Ch.B., *Victoria and Liverpool.*

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Demonstrator: A. GILLIGAN, B.Sc., *Cardiff.*

FACULTY OF TECHNOLOGY

Dean of the Faculty

Professor THOMPSON

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Assistant Lecturers and Demonstrators:
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J. M. THOMSON.

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Assistant: J. M. THOMSON.

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Assistant Lecturers and Demonstrators: THOMAS HOLLIS.
ALEXANDER YEWDALL.

Textile Designer and Assistant Lecturer: W. LAW.

Museum Assistant and Assistant Designer for Figured Fabrics: MISS BENTON.

Demonstrators: HAROLD P. HOLLOWAY.
THOMAS A. FOX.

Art Teacher: WILFRID A. FARLEY.

Tinctorial Chemistry and Dyeing . *Professor*: ARTHUR G. GREEN, M.Sc., *Leeds*, F.I.C.

Lecturer and Research Chemist: ARTHUR G. PERKIN, F.R.S., F.I.C.

Assistant Lecturer and Demonstrator: IAN Q. ORCHARDSON, B.Sc., *Aberdeen.*

Demonstrator: G. H. FRANK, M.Sc., *Leeds.*

Museum Curator: MISS ELSIE COBB.

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Assistant Professor: EDMUND STIASNY, Ph.D.

Demonstrator: HAROLD BRUMWELL.

Research Assistant and Demonstrator: DOUGLAS J. LAW, B.Sc., *London.*

Laboratory Assistant: S. HIRST.

Junior Assistants: C. D. WILKINSON and W. JAMES.

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Research Assistant: HAMILTON DAVIES, B.Sc., *Leeds*.

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CHARLES F. ARCHIBALD.
Assistant Lecturer and Demonstrator: ROBERT HOWIE, B.Sc., *Edin.*
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Lecturer on Agricultural Botany and Forestry: JAMES M. HECTOR, B.Sc. *Aberdeen*,
Lecturer in Veterinary Science: H. G. BOWES, F.R.C.V.S.
Lecturer and Demonstrator on Poultry Keeping: FRED W. PARTON.
Science Tutor: A. G. RUSTON, B.A., B.Sc., *London*.
Instructors in Practical Horticulture: THOMAS REDINGTON, F.R.H.S.
ALEXANDER S. GALT.
ALFRED GAUT, F.R.H.S.
Assistant: FRANK REDINGTON.
Instructress in Dairy Work: Miss ANNIE D. McKERROW.
Instructor in Farriery: W. JONES ANSTEY.

FACULTY OF MEDICINE

Dean of the Faculty

Professor GRÜNBAUM

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Demonstrator: J. KAY JAMIESON, M.B., C.M., *Edinburgh*.
Honorary Demonstrators: M. A. TEALE, M.A., *Christ Church, Oxford*, M.R.C.S., L.R.C.P.
J. F. DOBSON, M.B., M.S., *London*, F.R.C.S.

Physiology and Histology	*Professor*: DE BURGH BIRCH, M.D., C.M., *Edinburgh*, F.R.S.E., C.B. *Demonstrator*: W. GIBBS LLOYD, M.Sc., M.B., Ch.B., *Victoria and Liverpool.*
Pathology and Bacteriology	*Professor*: ALBERT S. GRÜNBAUM, M.A., M.D., *Gonville and Caius College, Cambridge*, F.R.C.P., D.P.H. *Demonstrator in Pathology*: J. F. GASKELL, M.A., M.B., B.C., *Gonville and Caius College, Cambridge.* *Demonstrator in Bacteriology and in Public Health*: MYER COPLANS, M.D., *London*, D.P.H. *Honorary Demonstrator in Surgical Pathology*: HAROLD COLLINSON, M.B., B.S., *London*, F.R.C.S. *Honorary Demonstrator in Medical Pathology*: W. H. MAXWELL TELLING, M.D., *London*, M.R.C.P.
Medicine . .	*Professor*: A. G. BARRS, M.D., *Edinburgh*, F.R.C.P. *Honorary Demonstrator*: G. W. WATSON, M.D., *London*, M.R.C.P.
Surgery . .	*Professor*: H. LITTLEWOOD, M.Sc., *Leeds*, F.R.C.S. *Honorary Demonstrator*: J. A. COUPLAND, M.B., B.S., *London*, F.R.C.S.
Practical Surgery	*Lecturer*: R. LAWFORD KNAGGS, M.A., M.D., M.C., *Gonville and Caius College, Cambridge*, F.R.C.S.
Operative Surgery	*Lecturer*: WALTER THOMPSON, F.R.C.S.
Obstetrics . .	*Professor*: J. B. HELLIER, M.D., *London*, M.R.C.S.
Gynæcology . .	*Lecturer*: E. O. CROFT, M.D. *Durham*, M.R.C.S., L.R.C.P. *Honorary Demonstrator in Obstetrics and Gynæcology*: C. OLDFIELD, M.D., *London*, M.R.C.P., F.R.C.S.
Therapeutics, Pharmacy and Materia Medica	*Professor of Therapeutics*: H. J. CAMPBELL, M.D., *London*, F.R.C.P. *Demonstrator of Pharmacy and Materia Medica*: J. H. GOUGH.
Public Health .	*Professor*: J. SPOTTISWOODE CAMERON, B.Sc., M.D., C.M., *Edinburgh.* *Honorary Demonstrator*: R. VEITCH CLARK, M.A., B.Sc., M.B., Ch.B., *Edinburgh*, D.P.H.

Forensic Medicine	*Professor*: F. W. EURICH, M.D., C.M., *Edinburgh* *Demonstrator of Practical Toxicology*:
Ophthalmology and Otology	*Lecturer*: H. SECKER WALKER, M.Sc., *Leeds*, F.R.CS.
Mental Diseases .	*Professor*: W. BEVAN-LEWIS, M.Sc., *Leeds*, L.R.C.P., M.R.C.S. *Lecturer*: BEDFORD PIERCE, M.D., *London*, F.R.C.P.
Vaccination . .	*Instructor*: A. T. BACON, L.R.C.P.E., M.R.C.S.

Clinical Lecturers

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Medicine . .	A. G. BARRS, M.D., F.R.C.P., T. WARDROP GRIFFITH, M.D., C.M., M.R.C.P. (*Hon. Physicians*). E. F. TREVELYAN, B.Sc., M.D., F.R.C.P. (*Hon. Physician with charge of Out-patients*). W. H. M. TELLING, M.D., M.R.C.P. (*Hon. Assistant Physician*).
Surgery . . .	E. WARD, M.A., M.B., B.C., F.R.C.S., H. LITTLEWOOD, M.Sc., F.R.C.S., R. LAWFORD KNAGGS, M.A., M.D., M.C., F.R.C.S., B. G. A. MOYNIHAN, M.S., F.R.C.S., (*Hon. Surgeons*). W. THOMPSON, F.R.C.S., J. F. DOBSON, M.B., M.S., F.R.C.S., (*Hon. Assistant Surgeons*).
Gynæcology . .	J. B. HELLIER, M.D., M.R.C.S. (*Hon. Obstetric Physician*).
Ophthalmology and Otology	H. SECKER WALKER, M.Sc., F.R.C.S., A. L. WHITEHEAD, M.B., B.S., (*Hon. Surgeons of the Eye and Ear Department*). G. CONSTABLE HAYES, F.R.C.S., (*Hon. Assistant Surgeon of the Eye and Ear Department*).
Infectious Diseases .	A. E. PEARSON, M.R.C.S., L.R.C.P. (*Medical Superintendent Leeds City Fever and Small Pox Hospitals*).

Lecturers in the School of Dentistry

Dental Surgery .	ARTHUR G. G. PLUMLEY, M.B., *London*, M.R.C.S., L.R.C.P., L.D.S.
Operative Dental Surgery . .	THOMAS S. CARTER, L.D.S.
Dental Anatomy and Physiology	A. ALAN FORTY, L.D.S.

Dental Mechanics CHARLES RIPPON, L.D.S.
Dental Metallurgy WILLIAM LOWSON, B.Sc., F.I.C.

Academic Assistant to the Registrar
FRED T. BAINES, B.A., Cantab.

University Library

Honorary Librarian: Professor VAUGHAN.
Librarian: Miss F. J. PASSAVANT.
Assistant: Miss F. M. EKINS.

External Examiners

Faculty of Arts

Greek: T. W. ALLEN, M.A., Fellow and Tutor of Queen's College, Oxford.

Latin: A. C. CLARK, M.A., Queen's College, University of Oxford.

English Language and Literature: C. H. HERFORD, M.A., Professor of English Language, Victoria University of Manchester.

French: E. G. W. BRAUNHOLTZ, M.A., Ph.D., Berlin, Reader in Romance, University of Cambridge.

German: H. G. FIEDLER, Professor of German, University of Oxford.

History and Economics: P. F. WILLERT, Honorary Fellow of Exeter College, University of Oxford.

Philosophy: J. MacCUNN, M.A., LL.D., Professor of Philosophy, University of Liverpool.

Education: R. L. ARCHER, M.A., Professor of Education, University College of North Wales.

Law: Dr. BLAKE ODGERS, K.C.

Faculty of Science

Mathematics: G. B. MATHEWS, M.A., F.R.S., late Professor of Mathematics, University College of North Wales.

Physics: H. A. WILSON, M.A., D.Sc., F.R.S., Professor of Physics, King's College, University of London.

Chemistry: H. JACKSON, F.I.C., Professor of Chemistry, King's College, University of London.

Zoology: E. B. POULTON, M.A., D.Sc., Professor of Zoology, University of Oxford.

Botany: A. G. TANSLEY, M.A., Lecturer on Botany, University of Cambridge.

Geology: J. W. JUDD, late Professor of Geology, Royal School of Mines.

Faculty of Technology

Engineering: D. S. CAPPER, M.A., Professor of Engineering, King's College, University of London.

Electrical Engineering: J. A. FLEMING, D.Sc., F.R.S., Professor of Electrical Engineering, University College, University of London.

Mining: H. LOUIS, M.A., Professor of Mining and Surveying, Armstrong College, Newcastle-on-Tyne.

Colour Chemistry and Dyeing: R. MELDOLA, F.R.S., Professor of Chemistry, Finsbury Technical College, University of London.

Agriculture: J. WILSON, M.A., B.Sc., Royal College of Science, Dublin.

Leather: J. T. WOOD.

Faculty of Medicine

Anatomy: A. KEITH, M.D., F.R.C.S., Lecturer in Anatomy at the London Hospital Medical School.

Physiology: E. H. STARLING, M.D., F.R.S., Jodrell Professor of Physiology, University College, London.

Materia Medica and Pharmacy: J. CALVERT, M.D., F.R.C.P., Lecturer on Materia Medica, St. Bartholomew's Hospital.

Pathology and Bacteriology: F. W. ANDREWES, M.D., F.R.C.P., Lecturer on Pathology, St. Bartholomew's Hospital.

Public Health: R. B. LOW, M.D., Medical Inspector, Local Government Board, Whitehall.

Forensic Medicine: W. H. WILLCOX, M.D., London, Lecturer on Forensic Medicine, St. Mary's Hospital, London.

Medicine and Mental Diseases: T. DYKE ACLAND, M.D., F.R.C.P., Physician to St. Thomas's Hospital, London.

Surgery: R. JOHNSON, M.B., F.R.C.S., Surgeon to University College Hospital.

Obstetrics and Gynæcology: T. WATTS EDEN, M.D., F.R.C.P., Assistant Obstetric Physician, Charing Cross Hospital.

Pharmacology and Therapeutics: J. CALVERT, M.D., F.R.C.P., Lecturer on Materia Medica, St. Bartholomew's Hospital.

Dentistry: J. LEWIN PAYNE, L.D.S., M.R.C.S., L.R.C.P., Assistant Dental Surgeon and Lecturer on Dental Mechanics, Guy's Hospital.

Honorary Marshal to the University

LIEUT.-COL. G. H. ROWE, V.D.,
8th Batt. P.W.O. (West Yorkshire) Regt.

THE UNIVERSITY OF LEEDS

Session 1909-1910

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 Monday, October 4, 1909, and ends Wednesday, December 22, 1909; the second term begins Wednesday, January 12, 1910, and ends Wednesday, March 23, 1910; the third term begins Wednesday, April 20, 1910, and ends Saturday, July 2, 1910.

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 may be required to pass an entrance examination (See p. 119.)

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.

The Vice-Chancellor will admit students on Monday, October 4, 1909, from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m., and on Tuesday, October 5, 1909, from 9.30 a.m. to 12.30 p.m., and from 2 to 4 p.m. 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 Mistress of Method as to their studies before presenting themselves to the Vice-Chancellor. The Registrar will be in attendance to receive the fees and register students whose courses of study have been approved by the Vice-Chancellor.

All students (excepting those entering the Department of Agriculture[1]) are expected to register their names on one of these days.

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 have passed the Matriculation examination of the Universities of Manchester, Liverpool, Leeds and Sheffield, or some examination recognised by the Joint Matriculation Board of those Universities as exempting from the Matriculation examination.

The Matriculation examination is held at each University in July and September. Candidates are required to satisfy the examiners in: (1) English Language *or* 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) Natural History (Plants and Animals). A complete syllabus of the examination may be obtained from the Secretary, the Joint Matriculation Board, 24, Dover Street, Manchester, to whom all applications for exemption should also be addressed.

1 The winter course in Agriculture begins Monday, October 11, 1909.

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 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[1] 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.

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 Mining Engineering are required *either* to have passed the Matriculation or some other approved examination, including Mathematics, *or* to pass a special entrance examination.[2] This examination is not imposed, however, in the case of students who have taken a satisfactory position in the Evening Class examinations.

DEGREE COURSES

Candidates for Degrees in Arts, Commerce, Law or Science are required (*a*) to have completed not less than three years of study in the University, all of which must

1 This examination will be held on Tuesday, October 5, 1909, 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 Registrar by the morning of Monday, October 4.

2 For particulars of subjects, dates, and conditions of this examination see page 276.

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 Registrar. Cheques should be made payable to "The University of Leeds," and crossed "Beckett & Co."

1. Entrance Fee

In addition to class fees, each student attending any regular day class for which a fee of £1 1s. or upwards is charged will be required to pay on entering the University a registration and library fee of £1 1s. Day students attending one or two courses of lectures only may, if they prefer it, pay in lieu of the registration and library fee a sessional fee of 7s. for each class attended.

2. University Union Fee

The subscription of 10s. 6d. per year to the University Union is obligatory, with certain exceptions, on students attending the University for more than six hours per week, and is payable to the Registrar at the beginning of the session. This subscription entitles students to the use of the common-rooms (which are supplied with the daily papers, current periodicals, &c.), to free instruction in the University gymnasium, and to the use of the athletic ground and tennis courts.

3. Lecture and Laboratory Fees

(*a*) *General Regulations*

The fees for lecture and laboratory courses are payable in advance. The Registrar will supply a class ticket entitling the student to attend the courses for which fees

have been paid: this class ticket must be presented by the student to the Professor or Lecturer whose courses he attends, before entering on the course.

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

Students who attend all the classes constituting the complete course required for a degree examination, or for a diploma of the University, or for the Associateship of the Institute of Chemistry, may compound for the lecture fees at a reduction of one tenth.

(*b*) *Lecture Fees*

The fee for each course of lectures is appended to the syllabus of the course.

Where a student for special reasons pays for only one or two terms, the following fees will as a rule be charged:

Where the Fee for the Session is		The Fee for Two Terms will be		The Fee for One Term will be
£ s. d.		£ s. d.		£ s. d.
1 11 6	...	1 5 0	...	0 15 0
2 2 0	...	1 15 0	...	1 1 0
2 12 6	...	2 2 0	...	1 5 0
3 3 0	...	2 12 6	...	1 11 6
3 13 6	...	2 17 6	...	1 15 0
4 4 0	...	3 3 0	...	2 2 0
5 5 0	...	4 4 0	...	2 12 6

Where a class meets for two terms only, the fees will be as follows:

Where the Fee for Two Terms is			The Fee for One Term will be
£ s. d.			£ s. d.
1 1 0	...	...	0 15 0
1 11 6	...	...	1 1 0
2 2 0	...	...	1 5 0
2 12 6	...	...	1 11 6
3 3 0	...	...	2 2 0
3 13 6	...	...	2 5 0
4 4 0	...	...	2 12 6
5 5 0	...	...	3 3 0

(*c*) *Laboratory Fees*

The following are the fees payable for Laboratory and other practical work in each of the following departments, viz.: Physics, Chemistry, Zoology, Botany, Geology, Engineering, Electrical Engineering, Mining, Metallurgy, Textile Industries, Tinctorial Chemistry and Dyeing, Leather Industries. Six hours are counted as one day:

Days per Week.	Fee for the Session. £ s. d.	Fee for Two Terms. £ s. d.	Fee for One Term. £ s. d.
½	3 3 0	2 12 6	1 11 6
1	5 5 0	4 4 0	2 12 6
1½	7 7 0	5 15 6	3 3 0
2	9 9 0	6 16 6	3 13 6
2½	11 11 0	7 17 6	4 4 0
3	13 13 0	9 9 0	5 5 0
3½	15 15 0	11 0 6	5 15 6
4	16 16 0	12 1 6	6 6 0
4½	17 17 0	12 12 0	6 16 6
5	18 18 0	13 13 0	7 7 0
5½	19 19 0	14 3 6	7 17 6
6	21 0 0	15 4 6	8 8 0

(*d*) *Fees for Research Students*

Persons desirous of pursuing original Research can be admitted, subject to certain regulations, to any of the University laboratories on reduced terms, which may be obtained on application to the Registrar. Applications for admission must be made to the head of the department concerned, and the admission is subject to the approval of the Council after report received from the Senate.

(*e*) *Fees for Complete Courses*

The fees for complete courses of lectures and laboratory work qualifying for degrees and diplomas vary according to the subjects taken. The following estimates are in most cases only approximate.

Degree of B.A. The fees for complete courses qualifying for the Intermediate, Final (Ordinary), and Honours examinations, amount to about £16 in each year, exclusive of the Entrance and Union fees, and of fees for any laboratory work that may be required for the Intermediate examination.

Degree of LL.B. A composition fee of £8 8s. in each year; composition fee covering the lectures for the degree and for the Solicitors' examination £10 10s. in each year. These fees do not include Entrance and Union fees, or fees for any laboratory work that may be required for the Intermediate examination.

Degree or Diploma in Commerce. About £18 in each year.

Diploma in Education. Composition fee of £14 14s., exclusive of Entrance and Union fees.

Degree of B.Sc. The fees for complete courses qualifying for the Intermediate, Final (Ordinary), and Honours examinations, amount to about £25 in each year, exclusive of the Entrance and Union fees. If the courses taken include much laboratory work, the fees are somewhat higher.

Departments of Engineering, Electrical Engineering, Mining and Metallurgy. The fees for a full year's course in each amount to about £30.

Departments of Textile Industries, Tinctorial Chemistry and Dyeing, Leather Industries. The fees for a full year's course in each amount to about £25.

Agriculture. Composition fees, for winter course £10, for summer course £5, inclusive of Entrance and Union fees.

(*f*) *Composition Fees for Honours Students in Arts.*

	First Year. Guineas.	Second Year. Guineas.	Third Year. Guineas.
Classics	18	17	13
Modern Languages—			
(*a*) French and German ...	19	19	19
(*b*) French, German, English	20	20	20
History	16	16	16
English	16	13	10
Philosophy	—	12	10
Economic and Political Science	18	12	12

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., 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 for the degree of M.A. or M.Sc., £1.

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

For the Diploma examination in any subject in the Faculties of Arts or Science, £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.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.

5. Degree Fees[1]

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

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1 These do not apply to Honorary Degrees.

ENTRANCE SCHOLARSHIPS

The following Scholarships, tenable from October, 1910, at Day Classes in the University of Leeds, will be offered for competition to candidates who have not been registered Students of the University and who will be not less than 16 or more than 19 years of age on October 1st, 1910. The latest date of entry for these Scholarships is *May 1st*, after which no application will be received. In most instances they are awarded in connection with the July Matriculation examination. Particulars of conditions, &c., may be obtained on application to the Registrar.

1. Awarded on Results of Matriculation Examination.

Name of Scholarship.	Number Offered.	Annual value of each.	Periods for which tenable.	Departments in which tenable.
Leeds City Council	One ..	£50	3 years	Arts, Sci., Tech,
Emsley	Two ..	£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 and renewable	Science, Tech,
Akroyd	Two ..	£40	2 years and renewable	Science, Tech,
Medical	One ..	Fees for co	mplete course.	Medicine.
Craven	One ..	£25	3 years	Tech, (Enginrg.)

2. Awarded by Special Examination.

William Cooke & Co,	One ..	£21	2 years	Tech, (Mining)

3. Awarded without Examination.

Tannett-Walker ..	One ..	£25	3 years	Tech, (Enginrg.)

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

Scholarships are also offered by the Leeds City Council and the County Councils of the North, East, and West Ridings of Yorkshire, tenable at the University of Leeds in common with other institutions, in scientific and technical subjects, including Agriculture, as well as in Arts subjects. 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 apply as follows :—

For Leeds City Council Scholarships : The Secretary for Education (Higher Section), Education Department, Leeds.

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

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

For West Riding Scholarships and Free Studentships : The Director, Education Department, County Hall, Wakefield.

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.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.

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

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

M.Ch., a Dark Green Hood, edged with Light 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.

REGULATIONS FOR STUDENTS

General

1. 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.

2. Students are required to keep the Vice-Chancellor and Registrar informed of their addresses. Any alteration of address must be communicated without delay.

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

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

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

6. 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.

Lectures

7. 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 Registrar his class ticket, which must be presented to the Heads of the Departments in which he enters before his course of study is begun.

8. Students who fail in their class examinations may be required to repeat their courses of study or to leave the University. In cases of repetition of courses the full fees will have to be paid for the repeated course.

9. When a student is absent from 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 in which the student is attending. Students desiring leave of absence must obtain it from the Vice-Chancellor.

Vacations

10. 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. The scale of fees chargeable can be obtained at the Registrar's office.

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.

UNIVERSITY LIBRARY

Honorary Librarian: Professor VAUGHAN
Librarian: Miss F. J. PASSAVANT
Assistant: Miss F. M. EKINS

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 second half of August and during the Christmas and Easter vacations from 10 a.m. to 1 p.m.

It is closed during the first half of 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 by the Librarian to the Library Committee, 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.

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.

Regulations affecting present and past Students of the University

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

13. All registered students who have paid the registration and Library fee, or the sessional fee, are entitled to the use of the Library so long as they are in attendance upon the day classes in the University.

14. All other students, 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.

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

16. 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.

17. 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.

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

19. 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 20), until after 5 p.m., and then only on condition that they be returned before 10 o'clock on the following morning.

20. 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.

21. Any person borrowing a book under Rule 19 or Rule 20, and failing to return it by the time therein specified, shall be fined 2d. a day, and any person who does not comply with Rule 16, shall be fined 1d. 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.

22. Books may, subject to the provision of regulation 23, 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.

23. Students desiring to borrow books for the vacation are required to procure a recommendation signed by a Professor or Lecturer of the University. Printed forms for this purpose may be obtained from the Librarian.

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. *Supervision.*—The Head of a Department to which a Seminar room is assigned shall appoint an Honorary Keeper to supervise the use of the Seminar room and books, under the general control of the Head of the Department.

4. *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 from time to time in the Seminar room by the Head of the Department, who shall supply the Librarian with a copy of the list.

5. *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.

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

7. *Use of Seminar libraries by members.*—(*a*) Members of a Seminar may, subject to the provisions of paragraph 6, 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 on leaving.

8. *Use of Seminar libraries by non-members.*—Persons who are not members of a Seminar may, subject to the provisions of paragraph 6, (*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.

9. *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 following :—

(*a*) They are not entitled to borrow books strictly confined to a Seminar room under the provisions of paragraph 6.

(*b*) They are not entitled to borrow reference books kept in a Seminar room, except after 5 p.m., and they must return books so borrowed before 10 a.m. on the following day.

CECIL DUNCOMBE OBSERVATORY

Curator:

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.

STUDENTS' SOCIETIES

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

GYMNASIUM

Instructor: 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

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.

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 report the fact that he has taken non-registered lodgings. Such lodgings will be visited without delay on behalf of the University, and if the above conditions are not complied with, or the lodgings are otherwise found unsatisfactory, the student will be required to leave them.

LYDDON HALL

(*Licensed by the Court of the University as a Hall of Residence*)

Visitors :

Sir NATHAN BODINGTON, M.A., Litt.D., LL.D., Vice-Chancellor
Professor A. S. GRÜNBAUM, M.A., M.D., F.R.C.P., D.P.H., Dean of the Faculty of Medicine
THE REV. SAMUEL BICKERSTETH, D.D., Vicar of Leeds
THOMAS PRIDGIN TEALE, M.A., D.Sc., F.R.S.

Resident Warden :

HERBERT ROWE, Senior Hon. Surgeon, the Public Dispensary, Leeds.

Sub-Warden :

W. H. PERKINS, M.Sc., Assistant Lecturer and Demonstrator, Department of Chemistry.

The object of this Institution is to supply men students with the advantages of a common collegiate life, by providing a Hall of Residence similar to those which have been established in connection with the Victoria University of Manchester, with the Edinburgh University, and with some of the London Medical Schools.

The Hall of Residence has been erected upon a suitable site within five minutes' walk from the University, and is furnished with every attention to the health and comfort of

the students. The accommodation consists of Dining Hall, Recreation Room, and other rooms for common use, and a separate room furnished as a private study and bedroom for each student. The charge is twenty-one guineas for each of the first and second terms and eighteen guineas for the third term.

Applications for admission should be sent to the Warden, Lyddon Hall, Virginia Road, Leeds, who may be seen at the Hall on any day (except Thursday) between one and two o'clock.

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 Registrar, entitling students to dine at the Refectory, College Road, daily (except Saturdays) during the session. The cost of such tickets, which must be prepaid, is £6 10s. per session or £2 10s. per term for the first and second terms, and £2 5s. for the third term for men students, and £5 10s. per session or £2 5s. per term for the first and second terms, and £2 for the third term for women students. Places will be reserved for those who pay for their dinners by the term.

MATRICULATION EXAMINATION

All communications relating to this examination should be addressed to "The Secretary, Joint Matriculation Board, 24, Dover Street, Manchester."

For particulars of the Matriculation examination in the Faculty of Medicine see page 397.

The Matriculation examination is conducted by a Joint Board representing the Victoria University of Manchester, the University of Liverpool, the University of Leeds, and the University of Sheffield. 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. 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, and it is also held at schools as a form examination. Information as to the conditions may be obtained from the Secretary to the Joint Board.

Candidates must apply to the Secretary of the Joint Board for a form of entry, which must be forwarded to the Secretary on or before MAY 28 or SEPTEMBER 3 respectively, accompanied by the proper fee. 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."

The names of candidates who have passed the Matriculation examination are published in two divisions, the names in each division being arranged in alphabetical order.

The Board of Education accepts the Matriculation certificate under certain conditions for the purpose of admission to Training Colleges under Article 115 (*d*) of the code, and of recognition as Assistant Teachers under 51 (*b*).

Women candidates who have passed the examination and taken two languages are eligible for the Honours examinations at Oxford.

Provided Latin be one of the subjects taken, the certificate is accepted by the Law Society in lieu of the Preliminary examination.

Provided certain conditions (for which see syllabus) are complied with, the certificate is accepted by the Universities of Oxford, Cambridge and London in lieu of the examination in stated subjects at Responsions, the Previous examination and the Matriculation examination respectively.

Subjects of Examination

Candidates presenting themselves for the Matriculation examination are required to satisfy the Examiners in six of the following subjects:

1. *Either* English Language *or* 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[1]
     [The following languages have been approved:—Arabic, Sanscrit, Spanish, Portugese, Italian, Russian, Hebrew, Persian, Chinese, Pali.]
   - vi. *Either* Mechanics *or* Physics
   - vii. Chemistry
   - viii. Geography (Physical, Political, and Commercial)
   - ix. Natural History (Plants and Animals).

Details of Subjects

ENGLISH LANGUAGE, LITERATURE, AND HISTORY:

An essay. Elements of the history of the English language and so much of elementary phonetics as is required to explain the chief principles of sound change involved. Elements of English grammar. A set book or books in English literature. Outlines of English history.

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1 Application for permission to present this must be made to the Secretary, Joint Matriculation Board, 24, Dover Street, Manchester, and the fee must be paid on or before March 1st of the year in question.

MATHEMATICS :

Arithmetic. The elementary geometry of triangles, parallelograms, and circles, and of similar rectilinear figures. Algebra to quadratic equations (inclusive), with the arithmetical and geometrical progressions and an elementary treatment of irrational quantities and of proportion.

GREEK :

Either one prose and one verse book *or* passages from unprepared books, with grammar questions in each case. Grammar. Translation at sight of easy Greek passages into English. Translation of English passages into Greek.

LATIN :

Either one prose and one verse book *or* passages from unprepared books, with grammar questions in each case. Grammar. Translation at sight of easy Latin passages into English. Translation of an easy passage of English prose into Latin.

FRENCH :

Grammar (the questions in grammar will not involve more than accidence and elementary syntax). *Either* translation from two prescribed French books *or* passages from unprepared books, with grammar questions in each case. Translation at sight of French prose into English. Translation of English passages into French.

GERMAN :

Grammar (the questions in grammar will not involve more than accidence and elementary syntax). *Either* translation from two prescribed German books *or* passages from unprepared books, with grammar questions in each case. Translation at sight of German prose into English. Translation of English passages into German.

OTHER LANGUAGES : details as for French and German.

MECHANICS :

The elementary portions of statics, kinetics, and of the properties of liquids and gases, including : Laws of motion. Uniform acceleration. Composition and resolution of forces in one plane. Moments of forces. Work and energy. Centre of gravity. Uniform circular motion. Simple pendulum. Direct impact. Fluid pressure. Specific gravity. Boyle's Law.

PHYSICS.

Not less than one-third of this paper will consist of easy questions in *mechanics*.

Candidates must satisfy the examiners in the *mechanics* portion of the paper and in *one* of the two following groups of subjects :

(*a*) Heat and light.

(*b*) Magnetism and electricity.

HEAT :

Temperature, Thermometer, Expansion of Solids and and Liquids, Laws of Gases, Quantity of Heat, Specific Heat, Latent Heat, Vapour Pressure, Conduction, Radiation.

LIGHT :

Laws of Reflexion and Refraction, Photometry, Formation of Images by Mirrors and Lenses, Chromatic Dispersion, Standard Combinations of two Lenses.

Magnetism :

Magnets. Magnetic properties and magnetic induction. Magnetic force. Magnetic field. Lines of force. Terrestrial magnetism.

Electricity :

Elementary facts of statical electricity (including condensers, law of electric force and potential). Simple voltaic cell. Magnetic field of current. Measurements of current. Galvanometer. Electromotive force. Resistance. Ohm's law. Electrolysis. Heating effects of currents. Electro-magnetic induction.

In setting the questions regard will be paid to the conditions under which the subjects may be best taught experimentally in schools.

CHEMISTRY :

General properties of matter. Chemical combination and decomposition and the laws governing them. Preparation, classification, and chemical behaviour of the chief elements and their compounds, especially of the non-metals. The outlines of chemical theory.

Candidates will be expected to show by their answers that they have seen experiments illustrative of all the subjects included in this syllabus, and that they have themselves performed a variety of simple qualitative and quantitative experiments.

GEOGRAPHY (Physical, Political, and Commercial) :

(*a*) Distribution of land and water. Land-forms and agencies modifying them. Distribution of temperature, winds, rainfall, vegetation and animal life. Human occupations and activities (agricultural, industrial, and commercial) as determined by these physical conditions.

(*b*) The following regions to be studied so as to illustrate the subjects stated in section (*a*).

(1) The British Isles (with outlines of the historical geography in addition).

(2) A special region or regions (to be specified yearly) in less detail.

(3) The rest of the World on broad lines only.

(*c*) Candidates will be expected to be able to read an ordnance map.

NATURAL HISTORY :

A.—Botany: 1. The structure and mode of life of plants.

(*a*) The elementary facts of the nutrition of green plants as shewn by simple experiments.

(*b*) The form and function of roots, stems, and leaves.

(*c*) The modifications of the vegetative organs in common British examples of water-plants, heath-plants, plants inhabiting dry places, climbing plants, insectivorous plants, and parasites.

(*d*) The structure and function of a typical flower.

(*e*) Modes of pollination of common flowers.

(*f*) Modes of dispersal of seeds and fruits.

(*g*) The structure of a seed and its mode of germination as seen in the maize, the bean, the melon, and other common seeds.

(*h*) Vegetative reproduction of plants by bulbs, by tubers, and in other ways.

2. The classification of plants. The general characters of the following British natural orders: Liliaceæ, Gramineæ, Ranunculaceæ, Cruciferæ, Leguminosæ, Rosaceæ, Primulaceæ, Labiatæ, Compositæ, Umbelliferæ, Cupuliferæ.

B.—Zoology:

(*a*) The general structure of a mammal; knowledge of the chief features of the skeleton is expected.

(*b*) The external form, mode of life and habits of the bat, cat, dog, sheep, horse, kangaroo, and whale.

(*c*) The wing, feathers, beak, and foot of a bird. The flight of birds.

(*d*) The nests and eggs of birds, as exemplified by two or three common British species. A fowl's egg. The place of formation of a chick: its nutrition and respiration while in the egg.

(*e*) The general structure and life-history of a frog.

(*f*) The general structure and mode of life of a fish.

(*g*) The external features and mode of life of a snail, a cockroach, and an earth-worm.

(*h*) The life-history of *either* a moth *or* butterfly, and of a pond-snail.

(*i*) *One* of the following groups:

i. (Marine animals). The general structure, mode of life, and life-history of a sea-anemone, a reef-forming coral, *either* an oyster *or an* edible mussel, a crab, *either* a star-fish *or a* sea urchin.

ii. (Inland animals). The general structure, mode of life, and life-history of hydra, a pond-mussel, a crayfish, chironomus ('blood-worm,' 'harlequin-fly'), and a spider.

Books prescribed for 1910

GREEK, *one* selection from each of (*a*) and (*b*):

(*a*) Xenophon, *Anabasis* iii., *or* Lucian, *Piscator*.

(*b*) Euripides, *Andromache* (lines 1—273, 309—463, 502—765, 802—1288), *or* Homer, *Iliad* x. and xxiv. (322 to end).

(*Candidates will be expected to parse and give the Attic equivalents of Homeric forms of common occurrence, but of these only*).

LATIN, *one* selection from each of (*a*) and (*b*) :

(*a*) Caesar, *de Bello Gallico* vii. (55 to the end), *or* Livy, ix. (1—19),

(*b*) Vergil, *Aeneid* xii., *or* Horace, *Odes ii.*

FRENCH, (*a*) and *one* selection from (*b*) :

(*a*) Sandeau, *Sacs et Parchemins* (Macmillan).

(*b*) A. de Musset, *Il faut qu'une porte soit ouverte ou fermée* (Blackie), *or* A. de Vigny, *Poésies choisies* (Blackie).

GERMAN, (*a*) and *one* selection from (*b*) :

(*a*) Goebel, *Hermann der Cherusker* (ed. Esser, Macmillan).

(*b*) *German Lyrics and Ballads* (selected by Hatfield, Heath, & Co.), No. 8, 42, 43, 46, 53, 83, 84, and 89, *or* Wagner, *A book of Ballads on German History* (Pitt Press), Nos. 2, 5, 9, 12, 13, 17, 23, 27, 31, 33, 34, 37, 40.

ENGLISH LITERATURE, *three* selections, *one* from each of (*a*), (*b*), and (*c*) :

(*a*) Shakespeare, *The Tempest*, *or* Shakespeare, *Macbeth.*

(*b*) Milton, *Paradise Lost*, i, ii., *or* Palgrave, *Golden Treasury* (ed. Fowler), Book iv.

(*c*) Macaulay, *History of England*, chapter iii., *or* Hakluyt, *Voyages* (Selections ed. Payne and Beazley), Voyages of Drake and of Gilbert.

GEOGRAPHY, North America.

Higher Papers

Alternative papers of a higher standard are set at the July examination in English Literature, English History, Mathematics, Greek, Latin, French, German, Mechanics (including Physics), and Chemistry.

For the award of certain scholarships, the examination will also include an additional paper of three hours in the subject of Mechanical Drawing.

Matriculation Calendar

For full information as to the Matriculation examination, including reprint of examination papers, see the Calendar of the Joint Matriculation Board, to be obtained from any local bookseller, price 9d., or post free 11d.

A Syllabus containing the complete regulations but without examination papers, is issued free, and is obtainable from "The Secretary, Joint Matriculation Board, 24, Dover Street, Manchester."

DEGREES IN ARTS

1. The degrees in Arts shall be : Ordinance.

Bachelor of Arts (B.A.)
Master of Arts (M.A.)
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.

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. Regulation.

Ordinary Degree of Bachelor of Arts

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. Ordinance.

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.[1] 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 committees, on report from the separate examination committee concerned, may determine.

8. Candidates who have failed at a Final examination may present at the June examination of the following year those books and periods in which they have already been examined.

1 In 1910 they will begin on Monday, June 13. The latest date of entry and of payment of fees will be TUESDAY, MARCH 1.

9. 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.

Intermediate Course and Examination

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

i, ii. Two languages from the following list: Greek; Latin; French; German; 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*) one of the following Natural Sciences: Physics, Chemistry, Zoology, Botany, Geology.

v. Any subject under i, ii, iii, iv not already selected, provided that no candidate may take (*a*) both Ancient and Modern History; (*b*) two Natural Sciences.

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

Detailed subjects of study and of examination.

Regulations.

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 for 1910: Herodotus viii, 1-90; Aeschylus, *Persians*.
Books for 1911: Plato, *Euthyphro* and *Crito*; Sophocles, *Philoctetes*.

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 for 1910: Livy ii, chapters 1-50; Virgil, *Georgics* i, ii.
Books for 1911: Livy xxii, 1-50; Horace, *Odes* ii, iii.

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 for 1910: (*a*) André Chénier, *Poésies* (the following extracts: *l'Aveugle*, *le Jeune Malade*, *la Jeune Tarentine*, *à la France*, *la Jeune Captive*, *Dernières Pensees* (Hachette et Cie, 2d.); (*b*) Balzac, *Eugénie Grandet* (Calmann Levy, 1/-).

Books for 1911: (*a*) Victor Hugo, *Odes*, livre i, Nos. 4-7; (*b*) T. Gautier, *Trois Grotesques* (Oxford Higher Series).

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 for 1910: Gustav Freytag, *Der Staat Friedrichs des Grossen*, ed. Wagner (Pitt Press); Buchheim, *Balladen und Romanzen* (Macmillan): Bürger, *Lenore*; Schiller, *Der Kampff mit dem Drachen und Der Taucher;* Uhland, *Des Sängers Fluch;* Heine, *Die Wallfahrt nach Kevlaar.*

Books for 1911: Sybel, *Prinz Eugen von Savoyen* (ed. Quiggin, Pitt Press), pp. 1-67; Buchheim, *Deutsche Lyrik* (Macmillan), Nos. 41, 43, 46, 48, 53-55, 60, 62, 64, 65, 67-71, 74, 79, 80, 90, 92, 93, 96, 97, 99, 105-107.

ENGLISH LITERATURE :

A period of English Literature. Books prescribed for special study.

Period for 1910: 1637-1674.

Books for 1910: Milton, *Comus*, *Paradise Lost*, books i, ii; Butler, *Hudibras*, part i; Buckingham, *The Rehearsal*; Dryden, *Essay of Dramatic Poesy*; Cowley, *Essays*; Golden Treasury, book ii (portions relating to the period); Chaucer, *Prologue to Canterbury Tales*; Shakespeare, *Much Ado about Nothing.*

Period for 1911: 1700-1765.

Books for 1911: Pope, *Rape of the Lock*, *Epistle to Arbuthnot*; Swift, *Conduct of the Allies*; Defoe, *Robinson Crusoe*, part i; Goldsmith, *Vicar of Wakefield*; Palgrave, *Golden Treasury*, book iii; Chaucer, *Prologue to Canterbury Tales*; Shakespeare, *Macbeth.*

ANCIENT HISTORY :

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

Special Subjects for 1910 and 1911: Plutarch's *Lives of Lycurgus*, *Solon*, *Pericles*, *Alexander*, *Cato*, *The Gracchi*, *Julius Cæsar.*

MODERN HISTORY :

A selected period of Modern History.

Period for 1910 and 1911: Modern European History from 1763

LOGIC :

The elements of Deductive and Inductive Logic.

POLITICAL ECONOMY :

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

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 applica tion ; the elements of Organic Chemistry ; Practical Chemistry.

ZOOLOGY :

The structure of animals as exemplified by a progressive series of selected types. Outlines of embryology. The theory of recapitulation. The principles of natural selection. Practical work.

BOTANY :

The structure and mode of life of a flowering plant ; the structure and physiology of a flowering plant ; evolution of plants as shown by representatives of the chief groups of plants ; elements of the classification of flowering plants ; practical botany.

GEOLOGY :

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

Final Course and Examination

Ordinance.

11. 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, History, Philosophy, 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, Philosophy, 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.

I. Principal Subjects, studied for Two Years.

GREEK:

Regulations.

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 for 1910: Plato, *Protagoras;* Aristophanes, *Acharnians*; Homer, *Iliad* xxii, xxiii.

Books for 1911: Plato, *Republic*, books ii and iii; Thucydides, book ii; Aristophanes, *Frogs*.

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 for 1910: Cicero, *Letters* (Tyrrell's Selection), 1-32 (omitting 6, 11, 12, 19, 21, 24, 25), 38, 40, 42, 60, 61, 67, 73, 78; Tacitus, *Agricola*; Horace, *Odes* i-iii.

Books for 1911: Tacitus, *Histories* i; Catullus (Simpson's selection, omitting pp. 34-52); Juvenal, iii, iv, x, xi, xiv.

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 for 1910: (*a*) Rousseau, *Lettre sur les Spectacles* (Hachette, 1/3), ed. Brunel; Molière, *Misanthrope*, *Les Femmes Savantes*.

Recommended for reading: *Extraits en Prose* (Hachette, 1/8), ed. Brunel.

Periods for 1910: (*a*) Rousseau and the Romantic Revival; (*b*) French Classical Comedy to the end of the XVIIth Century.

Books for 1911: Molière, *Le Misanthrope*, *Les Femmes Savantes*; Victor Hugo, *Notre Dame*.

Periods for 1911: (*a*) French Classical Comedy to the end of the XVIIth Century: (*b*) the French Novel from 1820 to 1850.

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 for 1910: Schiller, *Wilhelm Tell*; Goethe, *Götz von Berlichingen*; Heine, *Uber Deutschland* (Luther, Lessing, die Romantische Schule, Ludwig Tieck, etc.) in Buchheim, *Heine's Prosa* (Clarendon Press), pp. 148-192.

Period for 1910: Schiller's Life and Works; Goethe's Life and Works.

Books for 1911: Goethe, *Götz von Berlichingen*; Heine, *Über Deutschland* (Luther, Lessing, die Romantische Schule, Ludwig Tieck) in Buchheim, *Heine's Prosa* (Clarendon Press), pp. 148-192; Lessing, *Nathan der Weise*.

Period for 1911: Goethe's Life and Works; Lessing's Life and Works.

ENGLISH LANGUAGE AND LITERATURE:

English Language

First Year Course. The elements of Old and Middle English, with prescribed books in Old English prose, Middle English, and unseen translation.

Books for 1910: Sweet, *Anglo-Saxon Primer*: Chaucer, *Knight's Tale*.

Second Year Course. A more advanced study of Old and Middle English, with prescribed books (prose and verse) and unseen translation.

Books for 1910: Sweet, *Anglo-Saxon Reader*, extracts iv, viii, ix, xxv, xxvi; Sweet, *Middle English Primer*, *Ancren Riwle*.

First Year Course. Books for 1911: Sweet, *Anglo-Saxon Primer*; Chaucer, *Clerk's Tale*.

Second Year Course. Books for 1911: Sweet, *Anglo-Saxon Reader*, extracts ii, viii, xvi, xxi; Chaucer, *Pardoner's Tale*; Vision of Piers Plowman, Passus i-iv.

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 for 1910: 1637-1700.

Books for 1910: Milton, *Paradise Lost*, books i and ii, *Samson Agonistes*, *Areopagitica;* Dryden, *Absalom and Achitophel*, part i, *Essay of Dramatic Poesy*; Butler, *Hudibras*, part i; Buckingham, *The Rehearsal*; Congreve, *The Way of the World*; Golden Treasury, book ii; Chaucer, *Knight's Tale*; Shakespeare, *Macbeth*.

Period for 1911: 1700-1786.

Books for 1911: Addison, *Golden Treasury Selections*; Pope, *Iliad*, book i, *Epistles to Arbuthnot and Augustus*; Swift, *Conduct of the Allies*; Johnson, *Lives of Pope, Swift, Gray*; Burke, *Conciliation with America*; Defoe. *Robinson Crusoe*, part i; Goldsmith, *Vicar of Wakefield*; Chaucer, *Clerk's Tale*; Shakespeare, *Hamlet*.

HISTORY:

First Year Course: A general sketch of European History from the third century A.D.

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, European, Economic History.

Periods for 1910 (*First Year Course*): Either Outlines of European History, or the History of the Thirteenth Century.
Second Year Course: Greek History, 445-371 B.C.; Roman History, 31 B.C.-180 A.D.; English History, 1327-1485; European History, 1789-1815.

Periods for 1911 (*First Year Course*), as for 1910.
Second Year Course: Greek History, 510-445 B.C.; Roman History, 366-146 B.C.; English History, 1327-1485; European History, 1848-1871.

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.

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 description of industrial and commercial organisation.

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 Renascence to the present time, with special reference to England and special emphasis on the Nineteenth Century. A prescribed book. The book prescribed for 1910 is Plato, *Republic*, ii, iii, iv.

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.

Period and books for 1910 and 1911 : The same as for English Literature as a principal subject.

HISTORY :

General sketch of European History since the Roman Empire.

PHILOSOPHY :

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

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.[1]

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

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1 In 1910 it will begin on Monday, June 13. The latest date of entry and of payment of fees will be TUESDAY, MARCH 1.

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
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' courses 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 joint examination committee may determine.

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 twelve hours a week in the first and second years, and ten 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 for 1910:

GREEK: Homer, *Iliad*, xxii, xxiii, xxiv, *Odyssey*, ix, x, xi, xii; Pindar, *Olympian Odes*; Aeschylus, *Persae*, **Agamemnon*; Sophocles, **Antigone*, *Philoctetes*; Euripides, *Bacchae*, *Hercules Furens*; Aristophanes, *Acharnians*, **Frogs*; Herodotus ii, *vi; Thucydides i, *vii; Plato, *Republic* i, ii, iii, iv; Demosthenes, *De Corona*; Dionysius Halicarnassensis, **De Compositione Verborum.*

Books for 1911:

Homer, *Iliad* xxii, xxiii, xxiv, *Odyssey* ix, x, xi, xii; Pindar, *Olympian Odes*; Aeschylus, *Persæ*, **Agamemnon*; Sophocles, **Antigone*; Euripides, *Bacchae*; Aristophanes, *Acharnians*, **Frogs*; Theocritus, i-xv; Herodotus, ii, *vi; Thucydides, i, *vii; Plato, *Republic* i, ii, iii, iv; Demosthenes, **De Corona*; Aristotle, *Rhetoric*, book i.

Books for 1910:

LATIN: Plautus, *Captivi* and *Trinummus;* Catullus (Simpson's selection); Lucretius, iii, *v; Virgil, *Georgics*, *Aeneid*, i, *ii, iii, iv; Horace, *Odes* i, ii, *iii, iv, and *Epistles*; Livy, xxi, xxii; Cicero, *pro Roscio Amerino*, **Second Philippic*, *Letters* (Watson's Selection, part v); Tacitus, *Annals* ii, **Histories*, iii, *Agricola*; Juvenal, i, *iii, *iv, v, *x, xi, xiv.

Books for 1911:

Plautus, *Captivi* and *Trinummus;* Catullus (Simpson's selection); Lucretius iii, *v; Virgil, *Georgics* i, ii; *Aeneid*, i, ii, iii, *iv, *vi; Horace, *Odes*, i, ii, *iii, iv, *Epistles* i; Juvenal i, *iii, *iv, v, *x, xiv; Cicero, *pro Roscio Amerino*, **Second Philippic*, *Letters* (Tyrrell's selection), 1-32 (omitting 6, 11, 12, 19, 21, 24, 25), 38, 40, 42, 60, 61, 67, 73, 78; Livy xxi, xxii; Tacitus, *Histories*, i-*iii, *Agricola.*

English Language and Literature

In this School there shall be alternative schemes of study: Scheme A, in which special attention will be paid to language; and Scheme B, in which special attention will be paid to literature. 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 the next page) at the end of their first year.

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

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

(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.)

Candidates who, instead of the above-mentioned examination, have passed the Intermediate examination for the Ordinary B.A. degree (see p. 144), 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 B; (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: (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.

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 for 1910: Sweet, *Anglo-Saxon Primer* and *Anglo-Saxon Reader*, extracts iv, viii, ix, xvi; Morris and Skeat, *Specimens of Early English*, vol. i, extracts vi, ix; Chaucer, *Prologue to Canterbury Tales*.

Books for 1911: Sweet, *Anglo-Saxon Primer* and *Anglo-Saxon Reader*, extracts ii, iv, vi, vii, viii, xvi; Morris and Skeat, *Specimens of Early English*, vol. i, extract xix (*King Horn*); Chaucer, *Prologue to Canterbury Tales*.

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.

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

Books in Old and Middle English for 1910:

Beowulf, either vv. 1-1887 or 1888 to end; Sweet's *Anglo-Saxon Reader*, extracts ii, iv, x, xv, xx, xxv; Morris and Skeat, *Specimens of Early English*, vol. i, extracts vi, xvi, xix.

Books in Old and Middle English for 1911:

Beowulf, either vv. 1-1887 or 1888 to end; Sweet's *Anglo-Saxon Reader*, Extracts ii, vi, vii, viii, xxi, xxii, xxv, xxvi; *Sir Bevis of Hamtoun* (E.E.T.S.); Morris and Skeat, *Specimens of Early English*, vol. ii, extracts ii, ix, x.

Outlines of English Literature for 1910 *and* 1911:

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 Calender* (ed. Herford); Milton, *Samson Agonistes*, *Areopagitica*; Dryden, *Religio Laici*, *Essay of Dramatic Poetry*; 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*.

Scheme B

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; 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 language other than English.

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, two papers.

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.

Books and Period prescribed for 1910:

(*a*) Books in Old and Middle English: As in Scheme A. for 1910.

(*b*) Special Period for 1910: 1550-1637.

(*c*) Books in special period: Poems of Wyat and Surrey (in *Tottel's Miscellany*); Lyly, *Euphues*, part i; Kyd, *Spanish Tragedy*; Marlowe, *Edward II*, *Tamburlaine*; Spenser, *Faerie Queene*, book i, *Shepherd's Calender*; Jonson, *Volpone*, *Discoveries*; Webster, *Duchess of Malfi*; Ford, *The Broken Heart*; Beaumont and Fletcher, *Valentinian*; Drayton and Daniel, *Selections* (ed. Beeching); Donne, *Poems and Satires*; Hooker, *Ecclesiastical Polity*, book i; Bacon, *Essays*; Golden Treasury i.

(*d*) Special author for 1910: Shakespeare, with special study of *Richard III*, *Much Ado about Nothing*, *King Lear*, *Winter's Tale*, *Sonnets*.

History of Criticism:

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

Books and Period prescribed for 1911:

(*a*) Books in Old and Middle English as in Scheme A for 1911.

(*b*) Special Period for 1911: 1637-1700.

(*c*) Books in special period: Davenant, *Albovine*, *King of the Lombards*; Browne, *Religio Medici* and *Hydriotaphia*; Milton, complete Poems and *Areopagitica*; Butler, *Hudibras*, part i; Dryden, *Absalom and Achitophel*, i, *MacFlecknoe*, *Conquest of Granada*, *Preface to the Fables*; Wycherley, *Plain Dealer*; Congreve, *The Way of the World*; *Cavalier and Courtier Lyrics* (Canterbury Poets); Palgrave's *Selections from Herrick* and *Treasury of Sacred Song*, book i; Otway, *Venice Preserved*; Cowley, *Odes and Essays*; Poems of Waller; Denham, *Cooper's Hill*; Buckingham, *The Rehearsal*; Bunyan, *Pilgrim's Progress*, part i.

(*d*) Special author for 1911: Shakespeare, with a special study of *Hamlet* and *Henry VIII*.

History of Criticism as for 1910.

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 the following subjects:

Either (*a*) French and German, as principal subjects;

or (*b*) French, as principal subject, together with German and English as subsidiary subjects ;

or (*c*) German, as principal subject, together with French and English as subsidiary subjects.

Candidates who enter the School in or before 1910 may take English as a principal subject, with either French or German as a second principal subject.

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 in a principal subject or principal subjects, shall be distinguished in the class list by some mark to indicate the subject or subjects in which they have shown such merit.

Principal subjects

I. French and German :

The course of study and subjects of examination in French or German taken as a principal subject 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 as a principal subject 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 taken as a principal subject by candidates entering the School in or before 1910 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 ; and, in addition, during one of these years, a course of not less than one hour a week in Gothic, or in Anglo-Norman (if French be not taken as a principal subject).

Literature. During each year, a course in English Literature of not less than three hours a week, together with an additional course of one hour a week, during one of these years.

Subsidiary subjects

I. FRENCH OR GERMAN :

The course of study and subjects of examination in French or German taken as a subsidiary subject shall be : The work required for the full course in French or German for the Ordinary degree of B.A. ; additional modern texts ; additional study of literature for one year.

Candidates taking French or German as a subsidiary subject shall be required to attend : for three years the full course in French or German for the Ordinary degree of B.A ; for one hour a week for one year an additional class in literature ; 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 taken as a subsidiary subject shall be : English Language : prescribed books in Old and Middle English ; with elements of Old and Middle English Phonology. English Literature : the outlines with prescribed books, and a special period with prescribed books.

Candidates taking English as a subsidiary subject shall be required to attend : courses in Old and Middle English of one hour a week for three years ; a course in English Literature of three hours a week during each year, and, in addition, a course of one hour a week during the second or third year.

Examination

The examination in each subject of the School shall consist of an oral examination and of the following papers :

FRENCH OR GERMAN AS A PRINCIPAL SUBJECT :

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 AS A PRINCIPAL SUBJECT :

Translation of unseen passages of English, and of passages from Gothic and Old French, with questions suggested by the passages, two papers.
Translation from prescribed English books, with literary and linguistic questions, one paper.
A period of literature, one paper.
Outlines of English literature, one paper.
History of the language and historical grammar, one paper.

FRENCH OR GERMAN AS A SUBSIDIARY SUBJECT :

Composition, including Essay, one paper.
Prescribed texts and Literature, one paper.
Unprepared translation and historical grammar, one paper.

ENGLISH AS A SUBSIDIARY SUBJECT :

Old and Middle English, one paper.
English Literature, two papers.

Books and periods prescribed for 1910 :

I. FRENCH :

Books before 1500 : E. Koschwitz, *Les plus Anciens Monuments de la Langue Française* (*Serments*, *Eulalie*, *St. Léger*) ; *Vie de St. Alexis*, ed. Paris ; *Aucassin et Nicolette*, ed. Suchier, trans. Counson ; Bartsch, *Chrestomathie*, col. 390-411, 462-495.

Books after 1500 : Darmesteter et Hatzfeld, *Morceaux choisis des Ecrivains du 16e siècle* (both prose and verse) ; Descartes, *Discours de la Méthode* ; Corneille, *Le Cid*, *Polyeucte ;* Racine, *Athalie* ; Molière, *Le Misanthrope*, *Les Femmes Savantes* ; Victor Hugo, *Notre Dame* ; Rousseau, *Lettre sur les Spectacles* ; Lamartine, *Les Premières Méditations*.

Periods of Literature : French Drama in the XVIIth Century ; Rousseau and the Romantic Revival.

Books and periods prescribed for 1911 :

Books before 1500 : E. Koschwitz, *Les plus Anciens Monuments de la Langue Française* (*Serments*, *Jonas*, *La Passion*); Chrétien de Troyes, *Le Chevalier au Lion*, vv. 1406-2165 ; Guillaume de Berneville, *Vie de St. Gilles*, II, 1-1318 ; Bartsch, *Chrestomathie* (ed. 1908), pieces 78, 79, 81-84, 87, 88, 95-98.

Books after 1500 : Darmesteter and Hatzfeld, *Morceaux Choisis des Ecrivains au 16e siècle*; Descartes, *Discours de la Méthode* ; Corneille, *Le Cid*, *Polyeucte*; Racine, *Athalie* ; Molière, *Le Misanthrope*, *Les Femmes Savantes* ; Rousseau, *Lettre sur les Spectacles* ; Victor Hugo, *Notre Dame* ; Lamartine, *Les Premières Meditations*.

Periods of literature : (*a*) French Classical Comedy to the end of the XVIIth Century ; (*b*) The Life and Works of Rousseau and Diderot ; (*c*) The French Novel from 1820 to 1850.

Books and periods prescribed for 1910 :

II. GERMAN :

Books before 1500 : Braune, *Althochdeutsches Lesebuch* ii, iv, vi-viii, xii, xiv, xv, xvi (1-8), xvii, xxiii (1-5), xxiv, xxviii-xxxi, xxxii (1-4), xxxiv. xxxvi, xli ; Gudrun ix-xxi., *Gottfried von Strassburg* i, ii, viii ; Bartsch, *Liederdichter*, xxi.

Books after 1500 : Hans Sachs, *Selections* (ed. Kinzel, Halle) *in Denkmäler der älteren deutschen Literatur* iii ; Goethe, *Faust*, part i, *Götz von Berlichingen* ; Schiller, *Wilhelm Tell*, *Gedichte der dritten Periode* (in Mayr, *Schillers Gedichte*, *Wien*) ; Lessing, *Minna von Barnhelm*, *Nathan der Weise*, *Hamburgische Dramaturgie* (ed. Lyon, Velhagen and Klasing) ; Gerhart Hauptmann, *die versunkene Glocke*.

Period of Literature : Die zweite klassische Periode.

Books and periods prescribed for 1911 :

Books before 1500 : as for 1910, substituting Hartman von Aue, *Der Arme Heinrich* (ed. Robertson, Sonnenschein) for *Gottfried von Strassburg* i, ii, vii.

Books after 1500 : as for 1910.

Period of literature : Die zweite klassische Periode.

III. ENGLISH :

(*a*) Language

A (1) *As a principal subject*, 1910 :

OLD AND MIDDLE ENGLISH : prescribed books as for English Honours, Scheme A, 1910.

(2) *As a principal subject*, 1911 :

OLD AND MIDDLE ENGLISH : prescribed books as for English Honours, Scheme A, 1911.

B (1) *As a subsidiary subject*, 1910 :

First Year Course : Sweet, *Anglo-Saxon Primer* ; Chaucer, *Nun's Priest's Tale* ; Old and Middle English Grammar.

Second Year Course : Sweet, *Anglo-Saxon Reader*, extracts vi, vii, viii, ix, x, xxvi : Chaucer, *Clerk's Tale*.

Third Year's Course: Beowulf, either 1-1887 or 1888-end; Sweet, *Middle English Primer*, *Ancren Riwle.*

(2) *As a subsidiary subject*, 1911:

First Year Course: Sweet, *Anglo-Saxon Primer*; Chaucer, *Prologue*, *Pardoner's Tale*; Old and Middle English Grammar

Second Year Course: Sweet, *Anglo-Saxon Reader*, extracts ii, iv, vi, vii, viii, xxv, xxvi.

Third Year Course: *Beowulf*, either 1-1887, or 1888 to end; Sweet, *Middle English Primer; Ancren Riwle.*

(*b*) Literature.

A (1 *and* 2) *As a principal subject*, 1910 *and* 1911.
(*a*) Outlines of English Literature.
(*b*) Special period and books as for English Honours, 1910.

B (1 *and* 2) *As a subsidiary subject*, 1910 *and* 1911.
(*a*) Outlines of Literature.
(*b*) Special period and books as for Final B.A., 1910.

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, as for the Intermediate examination for the Ordinary degree of B.A.: (1) Latin or Greek; (2) French or German; (3) Logic or English Literature, or a third Language; (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.)

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.

Final 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).

Special periods for 1910 and 1911: (1) Roman History, 31 B.C.-14 A.D.; (2) European History, 1789-1804; (3) The Life and Times of Saint Francis of Assisi.

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 that for the Intermediate examination for the Ordinary degree of B.A. or B.Sc., Logic being one of the subjects, and candidates must pass this examination before proceeding further on their Honours course.

(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.)

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, 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.).

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.

Final 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[1]

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.[2]

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

1 In 1910 the latest date of entry and payment of fee will be TUESDAY, MARCH 1, and the examination held under I 3 will begin about Monday, June 13.

2 Students who have entered on an Honours course prior to October 1st, 1906, may obtain permission to proceed to the M.A. degree under the provisions of the Ordinance published in the Calendar for the session 1905-6.

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. 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. 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 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.

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 scheme of study 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 1910: Homer, *Iliad* xxii, xxiii; *Odyssey*, ix; Sophocles, *Antigone*; Euripides, *Bacchae*; Aristophanes, *Acharnians*; Herodotus vi; Thucydides vii; Plato, *Protagoras*.

Books prescribed for 1911: Homer, *Iliad* xxiii, xxiv, *Odyssey* ix; Sophocles, *Antigone*; Euripides, *Bacchae*; Aristophanes, *Frogs*; Herodotus vi; 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 1910: Plautus, *Trinummus*; Lucretius v; Horace, Odes i-iii; Virgil, *Georgics* i, ii, *Aeneid* i-iv; Cicero, *Second Philippic*; Livy, xxii; Tacitus, *Agricola*, *Histories* iii; Juvenal iii, iv, v, x, xi, xiv.

Books prescribed for 1911: as for 1910, substituting Plautus, *Captivi* for *Trinummus*; Tacitus, *Histories* i for iii; and Juvenal, i for v.

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 1910; G. Paris et Langlois, *Chrestomathie du Moyen Age*: Darmesteter et Hatzfeld, *Morceaux choisis des Ecrivains du 16e Siècle* (poetry only); Corneille, *Polyeucte*; Molière, *Le Misanthrope*; *les Femmes Savantes*; Racine, *Athalie*; Rousseau, *Lettre sur les Spectacles*; Victor Hugo, *Hernani*.

Period of Literature: French Classical Comedy to the end of the 17th Century.

Books prescribed for 1911: G. Paris et Langlois, *Chrestomathie du Moyen Age*; Darmesteter et Hatzfeld, *Morceaux choisis des Ecrivains du 16e Siècle* (prose only); Corneille, *Polyeucte*; Molière, *Le Misanthrope*; Racine, *Athalie*; Rousseau, *Lettre sur les Spectacles*; Victor Hugo, *Hernani*, *Notre Dame*.

Period of Literature: The French Novel, from 1820 to 1850.

German

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 1910: Bartsch, *Liederdichter* xxi; *Gudrun* ix.-xxi.; Hans Sachs, *Selections* (ed. Kinzel, Halle, in *Denkmäler der älteren deutschen Literatur*, III, 1); Schiller, *Wilhelm Tell*; *Gedichte der dritten Periode* (in Mayr, *Schillers Gedichte*, Wien); Goethe, *Faust* i. and *Götz von Berlichingen*; Lessing, *Hamburgische Dramaturgie* (ed. Lyon, Velhagen & Klasing).

Periods of Literature for 1910: Schiller's Life and Works; Goethe's Life and Works.

Books prescribed for 1911: as in 1910, with the following changes: For Gudrun ix-xxi substitute Hartmann von Aue, *Der Arme Heinrich* (ed. Robertson, Sonnenscheim); omit Schiller, *Gedichte der dritten Periode* (in Mayr, Schiller's Gedichte. Wien); substitute *Nathan der Weise* for *Hamburgische Dramaturgie*; add Gerhart Hauptmann, *die versunkene Glocke*.

Periods of Literature for 1911: Goethe's Life and Works; Lessing's Life and Works.

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, one paper, with Gothic, one paper.
or (ii) Shakespeare, two papers.

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 1910:

I. As a single subject.

A (*c*) Outlines of English Literature, with prescribed books as for English Honours, Scheme A, 1910.

B (*b*) Prescribed books in Old and Middle English: *Either* (i) *Beowulf*, vv. 1-1651, or vv. 2223 to end, and Morris and Skeat's *Specimens of Early English*, vol. i, extracts ii, vi, x, xii, xix, *or* (ii) Sweet's *Anglo-Saxon Primer*, and Chaucer, *Minor Poems* (Clarendon Press, ed. Skeat).
(*c*) Outlines of English Literature, with prescribed books as for English Honours, Scheme A, 1910.
(*d*) *Either* (i) Wright's *Primer of Gothic Language*, or (ii) a general knowledge of Shakespeare's *Plays and Poems*.

II. In combination with another subject.

A (*b*) Prescribed books in Old and Middle English: *Either* (i) *Beowulf*, vv. 1-1651, or vv. 2223 to end, and Morris and Skeat's *Specimens of Early English*, vol. i, extracts ii, vi, x, xii, xix, *or* (ii) Sweet's *Anglo-Saxon Primer*, and Chaucer, *Minor Poems* (Clarendon Press, ed. Skeat).
(*c*) Wright's *Primer of Gothic Language*.

B (*b*) Outlines of English Literature, with prescribed books as for English Honours, Scheme A, 1910.
(*c*) Shakespeare, *Tragedies*.

Books and periods prescribed for 1911:

I. As a single subject.
As for 1910, substituting *Sir Bevis of Hamtoun* for Morris and Skeat's *Specimens of Early English*.

II. In combination with another subject.
As for 1910.

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 1300 A.D.), General, two papers, with special period in Mediæval History, two papers.
Or Modern History (since 1300 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 Mediæval 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 for 1910 and 1911: (1) Roman History, 31 B.C.-14 A.D.; (2) Life and Times of Saint Francis of Assisi; (3) The Age of Queen Elizabeth; (4) European History, 1789-1804 A.D.

Philosophy

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.

Special period for 1910: 1760-1900.
Economist for special study for 1910: 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, viz:

(1) The aim and form of Education and the organisation of its means, and their relations with Social Philosophy, Ethics and Logic—one paper.

(2) The processes of Education and their relations with the Physiology and Psychology of Development—one paper.

Or The History of Education – one of the following periods, with study of certain original authorities, as arranged after consultation with the Professor—two papers, viz :

(1) From beginnings of Greek education to 1400 A.D.
(2) 1400—1760 A.D.
(3) 1760 A.D. to present time.
(4) (*a*) 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.

(*b*) General history of the development of thought in relation to education in Europe, with special reference to the foreign country studied under (*a*)—two papers.

DEGREE OF DOCTOR OF LETTERS[1]

Ordinance

1. The degree of Doctor of Letters shall be conferred by the University upon registered Masters of Arts 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.

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 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.

1 In 1910 the latest date for application and payment of fee will be TUESDAY, MARCH 1, and the examination, if required, will begin about Monday, June 13.

DIPLOMAS

General Regulations

Applicable to all Diplomas

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 the class examinations 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.

Diploma in Education

Regulations. 1. 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.

2. The Session for students in this Department will open at the beginning of September and be carried on till the middle or end of July.

3. In accordance with the requirement of the Board of Education at least sixty days will be devoted to class work in school.

4. The course is both theoretical and practical. The theoretical instruction will be mainly given in the first and second terms of the session, while the third term, with the exception of about four hours of lecturing a week, will be devoted to practice.

I. Theoretical Instruction.

Students will attend the following lectures:

(*a*) Psychological Bases of Education, Wednesday, 4-5, during the University Session;

(*b*) Logical Bases of Education, Tuesday and Thursday, 9.30-10.30, during the 1st term;

(*c*) Physical Education, Tuesday and Thursday, 9.30-10.30, during the 2nd term;

(*d*) History of Education, Tuesday and Thursday, 10.30-11.30, during the University Session;

(*e*) Plato's Republic, Bks. II-IV., Thursday, 2-3, during the University Session;

(*f*) 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.

Note 1.—The courses (*a*) (*b*) (*c*) (*d*) (*e*) 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, but it is strongly recommended that students already in the University should take course (*f*) in a year previous to that given to preparation for the diploma.

II. Practical Work.

This will be carried on under the immediate supervision of Professor F. H. Matthews, M.A., and Miss H. Robertson, B.A.

For several weeks previous to the opening of the University Session at the beginning of October, students will be in continuous attendance at certain selected schools for the purpose of observing methods of organisation, teaching, discipline, &c.

During each week of the University Session a certain amount of systematic teaching in school will be done by each student.

The third term will be devoted to practical work in the schools with the exception of such time as is required for attendance at courses of lectures at the University.

A Criticism or Demonstration lesson will be given once a week during the first two terms.

5. The written examination for the diploma shall take place in June, at the same time as the degree examinations. The papers—except that in the Practice of Education—will, as a rule, be the same as those set for the degree.

The tests in practical skill shall consist in the delivery of lessons and an inspection of records of the candidate's practical work in school. Importance shall be attached to reports on the candidate's work and skill from the head teacher of the school and from a member of the staff of the University Education Department. This examination will, as a rule, be held in June or July.

6. 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 4. II. above;

(*b*) Attendance on course 4. I. (*f*);

(*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 (§ 5).

The diploma in Education in this case will not be issued until the candidate has also passed the degree examination in the subject or subjects included under (*c*).

7. The list of successful candidates shall be issued in alphabetical order, and no special honours shall be assigned to any candidate.

8. No diploma shall 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 he (or she) has been teaching, and must submit records of work done.

9. Students taking the whole of the course for the diploma, whether in one or in two years, shall pay an inclusive fee of £14 14s. The fee for the examination shall be £1.

10. The following have been recognised as efficient Practising Schools for students:

Leeds Grammar School.
Leeds Girls' High School.
Giggleswick School.
Wakefield Girls' High School.
Leeds Modern (Boys') School.
Leeds Modern (Girls') School.
Leeds Catholic College.
Notre Dame Collegiate School.
Mount St. Mary's College, Leeds.
Leeds Central High School.
Leeds Cockburn School.
Leeds Thoresby School.
West Leeds High School.

Diploma for Teachers of French

Candidates for this diploma will be required to have passed prescribed examinations, after pursuing a prescribed course of study.

The examinations for the diploma, to be conducted annually,[1] will be:

1. The First examination, in language, of the same standard as the Final examination in French for the Ordinary degree of B.A., except that there will be no examination in literature or in prescribed authors.
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, £1.

Diploma for Teachers of German

The regulations for this diploma are the same as above, with the substitution of "German" for "French" throughout.

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[1] In 1910 they will begin about Monday, June 13. The latest date of entry and of payment of fees will be TUESDAY, MARCH 1.

Courses in Arts

CLASSICS

Professor RHYS ROBERTS
Professor CONNAL
Mr. URE

GREEK LANGUAGE AND LITERATURE

I. Elementary Class

This class is intended for beginners; it will not be held unless there is a reasonable number of entries.

Saturdays at 9.30 a.m.

Fee for the session, £1 1s.; for a term, 7s. 6d.

Books recommended

A *First Greek Book* to be chosen when the class meets.
Sonnenschein's *Greek Grammar* (Swan Sonnenschein).

II. Higher Elementary Course

The work in this course will comprise grammar, elementary composition, translation at sight, and the special study of (*a*) either Homer *Iliad* x and xxiv, or Euripides *Andromache*, and (*b*) either Xenophon *Anabasis* iii, or Lucian *Piscator*.

Mondays, Wednesdays, and Fridays at 11.30 a.m., and a class in composition on Saturdays at 10.30 a.m.

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

Text-books to be chosen when the class meets.

III. Intermediate Course

The work in this course will comprise composition, translation at sight and the special study of Herodotus viii, 1-90 and Æschylus *Persae*.

Mondays, Wednesdays and Fridays at 3 p.m., and a composition class on one other hour a week at a time to be fixed.

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

Books recommended

Jebb, *Primer of Greek Literature* (Macmillan).
There are editions of the Persae by Sidgwick & by Prickard, and of Herodotus viii by Shuckburgh.

IV. Final Course (First Year)

The work in this course will comprise composition, translation at sight, and the special study of books to be selected when the class meets.

Mondays, Wednesdays, Fridays, and Saturdays, at 9 30 a.m.

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

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).

V. Final Course (Second Year)

The work in this course will comprise composition, translation at sight, and special study of Plato, *Protagoras*; Aristophanes, *Acharnians*; Homer, *Iliad* xxii, xxiii.

Tuesdays, Thursdays and Fridays, at 9.30 a.m. Composition class on Fridays at 3 p.m.

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

Books recommended

Murray's, Jevons's, or Mahaffy's *History of Greek Literature*; or Croiset's (the abridged edition).
Plato, *Protagoras*, Adam (Cambridge University Press).
Aristophanes, *Acharnians*, Merry (Oxford University Press).
Homer, *Iliad*, Monro (Oxford University Press).

VI. M.A. and Honours 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 Greek.

Mondays, Tuesdays, Wednesdays, and Thursdays, at 10.30 a.m., and Saturdays at 11.30 a.m. (composition).

Fee for the course: without the class in composition £4 14s. 6d.; for the composition class, £1 5s.

LATIN LANGUAGE AND LITERATURE

I. Intermediate Course

The work in this course will comprise composition, translation at sight, and the special study of Livy ii, 1-50, and Virgil, *Georgics* i, ii.

Mondays, Wednesdays and Fridays at 9.30 a.m., and Tuesdays at 10.30 a.m. (composition).

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

Books recommended

Livy ii, 1-50, Conway (Pitt Press).
Virgil, *Georgics* i, ii, Page (Macmillan).

II. Final Course (First Year)

The work in this course will comprise composition, translation at sight, and the special study of selected books, two of which will be Livy ix, and Catullus (Simpson's selection).

Mondays, Wednesdays, and Fridays, at 11.30 a.m., and Tuesdays, at 11.30 a.m. (composition).

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

Books recommended

Livy ix, Stephenson (Pitt Press).
Catullus, *Select Poems*, Simpson (Macmillan).

III. Final Course (Second Year)

The work in this course will comprise more advanced composition, translation at sight, and the special study of Cicero, Letters (Tyrrell's Selection), 1-32 (omitting 6, 11, 12, 19, 21, 24, 25), 38, 40, 42, 60, 61, 67, 73, 78, and Horace, *Odes* i-iii.

Mondays, Wednesdays and Fridays at 4 p.m., and Tuesdays at 11.30 a.m. (composition).

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

Books recommended

Cicero, *Letters*, Tyrrell (Macmillan).
Horace, *Odes*, Page (Macmillan).

IV. M.A. and Honours Course

For students reading for the M.A. or Honours examination.

Tuesdays, Thursdays, and Saturdays at 9.30 a.m., and Saturdays at 10.30 a.m. (composition).

Fee for the course: without the class in composition, £3 13s. 6d.; for the composition class, £1 5s.

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.

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, Dickinson's Greek View of Life, Tucker's Life in Ancient Athens, Whibley's Companion to Greek Studies, Greenidge's Roman Public Life, Lanciani's Destruction of Ancient Rome, G. F. Hill's Greek and Roman Coins, P. Gardner's Grammar of Greek Art, E. A. Gardner's Handbook of Greek Sculpture.

Jebb's Growth and Influence of Classical Greek Poetry, Symonds' Studies of the Greek Poets, Butcher's Aristotle's Theory of Poetry and the Fine Arts, Jebb's Introduction to Homer, 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 Poëme de Lucrèce, Boissier's Cicéron et ses amis, Warde Fowler's Social Life in the Age of Cicero.

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.

ENGLISH LANGUAGE & LITERATURE

Professor VAUGHAN
Dr. MOORMAN

I. Intermediate Course (Literature)

The work in this course will comprise the history of English literature from 1637 to 1674, and the special study of Palgrave, *Golden Treasury*, book ii (portions relating to the period); Milton, *Comus*, *Paradise Lost*, books i, ii; Buckingham, *The Rehearsal*; Dryden, *Essay of Dramatic Poesy*; Cowley, *Essays*; Shakespeare, *Much ado about Nothing*; Chaucer, *Prologue to Canterbury Tales*.

Mondays, Wednesdays and Fridays at 10.30 a.m. throughout the session.

Fee for the course, £3 13s. 6d.

II. Final Course

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 courses will be as follows:

a. English Literature

The work in this course will comprise the History of English Literature from 1637 to 1700, and the special study of Palgrave, *Golden Treasury*, book ii; Milton, *Paradise Lost*, books i, ii, *Samson Agonistes*, *Areopagitica*; Dryden, *Absalom and Achitophel*, part i, *Essay of Dramatic Poesy*; Butler, *Hudibras*, part i; Buckingham, *The Rehearsal*; Congreve, *The Way of the World*; Shakespeare, *Macbeth*; Chaucer, *Knight's Tale*.

Mondays, Wednesdays and Fridays, at 10.30 a.m., throughout the session.

Fee for the course, £3 13s. 6d.

b. English Literature and Language

The work in this course will comprise, in addition to what is entered under (*a*), (1) for students in the first year of their Final course, a study of the Elements of Old and Middle English, Sweet, *Anglo-Saxon Primer*, Chaucer,

Knight's Tale; (2) for students in the second year of their Final course, Sweet, *Anglo-Saxon Reader*, extracts iv, viii, ix, xxv, xxvi; Chaucer, *Clerk's Tale*.

One hour a week throughout the session.

Fee for the course, £1 11s. 6d.

III. Honours Course, First Year (Language)

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 iv, viii, ix, xvi; Morris and Skeat, *Specimens of Early English*, vol. i, extracts vi, ix (*King Horn*); Chaucer, *Prologue to Canterbury Tales*.

First Term, Mondays and Wednesdays, at 2 p.m.

Second Term, Mondays, Wednesdays, and Fridays, at 2 p.m. (together with another hour to be arranged later).

Third Term, Mondays, Wednesdays, and Fridays, at 2 p.m.

Fee for the course, £3 13s. 6d.

IV. Honours Course, Second Year (Literature)

This course will be devoted to the study of the Outlines of English Literature.

One hour a week at a time to be arranged.

Fee for the course, £1 11s. 6d.

V. Honours Course, Second Year (Literature)

This course will be devoted to the study of the works of Shakespeare.

One hour a week at a time to be arranged.

Fee for the course, £1 11s. 6d.

VI. Honours Course, Third Year (History of Criticism)

One hour a week at a time to be arranged.

Fee for the course, £1 11s. 6d.

VII. Honours and M.A. Course (Language)

Honours students in their second year attend this course for two hours a week, Honours students in their third year attend for one hour a week.

Translation from Old and Middle English texts, as prescribed for the Honours School.

Fee for two hours a week, £2 12s. 6d.; for one hour, £1 11s. 6d.

VIII. Post-Graduate Course

A special course, mainly intended for post-graduate students, will be delivered on the Rise and Fall of Elizabethan Tragedy.

One hour a week during the first two terms, at a time to be arranged.

Fee for the course, £1 1s.

Evening Course

A course of six lectures by Dr. Moorman on "Shakespeare," on Tuesdays, at 8 p.m., during the first term, in the rooms of the Leeds Philosophical and Literary Society, Park Row, beginning October 26, 1909. The following lectures will be given on November 9, 16, 23, 30; December 14.

Fee for the course, 3s.

FRENCH LANGUAGE AND LITERATURE

Professor BARBIER

Dr. RUDMOSE-BROWN

I, II. 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 André Chénier, *Poésies*, and Balzac, *Eugénie Grandet*.

Course I will be held on Mondays, Wednesdays and Fridays at 11.30 a.m., Course II at 4 p.m. on the same days.

Fee for either course, £3 13s. 6d.

Books recommended

André Chénier, *Poésies*, [L'Aveugle, Le Jeune Malade, La Jeune Tarentine, A la France, La Jeune Captive, Dernières Pensées (Hachette & Cie, 2d.)]

Balzac, *Eugénie Grandet* (Calmann-Levy, 1s.)

III. 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 Molière, *Le Misanthrope* and *Les Femmes Savantes.*

Mondays, Wednesdays and Fridays, at 2 p.m.

Fee for the session, £3 13s. 6d.

Books recommended

Molière, *Le Misanthrope.*
Molière, *Les Femmes Savantes.*

IV. French Literature (A)

Lectures on *French Classical Comedy to the End of the XVIIth Century* will be given in French on Tuesdays at 3 p.m. during the session.

Fee, £1 11s. 6d. No entry will be taken for less than two terms.

V. French Literature (B)

Tuesdays at 3 p.m. during the first and second terms.

Students taking French for the Intermediate examination are expected to join this class.

Fee, £1 1s.

VI. Honours Course

Mondays at 4 p.m. and Tuesdays and Thursdays at 9.30 a.m.

Fee for the session : two hours, £2 12s. 6d. ; three hours, £3 13s. 6d.

VII. 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.

Fee, £2 12s. 6d.

VIII. Saturday Morning Training Course (A)

This class will meet on Saturdays, from 10.15 a.m. to 12.15 p.m., beginning October 9. (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 (see p. 178), but students who are not candidates for the diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

Fee for the course, £2 12s. 6d.

Books recommended

Molière, *Le Malade Imaginaire.*
Voltaire, *Choix de Lettres*, Nos. 128-200 (Hachette, Classiques Francais).
V. Hugo, *Les Burgraves* (Hetzel-Quantin).

IX. Saturday Morning Training Course (B)

This class will meet on Saturdays, from 10.15 a.m. to 12.15 p.m., beginning October 9. (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 (see p. 178), but students who are not candidates for the diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

Fee for the course, £2 12s. 6d.

GERMAN LANGUAGE AND LITERATURE

Professor SCHÜDDEKOPF

Dr. GOUGH

I. Lower Elementary Course

Mondays and Wednesdays at 2 p.m.

This class is intended for beginners. Special attention will be given to students of science.

Fee for the course, £2 12s. 6d.

Books recommended

Kuno Meyer, *German Grammar*, part i (Sonnenschein).
Sonnenschein, *First German Reader and Writer* (Sonnenschein).
Fiedler-Sandbach, *First German Course for Science Students* (Moring).

II. Higher Elementary Course

Mondays and Wednesdays 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.

Fee for the course, £2 12s. 6d.

Books recommended

Kuno Meyer, *German Grammar*, parts i and ii (Sonnenschein).
Second German Reader and Writer (Sonnenschein).
Seidel, *Leberecht Hühnchen* (Heath & Co.).
Dippold, *Scientific German Reader* (Ginn & Co.).

III. Intermediate Course

Mondays, Wednesdays and Fridays, at 3 p.m.

This course is intended for candidates entering for the Intermediate examination, for commercial students, 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 considerable practice in German conversation.

Fee for the course, £3 13s. 6d.

Books recommended

Kuno Meyer, *German Grammar*, parts i and ii (Sonnenschein).
Third German Reader and Writer (Sonnenschein).
Gustav Freytag, *Der Staat Friedriths des Grossen*, ed. Wagner (Pitt Press).
Buchheim, *Balladen und Romanzen* (Macmillan).

IV. 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.

Fee for the course, £3 13s. 6d.

Books recommended

Goethe, *Götz von Berlichingen*, ed. Heuwes (Ferdinand Schöningh, Paderborn).
Buchheim, *Heines Prosa*, (Clarendon Press).
Macaulay, *Essay on Frederic the Great.*
Longmans' *German Composition* (Longmans).
Behaghel, *Die deutsche Sprache* (Leipzig, Freytag).

V. German Literature

Lectures on *Goethes Leben und Werke* will be given in German on Tuesdays, at 4 p.m., during the first and second terms, commencing October 12.

During the third term a German Literature Revision Class will be held for candidates reading for Honours or M.A. in German, or the Final B.A. examination.

Fee for the first two terms, £1 1s.; for one term, 10s. 6d.; for the whole course, £1 11s. 6d.

VI. German Institutions

A course of lectures on German Institutions will be delivered during the first and second terms, on Tuesdays, at 10.30 a.m., commencing October 12.

Fee, £1 1s.

VII. Lower Commercial Course

Tuesdays and Thursdays, at 3 p.m.

In addition to the study of German correspondence, &c., a book bearing on German commercial life will be read, the title of which will be announced at the beginning of the first term. The class will be taught in German.

Fee for the course, £2 12s. 6d.

Book recommended

Whitfield-Kaiser, *Course of Commercial German* (Longmans).

VIII. Higher Commercial Course

Tuesdays and Thursdays at 2 p.m.

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.

Fee for the course, £2 12s. 6d.

Book recommended

Whitfield-Kaiser, *Course of Commercial German* (Longmans).

IX. Honours Course

Tuesdays at 11.30 a.m. to 12.30 p.m., Wednesdays and Fridays at 4 to 5 p.m.

The work of this class will comprise 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.

For books and periods see page 162.

Fee for the course, £3 13s. 6d.

X. Saturday Morning Training Course (A)

This class will meet on Saturdays, from 10 a.m. to 12, beginning October 9. (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 (see p. 178), but students who are not candidates for the diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

Books recommended

Lessing, *Nathan der Weise*, ed. Buchheim (Clarendon Press).
Goethe's *Lieder, Oden und Balladen*, in Kastner-Atkinson, *Goethe's Poems* (Blackie & Son).
Gustav Freytag, *Dr. Luther* (Ginn & Co.)
Macaulay, *Essay on Frederic the Great.*
Meyer, *German Grammar*, parts i and ii (Sonnenschein).
Behaghel, *Die deutsche Sprache* (Leipzig, Freytag).

Fee for the course, £2 12s. 6d.

XI. Saturday Morning Training Course (B)

This class will meet on Saturdays, from 10 a.m. to 12, beginning October 9. (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 (see p. 178), 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.

Fee for the course, £2 12s. 6d.

HISTORY

Professor GRANT

Miss COOKE

I and II. Intermediate Courses

I. Outlines of Greek and Roman History; 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:—Aristides, Pelopidas, Lysander, Cimon, Cato, Marius, Lucullus, Flamininus.

The text used will be the translation of Stewart and Long in Bohn's Library. The above Lives are all contained in vol. iii, which can be procured separately for 2s.

Tuesdays and Thursdays at 11.30 a.m.

Fee for the course, £2 12s. 6d.; for Greek History or Roman History alone, £1 11s. 6d.

II. 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.

Fee for the course, £2 12s. 6d.

III-VIII. Final Courses

First Year:

III. Outlines of European History since the Roman Empire.

Tuesdays and Thursdays, at 10.30 a.m.

Fee for the course, £2 12s. 6d.

Books recommended

G. R. Adams, *European History* (Macmillan).
Grant, *Outlines of European History* (Longmans).
Myers, *General History* (Ginn).
Robinson, *Readings in European History*, 2 vols. (Ginn).

IV. European History: the Thirteenth Century.

Tuesdays and Thursdays at 10.30 a.m.

This is also a course for the Special Intermediate Examination for candidates for the degree of Honours in History.

Fee for the course, £2 12s. 6d.

Second Year:

V. Greek History from 445 to 371 B.C. This course will include the study of the intellectual and artistic, as well as the political, history of Greece during the period. No knowledge of Greek will be required.

Fridays at 9.30 a.m.

Fee for the course, £1 11s. 6d.

VI. Roman History from 31 B.C. to 180 A.D.

Tuesdays and Thursdays at 9.30 a.m.

Fee for the course, £2 12s. 6d.

VII. English History from 1327 to 1485.

Mondays and Wednesdays at 11.30 a.m.

Fee for the course, £2 12s. 6d.

Note:—The above periods will be studied in connection with certain of the original authorities which will be indicated at the beginning of the session.

VIII. Economic History. (Professor MACGREGOR.)

The commercial and industrial history of England, mainly in the nineteenth century.

Two hours a week at times to be arranged.

Fee for the course, £2 12s. 6d.

Candidates are recommended to choose from the above one ancient and one modern period.

IX-XIV. Honours and M.A. Courses.

IX. English Constitutional History.

Tuesdays and Thursdays at 11.30 a.m.

Fee for the course, £2 12s. 6d.

X. Roman History from 31 B.C. to 37 A.D.

Two hours a week at times to be arranged.

Fee for the course, £2 12s. 6d.

XI. The History of Political Theory.

Two hours a week at times to be arranged.

Fee for the course, £2 12s. 6d.

XII. The History of England from 1558 to 1588.

Mondays and Wednesdays at 10.30 a.m.

Fee for the course, £2 12s. 6d.

XIII. The documents and authorities for the Age of Elizabeth.

Fridays at 10.30 a.m.

Fee for the course, £1 11s. 6d.

XIV. Essay Class.

One hour a week at times to be arranged.

Fee for the course, £1 11s. 6d.

PHILOSOPHY

Mr. GILLESPIE

I. 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.

Fee for the course, £2 12s. 6d.

II. Final Course: Psychology

Three lectures a week throughout the session, at hours to be arranged.

This course includes the outlines of general psychology, with the more detailed study of some special branch.

Fee for the course, £3 13s. 6d.

Book recommended

Stout, *Manual of Psychology* (Clive, 8s. 6d.).

III. Final Course: History of Ancient Philosophy

Three hours a week throughout the session, at hours to be fixed at the beginning of the first term.

Subjects: The outlines of the history of Greek philosophy with more detailed study of special books.

Fee for the course, £3 13s. 6d.

IV. Ancient Philosophy

Two hours a week throughout the session, at hours to be fixed at the beginning of the first term.

This course is intended for candidates for Honours in Classics, and will not be held unless such candidates present themselves.

Fee for the course, £2 12s. 6d.

V. Honours Courses

Lecture courses of one or two hours a week each on some of the subjects prescribed for the Honours School of Philosophy and for M.A. in Philosophy, if required.

Fee for a course of two hours a week, £2 12s. 6d; for a course of one hour a week, £1 11s. 6d.

POLITICAL ECONOMY

Professor MACGREGOR

Intermediate Courses

I. Political Economy

This course deals with the physical geography of industry and trade, and gives a general outline of the occupations and earnings of the chief classes in the community.

Two hours a week.

Fee for the course, £2 12s. 6d.

II. Economic Geography (for Honours Candidates)

Subject for 1910: The United Kingdom.

Two hours a week.

Fee for the course, £2 12s. 6d.

Books recommended.

Mackinder, *Britain and the British Seas.*
Ross, *Historical Geography of the British Empire.*

Final Courses.

III. Principles of Political Economy

In the first term, the existing organisation of Land, Labour and Capital in England will be described historically. In the second and third terms the principles will be explained on which this organisation is based.

Two hours a week.

Fee for the course, £2 12s. 6d.

IV. Studies of Industrial Questions

This course deals with the application of general principles to some of the chief questions of industry and trade. Among these are:—Money and banking, taxation, protection and free trade, trade unions, and labour problems.

Two hours a week.

Fee for the course, £2 12s. 6d.

Honours and M.A. Courses.

V. Recent Industrial History of England (1800-1900)

Two hours a week.

Fee for the course, £2 12s. 6d.

VI. Social Economy

The influence of industrial conditions on social life; the problems of poverty, trade depression, large cities, small holdings, social betterment.

One hour a week.

Fee for the course, £1 11s. 6d.

Books recommended

Booth, *Life and Labour*, Vol. 1., Part 1., and Final Volume).
Rowntree, *Poverty*.
Meakin, *Model Villages and Factories*.
Hobson, *The Unemployed*.
The Reports on Housing, Sweating, Vagrancy, Physical Deterioration, Small Holdings, &c.

VII. Political Theory

The nature and duties of the State and the basis of citizenship.

Two hours a week.

Fee for the course, £2 12s. 6d.

VIII. Special Subject

Tutorial instruction will be given in the special subject which may be chosen from any branch of political or social economy, of industrial history, or of political theory.

Fee for the class, £1 11s. 6d.

EDUCATION

Professor: J. WELTON, M.A.
Assistant Professor: F. H. MATTHEWS, M.A.
Master of Method: W. P. WELPTON, B.Sc.
Assistant Master of Method: F. W. TURNER, B.Sc.
Mistress of Method: Miss H. ROBERTSON, B.A.
Assistant Mistress of Method: Miss F. M. B. TURNER, M.Sc.
Teacher of Music, Reading and Elocution:
T. J. HOGGETT, Mus. B.

Day Training College for Teachers for Primary Schools

A Day Training College, 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 Day Training College as King's Scholars.

1. Pupil Teachers who have successfully completed their term of apprenticeship, or who terminate their engagement with the consent of their managers, and others who, not having been Pupil Teachers, will be over 18 years of age, or Bursars who are over 17 years of age, on August 1st in the year in which they wish to enter, may apply for admission to the Leeds University Day Training College. Such applications must be made on forms supplied by the University.

2. Applicants will be required to furnish certificates of sound health and good conduct. Forms for such certificates will be supplied by the Master of Method.

3. Candidates who desire to present themselves for the Preliminary Examination for the Elementary School Teacher's Certificate must give notice to the Board of Education before the 1st of October. That examination is held in Leeds, not at the University, but at the Education Offices, and candidates who wish to be examined in Leeds must apply for seats to the Clerk of the Education Committee of the City Council.

4. All candidates, whether they have passed the examination named in paragraph 3 or not, will be required to pass the Matriculation examination of the University before admission, and to declare their intention, if admitted, of completing the three years course required for a degree.

5. To fulfil the regulations of the Board of Education, candidates for admission to the Day Training College must present themselves at the Matriculation examination in English Literature under (1), and in Geography under (3) of the Regulations for Matriculation, unless they have satisfied the requirements of the Board of Education by passing in History and Geography at the London Matriculation, or in certain specified subjects at the Oxford or Cambridge Senior Local Examinations (*see App. A* (II) *of the Regulations for the Training of Teachers*).

Candidates who propose to read for a degree in Arts must offer Latin and one other language at the Matriculation.

Candidates who have already matriculated and who did not include the subjects mentioned above in their examination may present themselves in the omitted subject or subjects at any subsequent examination held before they desire to enter the College.

When the number of candidates is greater than the number of vacancies, which are strictly limited, selection is made according to the results of the Matriculation examination. Preference is given to those placed in the First Division, and who have taken alternative Higher Papers (see Syllabus of Matriculation examination, to be obtained from the Secretary of the Joint Matriculation Board).

Those who have already passed the Matriculation examination may improve their position by taking at least three Higher Alternative Papers at a subsequent examination. This may be done without the whole examination being taken again.

Information concerning the Matriculation examination of the Joint Board, and forms of application for that examination, should be obtained from The Secretary, Joint Matriculation Board, 24, Dover Street, Oxford Road, Manchester.

6. Before being accepted candidates must be examined by the Medical Officer of the College, and reported as strong and in good health.

7. All candidates will, on admission, be required to enter into the undertaking to teach in recognised schools required by the Board of Education (see Regulations for the Training of Teachers, App. B).

8. Candidates accepted will be required to come into residence at the beginning of October. They will be at liberty to reside at their own homes if these are within reasonable distance of the University, or they may, by permission of the Managing Committee of the Training College, reside in lodgings which have been inspected, and are registered and subject to inspection, by the University authorities.

9. The Leeds University Day Training College year coincides nearly with the session of the University of Leeds, which begins in October, is divided into three terms of about eleven weeks each, and ends in June. Training College students will be engaged in their practical training during certain parts of the University vacations.

10. The Government grant for maintenance of £25 a year for men and £20 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.

11. All King's Scholars admitted to the Training College will be required to pay annually a charge of £10, and also a sum of 10s. 6d., the compulsory fee payable for membership of the University Union. No further payment to the University will be required, but Scholars will have to provide

their own books, and those who work in the University laboratories will have to supply themselves (by purchase or hire) with a small amount of scientific apparatus. The University examination fees will also have to be paid by all King's Scholars.

12. The King's Scholars in residence will be admitted without additional fee to the lectures, classes, and laboratory work required for their prescribed courses of study.

13. All students of the Day Training College 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 candidates 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 the student the necessity of passing the Intermediate Examination for a Degree at the end of the first year.

14. 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.

15. 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 forming part of the course for a degree, supplemented by practical work in selected schools under the supervision of the professional staff. Students who have had no previous experience in teaching in an elementary school are required by the Board of Education to practice in school for a longer period during their training than are those who have had such previous experience.

16. 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.

Teachers for Secondary Schools

A full course of instruction in the theory and practice of education is provided for men and women students intending to become teachers in secondary schools. Such students attend the ordinary courses of lectures in Education and criticism lessons, and 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 174.

LECTURE COURSES

I. Education: First Year Course

Mondays and Fridays at 4 p.m.

Principles and Methods of Teaching.

Each Term—Criticism Lesson. One and a half hours a week on Thursdays at 3.15 p.m.

Fee (except for King's Scholars in the College) for lectures only, £3 3s.; for lectures and criticism lessons, £3 13s. 6d.

II. Education: Second Year Course

A. Tuesdays and Thursdays at 9.30 a.m.

First Term—The logical foundations of teaching.

Second Term—Physical education and school hygiene. School organization.

Third Term—The ethical foundations of moral education, with applications to school discipline.

B. Wednesdays at 4 p.m.

Each Term—The psychological foundations of education.

Each Term—Criticism Lesson. One and a half hours a week on Thursdays at 3.15 p.m.

Fee (except for King's Scholars in the College) for lectures only, £3 13s. 6d.; for lectures and criticism lessons, £4 4s.

III. Education: Third Year Course

Course A. Tuesdays and Thursdays at 10.30 a.m. The history of educational thought in Western Europe from the Renascence to the present time, with special reference to England, and special emphasis on the Nineteenth Century.

Course B. Thursdays at 2 p.m. Plato, *Republic*, ii, iii, iv.

A discussion class on the Practice of Education will be held on Wednesdays at 3 p.m. in the first and second terms, if a sufficient number of students wish to join it. Attendance optional.

Each Term—Criticism Lessons. One and a half hours per week on Thursdays at 3.15 p.m.

Fees (except for King's Scholars in the College):—Course A, for lectures only, £3 3s.; for lectures and criticism lessons, £3 13s. 6d. Course B, or the discussion class, without criticism lessons, £1 11s. 6d.; with criticism lessons, £2 2s.

IV. Drawing and Elementary Design

This course is arranged to meet the requirements of the students in the Day Training College, and consists of one lecture 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.

Students wishing to prepare for any subjects which they may require in order to complete the Elementary Drawing Certificate of the Board of Education may do so by arrangement with the lecturer.

V. Reading and Recitation

Classes will be held at times to be arranged.

VI. 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.

VII. Needlework

For first or second year King's Scholars, two hours a week, at times to be arranged.

DEGREE, DIPLOMA, AND COURSES OF STUDY IN COMMERCE

Students in the Department of Commerce may take a three years' course for the degree of Bachelor of Commerce, or a two years' course for the diploma in Commerce, according to the ordinance 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.[1] 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 committees, or report from the Examination committee for the degree of Bachelor of Commerce, may determine.

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[1] In 1910, they will begin on Monday, June 13. The latest date of entry and of payment of fees will be TUESDAY, MARCH 1.

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

8. 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: the outlines of the economic history of England in the Nineteenth Century, and the general elementary principles of Economics

ii. The economic geography of the British Empire

iii. A modern foreign language (French or German)

iv, v. *Two* of the following:

A second modern foreign language (French or German, whichever of the two has not been offered under iii)

Mathematics

European History from 1763,

and to pass in each of the subjects offered. The examination in each modern foreign language shall include an oral examination.

Final Course and Examination

9. Every candidate shall be required, except as provided in clause 10, 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 (*b*) a special economic subject

ii. A modern foreign language (French or German)

iii. A second modern foreign language (French or German, whichever of the two has not been offered under ii)

iv. Accountancy.

The examination in each modern foreign language shall include an oral examination. An essay shall also form part of the examination.

10. For the second modern foreign language *or* for Accountancy candidates may substitute *two* of the following, studied each for one year as a subsidiary subject:

(*a*) The economic geography of the principal foreign countries
(*b*) Commercial Law
(*c*) Accountancy (unless Accountancy has already been offered as a principal subject).

Candidates may take the course of study in a subsidiary subject in the first year of the Final course, and present themselves at the end of that year for examination in such subject.

Diploma in Commerce

For general regulations applicable to all diplomas, see page 174. Regulations.

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
French *or* German
The economic geography of the British Empire
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
French *or* German
The economic geography of the principal foreign countries
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.

Fees

The fees for the complete first year's course, for either the degree or the diploma, including registration and subscription to the University Union, will amount to about £18. The fees for subsequent years will vary with the number of subjects studied, but will as a rule be less than £18.

3. 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 entrance fee to the University.

4. Degree in Arts

Economic and Political Science

Regulations

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.).

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.

Final 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

I. Intermediate Class

Professor MACGREGOR

Mr. GILLIGAN

This class is introductory, its aim being to present a picture of industrial life in its broad aspects, and to familiarise students with the use of economic terms and ideas. A study is made of, (*a*) the physical basis of industry and trade, (*b*) the ideas of production, market value, distribution, competition, co-operation, national wealth and welfare, and other economic methods and relations, (*c*) the chief forms of industrial work and earnings.

Tuesdays and Thursdays, 10.30-11.30. This course is for Arts Students.

Fee for the Course, £2 12s. 6d.

II. Principles of Political Economy

Professor MACGREGOR

The first term will be given to the study of the broad aspects of industrial development in England in recent times. This will lead up to an explanation of the chief features of the existing industrial organisation of the country. In the second and third terms this descriptive study will be used as a basis for the explanation of economic principles. The principles connected with the production and distribution of wealth; with wages, profits, interest, and rent; and the value of goods and services, will be dealt with.

Mondays and Fridays, 2 p.m. Commercial students take this class in their first year, Arts students in their second year.

Fee for the Course, £2 12s. 6d.

III. Studies of Industrial Questions

Professor MACGREGOR

This course will deal more in detail with particular departments of industrial and commercial activity. It will include such subjects as:—the money market; currency and banking; fluctuations and depressions of trade; rates, taxes, and debts; the different forms of wages; Trusts and Trade Unions; free trade and protection. The principles involved will be kept in view, but the course will also be descriptive of present conditions.

Twice a week at times to be arranged. Commercial students take this class in their second year, Arts students in their third year.

IV. Special Subjects

Professor MACGREGOR

Tutorial instruction is given to students who wish to study in detail some special aspect of industry commerce, or social economy. The subjects in which such instruction is given are fixed by the choice of students reading for a degree in Commerce, or an Honours degree in Arts. Examples of such subjects are:—Industrial Combination, Transport, Poor Law Administration, Foreign Trade, Industrial Peace, Municipal Trade, or the study of any particular industry.

Times to be arranged. A special subject must be taken by students for the B.Com. degree, and for the B.A. degree with Honours in Economic and Political Science.

Industrial History of England (1760—1900)

Professor MACGREGOR

A course of lectures is given annually on the industrial history of England in the nineteenth century. The course includes:—(*a*) the history of land tenure, agricultural development and land legislation; (*b*) labour organisation, and legislation affecting labour; (*c*) the organisation of capital; (*d*) commerce, the tariff, and the financial system; (*e*) the development of public opinion, and the chief social teachers of the period.

Mondays and Wednesdays, 11.30-12.30.

Fee for the Course, £2 12s. 6d.

Social Economy

Professor MACGREGOR and others

This course deals with the various sides of the "social problem." The purpose of the lectures will be to explain:—(1) The results of recent enquiry, both public and private, into social conditions, and (2) the existing social legislation of the country. The problems dealt with include:—the nature and extent of poverty, the Poor Laws, trade depression, unemployment, land tenure, the growth of cities, sweating, co-partnership and co-operation, social betterment.

Tuesdays, 2 p.m., during the first two terms. The fee to members of the public is half a guinea.

Discussion Class

In connection with the lectures on Social Economy, a class will be formed for private discussion, if a sufficient number desire to attend. There will be no additional fee.

One hour a week.

Economic Geography

Professor MACGREGOR

Mr. GILLIGAN

I. Intermediate Class—The United Kingdom

The physical geography of the United Kingdom, in its relation to industry and trade. The chief agricultural and pastoral areas. The railway and canal systems. The distribution of population, and the growth of manufacturing districts. The chief ports, and their hinter-lands. The main imports and exports, and their markets. The coal fields, and the sources of other raw materials.

Two hours a week, for candidates for a Degree in Arts with Honours in Political and Economic Science.

Fee for the Course, £2 12s. 6d.

II. First Commercial Class—The British Empire

This class is similar to that on the United Kingdom. It deals with the physical conditions of the chief parts of the Empire, their chief products, and trade relations; the bearing of physical conditions on commercial federation will be considered. In addition to the United Kingdom, attention will be given to Canada, South Africa, Egypt, Australasia, and India.

Two hours a week.

Fee for the Course, £2 12s. 6d.

III. Second Commercial Class—The Chief Foreign Countries

Similar methods of study will be applied to the physical features, resources, transport systems, and trade relations of America, Germany, France, the Near East, the Far East.

Two hours a week.

Fee for the Course, £2 12s. 6d.

Agricultural Economics

A short course will be given in the Economics and Statistics of Agriculture, chiefly in England, if desired by a sufficient number. The course will deal with the

principles of rent, the forms of land tenure, and the statistics of the United Kingdom.

One hour a week in the second term.

Fee for the Course, 10s. 6d.

Accountancy

Mr. SHAW

First Year Course.—Tuesdays, 3 p.m.

Second Year Course.—Tuesdays, 4 p.m., and at a second hour to be arranged.

Third Year Course.—Hours to be arranged.

Fee for the first year course, £1 11s. 6d.; for the second year course, £2 12s. 6d.

First Year: The course will deal with (1) the general principles of book-keeping, illustrated by the ordinary transactions of a merchant or manufacturer; (2) the special principle of book-keeping by double entry; (3) the books themselves—various subsidiary books, leading up to the ledger; (4) the trial balance and the various methods of preparing it; (5) the preparation of the trading account, profit and loss account and balance sheet; (6) cheques, bills of exchange, and other important commercial documents.

Second Year: (1) Partnership accounts and other more complicated transactions; (2) the different forms of books and accounts suitable for various kinds of businesses; (3) the various methods of stock-taking; (4) the books and forms used for limited companies in connection with the share capital, debentures, &c., a study of the balance sheets of a number of companies; (5) departmental accounts; (6) the preparation of accounts required for income tax purposes.

Third Year: (1) The analysis of accounts with a view to the computation of earnings and comparison of expenses; (2) costing and cost accounts; (3) sinking funds, provision for depreciation, &c.; (4) the various methods of payment of wages and of remuneration for management; (5) limited companies—public and private—their advantages and disadvantages; (6) fixed charges and the relation of selling prices to cost prices; (7) goodwill.

French

Professor BARBIER and Dr. RUDMOSE-BROWN.

German

Professor SCHÜDDEKOPF and Mr. GOUGH

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 will, as a rule, give special attention to correspondence and reading of a commercial character during both years of their course.

Mathematics

Professor ROGERS

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

Professor PHILLIPS

Wednesdays and Fridays at 3 p.m. 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 Term: Two independent short courses each of one hour a week: (*a*) Law of negotiable instruments; (*b*) Law of Bankruptcy.

Third Term: Two independent courses as in the second term: (*a*) Industrial Law or Law as to Employers and Employed; (*b*) Company Law.

Fee for the session, £2 12s. 6d; for one term, £1 5s.; for sections (*a*) or (*b*) in the second or third terms, 15s. each.

Evening Classes

See under Evening Classes, page 462.

DEGREES IN LAW

Ordinance.

1. The degrees in Law shall be :

Bachelor of Laws (LL.B.)
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,[1] 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.[2]

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
iv. Any subject included in the course for the Intermediate examination for the Ordinary degree of B.A. or B.Com.

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1 For particulars of this examination, and conditions of exemption, apply to the Secretary, Joint Matriculation Board, 24, Dover Street, Manchester.

2 In 1910 they will begin about June 13. The latest date of entry and of payment of fees will be TUESDAY, MARCH 1.

Provided that candidates who are already graduates of this or any other University within the United Kingdom shall not be required to attend classes or to be examined in iv.

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.

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*, Parts I and II.

OTHER SUBJECTS:

See the Regulations for Intermediate courses for the Ordinary degree of B.A. and the degree of B.Com.[1]

Ordinance.

Final Course and Examination

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)

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1 These may be found in the University Calendar or in the Prospectuses of courses of study in (1) Arts and Science and (2) Commerce respectively.

iii. Common Law (including Criminal Law and Bankruptcy)
iv. Evidence and Procedure
v. Jurisprudence.

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*. (Title selected for 1909 and 1910: Book XIX., Tit. I. De Actionibus Empti Venditi.)

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.

Degree of Doctor of Laws[1]

Ordinance. 1. The degree of Doctor of Laws shall be conferred by the University upon registered Bachelors of Laws 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 Bachelor of Laws 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.

NOTE. The following is an extract from the Consolidated Regulations of the Inns of Court:

> "The Council may accept a degree granted by any University within the British Dominions, *for which the qualifying examination was in Law*, as an equivalent for the examination in any of the subjects mentioned in Rule 43 (Roman Civil Law, the Law of Real and Personal Property, Common Law and Equity) other than Common Law and Equity."
>
> Undergraduates of this University can keep their terms at any of the Inns of Court by dining in Hall any *three* days in each Term.

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

1 In 1910 notice must be given and the fee must be paid not later than TUESDAY, MARCH 1. The examination, if required, will begin on Monday, June 13.

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 and Sheffield 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 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 Matriculation examination of the Universities of Manchester, Liverpool, Leeds and Sheffield is accepted by the Law Society in lieu of the Preliminary examination, provided Latin be one of the subjects taken.

Students who take the LL.B. degree before entering into articles are exempted from two years of service.

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*, (14th edition) with the exception of book vi; *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 proceedure 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.
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 has been founded by the Yorkshire Board of Legal Studies, assisted by the Law Society, 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 are also provided for students preparing for the Intermediate or Final examinations of the Law Society, particulars of which are given on page 225.

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.

Professor Phillips would be glad to confer with Law students on all questions concerning their examinations, and to render them such assistance as might be in his power.

Students pursuing the requisite course of study for a University degree in Laws, or for the Final examinations of the Council of Legal Education or of the Law Society will, after registration and payment of the entrance fee, be admitted to all the University lectures and classes that are arranged to meet their special requirements for an annual composition fee (paid in advance) of £8 8s. Students who are preparing for *both* a degree in Law and admission to the rolls as solicitors may attend all the lectures and classes for this double purpose for an annual composition fee of £10 10s. These composition fees do not cover any laboratory work that may be taken for the Intermediate Degree examination. Those who desire to attend less than four lectures or classes may pay the separate fees of the classes selected. Candidates for the examinations of the University of Leeds must, however, comply with the University regulations as to the number of hours of weekly attendance to be given to the prescribed courses.

DEGREE OF BACHELOR OF LAWS

The courses are arranged so as to give preparation for the Intermediate examination in one session, and for the Final examinations in two sessions.

Intermediate Course

I. Roman Law

PROFESSOR PHILLIPS

Mondays, at 2 p.m., throughout the session.
Fee for the course, £2 2s.

II. Elements of English Law

DR. CHAPMAN

Mondays and Thursdays, at 4 p.m., throughout the session.
Fee for the course, £3 3s.

III. The Law and Custom of the English Constitution

PROFESSOR PHILLIPS

Mondays, at 3 p.m., throughout the session.
Fee for the course, £2 2s.

IV. Other Subjects

For particulars of classes in Greek, Latin, French, German, English Literature, Ancient History, Modern History, Logic, Mathematics, Physics, Chemistry, Geology, Economics, and Economic Geography, see Courses in Arts and Science.

Final Course

Course I

I. Roman Law

Professor PHILLIPS

Mondays and Fridays, at 10.30 a.m., throughout the session.
Fee for the course, £3 3s.

II. Jurisprudence

Professor PHILLIPS

Mondays and Fridays, at 11.30 a.m., throughout the session.
Fee for the course, £3 3s.

III. Public International Law

Professor PHILLIPS

Tuesdays and Fridays, at 2 p.m., throughout the session.
Fee for the course, £3 3s.

Course II

I. 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.

II. 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.

III. (*a*) Common Law

Professor PHILLIPS

During the session 1909-10, a course of lectures on the Law of Contract, of one hour a week throughout the session, will be given at times to be arranged, to be followed in the next session by a course on the Law of Torts.

Fee for each course, £2 2s.

III. (*b*) Criminal Law

Professor PHILLIPS

A course of lectures on Criminal Law and Practice, of one hour a week during the first and second terms, will be given at times to be arranged.

Fee for the course, £2 2s.

III. (*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.

IV. 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.

V. 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 I. and III. 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, £2 2s.

Bookkeeping

MR. SHAW

A course of classes in Book-keeping, of one hour a week throughout the session will be held at times to be arranged. The lectures will be based on the works prescribed by the Incorporated Law Society for their Intermediate examination.

Fee for the course, £1 11s. 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

During the session 1909-10, a course of classes on the Law of Contract, of one hour a week throughout the session, will be held at times to be arranged, to be followed in the next session by a course on the Law of Torts.

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 11s. 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.

Equitable Procedure

DR. CHAPMAN

A class for tuition in the practice of the Chancery Division of the High Court of Justice will be held once a week during the third term, at an hour to be arranged.

Fee for the course, £1 1s.

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.

Mohammedan and Romano-Dutch Law

PROFESSOR PHILLIPS

Arrangements will be made, if desired, for a class for tuition in the principles of Mohammedan and Romano-Dutch Law.

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 fee.

LAW CLASSES IN DEPARTMENT OF COMMERCE

Commercial Law

PROFESSOR PHILLIPS

Wednesdays and Fridays, at 3 p.m. 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 term: Two independent short courses each of one hour a week. (*a*) Law of negotiable instruments; (*b*) Law of Bankruptcy.

Third term: Two independent courses as in the second term:—(*a*) Industrial Law or Law as to Employers and Employed; (*b*) Company Law.

Fee for the session, £2 12s. 6d.; for one term, £1 5s.; for sections (*a*) or (*b*) in the second or third terms, 15s. each.

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 during session 1909-10.

Applications for repayment of the amount expended should be sent in at the close of the session, addressed to the 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

1. The degrees in Science shall be :

Bachelor of Science (B.Sc.)

Master of Science (M.Sc.)

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.[1] 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 committees, 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.

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[1] In 1910 they will begin on Monday, June 13. The latest date of entry and of payment of fees will be TUESDAY, MARCH 1.

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 *vivâ 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. :

i. Physics
Two of the following :
ii, iii. Mathematics
Chemistry
Zoology
Botany
Geology,

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 take an additional subject at the Intermediate standard, selected from the following : Greek, Latin, French, German, English Literature, English Language, Ancient or Modern History, Logic, Economics, Economic Geography, Mathematics, Chemistry, Zoology, Botany, Geology. 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.

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 254, 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: Course III.

PHYSICS: Course II. Laboratory work, three hours a week.

CHEMISTRY: Course I. Laboratory work, six hours a week.

ZOOLOGY: Zoology I. Laboratory work, six hours a week.

BOTANY: Botany I. Laboratory work, six hours a week.

GEOLOGY: Course I. 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.

Final Course and Examination

Ordinance.

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 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 I (Pure)
Mathematics II (Pure and Applied)
Physics
Chemistry
Zoology
Botany
Physiology
Geology
Human Anatomy
Bacteriology
Education (including the teaching of Elementary Science).

Mathematics I and II 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 the following June 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 until the end of the fourth year of study. Such candidates may take the examination in Chemistry at the end of the third 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 there will be included, for translation into English, passages of French and German, relating to the principal subject or subjects of a candidate's degree course, and credit will be given for correct renderings of such passages.[1] In the case of candidates who have passed neither in French nor in German at the Matriculation examination, and who have passed neither in French nor in German as an additional subject at the Intermediate standard, it shall be obligatory to satisfy the Examiners in the translation of one of the aforesaid passages from either French or German.

The scope of the work required may be understood from the following references to the courses of study preparing for this examination (see pages 254, 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 IV, V, and VI.

PHYSICS: Courses II and III. Laboratory work, six hours a week for two sessions.

CHEMISTRY: Three of the Courses II, III, IV, and V (*C*). Laboratory work, twelve hours a week for two sessions.

ZOOLOGY: Course II (*A* and *B*). Laboratory work, nine hours a week for two sessions.

BOTANY: Course II (*A* and *B*). Laboratory work, six hours a week for two sessions.

PHYSIOLOGY: Courses I, II, and IV.

GEOLOGY: Course II, and one of courses III, IV, and V. Laboratory work, six hours a week for two sessions, together with an approved course of Field Geology.

1 In the case of students pursuing a Degree Course for Colour Chemistry, this paper must be presented at the examination held at the end of the third year of study. Students, however, who fail in this part of the examination, may present the subject again in the further examination held at the end of the fourth year.

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 I and II. Practical work, fifteen hours a week for one session.

GAS ENGINEERING: Fuel and Metallurgy courses I, II, and III, together with the special course in By-Product Coking and on the Manufacture of Coal Gas. Laboratory work, six hours per week in the second year, and twenty-four hours per week in the third year.

FUEL AND METALLURGY: Courses I, II, IV (*A* and *C* or *B* and *C*) together with the special course on By-Product Coking. Laboratory work, six hours per week in the second year, and twenty-four hours per week during the third year.

AGRICULTURE: General Agricultural courses, and special courses in two of the following:—Agricultural Chemistry, course IX, practical work, six hours a week for four terms; Agricultural Botany, course XVI, practical work, thirty-six hours; Agricultural Zoology, practical work, thirty-six hours; Agricultural Geology, course XVIII, practical work, thirty-six hours; Veterinary Science, course XIII; Surveying, course XXIV, 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): Courses I, II, III, and IV. Laboratory work, twenty-four 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 I (PURE): Course V.

MATHEMATICS II (PURE AND APPLIED): Courses IV and V.

PHYSICS: Course II. Laboratory work, six hours a week for one session.

CHEMISTRY: Course II or III or IV. Laboratory work, twelve hours a week for one session.

ZOOLOGY: Course II, either *A* or *B*. Laboratory work, nine hours a week for one session.

BOTANY: Course II, either *A* or *B*. Laboratory work, six hours a week for one session.

PHYSIOLOGY: Courses I and IV.

GEOLOGY: Course II. 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 year's course).

MECHANICAL ENGINEERING: Courses VI, VIII, and IX.

CIVIL ENGINEERING: Courses III, IV, VIII, and VIII a.

ELECTRICAL ENGINEERING: Course I. Practical work, six hours a week for one session.

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,[1] 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

1 In 1910, this examination will begin on Monday, June 13. The latest date of entry and of payment of fee will be TUESDAY, MARCH 1.

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 succeeding year or the two years immediately succeeding) proceed with the course of study in an Honours School.

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 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.

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 at each stage, except in Mathematics. The amount required in each subject will be prescribed by the Professor, with the sanction of the Board of Science and Technology.

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 there will be included, for translation into English, passages of French and German relating to the subject in which the candidate is presenting himself for Honours. In the case of candidates who have passed neither in French nor in German at the Matriculation examination, and who have passed neither in French nor in German as an additional subject at the Intermediate standard, it shall be obligatory to satisfy the Examiners in the translation of one of the aforesaid passages from either French or German.

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[1]

Three years' course. First year: Mathematics IV, V, and VI, and Physics I, together with Chemistry I, or Zoology I, or Botany I, or Geology I. Second year: Mathematics VII and VIII, Physics II and III. Third year: Mathematics VII and VIII.

Four years' course. First year: Physics I, together with Chemistry I, or Zoology I, or Botany I, or Geology I. Second year: Mathematics IV, V, and VI, and Physics II and III. Third and fourth years: Mathematics VII and VIII.

Examination for Honours

Ten papers will be set on the following ubjects:

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.

[1]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.

APPLIED MATHEMATICS:

Dynamics of a particle
Statics
Attractions
Dynamics of rigid bodies
Hydrostatics
Elementary Hydrodynamics
Elementary Theory of Sound.

Physics[1]

Three years' course. First year: Physics I and II, Mathematics IV and V, and Chemistry III. Second year: Physics III and IV, and Mathematics V and VI. Third year: Physics IV.

Four years' course. First year: Physics I, Chemistry I, and Mathematics IV and V. Second year: Physics II and III, and Mathematics V and VI. Third and fourth years: Physics IV.

Examination for Honours

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.

Chemistry

Three years' course. First year: Chemistry II or III, Mathematics II, and Physics I. Second and third years: Chemistry II or III, IV, and V, together with either (1) Mathematics IV and V, and Physics II, or (2) Physics II and III.

Four years' course. First year: Chemistry I, Mathematics II, and Physics I. Second and third years: Chemistry II, III, and IV, together with either (1) Mathematics IV and V, and Physics II, or (2) Physics II and III. Fourth year: Chemistry V.

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1 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.

Examination for Honours

Inorganic Chemistry, one paper
Organic Chemistry, one paper
Physical Chemistry, one paper
History of Chemistry, one paper
One of the following subjects :
Electro-chemistry, one paper
One of the following branches of Applied Chemistry :
Colour Chemistry and Dyeing, one paper
Chemistry of Leather Manufacture, one paper
Fuel and Metallurgy, one paper
Agricultural Chemistry, one paper
Chemistry of Food and Drugs, 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.

Zoology

Three years' course. First year : Zoology I and Physics I, together with one of the following, namely, Mathematics II, Chemistry I, Botany I, Geology I. Second year : Zoology II (*A* or *B*), together with courses in one other principal subject or two subsidiary subjects. Third year : Zoology II (*A* or *B*), and Honours work in Zoology.

Four years' course. First year : Zoology I and Physics I, together with one of the following, namely, Mathematics II, Chemistry I, Botany I, Geology I. Second and third years : Zoology II (*A* and *B*), together with courses in one other principal subject or two subsidiary subjects. Fourth year : Honours work in Zoology.

Examination for Honours

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 of some large and important group of animals.
(*b*) Comparative embryology.
(*c*) Palæontology, with special reference to some large and important group of animals.
(*d*) Bionomics of a selected group.

Botany

Three years' course. First year: Botany I and Physics I, together with one of the following, namely, Mathematics II, Chemistry I, Zoology I, Geology I. Second year: Botany II (*A* or *B*) together with courses in one other principal subject or two subsidiary subjects. Third year: Botany II (*A* or *B*), and Honours work in Botany.

Four years' course. First year: Botany I and Physics I, together with one of the following, namely, Mathematics II, Chemistry I, Zoology I, Geology I. Second and third years: Botany II (*A* and *B*) together with courses in one other principal subject or two subsidiary subjects. Fourth year: Honours work in Botany.

Examination for Honours

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 Botany:

(*a*) Special study of a selected group of plants
(*b*) Ecology of a selected group
(*c*) Cytology
(*d*) Fossil Botany.

Physiology

Three years' course. First year: Physics I and two of the following, namely: Mathematics II, Chemistry I, Zoology I, Botany I, Geology I. Second year: Physiology I and II, together with two of the following, namely, (1) Physics II, (2) Chemistry II, or III, or IV, or V (*C*), (3) Zoology II (*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 I and two of the following, namely, Mathematics II, Chemistry I, Zoology I, Botany I, Geology I. Second and third years: Physiology I and II, together with either (1) Physics II and III, or (2) Chemistry II, III, IV, and V (*C*), or Zoology II (*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.

Examination for Honours

Physiology, three papers
Practical examination, extending over two days.

Geology

In this school there are alternative schemes of study, Scheme A—Physical, and Scheme B—Biological.

Scheme A (Physical)

Three years' course. First year: Geology I and Physics I, ann one of the following, namely, Mathematics II, Chemistry I, Zoology I, Botany I. Second and third years: Geology II, III, VI, and VII, with research, together with either (1) (*a*) Chemistry II or III, or (*b*) Chemistry IV, or (*c*) Chemistry V (*C*), and Physics II; or (2) Chemistry II, III, IV, and V (*C*).

Four years' course. First year: Geology I and Physics I, and one of the following, namely, Mathematics II, Chemistry I, Zoology I, Botany I. Second and third years: Geology II and V, Physics II, and Chemistry II or III, or IV, or V (*C*). Fourth year: Geology VI and VII, with research.

Examination for Honours

Geology, two papers
Petrology, one paper
Elementary Mineralogy, one paper
A special paper on the subject of research selected by the candidate
Practical examination, extending over two days.

Scheme B (Biological)

Three years' course. First year: Geology I and Physics I, and one of the following, namely, Mathematics II, Chemistry I, Zoology I, Botany I. Second year: Geology II and III, together with two of the following, namely (*a*) Chemistry II or III, or IV, or V (*C*), (*b*) Zoology II (*A* or *B*), (*c*) Botany II (*A* or *B*). Third year: Geology VI, with research.

Four years' course. First year: Geology I and Physics I, and one of the following, namely, Mathematics II, Chemistry I, Zoology I, Botany I. Second and third years: Geology II and III, together with either (1) (*a*) Zoology II (*A* and *B*), or (*b*) Botany II (*A* and *B*), or (2) two of the following, namely (*a*) Chemisry II or III, or IV, or V (*C*), (*b*) Zoology II (*A* or *B*), (*c*) Botany II (*A* or *B*). Fourth year: Geology VI, with research.

Examination for Honours

Geology, one paper
Palæontology, one paper
Palæobotany, one paper
Special paper on the subject of research selected by the candidate
Practical examination extending over two days.

Mechanical Engineering

Three years' course. First year: Engineering I, Physics I, Mathematics II and IV, and Chemistry I. Second year: Engineering VI, Mathematics V and VI, and Electrical Engineering I. Third year: Engineering IV (Part I) and VII, Physics II (second term only).

Examination for Honours

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 of Steam Engines and Machinery, one paper
Mechanics and Kinematics, one paper
Pure Mathematics, two papers.
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.

Civil Engineering

Three years' course. First year: Engineering I, Physics I, Mathematics II and IV, and Chemistry I. Second year: Engineering III and VI, Mathematics V and VI, and Geology I. Third year: Engineering IV and VII, and Physics II (second term only).

Examination for Honours

Graphics and Descriptive Geometry, one paper
Strength and Elasticity of Materials, one paper
General Hydraulics, one paper
Theory of Complex Structures, one paper
Surveying and Descriptive Engineering, one paper
Water Engineering, Tidal and Railway Construction, one paper
Pure Mathematics, two papers
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.

Electrical Engineering

Three years' course. First year: Engineering I, Mathematics II and IV, Physics I, and Chemistry I. Second year: Mathematics VI, Engineering VI, and Electrical Engineering I. Third year: Mathematics III, Physics II (second term only), and Electrical Engineering II, III, and IV.

Examination for Honours.

Generation of Electrical Energy, one paper
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
Pure Mathematics, two papers
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.

Mining Engineering

Honours in this subject 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 year in research or in the preparation of a thesis, attendance at the University during this fourth year not being compulsory. All candidates for Honours shall pass the same Mathematical examinations as if they had taken Mathematics as a principal subject, but no attendance on Mathematical courses other than that prescribed for Mining Engineering students proceeding to the Ordinary degree shall be required.

Gas Engineering : Fuel and Metallurgy

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 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.

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 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

Four years' course. First year: Physics I, Chemistry I, together with Mathematics II, or Zoology I, or Botany I. Second and third years: Physics II, Engineering II (*A*), Chemistry II, III, IV, and V (*C*), and Chemistry of Leather Manufacture I, II, III, IV, V, and VI. Fourth year: Honours courses or research in Chemistry of Leather Manufacture.

Examination for Honours

Physics and Chemistry of Leather Manufacture, one paper.
Methods of Leather Manufacture, one paper.
Laboratory Methods, one paper.
Practical examination, three days.

Agriculture

Four years' course. First year: Physics I, and three of the following, namely, Chemistry I, Zoology I, Botany I, Geology I. 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.

Examination for Honours

The examination will extend over two days, part of the time being occupied by a *viva voce* examination at the Manor Farm, Garforth.

DEGREE OF MASTER OF SCIENCE[1]

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.

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. Such candidates shall be 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.

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1 In 1910 notice must be given and the fee must be paid not later than TUESDAY, MARCH 1. The examination held under I 3 will begin on Monday, June 13.

Regulations

Examination

MATHEMATICS:
Analytical Geometry, Plane and Solid
Differential and Integral Calculus
Dynamics and Statics of a Particle
Hydrostatics and Rigid Dynamics.

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:
History of Chemistry and of Chemical Philosophy, one paper
Physical Chemistry, one paper
Mineralogy and Crystallography, one paper
Technological Chemistry, one paper
Metallurgy, one paper
Sanitary Chemistry, one paper
Physiological Chemistry, one paper
Electro-Chemistry, 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
Stress, Strain and Elasticity
Heat Engines and Thermodynamics
Hydraulics.

CIVIL ENGINEERING:
Surveying and Descriptive Engineering
Stress, Strain and Elasticity
Complex Structures
Hydraulics.

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.
Methods of Leather Manufacture, one paper.
Laboratory Methods, one paper.
Practical examination, three 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.
Soils and Manures
Rotations and Permanent Grass
Live Stock and Feeding
Implements
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 SCIENCE[1]

Ordinance.

1. The degree of Doctor of Science is conferred by the University upon registered Masters of Science 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 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.

DIPLOMAS IN SCIENCE AND TECHNOLOGY

Diplomas are granted by the University in the following subjects:

Coal Mining
Dyeing
Fuel and Metallurgy
Gas Engineering
Leather Manufacture
Textile Industries: (1) Textile Design and Cloth Finishing; (2) Woollen and Worsted Spinning; (3) Textile Manufacturing.

For general regulations affecting the award of Diplomas, see page 174.

For regulations affecting each several diploma, see particulars of courses of study under the heading of the department concerned.

1 In 1910 notice must be given and the fee must be paid not later than TUESDAY, MARCH 1. The examination, if required, will begin on Monday, June 13.

OTHER 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, Mr. G. R. Brench, University of Leeds, not later than Tuesday, March 1, 1910.

Courses in Science

MATHEMATICS

Professor ROGERS

Mr. WATSON

I. First Year Course for Engineers

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

This course will treat of algebra, elementary trigonometry, and other subjects useful to engineering students.

Fee, £3 13s. 6d.

II. Intermediate Course in Pure Mathematics

Mondays, Wednesdays, and Fridays, at 2 p.m.

Students reading for the Intermediate B.Sc. examination attend for all three hours; students reading for the Intermediate B.A. examination attend on Mondays and Wednesdays only.

Fee for three hours a week, £3 13s. 6d.; for two hours, £2 12s. 6d.

Books recommended

Hobson and Jessop, *Elementary Trigonometry* (Cambridge)
Knott, *Four-figure Mathematical Tables* (Chambers, 4d.)
Gibson, *Introduction to the Calculus* (Macmillan, 3s. 6d.)

III. Second Year Course for Engineers

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

The subjects are graphical methods, differential and integral calculus.

Fee, £3 13s. 6d.

Book recommended

Saxelby, *A Course in Practical Mathematics* (Longmans and Co, 6s. 6d.)

IV. Final Course in Applied Mathematics (First Year)

Tuesdays and Thursdays at 11.30 a.m.

Elementary statics, dynamics, and hydrostatics.

Fee, £2 12s. 6d.

Book recommended

Jessop, *Elements of Applied Mathematics* (Bell, 4s. 6d.)

V. 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. 234), (ii) as the Subsidiary Subject, entitled Mathematics I (p. 235), attend for all three hours; students reading for (i) Arts Courses (pp. 150 and 151), (ii) Science Subsidiary Course, entitled Mathematics II (p. 235) attend on Mondays and Wednesdays only.

Fee, £3 13s. 6d.

Books recommended

Lamb, *Infinitesimal Calculus* (Cambridge)
Smith, *Conic Sections* (Macmillan)

VI. Final Course in Applied Mathematics (Second Year)

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

Subjects: statics, dynamics, and hydrostatics. Books will be recommended by the Professor.

Fee, £3 13s. 6d.

VII., VIII. Honours Courses in Pure and Applied Mathematics

Courses of lectures of three hours a week each in Pure and Applied Mathematics will be delivered to students reading for Honours in Mathematics. Hours of meeting will be arranged.

Fee for each course, £3 13s. 6d.

PHYSICS

Chair endowed in 1884 by public subscription in memory of the late Lord Frederick Cavendish, first President of the Yorkshire College

Professor BRAGG

Mr. ALLEN Mr. SHORTER

Mr. EDMONDS Mr. KEENE

LECTURE COURSES

I. 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 at the beginning of 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.

Students whose knowledge of mechanics has not reached this standard will be assisted by special instruction during laboratory hours in the first term, but they will necessarily have less time to devote to the usual work of the class.

Fee £3 13s. 6d.

Ia. Special Course for Candidates for the First Examination in Medicine

Lectures and Experimental Demonstrations: Mondays, Wednesdays and Fridays at 11.30 a.m. during the first two terms only.

Subjects: The elements of electricity, magnetism, sound, light, heat, and the properties of matter.

Text books will be recommended by the lecturer at the beginning of the course.

Fee £2 12s. 6d.

II. Final Course (Subsidiary)

Lectures: Mondays 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. It also forms the first half of the course for students taking Physics as a principal subject in that examination.

Fee, £2 12s. 6d.

Books recommended

Watson, *Physics* (Longmans 10s. 6d.)
Allan, *Examples in Physics* (Arnold, 1s. 6d.)
The following works may also be usefully consulted:
Poynting & Thomson, *Properties of Matter*, *Heat*, and *Sound*
Edser, *Heat and Light*
Hadley, *Electricity and Magnetism*

III. Final Course (Principal)

Lectures: Wednesdays, at 10.30 a.m., throughout the session, and at some other hour to be arranged when the class meets.

This course, in addition to II above, 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 Course I, or in default are required to take Course I 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.

Fee, £2 12s. 6d.

Fee for courses II and III taken together, £4 14s. 6d.

IV. Honours Course

Three lectures a week throughout the session, at times to be arranged. The complete course extends over two sessions.

Fee, £3 13s. 6d. per session.

N.B.—The class will meet for the first time on Thursday, October 7, at 11.30 a.m., when times will be arranged for the lectures to suit the convenience of students attending the class.

PHYSICAL LABORATORY

The Physical laboratory is open from 9.30 a.m. to 1 p.m., and from 2 to 5 p.m. (except on Saturdays).

Students preparing for the Intermediate B.Sc. examinations 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 the first two terms.

A student preparing for the Final B.Sc. examination and taking Physics as a principal subject is required to devote one day per week for two sessions to practical work.

A student taking Physics as a subsidiary subject is required to devote one day per week for one session to practical work.

The following table shows the 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.	Final.
Th.	Final.	Intermediate.
F.	Honours.	Final.
S.	Intermediate.	

Book recommended for Intermediate Course: Schuster & Lees, *Intermediate Physics* (Macmillan).

For fees, see page 122.

CHEMISTRY[1]

Professor SMITHELLS Professor COHEN
Dr. DAWSON Mr. LOWSON
Mr. PERKINS Mr. MARSHALL Mr. CALAM
Mr. KING

LECTURE COURSES

I. General Course of Chemistry

The lectures of this course are given throughout the session, on Mondays, Wednesdays, and Fridays, at 11.30 a.m. 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.

Fees for the whole course (including tutorial class), £4 4s.; for part I, £3 13s. 6d.; for part II, £1 1s.

II. Inorganic Chemistry[2]

Advanced Course—A

Mondays, Wednesdays, and Fridays, at 9.30 a.m., throughout the session.

A previous general knowledge of chemistry is necessary.

Fee, £3 13s. 6d.

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1 Candidates for the First examination in Medicine, or the Intermediate Science or Preliminary Scientific (M.B.), London, should refer to page 395.

2 It will be advisable, as a rule, for students to take course II before course III, but this order is not essential.

III. 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.

Fee, £3 13s. 6d.

IV. Organic Chemistry

Tuesdays, Thursdays, and Saturdays, at 12 (noon) throughout the session.

This course is intended for second year students, or for those who have already some knowledge of chemistry.

Fee, £3 13s. 6d.

V. Honours Courses

A. Organic Chemistry

Professor COHEN

Mondays, Wednesdays, and Fridays, at 12 (noon), during the first and second terms.

Fee, £2 12s. 6d.

B. History of Chemistry

Professor COHEN

Mondays, Wednesdays, and Fridays at 9.30 a.m., during the first term.

Fee, £1 11s. 6d.

C. Physical Chemistry

Dr. DAWSON

Mondays, Wednesdays, and Fridays, at 9.30 a.m. during the second and third terms.

Fee, £2 12s. 6d.

D. Electro-Chemistry

Dr. DAWSON

Tuesdays at 9.30 a.m.

Fee, £1 11s. 6d.

VI. Chemistry of Food and Drugs

Mr. LOWSON

During the third term a special class will be held for those students who are taking the Final examination of the Institute of Chemistry in Branch E (Food and Drugs).

Fee, £2 2s.

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.

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,[1] 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.

For fees, see page 122.

1 For the convenience of students, a supply of apparatus is kept at the University, and may be purchased from the laboratory steward.

Students taking the course for the First examination in Medicine or the Preliminary Scientific (M.B.) of the University of London, must attend at the hours specified on page 395.

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 third term of the session on Tuesdays and Thursdays, from 2 to 5 p.m.,[1] and will include practical instruction or demonstrations in the 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.

Fee, £5 5s.

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.

[1] These hours are subject to re-arrangement.

First Year:

Chemistry Lectures: General Course or Course II.
Chemical Laboratory, 3 days per week.
Mathematics II.
Physics I.
French or German.

Fee for the First Year Course (including Entrance fee of £1 1s. and Union fee of 10s. 6d.), with General Chemistry, £28 18s. 6d.; with Advanced, £28 9s.

Second Year:

Chemistry Lectures: II, III and IV.
Chemical Laboratory, 3 days per week.
Physics II.
French or German.

Fee for the Second Year Course (including Union fee), £29 15s. 6d.

Third Year:

Chemistry Lectures: Honours Courses A, C and D.
Chemical Laboratory, 3 days per week.
Physical Laboratory, 1 day per week.
One of the following: Elementary Engineering, Metallurgy, Geology.

Fee for the Third Year Course (including Union fee), about £30.

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[1] should be consulted.

ZOOLOGY

Professor GARSTANG

Mr. TAYLOR Miss LEBOUR

I. Intermediate Course

Lectures on Mondays and Fridays at 10.30 throughout the session. Practical work on Tuesdays from 2 to 5 p.m. and on Wednesdays from 10.30 to 11.30 throughout the session.

Lecture Fee, £2 12s. 6d.

Laboratory Fee, £4 4s. (for apparatus see under VII below).

Subjects: The structure of animals as exemplified by a progressive series of selected types. Outlines of Embryology. The theory of recapitulation. The principles of natural selection.

Practical Work, First and Second terms: Amœba, Paramecium, Vorticella, Monocystis, Hydra, Obelia, Earthworm, Amphioxus, Dogfish, Frog. Embryology of Frog and Chick.

Third Term: Ascaris, Tænia, Cockroach, Mosquito (anatomy and metamorphosis). Adaptive modifications in Amphibians and Insects.

Books recommended

Marshall, *The Frog* (Cornish, 3s. 6d.)

Parker & Parker, *Elementary Course of Practical Zoology*, 2nd edition (Macmillan, 10s. 6d.)

1 To be obtained from the Secretary, Institute of Chemistry, 30, Bloomsbury Square, London, W.C.

Ia. Medical 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, with certain modifications. During the second half of the second term, medical students will take additional Zoology (including the anatomy of the Rabbit), instead of Botany on Tuesday and Thursday mornings (Practical Work 9.30 to 11.30; lectures at 11.30). During the third term they will omit the laboratory work on Wednesdays.

Fee for course in Biology (Zoology and Botany), £13 13s.

Ib. Medical Course for Conjoint Board Examination

The Zoological part of the syllabus for the examination in Biology for the diploma of the Conjoint Board (L.R.C.P. and M.R.C.S) is covered by the Intermediate course during the first and second terms.

Fee for course in Biology (Zoology and Botany), £8 8s.

II. Final Course: General Zoology

Lectures three times a week, at hours to be arranged with the class.

Subjects: The comparative anatomy of selected types of the various classes of animals, and the principal features of their development, habits and environment. The experimental study of particular adaptations. Some factors of evolution.

Sections A and B will be taken alternately, each occupying one session. Either will rank as a subsidiary course for the degree. Section B will be taken during 1909-1910.

A. The Invertebrate classes Protozoa (except Infusoria), Coelentera (except Ctenophora), Nemertea, Nematoda, Mollusca, Brachiopoda, Polyzoa, Phoronidea, Echinoderma, and the Chordate classes Enteropneusta, Tunicata, Cyclostomata, Pisces and Amphibia, including some of the more important extinct forms. Variation and Heredity.

B. The Invertebrate classes Infusoria, Porifera, Ctenophora, Platyhelminthes, Annelida, Rotifera, Arthropoda, and the Vertebrate classes Reptilea, Aves and Mammalia, including some of the more important extinct forms. Geographical distribution.

Fee for each session, £5 5s.

A course of laboratory work, occupying at least six hours per week, will be provided in connection with each series of lectures. Excursions for field and waterside observation will be arranged from time to time. For fees, see tinted pages appended.

The two years' course will prepare for Zoology as a principal subject at the Final B.Sc. examination.

III. Honours Course

A course of lectures and laboratory work will be arranged to suit the requirements of students who intend to offer themselves for Honours or for the M.Sc. in Zoology.

IV. Natural History (Zoology) for Agricultural Students.

Lectures and laboratory work during the first term only on Mondays, 10.30 a.m. to 12.30 p.m.; Wednesdays at 11.30 a.m.; and Fridays, 9.30 to 11.30 a.m.

Subjects: Elementary facts of structure of the higher animals; the use and mechanism of special organs; drawing; the use of the microscope.

Fee (including Botany, course IV.), £2 12s. 6d.

V. Agricultural Zoology

Mr. TAYLOR

Lectures and laboratory work during the second term, on Thursdays at 11.30 a.m., and on Fridays from 9.30 to 11.30 a.m., and from 3 to 4 p.m.

This course covers the syllabus of the examination in Agricultural Zoology for the National Diploma in Agriculture.

Fee, £1 11s. 6d.

Book recommended

Miall, *Injurious and Useful Insects* (Bell & Sons, 3s. 6d.)

VI. Nature Knowledge

Mr. TAYLOR Miss LEBOUR

The class will meet on Saturdays from 9.30 a.m. to 12 noon, beginning October 9, and will extend throughout the session.

Each student will be required at the beginning of the course to provide a few simple instruments, which can be obtained at the laboratory at a cost of about 1s. 6d.

Fee, £3 13s. 6d.

VII. Zoological Laboratory

The Zoological laboratory will be open daily from 9.30 a.m. to 5 p.m. (Saturdays, from 9.30 to 12.30).

For fees, see page 122.

Each student is required to provide himself with a microscope, a pocket lens, a *dissecting case* (a suitable case is made by Reynolds & Branson, Ltd., Leeds, and sold at 13s. 6d.) a *biological drawing book* (Jackson, Leeds, 1s.), two razors and a strop.

Any of the following microscopes will suffice. The Professor of Physiology recommends students who intend to take Practical Physiology in a later part of their course to procure one of the first three.

1. Swift's College Stand, with Zeiss D objective in place of $\frac{1}{4}$ in., £6 2s. 6d.

2. Swift's College Stand, with Zeiss DD in place of $\frac{1}{4}$ in., £6 17s. 6d.

3. Leitz' Stand, II.*b*, with objectives 3 and 7, £6 5s.

4. Swift's College Stand, with Swift's 1 in. and $\frac{1}{6}$ objectives, £5 5s.

Every microscope should be fitted with a ruled circle in the eyepiece for drawing. Messrs. Reynolds & Branson will supply such a circle for 7s. 6d., or 6s. 6d. when included with a microscope.

Microscopes may be had on loan from the University at the rate of 2s. 6d. each per term, to be paid in advance.

BOTANY

Professor BLACKMAN

Mr. WALKER Miss WILLIAMS

I. Intermediate Course

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.

Lecture fee, £2 12s. 6d.

Laboratory fee, £4 4s.

Subjects: The elementary study of Spirogyra, Chlarnydomonas, Pleurococcus, Ulothrix, Fucus, Bacteria, Saccharomyces, Eurotium, Pythium, Pellia, Funaria, Aspidium, Selaginella, Pinus, and the flowering plant; the elements of plant anatomy and physiology. The classification and adaptation of flowering plants as exhibited by examples of Salicaceae, Ranunculaceae, Cruciferae, Caryophyllaceae, Leguminosae, Rosaceae, Labiatae, Primulaceae, Compositae Liliaceae.

Books.

Scott, *Structural Botany*, 2 vols. (Black, 3s. 6d. each.)
Groom, *Elementary Botany* (Bell, 3s. 6d.)

Each student is required to provide himself with a microscope, a pocket lens, a biological drawing book (Jackson, Leeds, 1s.), two razors, two scalpels and a strop.

Ia. Medical Course for First M.B. examination

This course includes the Botanical work necessary for the Biology of the First M.B. examination. The times will in the main be as in course I. above, but in the second half of the second term extra Zoology will be substituted for Botany, and in the third term practical work will be three hours a week, instead of four.

Fee for course in Biology (Botany and Zoology), £13 13s.

Ib. Medical Course for Conjoint Board Examination

This course is part of course I., and is held at the same time, but is completed by the middle of the second term.

Fee for course in Biology (Botany and Zoology), £8 8s.

II. Final Course: Botany

Lectures on Mondays, Wednesdays and Fridays throughout the session. Courses A and B will be taken alternately, each occupying one session. Either will rank as a subsidiary course for the degree.

A. Algæ, Fungi and Bryophyta: classification, and life histories of representative groups.
Pteridophyta: structure and relationships of the principal groups (ferns, lycopods, etc.).
Physiology of the plant axis, growth, irritability.

B. Gymnosperms: morphology, anatomy and classification of principal groups; distribution in space and time.
Angiosperms: the morphology of the flower, and physiology of reproduction. The principles of geographical distribution, and œcology.
Important natural orders of flowering plants.
Physiology of nutrition and œcology of leaf. Cytology.

Fee for each session, £5 5s.

A course of laboratory work on one of the above courses will be provided; for fees, see page 122.

The two years' course will prepare for the Botany of the Final B.Sc. examination.

III. Honours Course

A course of lectures (2 hours a week) and laboratory work will be given at hours to be arranged.

IV. Natural History (Botany) for Agricultural Students

Lectures and laboratory work on Mondays, 10.30 a.m. to 12.30 p.m.; Wednesdays at 11.30 a.m.; Fridays, 9.30 to 11.30 a.m. during the second term.

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.

Fee, £2 12s. 6d. (including Zoology course in first term).

V. Botany for Agricultural Students

(Second year of Agricultural Course)

Mondays and Wednesdays, from 2 to 4 p.m., and Fridays, at 2 p.m., during the first and second terms.

Subjects: Structure, nutrition and reproduction of plants; the elements of systematic Botany; fungi which cause diseases of crops.

Laboratory work to accompany the lectures, with special work on identification of grasses and other crop-plants, common weeds, and diseases of plants.

This course will prepare for the National Diploma examination.

Fee, £3 3s.

VI. Forestry

Lectures and laboratory work, Mondays and Wednesdays, 9.30 to 11.30 a.m., during the third term.

Occasional excursions will be made during the term; students to pay their own railway fares or other expenses.

Subjects: (1) Forest Botany; the structure and growth of trees and timber.

(2) General Forestry; trees in relation to soil and climate; the growth of trees in the open and in forests; formation and regeneration of woods and plantations; pure and mixed woods; general management of trees.

Laboratory work includes identification of important trees and timbers, and common diseases of trees.

Fee, £2 12s. 6d.

VII. Experimental Plant Physiology

Mr. WALKER

This class will be held at the Manor Farm, Garforth, on Saturday mornings and afternoons throughout the session. It is intended for teachers of Horticulture, and is held in connection with a two years' course in Horticulture.

Fee for the two courses, £1 12s. 6d.

VIII. Botanical Laboratory

The Botanical laboratory will be open daily from 9.30 a.m. to 5 p.m. (Saturdays, 9.30 to 12.30).

For fees, see page 122.

Each laboratory student, or 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 2s. 6d. each per term, to be paid in advance.

PHYSIOLOGY

Professor BIRCH MR. CLARK

For courses in this Department, see page 428.

GEOLOGY

Professor KENDALL

Mr. GILLIGAN

I. Intermediate Course

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.

Lectures Tuesdays, Thursdays, and Saturdays at 10.30 throughout the session.

Practical work, which will include work at the Cecil Duncombe Observatory, three hours per week throughout the session.

Fee for the lectures, £3 13s. 6d.

II. Final Course in Geology

Mondays, Wednesdays, and Fridays throughout the session, at 2 p.m., 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.

Fee, £3 13s. 6d.

III. Advanced Geology.

Three lectures a week throughout the session, at times to be arranged, for students taking Geology as a principal subject in the second year of their final course.

IV, V, VI. 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.

Lecture fee, £2 12s. 6d. for each course.

VII. Honours Course in Geology

A course of not less than 90 lectures will be given at hours to be arranged with the students.

Fee, £3 13s. 6d.

VIII. Honours Course in Mineralogy

A course of 30 lectures and demonstrations will be given for students reading for Honours Geology (Scheme A).

Fee, £1 11s. 6d.

IX. Mineralogy for Mining Course

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.

Lectures on Wednesdays and Fridays, at 11.30 a.m.
Lecture fee, £2 12s. 6d.

X. Agricultural Geology

A course of about 60 lectures will be given on Mondays Wednesdays, and Fridays, during the first and second terms, at 11.30 a.m., commencing October 13. Practical work, Tuesdays, 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.

Fee, £2 12s. 6d.

XI. Field Course

A course of practical instruction, with field excursions, will be given at times to be arranged.

Fee, £3 13s. 6d. An allowance of £1 1s. will be made to students who attend the excursions towards the payment of railway fares.

XII. 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.

Fee, £1 1s.

XIII. Geography

Mondays, Wednesdays, and Fridays, at 9.30 a.m., in the second and third terms.

(*a*) *Physical Geography:* The agents at work on and beneath the surface of the earth; phenomena resulting from earth-heat; distribution of land and water.

(*b*) *Political and Commercial Geography:* Political and economic effects of natural features and conditions; outlines of Geography of the British Empire (including Historical Geography); Political and Commercial Geography of the United Kingdom.

Fee, £2 12s. 6d.

XIV. Geology applied to Sanitary and Civil Engineering

Mondays, during the second and third terms at 5 p m (see page 461.)

Laboratory

The Geological laboratory will be open every day.

Students preparing for the Final B.Sc. (Ordinary), will be required to take not less than six hours practical work a week. Students preparing for Honours will be required to take not less than six hours a week.

For fees, see page 122.

Courses in Technology

CIVIL & MECHANICAL ENGINEERING[1]

Professor GOODMAN
Mr. GILCHRIST Mr. KEAN
Mr. MYERS Mr. DUNCAN
Mr. THOMSON

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 present arrangements of the Department do not allow of more than 100 students being admitted to the Laboratory and Drawing Classes.

In the event of more than 100 qualifying for entrance, preference will be given to students taking a two or three years' course and who have had previous practical training in Works.

COURSES OF STUDY

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 very desirable that all students should have some practical experience in Engineering Works before

taking up the University course.[1] 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 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 utility to students who are afterwards to be engaged in any occupations connected with manufactures.

ENTRANCE EXAMINATION

(*For Students intending to enter the Civil, Mechanical, Electrical, and Mining Engineering Departments*).

(Time allowed, three hours.)

All students entering any Engineering Department will be required to pass an Entrance Examination[2] or to produce certificates of having passed the Matriculation examination conducted by the Joint Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield, 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.

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.

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1 See a pamphlet published by the University on "The Training of Professional Engineers." The Registrar will forward a copy on application.

2 The Examination will be held on Tuesday, October 5, 1909, the English subjects at 10 a.m. and the Mathematical subjects at 2 p.m., and on Tuesday, July 5, 1910, at 2 p.m. in the Mathematical subjects only. Students should send in their names beforehand. The July Examination may be taken 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.

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.

DEGREE COURSE

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. Degree Course in Engineering science in the Leeds University. Students intending to read for a degree must pass the Matriculation examination before taking the Engineering course. The Institution of Civil Engineers now requires that all candidates for membership shall take an Honours Engineering Degree or shall pass an equivalent examination before being admitted.

All Engineering Students of this University who have passed the Leeds Matriculation (including two Science[1] subjects) or other prescribed examination are eligible for election as Students of the Institution of Civil Engineers—the first step towards becoming a Member (M.Inst.C.E.). They are then 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 Head Quarters. Free Studentships for a period of two years are awarded to all students elected from this University, who have

[1] The regulations are about to be changed.

obtained a first class in the second year's 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 not passed the Matriculation examination are strongly advised to take the Studentship examination of the Institution of Civil Engineers during their second year, and the Associate Membership examination during their third year. Only those students who have attended their various classes to the satisfaction of the Professors and Lecturers concerned and done reasonably well in their class examinations will be proposed for admission to the Institution.

A three hours' Examination 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 to pass 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.

The following courses of study are suitable for students who wish to take a B.Sc. degree :—

MATRICULATION, before leaving school.

(1) English Language or Literature, and English History.

(2) Mathematics.

(3) Elementary Mechanics.

(4) Chemistry.

(5) Either French or German, or some other language approved by the Board.

INTERMEDIATE, at end of first year.

(1) Mathematics (two papers).

(2) Physics (with practical examination).

(3) Chemistry (with practical examination).

(4) Applied Mechanics (generally taken at end of second year).

(5) An essay.

ORDINARY DEGREE.

FINAL, at end of third year.

Mechanical Engineering, principal subject.
Strength and Elasticity of Materials.
Heat Engines and Dynamics of Machinery.
Hydraulics and Compressed Air.
Graphics, one day.
Laboratory, one day.

Subsidiary subjects: At end of second or third years.
Mathematics.
Physics or Surveying, or Electrical or Mining Engineering.
Translation from French or German.

Sample drawings done by the candidate, also his laboratory books must be handed in for the external Examiner to inspect.

The candidate must produce a certificate of having satisfactorily attended a prescribed course in Physics.

Civil Engineering, principal subject.
Surveying.
Hydraulics and Compressed Air.
Structures and Design.
Graphics, one day.
Laboratory, one day.

Subsidiary subjects:
Mathematics.
Geology or Mechanical or Electrical or Mining Engineering.
Translation from French or German.

Sample drawings done by the candidate, also his laboratory books must be handed in for the external Examiner to inspect.

The candidate must produce a certificate of having satisfactorily attended a prescribed course in Geology.

HONOURS DEGREE.

FINAL at end of the second or third year.

Pure Mathematics.
Applied Mathematics.

Mechanical Engineering, at the end of the third year.

Graphics, paper to be worked at home during the third term.
Strength and Elasticity of Materials.
Hydraulics and Compressed Air.
Thermodynamics and Theory of Heat Engines.
Dynamics of Steam Engines and Machinery.
Mechanics and Kinematics.
Laboratory, two days.
Translation from French or German.

Sample drawings done by the candidate, also his laboratory books must be handed in for the external Examiner to inspect.

Civil Engineering.

Graphics, paper to be worked at home during the third term.
Strength and Elasticity of Materials.
Hydraulics and Compressed Air.
Theory of Complex Structures.
Surveying and descriptive Engineering.
Railways, Harbours, Water Supply, &c.
Laboratory, two days.
Translation from French or German.

Sample drawings done by the candidate, also his laboratory books must be handed in for the external Examiner to inspect.

TIME TABLES

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. La	boratory	Chem. I.	Math. II.	PhysicsI.	Eng. I.
TUE. ..	Drawing	Drawing	Math.IV.	Chemi	cal Labor	atory
WED. ..	Eng. La	boratory	Chem. I.	Math. II.	PhysicsI.	Eng. I.
THU. ..	Drawing	Drawing	Math.IV.	Phys	ics Labora	tory
FRI. ..	Chem. Exercise Class	Eng. I. Exercise Class	Chem. I.	Math. II.	PhysicsI.	Eng. I.
SAT. ..	Drawing	Machine Drawing Lecture				

Fee for the above course (including Entrance Fee and Union Fee), £33 17s. 6d. Laboratory Deposit, 10s. 6d.

Ordinary Degrees

SECOND YEAR COURSE FOR MECHANICAL ENGINEERING,
with Electrical or 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. V.	Elec. I. or Draw.	Drawing	Drawing
TUE. ..	Engineer	ing Labor	atory*	Engineer	ing Labor	atory
WED. ..	Drawing or Mining	Eng. VI.	Math. V.	Drawing	Drawing	Drawing
THU. ..	Electr	ical Engi	neering*or	Mining L	aboratory	Elec. I.
FRI. ..	Drawing or Mining	Eng. VI.		Elec. I. or Draw.	Drawing	Drawing
SAT. ..	Mach. Design	Ex. Class				

Fee for the above course (including Union Fee), £28 16s. 6d., or if Mining be taken instead of Electrical Engineering, £28 7s. Laboratory Deposits, 10s. 6d. or £1 1s.

*It may be advisable for students who have not done well in Maths. IV. in their first year to repeat a part of the course during the third term of their second year, for which an additional fee will be charged.

Ordinary Degrees

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. V.	Drawing	Drawing	Drawing
TUE. ..	Engineering Laboratory			Eng. Laboratory		Eng. III.
WED. ..	Drawing	Eng. VI.	Math. V.	Drawing	Drawing	Drawing
THU. ..	Engineering Laboratory			Eng. Laboratory		Eng. III.
FRI. ..	Drawing	Eng. VI.		Drawing	Drawing	Drawing
SAT. ..	Machine Design	Ex. Class	Eng. III.			

Students are advised to take the Practical Surveying Class at Easter.

Fee for the above course (including Union Fee), £27 6s. Laboratory Deposit, 10s. 6d.

Ordinary 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. ..	Drawing	Eng. VI.	Math. V.	Geol. II.	Drawing	Drawing
TUE. ..	Engineering Laboratory			Eng. Laboratory		Eng. III.
WED. ..	Geol. Lab.	Eng. VI.	Math. V.	Geol. II.	Geol. Lab.	Geol. Lab.
THU. ..	Drawing	Drawing	Drawing	Geol.	Lab.	Eng. III.
FRI. ..	Drawing	Eng. VI.		Geol. II.	Drawing	Drawing
SAT. ..	Mach. Design	Ex. Class	Eng. III.			

Students are advised to take the Practical Surveying Class at Easter.

Laboratory Deposit, 10s. 6d.

Fee for the above course (including Union Fee), £30 12s. 6d.

Ordinary 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. ..	Eng. Lab.	Eng. Lab.* Phys. II.†	Eng. Lab.	Engine	ering Lab	oratory
TUE. ..	Eng. IV. Parts I. II.	Eng. VII.	Drawing	Drawing	Drawing	Drawing
WED. ..	Engine	ering Lab	oratory	Engine	ering Lab	oratory
THU. ..	Eng. IV. Parts I. II.	Eng. VII.	Graphics	Drawing	Drawing	Drawing
FRI. ..	Eng. Lab.	Eng. Lab.* Phys. II.†	Eng. Lab.	Engine	ering Lab	oratory
SAT. ..	Exer. Class	Eng. VII.				

Fee for the above course (including Union Fee), £26 16s. Laboratory Deposit, 10s. 6d.

Ordinary 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. II.†	Eng. Lab.	Engine	ering Lab	oratory
TUE.	Eng. IV.	Eng. VII.	Drawing	Drawing	Drawing	Drawing
WED. ..	Engine	ering Lab	oratory	Engine	ering Lab	oratory
THU. ..	Eng. IV.	Eng. VII.	Graphics	Drawing	Drawing	Drawing
FRI. ..	Eng. Lab.	Eng. Lab.* Phys. II.†	Eng. Lab.	Engine	ering Lab	oratory
SAT. ..	Exer. Class	Eng. IV.				

* Two Terms. † One Term.

Fee for the above course (including Union Fee), £27 5s. 6d. Laboratory Deposit, 10s. 6d.

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. VI.	Eng. VI.	Math. V.	Elec. I.	Drawing	Drawing
TUE. ..	Engine	ering Lab	oratory	Engine	ering Lab	oratory
WED. ..	Math. VI.	Eng. VI.	Math. V.	Drawing	Drawing	Drawing
THU. ..	Electri	cal Engi	neering	Laborator	y	Elec. I.
FRI. ..	Math. VI.	Eng. VI.	Math. V.	Elec. I.	Drawing	Drawing
SAT. ..	Mach. Design	Exer. Class				

Fee for the above course (including Union Fee), £32 os. 6d. Laboratory Deposits, £1 1s.

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. VI.	Eng. VI.	Math. V.	Geol. II.	Drawing	Drawing
TUE. ..	Engine	ering Lab	oratory	Engineeri	ng Laby.	Eng. III.
WED. ..	Math. VI.	Eng. VI.	Math. V.	Geol. II.	Geol. Lab.	Geol. Lab.
THU. ..	Drawing	Drawing	Drawing	Geol.	Laby.	Eng. III.
FRI. ..	Math. VI.	Eng. VI.	Math. V.	Geol. II.	Drawing	Drawing
SAT. ..	Mach. Design	Exer. Class	Eng. III.			

Students are advised to take the practical surveying class at Easter.

Fee for the above course (including Union Fee), £33 16s. 6d Laboratory Deposit, 10s. 6d.

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. ..	Eng. Lab.	Eng. Lab.* Phys. II.†	Eng. Lab.	Engine	ering Lab	oratory
Tue. ..	Eng. IV. PartsI.II.	Eng. VII.	Drawing	Drawing	Drawing	Drawing
Wed. ..	Engine	ering Lab	oratory	Engine	ering Lab	oratory
Thu. ..	Eng. IV. PartsI.II.	Eng. VII.	Graphics	Drawing	Drawing	Drawing
Fri. ..	Eng. Lab.	Eng. Lab.* Phys. II.†	Eng. Lab.	Engine	ering Lab	oratory
Sat. ..	Exer. Class	Eng. VII.				

Fee for the above course (including Union Fee), £26 16s. Laboratory Deposit, 10s. 6d.

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. II.†	Eng. Lab.	Engine	ering Lab	oratory
Tue. ..	Eng. IV.	Eng. VII.	Drawing	Drawing	Drawing	Drawing
Wed. ..	Engin	eering La	boratory.	Engine	ering Lab	oratory
Thu. ..	Eng. IV.	Eng. VII.	Graphics	Drawing	Drawing	Drawing
Fri. ..	Eng. Lab.	Eng. Lab.*	Eng. Lab.	Engine	ering Lab	oratory
Sat. ..	Exer. Class.	Phys. II.* Eng. IV.				

* Two Terms. † One Term.

Fee for the above course (including Union Fee), £28 6s. Laboratory Deposit, 10s. 6d.

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.	En	gineering	Labora	tory	Eng. I.
Tue. ..	Mechs.	Drawing	Exercise Class	Drawing	Drawing	Drawing
Wed. ..	Math. I.	En	gineering	Labora	tory	Eng. I.
Thu. ..	Mechs.	Drawing	Exercise Class	Drawing	Drawing	Drawing
Fri. ..	Math. I.	En	gineering	Labora	tory	Eng. I.
Sat. ..	Drawing.	Machine Drawing Lecture.				

Fee for the above course (including Entrance Fee and Union Fee), £28 5s. Laboratory Deposit, 10s. 6d.

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. III.	Eng. VI.	Exercise Class	Drawing	Phys. I.	Drawing
Tue. ..	Engineer	ing Labor	atory	Engrg.	Laby.	Eng. III.
Wed. ..	Math. III.	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Thu. ..	Engineer	ing Labor	atory	Engrg.	Laby.	Eng. III.
Fri. ..	Math. III	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Sat. ..	Mach. Design.	Drawing	Eng. III.			

Students are advised to take the Practical Surveying Class at Easter.

Fee for the above course (including Union Fee), £30 10s. 6d. Laboratory Deposit, 10s. 6d.

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.	5 to 6.
Mon. ..	Engineering Laboratory			Geol. II.	Practical	Geology	Geol. 2nd and 3rd Terms.
Tue. ..	Eng. IV.	Eng. VII.	Drawing	Drawing	Drawing	Drawing	
Wed. ..	Engineering Laboratory			Geol. II.	Drawing	Drawing	
Thu. ..	Eng. IV.	Eng. VII.	Graphics.	Drawing	Drawing	Drawing	
Fri. ..	Engineering Laboratory			Geol. II.	Practical	Geology	
Sat. ..	Exer. Class	Eng. IV.					

Fee for the above course (including Union Fee), £28 8s. 6d. Laboratory Deposit, 10s. 6d.

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. III.	Eng. VI.	Exercise Class	Drawing	Phys. I.	Drawing
Tue. ..	Engineering Laboratory			Engineering Laboratory		
Wed. ..	Math. III.	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Thu. ..	Engineering Laboratory			Physics Laboratory		
Fri. ..	Math. III.	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Sat. ..	Mach. Design.	Drawing				

Fee for the above course (including Union Fee), £29 6s. Laboratory Deposit, 10s. 6d.

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. ..	Math. III.	(1-3) Eng. Lab. *Phys. II.	Eng. Lab.	Engineer	ing Labor	atory
Tue. ..	Eng. IV. PartsI. II.	Eng. VII.	Drawing	Drawing	Drawing	Drawing
Wed. ..	Math. III.	Eng. Lab.	Eng. Lab.	Engineer	ing Labor	atory
Thu. ..	Eng. IV. PartsI. II.	Eng. VII.	Drawing	Drawing	Drawing	Drawing
Fri. ..	Math. III.	(1-3) Eng. Lab. *Phys. II.	Eng. Lab.	Engineer	ing Labor	atory
Sat. ..	Exer. Class	Eng. VII.				

* Second Term only.

Fee for the above course (including Union Fee), £28 0s. 6d. Laboratory Deposit, 10s. 6d.

FIRST, SECOND, AND THIRD YEAR COURSES (Electrical)

See Time Tables on pages 310 and 311.

Two-Year Course

FIRST YEAR COURSE

Usually the same as that given on page 286. In special cases it will be arranged to suit individual Students.

SECOND YEAR 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. ..	Math. III.	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Tue. ..	Eng. Lab.	Eng. VII.	Eng. Lab.	Engine	ering Lab	oratory
Wed. ..	Math. III.	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Thu ..	Eng. Lab.	Eng. VII.	Eng. Lab.	Engine	ering Lab	oratory
Fri. ..	Math. III.	Eng. VI.	Drawing	Drawing	Phys. I.	Drawing
Sat. ..	Mach. Design	Eng. VII.				

Fee for the above course (including Union Fee), £32 11s. Laboratory Deposit, 10s. 6d.

SYLLABUS OF COURSES

I. First Year Course

Mondays, Wednesdays, and Fridays, at 4 p.m.

Part I

Strength of Materials: Stress, strain, Young's modulus of elasticity, properties of materials when tested in tension, compression, and shear.

Strength of bolts, chains, ropes.

Graphical constructions: Cranes, sheer legs, tripods, suspension chains, simple roof trusses and girders.

Riveted joints: Various systems of riveting, calculations of the pitch and arrangement of rivets for maximum strength; efficiency of joints, lozenge riveting.

Beams: The strength of beams of various sections, rolled joists and girders.

Simple cases of bending moments.

Part II

Fuels: Solid, liquid, gaseous, heating power, air required.

Steam boilers: Descriptions of various types, smoke prevention, mechanical stokers, heating surface, simple heat accounts.

Steam and the steam engine: Brief history of the steam engine, properties of saturated and superheated steam, expansive working, cylinder condensation, valve and piston leakage, jackets, compound engines, indicator diagrams, dynamometers.

Gas and petroleum engines: Description of various types.

Transmission of power: Elementary treatment of shafts, belts, gearing.

Hydraulics: Pressure due to head, simple water motors, pumps, measurement of water, flow in pipes.

Fee, £4 4s.

Students who have done some theoretical work in Engineering prior to entering the University, are advised to take portions of this course, £2 2s.

Books Recommended.

GOODMAN'S Mechanics Applied to Engineering. (Longmans, 9s. net).
RIPPER'S Steam Engine. (Longmans, 2s. 6d.)
GROVER'S Gas and Petroleum Engines. (Technical Publishing Co., 4s. 6d.)
MORLEY'S Mechanics for Engineers. (Longmans, 4s. net.)
LONGMANS' School Mensuration. (Longmans, 2s. 6d. net.)
CASTLE'S Practical Mathematics. (Macmillan, 7s. 6d.)

II. General Engineering

Mr. MYERS

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, Dyeing and Tinctorial Chemistry, Chemical Engineering, Textile Industries.)

Mondays, Wednesdays, and Fridays at 9.30 a.m.

Materials: Strength and properties of cast iron, wrought iron, steel, copper, gun metal, timber.

Fuels: Solid, liquid, gaseous, heating power, air required, &c.

Boilers: Cornish, Lancashire, Vertical. Setting of Cornish and Lancashire Boilers.

Multitubular. Locomotive, portable.

Water Tube. Stirling, Babcock & Wilcox, &c.

Fittings. Safety valves, steam gauges, clack box, water gauges, fusible plugs, stop valves, drain cocks, &c.

Economisers and Superheaters.

Determination of efficiency with special reference to the importance of covering with non-conductors, keeping boilers and flues clean and preventing leakage of air through brickwork, &c.

Mechanical Stokers, forced draught, and smoke prevention.

Injectors, Ejectors, Pulsometers.

Joints for pipes, cylinder covers, stills, &c., to withstand various agents.

Steam Engines: Mill, Corliss Locomotive, High Speed, Steam Turbines, &c.

Details: Slide and expansion valves, cylinders, pistons and rods, glands, connecting rods, cranks and crank shafts, governors, fly wheels, condensers and air pumps, superheated steam.

Gas and Oil Engines, principle of action, construction, &c.

Indicators, indicator diagrams, calculations, defects, &c.

I.H.P. B.H.P. E.H.P., and efficiency of engines.

Consumption of fuel and water per H.P. hour.

Hydraulics, general principles, friction of water in pipes.

Pumps, single and double acting, high and low pressure, centrifugals.

Accumulators, presses, hoists.

Prime Movers, other than heat engines: Water wheels, Motors, Turbines.

Transmission of power: Shafting, lubrication, pedestals, hangers, brackets, couplings, friction clutches, belts, ropes, toothed wheels, dynamos, electric motors, &c.

Various kinds of machines: Transference of liquids by means of compressed air or vacuum, hydro-extractors, elevators, grinding machines, edge rolls, ball mills, disintegrators, sifting machinery, stirring and agitating devices, drying plant, fans, water coolers, gas producers, filtration of waste water, &c.

Air compressors.

Refrigeration and ice-making machinery.

Choice of materials in the construction of vessels for various purposes: Cast-iron, wrought-iron, copper, silver, aluminium, &c.

Fee, £3 13s. 6d.

Course B

Mr. DUNCAN

(For Agricultural Students)

Mondays, Wednesdays, and Thursdays, at 2 p.m., during the First and Second Terms only, commencing October 16.

1. *Mechanics*: Centre of gravity; stability of structures. The lever; toothed wheels; pulleys and ropes; wrapping connectors; winches; differential pulleys. Laws of motion. Strength of materials, tensile, compressive, torsional, and transverse; elastic limit; ultimate strength. Work; horse power; animal and human power. Friction of surfaces and axles; lubrication.

2. *Air :* Properties of air; elasticity, specific heat. Barometer. Moisture. Movement. Winds. Windmills.

3. *Water :* Composition. Weight. Height of column to balance atmosphere. Flow of water. Friction of water in pipes and channels. Usual speed of flow. Power derived from falls of water. Water wheels; turbines; water-pressure engines; pumps. Potable water. Sources of supply. Means of purification. Storage.

4. *Heat :* Nature of heat; thermometer; absolute zero; specific heat; latent heat; the unit of heat. Total heat of water; as ice, water, and steam. Conduction, convection and radiation of heat. Mechanical equivalent of heat. Principle of combustion. Quantity of heat generated by combustion. Modes of transforming heat of combustion into power, as in the steam engine, and gas and oil engine.

5. *Steam-engine :* Construction of an ordinary portable-engine boiler, of a Cornish boiler, and its setting. Fittings of a boiler. Construction of the stationary and portable steam-engine. Single cylinder. Double cylinder. Compound. Slide-valve. Expansion valve. Cylinder. Piston-rod. Glands. Connecting-rod. Crank and crank shaft. Fly-wheel. Bearings. Pet cocks. Lubrication. Steam and fuel consumed per horse-power.

6. *Gas and Petroleum Engines :* Principle of action. Construction of valve-gear. Sources of loss. Fuel and water required per horse-power.

7. *Electrical Generators, Motors, and Conductors :* Principles of action—shunt; losses in electrical machinery. Efficiency. Detection of faults. Regulation of shunt and series motors. Use of fuses and cut-outs. Horse power of motors, and calculation of Watts to be delivered at terminals. Ohm's law. Losses in conductors, and calculation of sizes to convey given currents with definite losses. Insulation of conductors.

Fee, £2 12s. 6d.

Course C

(For Mining Students)

Mr. THOMSON

Mondays—First and Third Terms, at 4 p.m.

Composition and resolution of forces, parallel forces,

funicular polygon. Moments of forces, levers, pulleys, screws, gearing. Work, laws of friction, efficiency of machines.

Stress and strain, the strength and properties of iron, steel, gun metal, timber, ropes, chains.

Heat. Nature and effects of heat on solids, liquids, and gases. Temperature and quantity of heat, specific heat, relation of heat and work. Generation of steam, sensible or liquid heat, latent heat, total heat of steam. Elementary principles of the steam engine, economy in working. Measurement of the indicated and brake horse power. Fuels. Boilers, conditions necessary for economical working explosions.

Fee, 10s. 6d.

Laboratory 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.

Fee, 10s. 6d.

III. Second Year Civil Engineering

Mr. GILCHRIST

Tuesdays and Thursdays, at 4 p.m., and Saturdays, at 11.30 a.m.

Part I

General arrangement of a survey.

Chain Surveying: Chains, tapes, and measuring rods. Chaining on flat and sloping ground, over hills, obstacles in chain lines, errors in chaining, offsets, tie lines, booking observations, plotting results, calculation of areas from field-book notes and from plans by planimeter. Various problems in chaining.

Needle Surveys: Prismatic compass and circumferenter, tests and adjustments, declination, magnetic and true north, traversing, latitude and departure. Measurement of areas by chain and compass.

Plane Table: Various methods of using. Sources of error, tests and adjustments.

Angular Instruments: Sextants, uses, optical principle, tests and adjustments. Optical square. Theodolite, tests and adjustments, measurement of horizontal and vertical angles, taking bearings, triangulation, levelling, and measurements of heights.

Levelling: Levels, Dumpy, Wye, Abney. Levelling staffs, targets, correction for curvature of the earth and refraction. Methods of levelling and keeping the field book. Aneroids and their use. Contouring.

Part II

Geodetic Astronomy, finding of the true meridian, latitude and longitude.

Optical Instruments for the Measurement of Distances: Telemeters, tacheometers, range finders; uses, optical principles, tests and adjustments.

Hydrographic Surveying: Location of points on the surface of water, sounding lines of equal depth, measurement of streams, current meters, &c.

Geodetic Surveying: Setting-out of base lines with great accuracy. Triangulation, instruments employed.

Part III

Railways and other lines of communication: General principles of location and design, setting out of straight lines and curves on the surface and in tunnels, superelevation of outer rail on railways, transition curves, calculations of points and crossings, half widths on flat and sloping ground; calculation of volumes of earthwork. Design and construction of cuttings and embankments.

Fee, £3 13s. 6d.

Books Recommended

Surveying and Levelling, by JAS. PARK. (Griffin, 6/-).
Topographical Surveying, by CLOSE. (Wyman, 3/6).
Railway Construction, by Sir G. MOLESWORTH. (Mackay, Chatham, 6/6).
MIDDLETON & CHADWICK'S Surveying. (Spon, 2 vols., 8/6 each).

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

Mr. GILCHRIST

Tuesdays and Thursdays, at 9.30 a.m., and Saturdays, at 10.30 a.m.

Part I

Girder Bridges: Types of Bridges and arrangement of floor members. Effect of travelling loads for bending moments and shearing forces and their maximum values. Equivalent distributed loads for railway bridges.

Detailed consideration of theory of design of plate girders, box girders, &c. The complete design of a plate girder road bridge will be worked out in detail. Regulations of British and Foreign Governments in regard to design of railway bridges.

Part II

Framed Structures for Bridges: Different types of framed girders, maximum stresses in flange and web members. Design of joints.

Roofs: Types for different spans, methods of support, maximum stresses.

Part III

Limes and Cements: Manufacture and tests. British standard specification. Concrete, methods of preparation, water tightness, reinforced concrete, strength of beams and columns of reinforced concrete.

Theory of Masonry structures: Conditions of stability and strength, masonry arches, piers and masonry dams. Theory of earth pressure, retaining walls.

Part IV.

(To be held on Saturday mornings at 10-30 a.m.)

WATER SUPPLY, SANITARY ENGINEERING AND HARBOUR WORK.

Water supply: Quality and purity of water, sources of supply, quantities available and quantities required. Supplies by gravitation from streams and by wells. Design of works connected with supply and distribution.

Sanitary Engineering: Sanitation of buildings, sewerage of towns, sewage disposal and purification.

Harbour Work: Tides and waves. General principles, types and planning of breakwaters, harbours, docks.

Fee, for the whole course, £3 13s. 6d.; for any one part £1 11s. 6d.; for any two parts, £2 12s. 6d.

Books Recommended.

Steel Roof and Bridge Design, by KERR. (Arnold, 6/-).
Retaining Walls in Theory and Practise, by COLEMAN. (Spon, 5/-).
WARREN'S Engineering Construction in Iron, Steel, and Timber (Longmans, 16s.)
L. V. HARCOURT'S Civil Engineering (Longmans).

V. Practical Surveying

Mr. GILCHRIST

Instruction is given in Surveying and field work during the Easter vacation from March 21st to April 6th, 1910. The class is held at Barden in Wharfedale, where accommodation is provided at farmhouses.

Fee: Including board and lodging... ...	£6	6	0
„ Including the Civil Engineering Lectures in Class III. or IV. ...	9	9	0
„ Including half-time board and lodging	3	3	0
„ Including Class III or IV	6	13	0

The fee for this class is not included in the amounts given as the fees for the courses set out on pages 281 to 288.

Students will be held responsible to the full amount for any damage done to instruments.

VI. Second Year Mechanical Engineering

Mondays, Wednesdays, and Fridays, at 10.30 a.m., with an Exercise Class one hour a week.

Graphical constructions: Bending moment diagrams, shear diagrams, deflection of beams, setting out valve gear diagrams.

Strength of Materials: The deflection of beams of various sections, built-in beams, combined bending and direct stresses, hooks, struts, effects of end holding, eccentrically loaded columns, the torsional strength and stiffness of shafts, combined bending and torsion, crank shafts, close coiled helical springs, effect of repeated loading on structures.

Air: Properties, specific heats, properties of adiabatics and isothermals.

Steam and the Steam Engine: Laws of thermodynamics, entropy-temperature diagrams, the heat efficiency of steam engines, steam engine trials.

Steam Boilers: Boiler trials, complete heat accounts.

Gas and Petroleum Engines: Calculation of temperatures produced by the burning of gases and vapours, cooling effect of cylinder walls, effects of compression on the efficiency, analysis of diagrams, complete heat accounts.

Transmission of power: Laws of friction of dry and lubricated surfaces, effect of temperature, intensity of pressure and speed, methods of lubricating, friction of screws, worms, pivots, rolling friction, ball and roller bearings.

Hydraulics: Weirs, orifices, water wheels, Bernouilli's law, Venturi meter, flow in pipes and channels, pumps.

Mechanics of machines: Virtual centre, simple mechanisms.

Fee, £4 4s.

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.)
ROBINSON'S Gas and Petroleum Engines (Spon, 21s. net.)
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: Centre of pressure of immersed bodies, rational treatment of co-efficients of contraction, velocity and discharge for orifices, &c. Time required for the emptying and filling of tanks, docks, &c. Continuous and sinuous flow through pipes of constant and variable cross section.

Friction in pipes and open channels, virtual slope, losses of head due to obstructions. Pressure of jets on various surfaces, application to water motors, hydraulic efficiency of motors. Design of blades for turbines and water wheels. Pumps, reciprocating, inertia effects, slip, centrifugal and other rotary pumps.

Compressed air: Problems in compressing, transmitting and utilizing. Friction of air in long mains. Compressed air pumps for lifting water, refrigeration by means of compressed air.

Strength of Materials: Poisson's ratio, mathematical theory of elasticity, flat plates, thick cylinders, open coiled helical springs, higher branches of testing, whirling of shafts, vibration.

Kinematics of machines: Analysis of the motions, velocities and accelerations in various mechanisms.

Fee, £3 3s.

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: Cushioning for inertia pressures, balancing for reciprocating and rotating masses, twisting moment diagrams, locomotive balancing, balancing simple and complex engines, flywheels, fluctuation of energy and speed, stresses in rims of flywheels, governors, height, power, sensitiveness, hunting, flywheel governors, inertia effects.

Transmission of power by belts and ropes, coil friction, creeping of belts, centrifugal stresses, efficiency of parallel and tapered shafts.

Steam Turbines: Flow of steam through orifices. Design of blades and other details.

Fee, £1 11s. 6d.

Fee for courses A and B, £4 4s.

Books Recommended.

GOODMAN'S Mechanics Applied to Engineering (Longmans).
UNWIN'S Transmission of Power (Longmans, 10s.)
COTTERILL'S Applied Mechanics (Macmillan, 12s. 6d.)
ROBINSON'S Gas and Petroleum Engines (Spon, 21s. net.)
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.)

VIII. Engineering Drawing

(Mechanical.)

Mr. MYERS and Mr. THOMSON

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.)

Mr. GILCHRIST

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.

Fees for the Session

Students attending	12 hours or more per week ...	£7	7	0
,, ,,	6 hours per week	5	5	0
,, ,,	3 ,, ,, ...	3	3	0

VIIIa. Machine Drawing and 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.

Fee, £1 11s. 6d.

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. Graphics

Thursdays, at 11.30 a.m.

Geometrical analysis of mathematical operations, Archimedian and logarithmic spirals, loci, link, parallel and straight line motions, cams.

Interpenetrations of prismoidal, pyramidal, spherical, and polyhedral bodies, development of surfaces, isometric protection.

No fee will be charged to students taking the full drawing course.

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. The equipment of the department consists of:

A 100-ton Buckton testing machine, which will deal with full-sized bridge ties, struts, columns, rolled joists, girders, floors, rails, chains, ropes, &c. Fitted with autographic recorder.

An "Olsen" 50,000 lbs. testing machine, for tension, compression and bending.

A Denison testing machine for lighter work in tension, torsion, and bending.

A Denison machine for testing the hardness of metals.

A microscope and appliances for studying the structure of metals.

A Wöhler testing machine for studying the effects of repeated loadings on materials, at both high and low temperatures.

Appliances for wire testing.

A 30-horse power compound steam engine and boiler, with natural and forced draught, fitted up expressly for experimental purposes; it can be worked under a great variety of conditions to practically demonstrate the conditions which tend to produce either economy or waste. The valves are so arranged that they can be wrongly set for giving instruction in valve setting, and the engine otherwise disarranged to illustrate the various defects to which engines are liable.

A 70-horse power compound Willans high-speed steam engine.

A McPhail and Simpson superheater, separately fired.

A "De Laval" Steam Turbine.

Apparatus for studying the flow of steam through nozzles.

Apparatus for analysing the furnace gases from boilers.

Calorimeters for measuring the heating power of solid and liquid fuels.

Apparatus for measuring the wetness of steam.

A 10-horse power steam engine, coupled to a 6-ft. Guibal fan, for experiments on fan efficiency.

A 6-ft. Capel fan driven by an electric motor.

A 3-ft. high pressure Capel fan.

A high pressure Schiele fan.

A 12-horse power Campbell oil engine.

A 15-horse power Otto cycle gas engine.

A Petrol engine.

A Linde ammonia refrigerating plant.

Transmission and absorption dynamometers.

A compound Ingersoll-Sergeant air compressor.

A Westinghouse air pump.

A machine for testing the friction of bearings on a 6-inch axle, under loads of 10 tons.

A Warren girder of 14-ft. span, fitted with apparatus for measuring the forces in the various members.

Apparatus for studying the explosion of gaseous mixtures, governors, work stored in flywheels, &c.

Hydraulic appliances, including a centrifugal pump, capable of lifting 75,000 gallons of water per hour, measuring tanks up to 25,000 gallons capacity, Pelton wheel, water meter, weirs, orifices, nozzles, &c. Apparatus for determining the friction of water in pipes, and the pressure of jets on surfaces.

A Berry's hydraulic test pump, working up to a pressure of 5 tons per square inch.

A 6in. × 4in. high pressure reciprocating pump, with separate measuring tank, tumbling bay, &c., and complete apparatus for studying the action of the valves, water hammer, &c.

A duplex Worthington pump.

A pulsometer steam pump and steam injectors.

A Gilkes' "Vortex" turbine, fitted with a Kent's Venturi water meter and tumbling bay.

(For Civil Engineering Students)

Testing the strength of brickwork, brick arches, stone, concrete, Portland cement, mortar, timber, beams, struts, ropes, chains, &c.

Measuring the stresses in the members of a Warren girder, and the links of a suspension bridge.

Measuring the flow of water in pipes, over weirs, through orifices, water meter testing. Experiments on a centrifugal pump.

Engine tests, pulsometer pump tests.

Tests and adjustments of measuring and surveying instruments.

For Fees, see page 122.

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.

On application an illustrated pamphlet giving full particulars of the Laboratory will be sent.

Research Students

Research Students are admitted to the Laboratory on reduced terms which may be obtained on application to the Registrar.

Mathematics I.—First Year Course for Engineers

Mr. DUNCAN.

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.

Algebra. The solution of quadratic, exponential and logarithmic equations. Variation, partial fractions. The binomial, logarithmic and exponential theorems.

Trigonometry. The elements of trigonometry to the solution of triangles.

Graphics. Curve plotting. The equation to a curve. The determination of laws. The graphical solution of equations. The slope and area of a curve.

Fee, £3 13s. 6d.

Books recommended:

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.)

Mechanics.

Mr. DUNCAN

Tuesdays and Thursdays at 9.30 a.m., and an exercise class on Thursdays at 11.30 a.m.

Statics.

Resolution and Composition of Forces.
Moments; Couples.
Centre of Gravity
Simple Machines; Velocity Rates; Mechanical Advantage; Efficiency.

Dynamics.

Velocity and Acceleration; Acceleration due to Gravity.
Addition and Subtraction of Vectors.
Force; Newton's Laws.
Mass; its Measurement; Momentum; Impulse.
Work and Energy; The Conservation of Energy.
Power.
Circular Motion; Centrifugal Force
Moments of Inertia.
The C.G.S. and the British Non-Gravitational Systems of Units.

Fee, £3 13s. 6d.

Text Book Recommended

MORLEY'S Mechanics for Engineers (Longmans, 4s. net).

Evening Classes

See under Evening Classes, page 447.

ELECTRICAL ENGINEERING

Mr. PARR

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.

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 desirable that, when possible, Students should have some practical experience in Engineering Works before taking up the University course.[1] 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. Such however can be easily and rapidly acquired by a student who has attended a University.

Entrance Examination

Students entering this department must satisfy the Entrance requirements prescribed on page 276.

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. Students are strongly recommended to take this course.

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1 See a pamphlet published by the University on "The Training of Professional Engineers." The Registrar will forward a copy on application.

The following courses of study are suitable for students who wish to take a B.Sc. degree :—

MATRICULATION, before leaving school.

(1) English Language or Literature, and English History.
(2) Mathmatics.
(3) Elementary Mechanics.
(4) Chemistry.
(5) Either French or German, or some other language approved by the Board.

INTERMEDIATE, at end of first year.

(1) Mathematics.
(2) Physics.
(3) Chemistry.
(4) Applied Mechanics (generally taken at end of second year.
(5) An Essay.

ORDINARY DEGREE

FINAL, at end of third year.
Defined by Lectures I, II, III and IV.

Electrical Engineering, principal subject.
Elecrical Design and Drawing, one day.
Electrical Laboratory, one day.
Subsidiary subjects :
Mathematics.
Physics, or Mechanical or Civil or Mining Engineering.
Translation from French or German.

Sample drawings done by the candidate, also his laboratory books must be handed in for the external Examiner to inspect.

The candidate must produce a certificate of having satisfactorily attended a prescribed course in Physics.

HONOURS DEGREE

FINAL at end of the second or third year.

Pure Mathematics.
Applied Mathematics.

Electrical Engineering, at end of third year.
Generation of Electrical Energy.
Transformation of Electrical Energy.
Distribution of Electrical Energy.
Design of Electrical appliances.
Mechanical Engineering.
Heat Engines.
Electrical Laboratory, two days.
Translation from French or German.

Sample drawings done by the candidate, also his laboratory books must be handed in for the external Examiner to inspect.

Regular Non-Degree Courses

Students who are unable to enter for the preceding degree course may take up a regular 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 must in such cases be made to the Registrar 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 it is necessary to do in order that the student may sufficiently benefit by it afterwards.

The Institution of Civil Engineers now requires that all candidates for membership shall take an Honours Engineering Degree or shall pass an equivalent examination before being admitted.

All Engineering Students of this University who have passed the Leeds Matriculation (including two Science subjects) or other prescribed examination are eligible

for election as Students of the Institution of Civil Engineers—the first step towards becoming a Member (M.Inst.C.E.). They are then 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 Head Quarters. 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 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 not passed the Matriculation examination are strongly advised to take the Studentship examination of the Institution of Civil Engineers during their second year, and the Associate Membership examination during their third year.

Only those students of Electrical Engineering who have gone through the complete or modified course of instruction, and have satisfactorily passed the several examinations, including the final practical one, and who have also obtained a satisfactory percentage of the total marks *not only for their electrical exercises, design, and laboratory work, but also in Engineering, Mathematics, and Physics* throughout the above course will be proposed for admission to the Institutions of Civil, Mechanical or Electrical Engineers.

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 will be given to Mining students in the Electrical Engineering Laboratories, for 3 hours per week throughout the session at times to be arranged. The course will consist 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.

For Laboratory Fees, see page 122.

TIME TABLES

Degree and Non-Degree Courses

FIRST YEAR

The Time Tables for First Year Electrical Engineering Students taking degree and non-degree courses are those shown on pages 281 and 286, for Civil and Mechanical Engineering Students.

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. ..	* Math. VI. †Drawing	Eng. VI.	* Math. V. Drawing	Elec. I.	Drawing	Drawing
TUE. ..	Mech.	Eng. Laby.		Mech.	Eng. Laby.	
WED. ..	* Math. VI. †Drawing	Eng. VI.	* Math. V. Drawing	Drawing	Drawing	Drawing
THU. ..	Elec.	Eng. Laby.		Elect. Eng.	Laby.	Elec. I.
FRI. ..	* Math. VI. †Drawing	Eng. VI.	* Math. V. Drawing	Elec. I.	Drawing	Drawing
SAT. ..	Machine Design	Exer. Class				

* Honours Students only. † Ordinary Degree Students only.

Fee for the above course (including Union Fee), for Honours Degree students, £32 11s.; for Ordinary Degree students, £27; for full non-degree course, £26 9s. 6d. Electrical and Mechanical Engineering Laboratories Deposits, £1 1s.

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. ..	Elec. Design *Math. III	†Phys. II. ‡E.E. Ex. Class	Elec. Design and Draw.	Elec. and	Design Drawing	Elec. II.
TUE. ..	Elec.	Eng.	Laby.	Elec. Eng.	Laby.	Elec. III.
WED. ..	*Math. III	Mecha	nical En	gineering	Laborato	ry.
THU. ..	Elec. Desi	gn and Dr	awing	Elec.	Eng.	Laby.
FRI. ..	Elec. Eng. Lab. *Math. III	†Phys. II. ‡E.E. Ex. Class	Elec. IV.	Elec. Eng.	Laby.	Elec. Eng. Lab.
SAT. ..	Eng. Excs.	Eng. VII.				

* Non-degree students take this if they were unable to take Math. V. in the second year
† Second Term only. ‡ First and Third Terms only.

Fee for the above course (including Union Fee), for Honours or Ordinary Degree Students, £23 18s. 6d., and for full non-degree course, £26 3s. 6d., or, excluding Mathematics, £23 18s. 6d. Electrical and Mechanical Engineering Laboratories Deposits, £1 1s.

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. ..	Engin	eering La	boratory	Elec. I.	Phys. I.	Eng. I.
Tue. ..	Drawing	Drawing	Drawing	Drawing	Drawing	Drawing
Wed. ..	Engin	eering La	boratory.		Phys. I.	Eng. I.
Thu. ..	Elec.	Eng. La	boratory	Elec. E	ng Lab.	Elec. I.
Fri. ..	Engin	eering La	boratory	Elec. I.	Phys. I.	Eng. I.
Sat. ..	Exercise Class	Drawing	Drawing			

Fees for the above course (including Entrance Fee and Union Fee), £32 os. 6d. Electrical and Mechanical Engineering Laboratories Deposits, £1 1s.

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. ..	Math. III.	Eng. VI.	Elec. Design and Draw.	Elec. and	Design Drawing	Elec. II.
Tue. ..	Elec. Eng	ineering L	aboratory	Elec. Eng.	Laby.	Elec. III.
Wed. ..	Math. III.	Eng. VI.	Eng. Lab.	Eng	ineering L	aboratory
Thu. ..	Elec. Desi	gn and Dr	awing	Elec. Eng	ineering L	aboratory
Fri. ..	Math. III.	Eng. VI.	Elec. IV.	Elec. Eng.	Laby.	Elec. Eng Lab.
Sat. ..	Mach	ine Draw	ing			

Fee for the above course (including Union Fee), £31 10s. Electrical and Mechanical Engineering Laboratories Deposits, £1 1s.

Research Students

Research Students are admitted to the Electrical Engineering Laboratories on reduced terms which may be obtained on application to the Registrar.

SYLLABUS OF COURSES

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 absolute and practical electrical units — their derivation ; measurement of currents, potential differences, resistances, power, and energy ; construction and action of ammeters, voltmeters, ohmmeters, resistances, condensers, wattmeters, coulombmeters, ergmeters, electro-dynamometers, and other electrical measuring instruments ; principles of electro-magnetism, induction, permeability, hysteresis ; electro-magnetic induction ; measurement and laws of combination of self and mutual inductions ; principles of construction, characteristics, efficiency, coupling and conditions of automatic and self-regulation of direct and alternating current dynamos and motors for constant pressure and current ; boosters ; types of armatures and field magnets; governing motors to run at constant speed ; relations between current and torque in series and shunt and compound motors ; application to lifts and traction ; speed reducing gear; load curves and their effect on all day efficiency; construction, capacity, life and management of secondary cells ; comparison of all the well-known present-day types ; use as regulators for small plants and as balancers for three-wire system ; construction, life, candle-power, and efficiency of glow and arc lamps—open, enclosed, and inverted ; distribution of light ; absorption by globes ; comparison of direct, rectified, and alternating current arcs ; distribution of electricity by series, parallel, three-wire, and five-wire systems ; regulating appliances ; transformers—their construction and uses ; direct current transformers ; rotary converters ; secondary cells as transformers ; substations ;

comparison of efficiency with various systems of distribution; electric welding — Thomson and Bernardo's processes; electric brazing; electrolytic deposition of metals; safety devices; TELEGRAPHY—the most important instruments; signalling through land lines and submarine cables; simplex, duplex, and multiplex systems; wireless telegraphy; TELEPHONY—transmitters, receivers, metallic circuits, trunk lines; multiple call systems; Phonophore multiple cables; testing and localising faults in telegraph and electric light mains; wireless telephony.

Books recommended

PARR'S Electrical Engineering Measuring Instruments (Blackie & Sons, 9s. net).

PARR'S Electrical Engineering in Theory and Practice (Macmillan & Co., 12s. net.)

Fee, £4 4s.

Second Year Laboratory

The work will include amongst other things :—

Commercial methods of testing direct and alternating current ammeters, voltmeters, wattmeters, electricity supply meters and other important measuring instruments; measurement of capacity of high and low tension condensers and cables; permeability; hysteresis; self and mutual induction; insulation resistance of circuits, machines, and cables by Silvertown portable testing set and other methods; resistance of liquids; magnetic leakage, &c.; measurement of efficiency and candle power of electric arc and glow lamps; efficiency, internal resistance, and management of secondary batteries; together with a jointing course in electric light cables of various sizes up to 37/16, lead covered cables, and 0.1 square inch concentric armoured street main; the electrical and mechanical properties of which the student will afterwards test.

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.).

II. and III. Third Year Lecture Courses

Mondays and Tuesdays, from 4.0 to 5.0 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 : Electric transmission and distribution of power by continuous and alternating currents, treated practically, and from an economic point of view ; electric traction systems with surface contact, trolley wire, self contained (battery), third rail and underground conduit ; auto-car traction ; rail bonding ; controllers ; gearing ; relative cost of electric traction as compared with horse, steam, compressed air, and oil traction ; theory and measurement of current, voltage, and power in alternating single-phase and multiphase current circuits containing self and mutual induction, ohmic resistance and capacity, and the effects of these with such currents ; size of "feeders" and mains in distributing systems ; generation, transformation, and distribution of multiphase currents.

Fee for each course, £1 11s. 6d.

IV. Third Year Lecture Course

Lectures on Fridays at 11.30 a.m., and Designing and Drawing on Mondays 11.30 to 12.30 and 2.0 to 4.0, and Thursdays 9.30 to 12.30.

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 dynamos and motors, high tension condensers, alternating and continuous transformers, and the complete design, with estimate, of the electric light installation in a house.

Students will themselves design and draw from new data the machines and appliances enumerated in the course.

Fee (including instruction in designing, &c.), £3 13s. 6d.

Third Year Laboratory

The work is of a more advanced and technical character than that of the second year, and will comprise:—Relations between E.M.F. and speed in direct current dynamos and alternators ; characteristics, output, H.P., and efficiency of continuous current dynamos, motors, alternators, transformers, and rectifiers, using laboratory and commercial methods ;

calibration of high tension instruments; E.M.F. and current curves of alternators and transformers; measurement of power developed in alternating single-phase and multiphase current circuits; practical methods of measuring magnetic leakage in dynamos; tests employing multiphase currents; efficiency tests on multiphase rotatory converters; combined efficiency tests on a motor generator set; on a tramway set; on an engine dynamo set; and on a motor fan set; tests employing high tension condensers with alternating currents; investigations of wave forms by the oscillograph. Arrangements are also provided for instructing students in throwing into phase two single-phase or polyphase alternating currents.

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).

EVENING CLASSES

See under Evening Classes, page 451.

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 THOMPSON.

MR.

There are four distinct courses of study arranged in this department to meet the requirements of different classes of students, viz:

1. A three years' course in General Mining, leading to the degree of B.Sc. in Mining.
2. A two years' course in Coal Mining, qualifying for the Diploma in Coal Mining.
3. A combined afternoon and evening course.
4. A course of Elementary Science applied to Mining for teachers in mining districts.

Students entering for courses 1 or 2 must produce certificates of having passed either the Matriculation examination, the Oxford or Cambridge Local examination in Mathematics, London University examination or other approved examination, or they will be required to pass the following special entrance examination in each subject. Students under 17 have to take a paper on English Composition in addition.

ENTRANCE EXAMINATION[1]

(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.

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. degree, the regulations for which will be found on previous pages. Students intending to read for a degree must pass the Matriculation examination conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield (see Regulations of the Matriculation Examination Calendar, and also the Calendar of the Joint Matriculation Board obtained from the Secretary, 24, Dover Street, Manchester, post free, 8d.).

1The Examination will be held on October 5, 1909, the English subjects at 10 a.m. and the Mathematical subjects at 2 p.m., and on July 5, 1910, at 2 p.m. in the Mathematical subjects only. Students should send in their names beforehand. The July Examination may be taken 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

I. Ordinary B.Sc. Degree Course in General Mining[1] (Three Years)

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 summer vacation to getting experience in mines.

In addition to the subjects specified in the time tables below, 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.

Syllabus

First Year	Hours per week.	*Second Year*	Hours per week
Mathematics, Intermediate ...	3	Mathematics, Final ...	3
Physics I.	3	Electrical Engineering ...	3
Chemistry, General Course ...	3	Engineering VI.	3
Engineering I.	3	Coal Mining	1
Physical Laboratory... ...	3	Engineering Laboratory ...	6
Chemical Laboratory ...	6	Electrical Engineering Laboratory	3
Engineering Drawing and Laboratory...	9	Engineering Drawing ...	6

1 Graduation as B.Sc. on the Mining course prescribed has been recognised by the Secretary of State for the Home Department as equivalent to two years experience at a mine for the purposes of the Colliery Manager's Certificate.

Third Year

	Hours per week.
Mining	3
Metallurgy, 1st Term...	2
Ore Dressing, 2nd Term	
Surveying, 3rd Term	
Geology I.	3
Geology Laboratory	6
,, Field Course	
Metallurgy Laboratory, 1st Term	15
Mining Laboratory and Surveying, 2nd and 3rd Terms	

First Year Time Table.

	9.30.	10.30.	11.30.	12.30	2.	3.	4.
MON. ..	Eng. La	boratory	Chem. I.		Math. II.	Phys. I.	Eng. I.
TUE. ..	Chemica	l Laborat	ory		Chemica	l Laborat	ory
WED. ..	Eng. La	boratory	Chem. I.		Math. II.	Phys. I.	Eng. I.
THU. ..	Drawing	Drawing	Drawing		Phys	ics Labor	atory
FRI. ..			Chem. I.		Math. II.	Phys. I.	Eng. I.
SAT. ..	Drawing	Mac. Draw Lecture.	Eng. Ex. Class				

Fee for the above course (including Entrance Fee and Union Fee, £33 1s. 6d. Engineering Laboratory Deposit, 10s. 6d.

Second Year Time Table.

	9.30.	10.30.	11.30.	12.30.	2.	3.	4.
MON. ..		Eng. VI.			Elec. Eng. I.		Drawing
TUE. ..	Engine	ering Lab.	Math. IV.		Engine	ering Lab	oratory.
WED. ..	Draw. or Eng. Lab.	Eng. VI.	Drawing.		Coal Mi	ning.	Elec. Eng. I.
THU. .	Elec. or	Eng. Lab.	Math. IV.		Elec.	Eng.	Lab.
FRI. ..	Draw. or Eng. Lab.	Eng. VI.	Drawing.				Drawing.
SAT. ..	Machine Design.	Ex. Class			Elec. Eng. I.		

Fee for the above course (including Union Fee), £30 3s. Engineering Laboratory Deposit, 10s. 6d. Electrical Engineering Laboratory Deposit, 10s. 6d.

Third Year Time Table.

	9.30.	10.30.	11.30.	12.30.	2.	3.	4.
MON. ..	Mining.	* Met. † Ore Dress. and Surveying	Math. V.		Geol.	Geol.	Laby.
TUE. ..	Mining and		Metallurgical Laboratory and			Drawing.	
WED. ..	Mining.	* Met. † Ore Dress. and Surveying	Mining Lab.		Geol.	Mining	Laby.
THU. ..	Mining and		Metallurgical Laboratory and			Drawing.	
FRI. ..	Mining.	Geol. Lab.	Math. V.		Geol.	Geol.	Laby.
SAT. ..	Geological Field		Course.				

* 1st term. † 2nd and 3rd terms.

Fee for the above course (including Union Fee), £32 16s. 6d.

II. Honours B.Sc. Degree

Honours in Mining will be awarded to candidates, who, having taken the Ordinary B.Sc. degree in Mining and being recommended as suitable to proceed with an Honours course, shall have spent one year in research or in the preparation of a thesis on some Mining subject, to the satisfaction of the examiners. The candidates must have in addition taken Mathematics as a principal subject. Attendance at the University during this fourth year is optional.

III. Diploma Course in Coal Mining[1] (Two Years)

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 get a liberal training in the scientific principles underlying their profession.

Students entering this course apply themselves mainly during the first year to general science and engineering. In the second year the work in Electrical Engineering is continued; Geology is added, but students devote themselves mainly to the special mining work, taking the

1 Possession of the Diploma has been recognized by the Secretary of State for the Home Department as equivalent to two years' service in the mine for the purposes of the Colliery Manager's certificate.

lectures on Mining and those on Metallurgy which deal with fuel, refractory materials, and the properties of metals and alloys. In the laboratory students receive instruction in the testing of fuel, safety lamps, fans, &c., and conduct experiments on coal washing. The remainder of their time is spent in making drawings of machinery used in mines, plan drawing, and in the course of field and underground work in Surveying.

Students are required to obtain four months' experience at a mine during the vacations, or to have had previous experience at mines before entering on the course.

Syllabus

First Year

Physics I.
Chemistry I. (two terms)
Mathematics II.
Engineering I.
Coal Mining
Chemical Laboratory, three hours
Physical Laboratory, two hours
Engineering Laboratory, six hours
Drawing, five hours
Electrical Engineering Laboratory, two hours

Second Year

Mining
Metallurgy (first term)
Geology I.
Geological Laboratory, three hours
Electrical Engineering Laboratory, three hours
Mining Laboratory and Surveying, fifteen hours

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. ..	Eng. La	boratory	*Chem. I.			Math. I.	Eng. I.
TUE. ..		Drawing			Chemical	Laboratory	
WED. ..	Eng. La	boratory	*Chem. I.		Coal Mining	Math. I.	Eng. I.
THU. ..		Drawing	Drawing.		Phys. Laboratory.		
FRI. ..	Eng. La	boratory	*Chem. I.			Math. I.	Eng. I.
SAT. ..		Elec. En	g. Lab.				

* First and Second Terms.

Fee for the above course (including Entrance Fee and Union Fee), £34 os. 6d. Mechanical and Electrical Engineering Laboratory Deposits, £1 1s.

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. ..	Mining	*Metal-lurgy			Geology	Mining L & Surveyi	aboratory ng Courses
TUE. ..	Mining Surv	Laborator eying Cou	y and rses		Mining Surv	Laborator eying Cou	y and rses
WED. ..	Mining	*Metal-lurgy			Geology	Mining L & Surveyi	aboratory ng Courses
THU. ..	Mining Sur	Laborator veying Co	y and urses		Mining Sur	Laborato veying Co	ry and urses
FRI. ..	Mining		Geol. Lab.		Geology	Geology L	aboratory
SAT. ..	Elec.	Eng. Lab	oratory				

* First Term.

Fee for the above course (including Union Fee), £27. Electrical Engineering Laboratory Deposit, 10s. 6d.

LECTURE COURSES

Coal Mining

(Second Year of Mining Three Years' Course.)

Wednesdays, 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 Mining lectures of the third year.

With this object the general processes necessary for the extraction of coal from the ground will be passed in review, while to relieve the lectures of the third year those mining operations which find their best exemplification in coal mining will be discussed in detail.

These lectures are also attended by Diploma students in their first year.

Fee, £1 11s. 6d.

Mining

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

This course will consist of about 90 lectures, which will be delivered during the third year. 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

Among the subjects discussed will be the following:

Description of the mode of occurrence of useful minerals and the views held regarding their formation. Economic value of different minerals, and illustrations of the mode of valuation of mineral deposits. Effects of faults and disturbances. Surface changes due to weathering and denudation. Prospecting methods and the outfit of a prospector in a new country. Deep boring as an adjunct to prospecting and development.

Methods of opening out mineral deposits. The tools and mechanical appliances used in breaking ground. Explosives requisite for various purposes, and their properties. So-called safety or permitted explosives. Arrangement of shot holes. The utilization of earth pressure in breaking ground.

Shaft-sinking in ordinary and difficult ground. Sinking by cylinder and shield in running ground, by compressed air, by the freezing and boring system. Shaft linings and supports for workings generally. The design of supports to resist heavy pressures. Coffering. Tubbing and dams. Methods of working mineral deposits occurring as beds, veins, or irregular masses. Hydraulic mining. Brine and petroleum pumping.

Haulage by men or animals, mechanical haulage, aerial ropeway. Winding arrangements for small or large outputs, requirements for deep shafts. Coal-winding onsetting and banking arrangements.

Drainage of mines, surface drains to prevent influx of water. Adits. Pumping and bailing water.

Gases found in mines. Ventilation of workings by natural and artificial means. Laws governing the flow of air in mines. Theory and description of fans and the testing and comparison of fans. Lighting of mines. Distribution of power in mines. General surface arrangements at collieries and in mines. Principles of cleaning and concentration of ores and coal, and the arrangements adopted. Systems of labour.

Fee, £3 13s. 6d.

Metallurgy

Lectures by Professor Bone, as announced on page 331.

Dressing of Minerals

During the second term a course of two lectures a week will be given at times to be arranged. The principal methods and machines adopted for the preparation of coal and ores for the market will be described.

Fee, £1 1s.

Mine Surveying

During the third term a course of two lectures a week will be given at times to be arranged. These lectures will be supplementary to the course of Field and Underground work, and the subjects discussed will embrace those given under that head.

Fee, £1 1s.

PRACTICAL WORK

Through the kindness of the Local Coal-Owners and Colliery Managers arrangements have been made for instruction of the students at mines in the neighbourhood, not only in underground surveying and in the connection of the underground and surface surveys, but also in general Mining work. The equipment of the department has therefore been designed to serve three purposes:

(a) To supplement the general training received by the student in the other departments of the University, and direct it to Mining applications.

(b) To provide apparatus and instruments for the investigation of problems at the pits and for testing the consumption of power and general efficiency of haulage, winding, pumping, ventilating, and coal washing plants.

(c) To establish conditions and appliances which are not to be met with in the neighbouring pits, as for example in the equipment for the study of ore dressing and in the provision of chambers and galleries for the study of safety lamps under all possible conditions.

An Observatory has been established by the University and contains an 18 in. equatorially mounted reflector, $4\frac{1}{2}$ in. transit instrument, astronomical clock, chronograph, and a series of meteorological instruments.

The surveying students receive the Astronomical portion of their training in the Observatory.

Laboratory Work

A course of instruction in testing fuel and refractory material and the assaying of ores and metallurgical products in the Metallurgical Department, and in ore dressing, &c., in the Mining Laboratory. Special attention will be given to the methods suitable for prospectors.

Surveying (Office Work)

During the second term students in the regular course spend their time in plotting surveys, drawing mining machinery, and in general office work in studying the methods of recording field observations, the purposes to which these are applied, and the instruments with which they are made. The drawing work will be supplemented by lectures to prepare the student for the Field and Underground work of the third term.

Surveying (Field and Underground Work)

During the third term a course of instruction in Field work will be given, the students making and plotting their

own surveys. This course will include chaining by ordinary chain and steel bands, precautions to be observed in chaining where great accuracy is required and on slopes. Measurements of length by wires. Traversing by dial and theodolite on the surface and underground. Tacheometry. Triangulation survey. Adjustment of errors in traverse and triangulation surveys. Levelling and contouring. Setting out work. Determination of meridian. Connection of the underground and surface surveys.

In the case of Occasional Students the Fees for Laboratory work and Surveying will be according to the time spent by the student in such work. For scale of Fees see page 122.

Elementary Science Applied to Mining

A course of Elementary Science applied to Mining will be given on Saturday mornings from 10 to 12-30, commencing Saturday, October 9th, 1909.

The course is intended for teachers in mining districts who are conducting evening classes in this subject preparatory to the local mining classes.

The syllabus for the first year's work will be arranged later.

EVENING COURSES

See under Evening Courses, page 454.

FUEL AND METALLURGY

AND

GAS ENGINEERING

PROFESSOR BONE.

Mr. .

The courses of study in this Department have been drawn up to meet the requirements of students who are preparing for responsible positions either as Gas Engineers or in Fuel and Metallurgical industries.

The courses in Gas Engineering and the Technology of Fuel will chiefly deal with the manufacture and distribution of coal gas and gas lighting problems, by-product coking processes, and the production and application of gaseous fuels for heating and power purposes.

The metallurgical courses, besides dealing with general processes for the concentration and extraction of ores, will be chiefly directed to problems underlying blast furnace and open hearth steel practice, and to the microstructure, physical properties, and heat treatment of steel and other industrial alloys.

Courses of Study

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. degree course, either in Fuel and Metallurgy, or in Gas Engineering. Before commencing the degree course, however, students must pass the Matriculation examination, conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds and Sheffield. (See Regulations for the Matriculation examination, University Calendar and also the Calendar of the Joint Matriculation Board obtainable from the Secretary, 24, Dover Street, Manchester, post free 8d.).

During the first year of the degree course the student will attend classes in Mathematics, Physics, Chemistry, 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 Physics and Chemistry, and will also take a course in Engineering and Mechanical Drawing, as well as a special course of lectures in the chemistry of Gases 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* Fuel and Metallurgy or Gas Engineering), but will also spend 6 hours per week in the Mechanical Drawing office (Engineering Department). 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 (Fuel and Metallurgy or Gas Engineering). At the end of the course, the student will qualify for the B.Sc. degree by passing the prescribed Final examination in either Fuel and Metallurgy or Gas Engineering, as *principal* subject plus Chemistry and Engineering as *subsidiary* subjects.

The general scheme of Degree and Diploma courses in this Department is given below:—

I. Ordinary B.Sc. Degree Course in (i) Gas Engineering or (ii) Fuel and Metallurgy

All students will take the same Intermediate course, and also the same Second Year's course. The course will be differentiated in the third year, according to the respective needs of gas engineers and metallurgists.[1]

Syllabus

First Year

	Hours per week
Mathematics, Intermediate	3
Physics Lectures I	3
Chemistry, General Course	3
Engineering—First Year Course	3
Physical Laboratory	3
Chemical Laboratory	12
Engineering Drawing and Laboratory	3

Second Year

	Hours per week
Chemistry Lectures	3
Engineering Lectures	3
Chemistry of Gases, Lectures	1
Physicial Laboratory	3
Chemical Laboratory	6
Fuel and Metallurgical Laboratory	6
Mechanical Drawing and Engineering Laboratory	9

Third Year

(i) Gas Engineering

Lecture Courses

	Hours per week
Technology of Fuel	1
Coal Gas Manufacture and Distribution (2nd term)	2
By-Product Coking, 6 lectures during 2nd term.	
Gas Lighting and Heating (3rd term)	1

1 The Third Year's courses are so arranged that they may be taken as subjects of post-graduate study by duly qualified graduates of this or other approved University; any section, or sections, of these courses may also be taken, during one or two terms, by outside students, provided that they possess an adequate knowledge of Mathematics, Physics, and Chemistry.

(ii) FUEL AND METALLURGY

Lecture Courses

Technology of Fuel 1

By-Product Coking, 6 lectures during 2nd term.

Metallurgy of *either* (*a*) Iron and Steel *or* (*b*) Copper, Lead, Zinc, and Tin 1

Alloys (during 3rd term) 2

Practical Work

Mechanical Drawing ... ... 6 hours per week.

Fuel and Metallurgical Laboratory 22 to 24 hours per week.

II. Honours B.Sc. Degree

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 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. 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 in Science with Chemistry or Engineering as a principal subject, shall have attended for one year the prescribed course for the third year of the Ordinary degree course, and have passed an examination thereon.

(*b*) The degree of B.Sc. with Honours may, in Gas Engineering or Fuel and Metallurgy, be conferred upon students who, having obtained the diploma under the provisions of the preceding section, shall have spent an additional year in research in the Department, to the satisfaction of the examiners.

IV. Two Years Courses for Non-Graduates

These courses are intended for students who, while not proposing to proceed to a degree, desire to take systematic instruction in either (i) Gas Engineering or (ii) Fuel and Metallurgy.

Students entering for these courses must produce certificates of having passed either the Matriculation examination, the Oxford or Cambridge Local examination in Mathematics, London University Matriculation, or other approved examination, or they will be required to pass the special entrance examination prescribed for Mining students (see p 316).

The First Year's course will be the same for all students, but the Second Year's course may be differentiated according to the individual requirements.[1]

First Year

Mathematics, Physics, Chemistry } Intermediate Lectures.
Chemical Laboratory ... ... 12 hour
Physical Laboratory ... ... 3 hours
Applied Mechanics *or* General Engineering Lectures *plus* 3 hours Mechanical Drawing and Engineering Laboratory.

Second Year

(i) Gas Engineering

Lectures	Hours per week
Chemistry	3
Technology of Fuel	1
Coal Gas Manufacture (2nd term)	2
By-Product Coking, 6 lectures	
Gas Lighting and Heating (3rd term)	1

(ii) Fuel and Metallurgy

Lectures	Hours per week
Chemistry	3
Technology of Fuel ...	1
By-Product Coking, 6 lectures	
Metallurgy of *either* Iron and Steel, *or* Copper, Lead, etc.	1
Alloys (3rd term)	2
Mechanical Drawing ...	6

Practical Work

Chemical Laboratory ... ... 6 hours.
Fuel and Metallurgy Laboratory ... ... 12 hours.

In *special* cases, when a student has served an apprenticeship as a gas engineer and has acquired a knowledge of Mathematics, Physics, and Chemistry substantially equivalent to the standard of the 1st year's Diploma Course, he

1 Students who have passed satisfactorily through this Two Years' course may be permitted to enter for the Diploma examination.

may be allowed to take a *one* year's course in the subjects comprised in the 2nd year's Diploma Course, but such a one year's course will not entitle the student to enter for the Diploma Examination. Applications for such a course must be made to the Head of the Department, and each case will be decided on its merits.

SYLLABUS OF LECTURE COURSES

I. The Physical and Chemical Properties of Gases

Tuesdays at 11.30 a.m. throughout the session.

(*a*) Kinetic theory; fundamental gas laws; Van der Waal's equation; compressibility and liquification of gases; the critical state; specific heats; dissociation; diffusion and transpiration; viscosity of gases; flow of gases through pipes; modern theories as to the nature and conditions of chemical changes in gaseous systems; velocity of re-action chemical equilibrium; influence of moisture and surface in gas re-actions; occlusion of gases by metals and the action of gases upon solids generally; principles of thermo chemistry; gas calorimeters; heats of combustion of gases.

(*b*) The mechanism of combustion, &c.: slow combustion; ignition points of gaseous mixtures; flames and explosions; the explosion wave; rates of explosion; the combustion of carbon, carbon monoxide, and cyanogen; the combustion of hydrogen and of hydrocarbons; the action of steam upon incandescent carbon; the reversible system $CO + OH_2 = CO_2 + H_2$; the action of CO upon metallic oxides; the thermal decomposition of hydrocarbons.

(*c*) Gas analysis and manipulation: preparation of pure gases; use of liquid air for purification purposes; fractionation of gas mixtures; collection and storage of gas samples; solubilities of gases in liquids; principles of gas analysis.

Fee, £1 11s. 6d.

II. The Technology of Fuel

Tuesdays at 9.30 a.m. throughout the session.

Introductory: the mechanical theory of heat; specific and latent heats; calorimetry; heats of combustion of fuels; pyrometry.

Coal and its combustion ; natural gas ; petroleum ; shale oil and oil fuels generally ; the manufacture of coke in by-product ovens ; producer gas and its applications, including water gas.

Fee, £1 11s. 6d.

III. By-Product Coking Processes

A special Course of Lectures may be given during the Second term.

NOTE.—During Session 1908-9, Courses were given (*a*) in By-Product Coking by M. E. Bury, M.Sc., Manager of the Brackley Coke Works, Little Halton, near Bolton, (Lancs.), and (*b*) on the Manufacture and Distribution of Coal Gas by Dr. Harold G. Colman, of London, and Mr. Walter Hole, of Leeds, and were attended by large numbers of students from all over the North of England. It is hoped that these Courses will be repeated at suitable intervals, dependent upon the demand for them and other circumstances ; special announcements concerning them will appear in the technical press, but any student who may desire to attend either or both of them should at once communicate with the Head of the Department.

IV. The Manufacture and Distribution of Coal Gas

Arrangements are being made for the delivery of a special Course of Lectures in this subject at such times and under such conditions as may appear expedient.

V. Gas Lighting and Heating

One hour per week during the third term, at a time to be arranged.

The nature and structure of hydrocarbon flames ; theories of luminosity ; types of gas burners ; the bunsen burner ; gas stoves ; theory of the incandescent mantle ; acetylene as an illuminant ; photometry and spectrometry.

Fee, 10s. 6d.

VI. Metallurgical Courses

Thursdays at 11.30 a.m. and 4 p.m. throughout the session, or at such other times as may be arranged.

General introduction; metallic ores: their classification, occurrence, and valuation; refractory material used in furnace construction; fuels and flames; general design of furnaces, &c.

(*a*) *Iron and Steel:* The economic conditions of the iron and steel industries; factors regulating costs of production; positions of British, Continental, and American industries compared; preparation of ores for the blast furnace; blast furnace practice; properties of cast iron; foundry practice; refining and puddling of cast iron; manufacture of steel by the Bessemer and open hearth processes, including the most recent developments in open hearth practice; rolling and forging of steel; cementation and crucible processes.

(*b*) *Copper, Lead, Zinc, and Tin:* The course will deal generally with the various processes for the extraction and refining of these metals, including the desilverising of lead and copper, slag smelting, &c.

(*c*) *Microstructure of Metals, Alloys, &c.:* Microstructure, heat treatment, and constitution of the above metals and their principal alloys, including steels, bronzes, and brasses; the theories of hardening and tempering of steels will be fully considered.

Fee, £2 12s. 6d.

Fuel and Metallurgical Laboratory

The newly erected and equipped 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.

The research students of the Department will also have the use of a machine for producing liquid air, now being erected in the Chemical Department of the University.

A fully equipped workshop, with a mechanic in charge, will be provided in the new building. The equipment will provide for instruction and research in the following subjects:

(*a*) Gas analysis, photometry and spectrometry, gas calorimetry, gaseous combustion and explosions, the chemistry of gas production, testing of gas coals, and experiments with gases under high pressures including the compression and liquefaction of gases.

(*b*) The analysis and testing of coals.

(*c*) The analysis of ores, slags, mattes, alloys, and other metallurgical products.

(*d*) Microstructure, heat treatment and mechanical testing of steels and other industrial alloys, including the rolling and annealing of the same.

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.

Arrangements will be made enabling regular students of the Department to carry out efficiency trials of gas producer plants, etc., and help will be given to those who desire to gain practical experience in works during the summer months.

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. In this connection it may be stated that in addition to the work which is being carried out by the holder of the Gas Fellowship (see under), an investigation on the use of coal gas for heating purposes is being conducted by a specially appointed Research Chemist, under the direction of a Joint Committee appointed by the Institution of Gas Engineers and the University. Students therefore will be able to study the methods which have been devised for the investigation of gas fires, *etc.*

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 the same.

RESEARCH FELLOWSHIP.

The Institution of Gas Engineers have generously decided to support the research work of the Department by establishing an open Fellowship for gas research under the conditions which will be found on page 496

TEXTILE INDUSTRIES[1]

Endowed by the Clothworkers' Company of the City of London

Professor BEAUMONT

Mr. HOLLIS — Mr. YEWDALL — Mr. LAW
Miss BENTON — Mr. FARLEY — Mr. HOLLOWAY
Mr. FOX

The Department comprises the following branches:

(*a*) Woollen Yarn Manufacture.
(*b*) Worsted Yarn Manufacture.
(*c*) Designing, Weaving, and Textile Manufacturing.
(*d*) Finishing of Textile Fabrics.

Each branch possesses a complete plant of machinery designed and constructed for the demonstration of the technicalities of the various processes.

All the experiments made on the scouring, blending, carding, combing, spinning, weaving, dyeing, and finishing machines are primarily conducted for showing the nature and results of certain methods of work. The student records the experiments made during the session, and receives actual specimens of materials, yarns, and fabrics.

The scheme of teaching, as it relates to mechanical operations, is devised to give as varied an experience in spinning and textile manufacturing as possible, and also to supplement practically, in an efficient way, the lecture courses of study.

The Spinning Buildings are equipped with machinery for treating fine, medium, and coarse wools from the raw or greasy state to the spun yarn, whether on the worsted or woollen system, and for the construction of single, folded and fancy twist threads.

In the Weaving Sheds there are 116 looms, including the principal types of power looms, with the necessary accessories, such as winding, warping and beaming (hand and power), card stamping and lacing machines, healding, pegging, and other frames. This extensive series of looms affords unique facilities for experiments in the design, structure, weaving, and colouring of all classes of fabrics.

[1] For further details and time-tables of all courses of study see the prospectus of the department of Textile Industries, obtainable from the Registrar on application.

The Finishing Shed contains machinery for scouring, milling (by stocks, machine, and combined milling machine and stocks), raising, cutting (on three builds of machines), and pressing (electric system).

In the Textile Museum there is a valuable collection of woven and other specimens, which students have the privilege of examining during the session.

The testing and examination of fibres, materials in the several stages of manufacture, yarns and fabrics, are so important in teaching and actual manufacturing that a conditioning laboratory has been equipped with apparatus for this purpose.

Courses of Study

The following are the principal courses of study:

(*a*) Textile Designing and Cloth Finishing
(*b*) Woollen and Worsted Spinning
(*c*) Textile Manufacture, including Woollen and Worsted Spinning, Textile Designing and Weaving and Cloth Finishing.

Lecture Courses and Experimental Work

I. Woollen Yarn Manufacture

First Year: A course of Twenty Lectures on Wednesdays from 4 to 5, during the first and second terms.

SUBJECTS.—*Materials*: Varieties of animal, vegetable waste and re-manufactured fibres manipulated and spun on the woollen system; their character, uses, and relative values.

Processes: Opening, sorting, dusting, steeping, scouring, drying, carbonizing and burring wool; sorting, seaming, carbonizing, blending and pulling rags; garnetting hard waste, mixing, blending and oiling.

Machinery: Details of machines for dusting, steeping, scouring, drying, carbonizing and burring wool, dusting, carbonizing and pulling rags; garnetting hard waste; teazing, blending and oiling.

Calculations relating to cost of materials, blending, speed and output of machines.

Fee, £1 1s. for the Course.

Second Year: A Course of about Twenty Lecures on Tuesdays, from 4 to 5, during the first and second terms.

SUBJECTS.—*Processes*: Scribbling, carding, condensing and spinning.

Machinery: Details of automatic and intermediate feeders, scribblers, carding engines, condensers, self-actor mules and spinning frames. Recent modifications and alterations, and a comparison of the different types of machines.

Details of card clothing and the requirements and variations to suit different classes of material. Details of manipulation, factors governing the clothing, grinding, and setting of the parts in carding machines. The draft, twist, and shape of bobbins or cops in spinning, and the speed and production of the different machines.

Calculations of weight and value of spun materials, and the speed and output of the machines.

Fee, £1 1s for the course.

II. Worsted Yarn Manufacture

First Year: A course of Twenty Lectures, on Fridays, from 4 to 5, during the first and second terms.

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: Preparing long and medium staple wools for combing (gilling), preparing medium and short staple wools for combing (carding), backwashing, combing, and finishing.

Machinery: Details of preparing gill boxes; sets of preparing gill boxes; carding engines; backwashing machines; combs built on the Noble, Lister, and Holden principles; methods of setting, adapting and manipulating the machines.

Calculations for speed, drafts and output.

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.

Fee, £1 1s. for the course.

Second Year: A course of Twenty Lectures on Thursdays, from 4 to 5, during the first and second terms.

SUBJECTS.—*Materials*: Tops from different fibres; features controlling their quality and value, testing, costing, &c.

Processes: Re-combing, mixing, drawing, (open, cone, French); spinning (cap, ring, fly, mule); doubling, twisting, and yarn finishing.

Machinery: Details of the separate machines, and also sets of machinery for drawing on the open, cone and French principles; of spinning frames on the mule, fly, ring and cap systems; of the various types of doubling and twisting frames, and yarn finishing machinery; of the methods of setting, adapting, and manipulating the machines.

Calculations for speeds, drafts and output.

Testing and comparing the material at different stages in the manufacture and also the finished yarn.

Fee £1 1s. for the course.

III. Experimental Spinning

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 kinds of yarn, and will be instructed in the use of apparatus for conditioning and testing materials and yarns.

For fees, see page 122.

IV. Designing and Weaving

First Year: Lectures, pattern analysis, designing and calulations on Tuesdays and Thursdays, from 9 to 11.30 throughout the Session. The First Year lectures on Textile Colouring should be taken concurrently with this course.

Designs and Fabrics.—Structure of woven fabrics; sources of woven effects; elementary weaves; principles of textile designing; sateens and their uses; drafting compound

designs; methods of setting cloths; stripe, check, and diagonal patterns; imitation compound cloths, warp, and weft types; various styles of rib and backed textures.

Hand Looms.—Construction and motions of the loom; treadle loom; method of mounting; arrangement of cording or tie up plants; history, construction and uses of the witch or dobbie machine; double and single action dobbies.

Power Looms.—Shedding, picking, shuttling, and other motions; construction of the tappet loom; its advantages and disadvantages; relative merits of slow and quick running looms.

Yarns.—The structure, utility, and application of woollen, worsted, and twist yarns; methods of testing for elasticity, twine and quality; effect of variation and direction of twine in the yarn on twilled and other weaves.

Calculations.—On costing of yarns and fabrics, the speed of power looms, &c.

Pattern Dissection.—The analysis of all kinds of single and backed fabrics.

Text Books.

BEAUMONT'S Worsted and Woollen Cloth Manufacture (Bell and Sons, 7s. 6d.).
BEAUMONT'S Colour in Woven Design.
BRADBURY'S Textile Calculations.
FOX'S Mechanicism of Weaving.

Fee, £5 5s. per Session.

Second Year: Lectures, designing, pattern analysis, and calculations on Mondays, from 9.30 to 11.30, and Fridays, from 10.30 to 12.30, throughout the Session. The Second Year lectures on Textile Colouring, and the lectures on Cloth Finishing, should be taken concurrently with this course.

Fabrics and Designing.—Double-make fabrics; structure, application, and principles of woven design in relation to all builds of compound fabrics; treble cloths; special points in the designing and manufacturing of backed and double-make trouserings, coatings, suitings, mantles, dress fabrics; designing of vestings and structure of the fabrics; principles of figured designing for rug, vesting, dress, and mantle textures.

Power Looms. Hutchinson and Hollingworth's, Hattersley's, Hodgson's, Hall's, Livesey's, Platt's, and other

important builds of power looms; analysis of the motions of these looms; mechanism for shedding, picking, shuttle-boxes, let-off of the warp; take-up of the cloth; stop motions, &c.; types of looms adapted for weaving fancy woollens, worsteds, flannels, dress stuffs, suitings.

Jacquard or Harness Loom.—Single and double-action machines, also single and double cylinder machines; open shed jacquards; methods of mounting or tying-up the harness; card stamping and lacing machines.

Calculations.—Calculations on the setting and costing of cloths; cost of folded yarns; output of weaving machines; speeds of looms.

Pattern Analysis.—Dissection of backed double and compound fabrics.

Fee, £5 5s. per Session.

Third Year: The class meets on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, from 9.30 to 12.30, and from 2 to 5 p.m., throughout the Session.

It is intended for students who desire to study any particular branch of textile manufacture, such as trouserings, coatings, dress goods, mantle cloths, &c.

Each member of the class has the privilege of making experiments in the Weaving Sheds, under the direction of the Professor. He is provided with materials and other requisites for experimental work.

For fees, see page 122.

V. Experimental Weaving

First Year: The Experimental Weaving forming part of this course of study in Designing and Weaving, relates to Pattern composition, by arranging coloured yarns in simple and complex weaves in single and compound cloths, in the following classes of fabrics:—Trouserings, suitings, fine coatings, mantle cloths, dress goods, &c.

A loom is allotted to each student, on which he works out experiments in single and backed fabrics.

As far as possible, attention is given in the loom work to the special branches of weaving in which the student is chiefly interested. The ranges of patterns woven are periodically booked by the students when they receive, for each specimen, plan of weave, patterns of warp and weft,

set, sizes of yarns, picks per inch, and all other particulars for the subsequent production of the cloth.

For fees, see page 122.

Second Year: The following are some of the types of fabrics in which experiments are made during the Session :— Fancy woollen and worsted coatings, trouserings, and suitings ; union fabrics for coatings, suitings, and mantlings ; dress goods, shirtings, figured vestings, figured dress stuffs, figured mantles in various materials ; velvets, plain and figured ; plushes and imitation sealskins ; lenos, figured gauzes ; shawls, rugs, &c.

Sample patterns of the various styles woven by the class during the session with all the necessary particulars of manufacture are given to the students according to the time they devote to Practical Weaving.

For fees, see page 122.

Third Year: New types of harness looms have been recently provided for the Original Pattern Work of Third Year students, but in addition, facilities for the production of styles, and the working out of experiments of an investigatory character, on various builds of power looms are given. The work is not confined to Pattern Origination, but also relates to experiments of a research nature in Cloth Manufacturing and Finishing.

For fees, see page 122.

VI. Textile Colouring

First Year: A course of Twenty Lectures accompanied by experiments, on the principles of Textile Colouring, will be given to First Year Textile Students during the first and second terms, on Tuesdays and Thursdays, from 11.30 to 12.30.

SUBJECTS.—Theories of Colouring ; Qualities of Colours ; Function of Colours in Woven Design ; Harmony and Contrast ; Various Styles of Patterns produced by colours, such as Mixtures, Stripes, Checks, &c.

Fee, £2 2s. for the Course.

Second Year: A course of Twenty Lectures on Specific Styles of Woven Colourings will be given to Second Year Textile Students during the first and second terms, on Mondays, from 11.30 to 12.30.

SUBJECTS.—Colour in relation to Combination and Drafted Designs; Backed and Double-make cloths; Rib patterns; Spotted effects; Figured patterns coloured in the warp, in the weft, and in both warp and weft.

Fee, £1 1s. for the course.

VII. Finishing of Woven Fabrics

A course of Twenty Lectures on the Styles of Finish, Construction of Finishing Machinery and Processes of Finishing, will be given on Friday mornings, from 9.30 to 10.30.

The Finishing Room of the department is equipped with modern machinery for dressing or finishing such fabrics as are produced on the University looms, whether woollen, worsted, silk, cotton, or union goods. It is open for work on Tuesdays and Thursdays, from 2 to 4 p.m.

This course, which is intended for students attending the Second and Third Year Classes only, includes practical instruction in the following processes: Scouring, tentering, milling, washing off, raising—both on the gig and by hand—cutting or cropping, pressing and steaming.

Fee for Lectures, £1 1s. For fee for Practical Course, see page 122.

Diplomas in Textile Industries

Time Tables are appended of the following combined schemes of study:—

(*a*) Textile Designing and Cloth Finishing.
(*b*) Woollen and Worsted Spinning.
(*c*) Cloth Manufacture.

Diplomas are awarded in the above courses, when the following subjects are also taken:—

(*a*) With Lectures in Engineering, French or German, Applied Art, and Mechanical Drawing.
(*b*) With Lectures in First Year Designing and Weaving, and Colouring, Engineering, French or German, and Mechanical Drawing.
(*c*) With Lectures in Engineering, French or German, and Mechanical Drawing.

Course of Study—A
First Year

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Eng. Lect.	Mech. Draw.	Mech. Draw.	Mech. Draw. or German	Mech. Draw. or French	Mech. Draw.
TUE.	Tex. Lect.	Tex. Lect.	*Tex. Col. Lect.	Experimental Weaving		
WED.	Eng. Lect.	Applied Art	Applied Art	Applied Art or German	Applied Art or French	*Wool Spinning Lect.
THU.	Design ing or Pattern Analysis		*Colour Practice	Experimental Weaving		
FRI.	Eng. Lect.	Experimental Weaving		Experimental Weaving or German	Experimental Weaving or French	*Worsted Spinning Lect.

*First and Second Terms only.

Fee for the above course (including Entrance Fee and Union Fee), £30 7s. 0d.

Course of Study—A
Second Year

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Tex. Lect.	Tex. Lect.	*Col. Lect.	Power & Loom	Harness Practice	French or German
TUE.	Designing & Loom Practice			Cloth Finishing		*Wool Spinning Lect.
WED.	Experimental Weaving			Experimental Weaving		French or German
THU.	Applied Art			Applied Art		*Worsted Spinning Lect.
FRI.	*Cloth Finishing Lect.	Pattern or Designing	Analysis	Power & Loom	Harness Practice	French or German

*First and Second Terms only.

Fee for the above course (including Union Fee), £26 2s. 0d.

Third Year: Specialized and original studies in Designing, Weaving, and Cloth Finishing, supplemented by Lectures on Textile Inventions, Industrial Developments, Output of Machinery, Textile Economics, &c. Applied Art.

Course of Study—B

First Year

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Eng. Lect.	Mech. Draw.	Mech. Draw.	Mech. Draw. or German	Mech. Draw. or French	Mech. Draw.
TUE.	Tex. Lect.	Tex. Lect.	*Tex. Col. Lect.	Experimental Weaving		
WED.	Eng. Lect.	Woollen	Spinning	Woollen or German	Spinning or French	*Woollen Spinning Lect.
THU.	Design ing or Pattern Analysis		*Colour Practice	Experimental Weaving		
FRI.	Eng. Lect.	Worsted	Spinning	Worsted or German	Spinning or French	*Worsted Spinning Lect.

*First and Second Terms only.

Fee for the above course (including Entrance Fee and Union Fee), £30 7s. 0d.

Course of Study—B

Second Year

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Worsted	Spinning		Power Loom Practice		French o German
TUE.	Woollen	Spinning		Woollen	Spinning	*Woollen Spinning Lect.
WED.	Woollen	Spinning		Woollen	Spinning	Frer ch or German
THU.	Worsted	Spinning		Worsted	Spinning	*Worsted Spinning Lect.
FRI.	Worsted	Spinning		Worsted	Spinning	French or Oerman

*First and Second Terms only.

Fee for the above course (including Union Fee), £23 1s. 0d.

Third Year: Specialized and original studies in Spinning, supplemented by occasional Lectures on Inventions, Industrial Developments, Output of Machinery, &c.

Course of Study—C
First Year

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Eng. Lect.	Mech. Draw.	Mech. Draw.	Mech. Draw. or German	Mech. Draw. or French	Mech. Draw.
TUE.	Tex. Lect.	Tex. Lect.	*Tex. Col. Lect.	Experimental Weaving		
WED.	Eng. Lect.	Woollen	Spinning	Woollen or German	Spinning or French	*Worsted Spinning Lect.
THU.	Design Pattern	ing or Analysis	*Colour Practice	Experimental Weaving		
FRI.	Eng. Lect.	Worsted	Spinning	Worsted or German	Spinning or French	*Worsted Spinning Lect.

*First and Second Terms only.

Fee for the above course (including Entrance Fee and Union Fee), £30 7s. 0d.

Course of Study—C
Second Year

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Tex. Lect.	Tex. Lect.	*Tex. Col. Lect.	Power & Loom	Harness Practice	French or German
TUE.	Woollen Spinning			Cloth Finishing		*Woollen Spinning Lect.
WED.	Experimental			Weaving		French or German
THU.	Worsted Spinning			Worsted	Spinning	*Worsted Spinning Lect.
FRI.	Cloth Finishing Lect.	Design	ing or Analysis	Power & Loom	Harness Practice	French or German

*First and Second Terms only.

Fee for the above course (including Union Fee), £26 12s. 6d.

Third Year: Specialized and original studies in Spinning, Designing, and Weaving, and Cloth Finishing, supplemented by occasional Lectures on Inventions, Industrial Developments, Textile Economics, &c.

Evening Classes.

See under Evening Classes page 456.

TINCTORIAL CHEMISTRY AND DYEING

Professor GREEN

Mr. PERKIN Mr. ORCHARDSON Mr. FRANK

The instruction given in the various courses is arranged to meet the requirements both of students intending to become practical dyers or masters of dyeworks, and of those wishing to acquire a more thorough acquaintance with the chemistry of the colouring matters and their manufacture, with the object of becoming dyers' chemists, chemists in colour works, travelling chemists for dye manufacturers, calico-printers' chemists, experts in analysis of dyewares, &c. For the latter class, *i.e.*, colour chemists, an intimate acquaintance with the structural organic chemistry of the artificial dyestuffs is essential, and a very thorough knowledge of pure chemistry is required before specialising in this direction. For the first class, *i.e.*, dyers, such an advanced knowledge, though useful, is not essential, and in any case cannot be acquired in a three years' course. It is, however, equally necessary for the dyer that he should acquire at the outset a sound fundamental knowledge of the chemical and physical sciences underlying the art with which he is ultimately to deal, whilst the study of the colouring matters may be confined to a general acquaintance with their chemical relationships and a knowledge of their properties and dyeing behaviour.

To meet the requirements of these two classes of students, two courses have been arranged, *a three years' course* for practical dyers and a *four years' course* for colour chemists.

The *three years' course* qualifies for the diploma in dyeing of the University. The first year will be spent in the Chemical department, together with lectures on physics and German. The second year will be divided between pure chemistry, elementary engineering and practical work in dyeing; whilst the last year will be devoted entirely to dyeing, technical analysis of dyewares, study of the chemical properties of dyestuffs, examination of textile fibres, and calico printing.

In the *four years' course* more time will be devoted to organic chemistry and to the chemistry of the colouring matters, their examination and analysis. In the fourth year some research work on colouring matters or dyeing processes may also be undertaken. Attendance on this course by students who have previously passed the Matriculation examination qualifies for the Honours or Ordinary degree of B.Sc.

A third course has been arranged for those who wish to specialise as textile chemists or to acquire a special knowledge of chemistry as applied to the textile arts in conjunction with a technical knowledge of the various branches of textile manufacture.

Students holding a degree of any University (English or foreign) or otherwise bringing forward satisfactory evidence of a sufficient previous training in pure chemistry and general science will be admitted at once to the lectures or laboratory work in the department.

Attention is also 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.

Students of the Textile Department who wish to combine with their textile work a short course in dyeing will not be required to study pure chemistry.

The lectures on the chemistry of the artificial and natural colouring-matters will be open to senior students in the department of pure chemistry without joining the regular four years' course.

SYLLABUS OF COURSES

I. 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.

In awarding the Diploma the senate will take into account the results obtained in all the term examinations throughout the entire course in addition to any final examination which may be imposed. Students not reaching a satisfactory standard in all the subjects taken will be disqualified.

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.

First Year

	Per week.
Lectures on Chemistry (General Course)	4 hrs.
Chemical Laboratory	22 ,,
Lectures on Physics (Intermediate Course) ...	3 ,,
German (optional)	

Fee for the above course (including entrance fee and University Union fee, but exclusive of German), £24 19s.

The work in the Chemical laboratory will consist of inorganic preparations and qualitative analysis.

Second Year

	Per week.
Lectures on Chemistry (Organic)	3 hrs.
Chemical Laboratory	11 ,,
Experimental Dyehouse	15 ,,
General Engineering Lectures (II. A.)	3 ,,
German (optional)	

Fee for the above course (including University Union fee, but exclusive of German), £27 12s. 6d.

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

	Per week.
Experimental dyehouse Practical Dyehouse Calico Printing	32 hrs.
Lectures on Chemical Technology of Textile Fibres (1st Term)	2 ,,
Lectures on Dyeing (2nd Term)...	

Fee for the above course (including University Union fee), £22 7s. 6d.

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.

II. 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 dye-wares, &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 above.

First Year
(Intermediate Course)

	Per week.
Lectures on Chemistry (General Course)	4 hrs.
Chemical Laboratory	18 „
Physics (Intermediate Course)	6 „
Mathematics	3 „
German (optional)	

Fee for the above course (including Entrance fee and University Union fee, but exclusive of German), £28 15s. 6d.

The work in the chemical laboratory will consist of inorganic preparations and qualitative analysis.

Second Year

	Per week.
Lectures on Chemistry (Organic IV and Inorganic III)	6 hrs.
Chemical Laboratory	22 „
General Engineering (II A)..	3 „
German (optional)	

Fee for the above course (including University Union fee, but exclusive of German), £26 14s. 6d.

The work in the chemical laboratory will consist of quantitative analysis, organic analysis, and organic preparations.

Third Year

	Per week.
Experimental Dyehouse Clothworkers' Laboratory }	30 hrs.
Lectures on Chemistry (II. or V. C.)	3 „
Lectures on Chemical Technology of Textile Fibres (1st Term) ... ... Lectures on Dyeing (2nd Term) ... ... }	2 „
German (optional)	

Fee for the above course (including University Union fee, but exclusive of German), £23 14s., or with Chemistry II, £24 12s. 6d.

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, detection of colours on the fibre and in bulk, examination of textile fibres, and technical analysis of dyewares.

Fourth Year

	Per week.
Clothworkers' Laboratory	30 hrs.
Calico Printing and Practical Dyehouse	
Lectures on Artificial Colouring Matters (1st and 2nd Terms)	2 ,,
Lectures on Natural Colouring Matters (3rd Term)	

Fee for the above course (including University Union fee), £22 5s. 6d.

The work in the clothworkers' 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.

III. Diploma Course for Textile Chemists

(Four Years)

This course is intended to supply a thorough scientific training in the chemistry and art of dyeing and finishing in conjunction with a sound technical knowledge of the principles and practice of the various branches of textile manufacture. It should, therefore, fulfil the requirements of those who will, eventually, become head chemists, or managers, in such manufacturing concerns in which are undertaken all the processes, mechanical and chemical, involved in the production of textile materials from the raw fibre to the finished fabric.

First Year

	Per week.
Chemistry (General Course)	4 hrs.
Physics (Intermediate)	3 ,,
Chemical Laboratory	24 ,,
German (optional)	

Second Year

Chemistry, Organic and Inorganic Lectures ...	6 hrs.
General Engineering (IIa)	3 ,,
Chemical Laboratory	22 ,,
German (optional)	

Third Year

Experimental Dyehouse and Technical Analysis ...	15 hrs.
Designing and Weaving Lectures	4 ,,
Woollen and Worsted Yarn Manufacture Lectures	2 ,,
Textile Colouring Lectures...	2 ,,
Experimental Spinning and Weaving	9 ,,

Fourth Year

Chemical Technology of Textile Fibres, 1st term Dyeing Lectures ... ... 2nd term	2 hrs.
Experimental Dyehouse and Technical Analysis ...	15 ,,
Designing and Weaving Lectures	4 ,,
Woollen and Worsted Yarn Manufacture Lectures	2 ,,
Textile Colouring Lecture	1 ,,
Finishing Lecture	1 ,
Experimental Spinning and Weaving	6 ,,
Practical Finishing	2 ,,

In awarding the Diploma, the Senate will take into account the results obtained in all the term examinations throughout the entire course in addition to any final examinations which may be imposed. Students not reaching a satisfactory standard in all the subjects forming the course will be disqualified. Students are also recommended to acquire a reading acquaintance of the German language. Candidates holding a University degree in science or otherwise bringing forward satisfactory evidence of previous scientific training may, upon application, be admitted to the Diploma upon a shortened period of study.

Fees (including Entrance and University Union fees, but exclusive of German), first year, £25 9s. 6d.; second year, £26 14s. 6d.; third year, £27 19s.; fourth year, £29 6s.

LECTURES

I. The Chemical Technology of Textile Fibres

Tuesdays and Thursdays at 9.30 a.m. during the first term

The lectures will deal with the chemical and physical properties of the various animal and vegetable fibres, viz., cotton, flax, hemp, ramie, jute, wool, hair, silk, and artificial silk; and with the processes and machinery employed in the isolation, purification, bleaching, and finishing of the different fibres and of the textile materials prepared from them.

Fee, £1 1s.

II. The Chemistry and Technology of Dyeing

Tuesdays and Thursdays, at 9.30 a.m. during the second term.

The following are among the subjects to be treated in the lectures: Mordants; classification of colouring matters; methods of application in dyeing and printing of the various classes of colouring matters; theory of dyeing; testing of colours for fastness; machinery for dyeing; printing of cotton, wool and silk.

Fee, £1 1s.

Books recommended for Courses I and II.

Georgievics, *Chemical Technology of Textile Fibres.*
Hummel, *Dyeing of Textile Fabrics.*
Knecht, Rawson, & Loewenthal, *Manual of Dyeing.*

III. Chemistry of the Artificial Colouring Matters

Tuesdays and Thursdays at 4 p.m., during the first and second terms.

The lectures will comprise the following subjects:

Distillation of coal-tar and separation of benzene, toluene, naphthalene, anthracene, &c.; preparation of intermediate products of colour manufacture; the manufacture, properties, and constitution of the most important colouring matters belonging to the following groups:—Rosaniline, pyrone, azine, oxyazine, thiazine, acridine, quinoline, thiobenzenyl, nitro, azo, stilbene, anthracene,

sulphide colours and indigo; general method and plant employed in the preparation of colouring matters and their raw materials.

Fee, £2 2s.

Books recommended:

Georgievics, *Chemistry of Dye-stuffs*, translated by Salter (10/6).
Survey of the Organic Colouring Matters, by A. G. Green (21/-).
Thorpe & Cain, *The Synthetic Dyestuffs* (16/-).
Nietzki, *Organische Farbstoffe*.

IV. Chemistry of Natural Colouring Matters

Tuesdays and Thursdays at 4 p.m., during the third term.

The lectures will deal with the origin, chemistry and technology of the principal natural dyestuffs: Madder, logwood, brazilwood, cochineal, barwood, safflower, cudbear, orchil, weld, turmeric, quercitron bark, Persian berries, fustic, catechu, indigo.

Fee, £1 1s.

Book recommended:

Chemie der Naturlichen Farbstoffe, by H. Rupe.

LABORATORY WORK

A. Experimental Dyehouse

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 dyehouse is fitted up with modern dyebaths suitable for comparative dyeing trials, drying stoves, and other appliances.

The work in the experimental dyehouse will include the following subjects:—Systematic dyeing trials with the different groups of dyestuffs upon cotton, wool, and silk. Application of various mordants and assistants. Methods of dyeing union materials. Principles of colour mixing and matching. Scouring and bleaching of cotton and wool. Quantitative dyeing of colouring matters for strength and shade. Detection of colouring matters on the fibre. Testing colouring matters for fastness. Preparation of mordants. Analysis of water and removal of impurities. Technical analysis and valuation of dyewares. Detection of different fibres and estimation in mixtures. Examination of newly introduced colouring matters, and determination of their value as dyestuffs. Investigations upon dyeing processes. The use of the colorimeter, tintometer, and spectroscope.

A special exposure chamber has been erected in a convenient position for the purpose of making tests of the fastness of colours to light.

B. Practical Dyehouses

The Practical dyehouses are equipped with the most modern machinery for carrying out experiments on a practical scale. The equipment includes many model machines, all of which are driven by electric motors.

In these dyehouses advanced students of dyeing receive training in the treatment of all classes of textile materials.

The experiments are not merely confined to the actual dyeing processes, but include bleaching, scouring, stoving, singeing, crabbing, finishing, &c.

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 Clothworkers' 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; (*b*) preparation of coal tar products 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 £5 per session will be made to all research workers or students working full time in this laboratory, and of £1 per term to part-time students. All ordinary apparatus, however, must be provided by the student.

For fees for laboratory work (A., B., C. or D.), see page 122.

RESEARCH WORK

Special facilities are provided in the clothworkers' research laboratory 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.

For conditions of admission to research work at special fee, see page 122.

A research scholarship of the value of £60, tenable in this laboratory, is awarded annually upon the results of the final examination for the B.Sc. degree, preference being given to candidates who graduate with honours in colour chemistry and dyeing. The scholar will be required to devote his whole time to carrying out some special branch of research in colour chemistry.

Special Courses of Study

Experimental classes will also be held in the following specialised subjects if a sufficient number of students present themselves:

1. Paper staining.
2. Straw dyeing.
3. Lake and pigment manufacture.

Museum

The museum of natural and artificial dyestuffs and textile fibres is open to students daily.

Work during Vacation

The laboratories of the department will be open to qualified students for research and private study during a

part of the long vacation, but students are strongly recommended to employ the time in gaining practical experience in works whenever such a course is possible. The Professor will be glad to give advice before the end of the term as to suitable courses of vacation study, and to consider applications from students desiring the use of the laboratories.

Positions on Leaving

Students who have taken the full courses as recommended above, and have done satisfactory work during the period may rely upon receiving all possible assistance in obtaining suitable positions when their term of study is completed. The Professor takes a personal interest in placing students, and keeps a record of firms having vacancies.

Examinations of the City and Guilds of London Technical Institute

The above courses prepare for the technological examinations of the City and Guilds of London Institute in Dyeing and also in Coal Tar Products. Students of the Department are recommended to present themselves for these examinations in the last year of their University course. (See page 253).

LEATHER INDUSTRIES

Assisted by the Skinners' Company of the City of London and by Members of the Leather Trades

Professor PROCTER
Dr. STIASNY
Mr. BRUMWELL

The object of the course of study in this department is, in the first instance, to familiarise students, both by information in lectures and by practical handling of the materials, with the 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 microscopic analysis are also taught and practised for determining the purity and value of the various materials employed, and for checking their use in the different stages of the 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.

In addition to actual teaching, the department undertakes a large amount of research work in connection with leather manufacture with regard to the practical production of leather and the scientific principles on which it is based, and the methods of analysis employed in controlling the purity of materials and the conduct of tanning processes. On these points much useful information has been freely given to the trade.

COURSES OF INSTRUCTION.

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. No student will be admitted to work until he has satisfied the Professor by examination or otherwise that he has an adequate knowledge of general chemistry to enable him to profit by special work.

Students work independently, and the course of work is so arranged as at the outset to familiarise them with the various agents employed in the manufacture of leather, and with their action on hide and skin, and on each other. Later on, methods of chemical examination and analysis of the various materials are studied, with their application to the control of manufacturing processes, and to tracing the causes of defects in leather. Instruction is given in the use of the microscope for this purpose, and for the study of the minute structure of the skin and of ferments.

Experiments in actual leather manufacture on a small scale are also carried on by the students, in such a way as to illustrate the subject matter of the lectures, and to show the effect of variations in the processes. This is, if possible, supplemented by visits to works where the manufacture is carried on.

Leather Dyeing, Staining and Finishing is taught by a systematic course of experimental Dyeing in the laboratory and workshops of the Leather Industries Department, beginning with small samples and proceeding to the colouring and finishing of whole skins.

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 connection with the trade.

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 apparatus must be purchased by the student, who will also be held accountable for breakage of apparatus belonging to the University.

For detailed fees payable for laboratory and other practical work and for the reduced terms offered to research students, see page 122

LECTURE COURSES

I. The General Principles of Leather Manufacture

Lectures on Mondays, Wednesdays, and Fridays at 10.30 a.m. during the 1st and 2nd terms, comprising the following subjects :

The skin and its structure Character and source of hides and of skins employed in tanning. Soaking and washing and the nature of putrefaction and antiseptics. The chemistry of lime and water in the relation to tanning. The

liming of hides and skins. Other methods of depilation. Unhairing, fleshing and rounding. Removal of lime before tanning. Bating, puering and drenching, and other means of depleting the skin.

The principal vegetable tanning materials. The elementary chemistry of tanning materials. The grinding and leaching of tanning materials and the manufacture of extracts. The uses of spent tans. The tanning of different materials.

The vegetable tanning process and the treatment of hides and skins in the liquors. Methods of rapid tannage. The use of acids and other "assistants" in the tanning process.

The tannage of upper leathers as compared to that of sole leather. The chemistry of currying and the oils and fats employed. Japanning.

Mineral Tannage.—General principles of alumina and other mineral tannages.

Aluminium leathers Kid process.

Chrome Leathers.—Knapp's, Cavallin's, Heinzerling's and other early processes. Modern "one bath" or basic process. "Two bath" or reduction process.

Oil Tannages.—Chamois. Buff-leather. Formaldehyde tannages. Fat-leathers. Crown and Helvetia leathers.

Combination Tannages.—Vegetable with aluminium, chrome and oil tanning. Stripping and retannage.

Fee, £2 12s. 6d.

II. The Chemistry and Physics of Leather Manufacture

Lectures on Tuesdays and Thursdays, at 10.30 a.m. throughout the session, comprising the following subjects:—

The more detailed anatomical and chemical structure of skin and its constituents. Physics of evaporation, drying, heating, and ventilation. The physical chemistry of the limeyard and tannery. Theories of the tanning process. Chemistry of the tannins and their derivatives. Developments of colloidal chemistry bearing on the tanning process. Chemistry of fats and oils, and of currying and oil dressing.

Fee, £2 12s. 6d.

III. Methods of Leather Manufacture

Lectures on Tuesdays, Thursdays, and Saturdays at 9.30 a.m. throughout the session.

The manufacture and finishing of sole leather; manufacture of belting and dressing leathers. Currying. Manufacture of Moroccos and other fancy leathers; staining; dyeing, and finishing; oil and fat tannages, including so-called "rawhide" leathers; alum dressing, including glove and calf-kid; combination tannages; chrome and formaldehyde tannages.

Fee £3 13s. 6d.

These lectures will be in connexion with the practical work in tanning, currying and leather dyeing carried on in the Leather Industries laboratories and workshops.

IV. Analytical Chemistry of Leather Manufacture

Lectures on Saturdays at 10.30 a.m. throughout the session. Including the analytical investigation of the following: waters; liming and deliming materials; lime liquors, tanning materials; extracts; tanyard liquors; gelatine; glue; soaps, oils, fats and waxes; mineral and vegetably tanned leathers; tannery effluents.

These lectures will explain the analytical methods in use in the Leather Industries Laboratories.

Fee £1 11s. 6d.

SUBSIDIARY COURSE.—Lectures on Saturdays at 11.30 a.m. in the first term.

Instruction will be given in simple analytical methods for the control of the principal processes of leather manufacture. The course will be in connection with the practical application of these methods in the workshops and laboratory.

Fee 10s. 6d.

V. Technical Microscopy.

Lectures on Mondays and Wednesdays at 10.30 a.m. during the third term.

The use of the microscope in the examination of skin and leather, and in the detection of adulterants, in connexion with work carried on in the laboratories.

Fee £1 1s.

VI. Technical Bacteriology and Mycology.

Lectures on Fridays, at 10.30 a.m. during the third term.

These lectures will be specially devoted to the bacteriology and mycology of leather manufacture, but will include some introduction to general bacteriology. Work in this subject will be carried on in the laboratory during the third term.

Fee 10s. 6d.

Microscopes must be provided by the student, but one or two may be hired of the Department at a charge of 5s. for ordinary, and 10s. for bacteriological microscopes. For bacteriological work each student must be provided with 1/12th inch oil immersion objective and substage condenser; but for the technical microscopy only a simple microscope will suffice.

VII. Practical Leather Manufacture.

COURSE A (*for Elementary Students*).—Demonstrations on Mondays, Wednesdays and Fridays at 9.30 a.m. throughout the session.

Sole leather: The liming and beam house work of hides for sole leather, a mixed tannage with the common materials and extracts, the finishing processes for bends and offal.

Dressing leather: The liming, bating, drenching and other beam house work, and the tanyard work for belting and harness leathers, dressing hides for upper leathers, E.I. kips and calfskins.

Light leathers: The preparation of crust goatskins for morocco leathers, including liming, puering, drenching, and the tannage with sumach. The fellmongering of sheep skins, including painting, unwooling, liming, deliming, pickling. The tannage of sheep skins for basils, skivers, &c. The manufacture of sumach calf and tawed leathers.

Chrome and combination leathers: The manufacture of box and willow calf, including wet work, tanning, dyeing, fatliquoring, staking, glazing and finishing. Skins will be tanned by both one bath processes (glucose liquor, basic alum liquor, &c.) and two-bath processes (Schultz bath, acid bath, &c. The retannage in chrome of vegetable tannages, and their finishing for "semi-chrome"

box and willow calf. The manufacture of glacé kid, including wetwork, tannage by two-bath process, and the finishing operations. Imitation glacé from sheep skins. Heavy chrome leathers.

COURSE B (*for advanced students*).—Demonstrations on Wednesdays, 2—5 p.m. in the first term.

The dressing of moroccos and light leathers from crust skins. Blacking and dyeing; mordanting. Use of natural and artificial dyestuffs. Dyeing to shade. Graining, seasoning, glazing and finishing. Dressing of sumach goat, sheep, E.I. tanned sheep and goat, bookbinding calf, basils, skivers, chamois, &c.

COURSE C (*for advanced students*).—Demonstrations on Wednesdays 2—5 p.m., in the second term.

The currying and finishing of dressing leathers. Scouring, hand and machine shaving, splitting, hand and drum stuffing, staining, blacking, waxing, seasoning, glazing, graining, &c. Dressing of strap butts; harness; split hides; waxed kip, calf and splits, satin leathers, lining leathers, memel, levant.

Text Books (which mnst 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.)

BENNETT'S *Manufacture of Leather* (A. Constable & Co. Ltd.)

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.

Shorter courses of study may be arranged for students who cannot afford the necessary time for a degree or diploma course. (See Scheme IV and V).

Degrees in Science of which particulars are given below, are conferred in connection with Leather Manufactures. Before beginning courses for Degrees, the student must have passed the Matriculation examination of the Joint Board of the Northern Universities, or of the University of London. A Diploma in Leather Manufacture, for which matriculation is not required, is also given by the University.

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.

Students will also be required to write a short descriptive essay relative to their scientific or technical work.

It is also desirable that German and French should be studied, as passages for translation from scientific or technical works will be set in the Final examination, and a sufficient knowledge to read one of these languages is compulsory.

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.

First Year.

	Per week.
Chemistry I.	3 hrs.
Chemical Laboratory	12 ,,
Physics I	3 ,,
Physics Laboratory	3 ,,
Mathematics II.	3 ,,
German III.	3 ,,
Leather VII.A	3 ,,
	30 ,,

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. ..	L. VII A		Chem. I	Math. II	German III	
TUE. ..	Chemical	Laboratory		Physics Laboratory		
WED. ..	L. VII A		Chem. I	Math. II	German III	Physics I
THU. ..	Physics I	Chem. Laboratory		Chemical Laboratory		
FRI. ..	L. VII A		Chem. I	Math. II	German III	Physics I
SAT. ..	Chemical	Laboratory				

Fee for the above course (including Entrance Fee and Union Fee) £31 10s.

Second Year [1]

	Per week.
Chemistry III.	3 hrs.
Chemistry IV.	3 ,,
Chemical Lab. (inorganic and organic)	12 ,,
Engineering II.A	3 ,,
Leather I. (1st and 2nd terms)	3 ,,
,, IV.	1 ,,
,, V. (3rd term)	[2] ,,
,, Laboratory	9 ,,
	34 ,,
	(33 in 3rd term).

1 Candidates applying for exemption from the Intermediate course must also apply for the substitution of Leather VIIa for Eng. IIa in the second year course.

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	Leather I and V	Chem. Lab.	Chemi	cal Labora	tory
TUE. ..	Chem. III	Chem. Lab.	Chem. IV	Leath	er Labora	tory
WED. ..	Eng. IIa	Leather I and V	Chem. Lab.	Chemi	cal Labora	tory
THU. ..	Chem. III	Chem. Lab.	Chem. IV	Leath	er Labora	tory
FRI. ..	Eng. IIa	Leather I		Leath	er Labora	tory
SAT. .	Chem. III	Leather IV	Chem. IV			

Fee for the above course (including Union Fee), £31 19s. 6d.

Third Year

	Per week.
Chemistry II.	3 hrs.
Leather II.	3 ,,
,, III.	3 ,,
,, VI. (3rd term)	[1] ,,
,, VII. B AND C (1st and 2nd terms) ...	3 ,,
,, Laboratory	18 ,,
	29 ,,

(27 in 3rd term).

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. ..	Chem. IIa	Leather L	aboratory	Leath	er Labora	tory
TUE. ..	Leather III	Leather II	Leather Lab.	Leath	er Labora	tory
WED. ..	Chem. IIa	Leather L	aboratory	Leather (3rd Term)	VII B Labora	and C tory
THU. ..	Leather III	Leather II		Leath	er Labora	tory
FRI. ..	Chem. II	L.-VI (3rd Term)		Leath	er Labora	tory
SAT. ..	Leather III	Leather L	aboratory			

Fee for the above course (including Union Fee), £26 15s. 6d.

Scheme II. Four Years' Course for B.Sc. with Honours

First Year

The intermediate course for the ordinary degree.

Second Year [1]

The second year course for the ordinary degree, except that Chemistry II. is taken instead of Engineering IIA.

Third Year

The third year course for the ordinary degree, except that Chemistry Vc. is taken instead of Chemistry II.

Fourth Year [2]

Engineering IIA. and Research in the Chemistry of Leather Manufacture.

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.

First Year

	Per week.
Chemistry Lectures General Course	3 hrs.
Chemical Laboratory	18 ,,
Mechanical Drawing	3 ,,
Leather Industries Workshops	3 ,,

Fee for the above course (including Entrance and Union fees) £25 6s. 6d.

1 Candidates applying for exemption for the Intermediate course must also apply for the substitution of Leather VIIA for Chemistry II in the second year course.
2 Candidates may take Chemistry Va in either the third or fourth years of their course, but this is not compulsory.

Second Year

	Per week.
Lectures on Organic Chemistry	3 hrs.
,, Principles of Leather Manufacture (1st and 2nd terms)	3 ,,
,, Technical Microscopy (3rd term) ...	2 ,,
,, Analytical Chemistry of Leather Manufacture	1 ,,
Chemical Laboratory (Organic)	6 ,,
Leather Industries Laboratories and Workshops	15 ,,

Fee for the above course (including Union fee), £25 7s. 6d.

Third Year

	Per week.
Lectures on Chemistry and Physics of Leather Manufacture	2 hrs.
,, Methods of Leather Manufacture ...	3 ,,
,, Technical Bacteriology (3rd term) ...	1 ,,
,, General Engineering (Course II.A)	3 ,,
Leather Industries Laboratories and Workshops	21 ,,

Fee for the above course (including Union fee), £25 14s. 6d.

In awarding this diploma, in addition to any special examinations which may be imposed, the University will take into account the result of all terminal examinations during the course, and students failing in any of these may be disqualified, or required to repeat that part of the course.

Students who give evidence of adequate previous scientific or practical training, may, upon application, be exempted from a portion of the course, and admitted to the diploma upon a shortened period of study.

Scheme IV. A short One-Year Course[1]

For Students possessing some knowledge of Chemistry and of practical leather manufacture.

1 Courses IV and V, involving neither degree nor diploma, may be modified in special cases.

Classes

	Per week.
General Course of Chemistry (Chem. I.) ...	3 hrs.
Principles of Leather Manufacture (L. I.), 1st and 2nd terms	3 ,,
Methods of Leather Manufacture (L. III.) ...	3 ,,
Analytical Chemistry of Leather Manufacture (L. IV. SUB.), 1st term	1 ,,
Practical Leather Manufacture (L. VII.A) ...	3 ,,
,, ,, ,, (L. VII.B), 1st term	3[1] ,,
,, ,, ,, (L.VII.C), 2nd term	
Leather Laboratory	10[2] ,,
Do. do.	[3] ,,
Chemical Laboratory	6 ,,
	31 ,,

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. ..	L.VII (A)	L. I	Chem. I	Chemical Laboratory		
TUE. ..	L. III	Leather Laboratory		Chemical Laboratory		
WED. ..	L.VII (A)	L. I	Chem. I	Leather Laboratory	VII B and C 3rd Term	
THU. ..	L III	Lr. Lab.		Leather Laboratory		
FRI. ..	L.VII (A)	L. I	Chem. I	Leather Laboratory		
SAT. ..	L. III					

Fee for the above course (including Entrance Fee and Union Fee), £30 9s. 0d.

1 Either VII B or VII C may be omitted if the student is not interested in the leathers dealt with, and additional time be devoted to laboratory work.

2 Including dyeing class, control methods, some microscopy and small experiments in leather manufacture.

Scheme V. A short One-Year Course

For post graduate students or those possessing considerable knowledge of Chemistry.

Classes	Per week.
Principles of Leather Manufacture (L. I.) 1st and 2nd terms	3 hrs.
Chemistry and Physics of Leather Manufacture (L. II.)...	2 ,,
Methods of Leather Manufacture (L.III.) ...	3 ,,
Analytical Chemistry of Leather Manufacture (L. IV.)	1 ,,
Microscopy of Leather Manufacture (L. V., 3rd term	[2] ,,
Bacteriology of Leather Manufacture (L. VI.) 3rd term	[1] ,,
Practical Leather Manufacture (L.VII.A), ...	[3] ,,
Do. do. do (L.VIII.) (B. & C.), 1st and 2nd terms ...	3 ,,
Leather Laboratory	12 ,,
Do. 3 hours extra in 3rd term	
	27 ,,

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. ..	L.VII (A)	L. I 1		La	borator	y
TUE. ..	L. III	L. II		La	borator	y
WED. ..	L.VII (A)	L. I 1		Leather Leather L	VII B aboratory	and C 3rd Term
THU. ..	L. III	L. II		La	borator	y
FRI. ..	L.VII (A)	L. I 1		La	borator	y
SAT. ..	L. III	L. IV				

1 Replaced by L. V and VI in Third Term.

Fee for the above course (including Union Fee), £26 5s. 0d.

Degrees of Master of Science (M.Sc.) and Doctor of Science (D.Sc.)

These will be awarded to students who have obtained the B.Sc. degree in Leather Manufacture on the conditions stated for Science graduates on pages 249 and 252.

Work During Vacation

The laboratories of the Department will be open to qualified students for research and private study during a part of the long vacation, but students are strongly recommended to employ the time in gaining practical experience in works wherever such a course is possible. The Professor will be glad to give advice before the end of term as to suitable courses of vacation study, and to consider applications from students desiring the use of the laboratories.

Evening Course

See under Evening Classes, page 460.

AGRICULTURE

Professor SETON

Mr. HAYDON Mr. ARCHIBALD Mr. HOWIE
Dr. CROWTHER Mr. HECTOR Mr. PARTON
Mr. RUSTON Mr. BOWES Mr. T. REDINGTON
Mr. GAUT Mr. GALT Mr. F. REDINGTON
Miss MCKERROW Mr. ANSTEY

The Winter Course will begin on Monday, October 11, when the Vice-Chancellor will admit students from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m. All students are expected to register their names on this day. Lectures will begin on Tuesday, October 12.

The Winter Course extends over two terms: the first term begins October 11, and ends Dcember 18, 1909; the second term begins January 10, and ends March 19, 1910. The fee is £10.

The Summer Course extends over the third term, beginning April 13, and ends June 25, 1910. The fee is £5.

Students may reside either in Leeds or in the village of Garforth, which is about three-quarters of a mile from the Farm. They will be required to pay their railway fares between Leeds and Garforth. The cost of a contract ticket between Garforth and Leeds during the Winter Course (five months) is £2 7s., and for students under 18 years of age £1 3s. 6d.

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 full course during winter, 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 complete course extends over three winters, but students may take a one or two winters' course. The complete course prepares students for the examination for the National Diploma in Agriculture, awarded jointly by the Royal Agricultural Society of England and the Highland

Society of Scotland. Students are also prepared for the examination of the Surveyors' Institution. 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.

A Laboratory for the exclusive use of Agricultural students has been added to the Department, and 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 for 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 have been erected, in which classes will be conducted according as it is found 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. The cost of a contract ticket between Garforth and Leeds during the Winter Course (five months) is £2 7s., and for students under 18 years of age £1 3s. 6d.

A Tutor has been provided to supervise the studies of first year students. Tutorial classes will be formed to suit their requirements.

Summer Course

A special course has been arranged for students who can devote the summer as well as the winter months to study, This will extend from April 13 to June 25, 1910.

The subjects will comprise Agricultural Chemical Analysis, Forestry, Horticulture, Poultry Keeping, Diary Bacteriology, Field Surveying and Levelling, Mathematics, and Practical Agriculture.

Students reading for the National Diploma are recommended to take the Summer course in their first year.

TIME TABLES

First Year Winter Course

	9.30	10.30	11.30	2 to 5.
MON.	Tutorial.	Natural	History.	Chemical Laboratory.
TUE.	Agri.	Physics & Chemistry.	..	Farm Class at Garforth.
WED.	Agri.	Physics & Chemistry.	Nat. Hist.	Chemical Laboratory
THU.	Agri.	Physics & Chemistry.	Tutorial.	..
FRI.	Natural	History.	Tutorial.	Farm Class at Garforth.

Second Year Winter Course.—A

[FOR STUDENTS READING FOR THE NATIONAL DIPLOMA.]

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Chem.	Surveying.	Geology.	Agri.	Botany.	Surveying
TUE.	Chem.	Chemical	Laboratory.	Geological	Laboratory.	..
WED.	Mens.	..	Geology.	Agri.	Botany	..
THU.	Chem.	..	*Econ. Ent.	Chemical	Laboratory.	..
FRI.	*Economic E	ntomology.	Geology.	Agri. Bot.	..	..
SAT.	Chem	ical Laborat	ory.	..	..	..

* First Term only.

Second Year Winter Course.—B

[FOR STUDENTS TAKING THE GENERAL COURSE.]

	9.30	10.30	11.30	2.0	3.0	4.0
MON.	Vety. Sc.	Agri.	B'k-keeping	Agri.	Botany.	..
TUE.	Vety. Sc.	Agri.	Math.	Farm	Class at Gar	forth.
WED.	Vety. Sc.	Agri.	Agri. Chem.	Agri.	Botany.	..
THU.	Vety. Sc.	Agri.	Agri. Chem.	Chemic	al Laborato	ry.
FRI.	B'k-keeping	Agri.	Agri. Chem.	Farm	Class at Gar	forth.
SAT.	Chemic	al Laborato	ry.	..	..	..

Third Year Winter Course

[For Students Reading for the National Diploma.]

	9.30	10.30	11.30.	2.0	3.0	4.0
Mon.	Vety. Sc.	Agri.	B'k-keeping	Engineering	..	..
Tue.	Vety. Sc.	Agri.	..	Farm	Class at Gar	forth
Wed.	Vety. Sc.	Agri.	Agri. Chem.	Engineering	..	..
Thu.	Vety. Sc.	Agri.	Agri. Chem.	Engineering	Chem.	Lab.
Fri.	B'k-keeping	Agri.	Agri. Chem.	Farm	Class at Gar	forth.
Sat.	Chem	ical Laborat	ory.	..	..	..

Summer Course

	9.30	10.30	11.30	2.0	3.0	4.0
Mon.	Forest	Botany.	Poultry.	Chem.	Chemical L	aboratory
Tue.	Dairying.	Horti.	Surveying.	Surveying	field or draw	ing office
Wed.	Forest	Botany.	Poultry.	,,	,,	,,
Thu.	Dairying.	Math.	Surveying.	,,	,,	,,
Fri.	Dairying.	Math.	Surveying.	Chem.	Chemical L	aboratory
Sat.	Farm	or Excurs	ions.	..	..	..

III.—Degree Course

Students preparing for the degree of Bachelor of Science who take Agriculture as one of their subjects for the Final examination, do not enter the Department of Agriculture until they have passed the Matriculation and Intermediate examinations and begin the work for the Final examination. The subjects of examination and attendance conditions will be found under the Regulations for the degree of B.Sc. At the matriculation examination, students are recommended to take German or French, Mechanics and Chemistry.

Intermediate Examination

Candidates who intend to present themselves for the Intermediate examination must take:

Physics, and two of the following: Chemistry, Biology, Geology.

In addition, one of the following to be presented at either the Intermediate or Final examination, the standard being that of the Intermediate examination in either case:

Greek.
Latin.
French.
German.
English Literature.
English Language.
Ancient or Modern History.
Logic.
Economics.
Economic Geography.
Mathematics.
Chemistry.
Biology.
Geology.
Applied Mechanics.
General Engineering.

Candidates are also required to satisfy the Examiners in a descriptive essay relative to their scientific or technical work.

Final Examination

For the Final examination, the subjects are:

1. Agriculture, including special courses in two of the following:

Agricultural Chemistry.
Agricultural Botany.
Agricultural Zoology.
Agricultural Geology.
Agricultural Entomology.
Agricultural Economics.
Veterinary Science.
Bacteriology.
Surveying.

2. *Either* one of the following as a principal subject:

Mathematics.
Physics.
Chemistry.
Zoology.
Botany.
Physiology.
Geology.

or two subsidiary subjects from the following:

Mathematics I. (Pure).
Mathematics II. (Pure and Applied).
Physics.
Chemistry.
Zoology.
Botany.
Physiology.
Geology.
Human Anatomy.
Bacteriology.
Education (including the teaching of Elementary Science).

Mathematics I. and II. cannot be taken together as subsidiary subjects.

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

First Year

Agriculture

Lectures on Tuesdays, Wednesdays, and Thursdays, at 9.30 a.m., by Professor R. S. Seton.

SUBJECTS.—Agriculture and its relation to the sciences.

Soils.—Their nature, functions, origin and wasting. Texture and general characteristics. Soil temperature. Soil water and its conservation. Relations between the soil and the plant. Chemical composition of soils; potential and available plant food.

Characteristics, classification and distribution of soils. Chief type of Yorkshire soils.

Tillage operations. Ploughing ; specific results of ploughing ; times and methods of ploughing. Autumn and Spring cultivation. Surface tillage. Preparation of seed-bed for different crops on various classes of soil.

Steam cultivation.

Farm drainage. Irrigation. Sewage farms. Warping, claying, marling, chalking, liming, paring and burning. Clay-burning.

Manures.—Characteristics of the various nitrogenous, phosphatic, and potassic manures in common use. Conditions affecting their successful application. Their specific effects on the various farm crops. Farm-yard manure ; its production, variation, preservation and application. Liquid manure. Composts. Green manuring.

Rotations.—The rotation of crops. Arrangements of cropping according to the system of farming adopted.

Seeds, Grasses, and Pastures.—Common grasses and clovers, their suitability for different soils and local conditions. Laying down land to permanent pasture. Grass seed mixtures. Treatment of new grass land. Management of old-established grass. Deterioration of grass land ; its causes and remedies. Hay-making. Silage and the system of ensilage.

Chemistry and Physics

Tuesdays, Wednesdays, and Thursdays, at 10.30 a.m., by Mr. A. G. Ruston.

SUBJECTS.—Physics and Chemistry so far as is sufficient to enable students to understand thoroughly the application of these sciences to Agricultural practice.

Natural History

Mondays, 10.30 a.m. to 12.30 p.m., Wednesdays at 11.30 a.m., and Fridays, 9.30 to 11.30 a.m., by Prof. Blackman and Mr. Norman Walker.

SUBJECTS.—Elementary facts of the structure of plants and animals. Drawing. The use of the microscope. Simple experiments on the growth of plants and allied matters. The elements of Agricultural Botany.

Tutorial Classes

Mondays, 9.30, Thursdays, and Fridays, at 11.30 a.m., by Mr. A. G. Ruston.

SUBJECTS.—Correspondence, Calculations, Elementary Mathematics preparatory to Book-keeping, Surveying, and Engineering.

Chemical Laboratory

Mondays and Wednesdays, from 2 to 5 p.m.

Selected experiments arranged to illustrate the Chemical and Physical principles underlying Agricultural operations. These will include the preparation and properties 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

Tuesday and 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. Occasional demonstrations will be given by specialists in certain departments of Practical Agriculture.

Second and Third Years

Agriculture

Lectures daily, except Saturdays, at 10.30 a.m., by Mr. Haydon or Mr. Archibald.

SUBJECTS.—*Feeding Stuffs.*—Animal nutrition. Process of digestion. Functions of the various constituents of food. Suitability, comparative nutritive value, and economical use of the commoner feeding stuffs for the different

classes of farm stock. Preparation of food. General requirements of the different animals on the farm. Food rations.

Crops and Cropping.—Characteristics, habits, cultural requirements, and management of the various arable land crops. Variation in yield, composition, and quality according to local conditions and treatment. Factors to be considered in the selection of varieties.

Live Stock.—Origin, history, and description of the different breeds of horses, cattle, sheep, and pigs in the British Isles. Relation between districts and breeds. Comparative powers of adaptation. Essential points in size, conformation, and character. Standards of perfection. Principles involved in improvement and early maturity. Fixation and preservation of desirable qualities. Advantages and dangers of pedigree breeding. Pure, cross-grade, and high-grade breeding. Laws of animal development.

Accommodation for farm stock.

Horses.—Working horses. Breeding mares. Gestation, foaling, weaning, and rearing. Breaking and preparation for sale.

Cattle.—Management of cows. Calving. Rearing of calves and young cattle. Treatment of fattening cattle.

Sheep.—Special features of sheep farming. Systems of flock management. Permanent and temporary flocks. The year's work on a sheep farm: lambing, weaning, rearing, fattening.

Pigs.—Selection of breeds. Breeding sows. Farrowing, weaning, rearing, fattening.

The buying and selling of stock. Agricultural statistics.

Labour and Implements.—Management of farm labour. Manual labour, horse labour, water, wind and steam power Agricultural implements and machinery.

Farm buildings and fences.

Agricultural Economics.—Considerations involved in the valuation and taking of farms. Times of entry. Yearly and other tenancies. Leases and agreements. Acts of Parliament affecting landlord and tenant.

The tenant's capital and its distribution. Live and dead stock required. Valuation of tenant-right, and of live and dead stock.

Different systems of farming. Arrangement and cost of labour in connection with stock, cultivation, cropping, harvesting, &c.

Chemistry

Mondays, Tuesdays, and Thursdays, at 9.30 a.m., by Dr. Crowther.

SUBJECTS.—Chemical combination. The atomic and molecular theories. Atomic and molecular weights. Quantitative chemical notation. Valency of the elements. General characteristics of the solid, liquid, and gaseous states of matter. Liquefaction of gases. Solution. Mass action. Transformation of chemical energy into other forms and *vice versâ*. Classification, distribution, and functions in nature and the arts of the chemical elements. The chemistry of the more common elements and of their most important compounds. Chemistry of carbon and of some typical carbon compounds important in Agriculture. Chemistry of Fermentation.

Agricultural Chemistry

Wednesdays, Thursdays, and Fridays at 11.30 a.m., by Dr. Crowther.

The Plant.—Elementary constituents of the food of plants. Forms in which these constituents may be absorbed. The atmosphere and its relations to plant life. Assimilation of the various ingredients of plant food. Production of organic substances by the plant. Transport and storage of prepared material. The chief organic constituents of the plant. Respiration. Germination, growth, and maturation.

The Soil.—Its constituents, their origin and properties. Analysis—mechanical and chemical. Variation in mechanical texture and in chemical composition. The chief chemical processes at work in soils. Bacteria of the soil.

Nitrification. Factors that determine the relative fertility or sterility of soils. Chemical and physical effects of the various tillage operations. Relations between soil and subsoil. The sources of loss and gain to the soil.

Manures.—Their composition and commercial value. The manufacture of superphosphates. Mixing of manures. Fermentation of farmyard manure. Liquid manure. Sewage manures. Changes undergone by manures in the soil. Specific action of manurial and other dressings on the soil.

Crops.—Characteristic composition of the various farm crops. Adaptation of manures to crops. Influence of manures, soil, climate, and season on quality and quantity of crop. Crop residues. Influence of crop and crop residues on soil. Rotation of crops.

Animal Nutrition.—Constituents of the animal body. Nature of animal nutrition. Food constituents and their functions. Digestion and excretion. Functions of the blood. Sources of loss and gain to the blood. Secretion. Respiration. The composition of foods. Their digestibility and comparative nutritive value. Relation of food to animal requirements and to manure.

The Dairy.—The chemical composition and properties of milk and the chief products obtained from it. Conditions influencing the quality and yield of milk. Principles involved in cream-separation and in the making of butter and cheese. The influence of ferments on milk and milk products. The preservation of milk.

Agricultural Botany

Mondays and Wednesdays, from 2 to 4 p.m., Fridays at 2 p.m., by Mr. J. M. Hector.

SUBJECTS.—Elementary Anatomy and Physiology of flowering plants. The cultivated plants of arable land, and the more important weeds. Methods of recognition of grasses, clovers, and other plants of agricultural importance. Physiology of agricultural plants. Diseases of crops, with remedial measures.

Book-keeping

Mondays at 11.30 a.m., and Fridays at 9.30 a.m., by Mr. A. G. Ruston.

SUBJECTS.—Accounts, Day Book, Cash Book, Ledger, Balance Sheet, Profit and Loss Account, &c.

Mathematics

Tuesdays, at 11.30 a.m., by Mr. A G. Ruston.

This class will be largely tutorial. The subjects taken will be arranged to suit the requirements of the student. In addition to Mathematics as required for examination the course will include practice in all calculations that an agriculturist would be required to make in the course of a year.

Chemical Laboratory

Tuesdays, 10.30 to 12.30; Thursdays, 2 to 4; Saturdays, 9.30 to 12.30.

Chemical Analysis, with special reference to Agriculture.

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

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.

Economic Entomology

Thursdays at 11.30 a.m., and Fridays from 9.30 to 11.30 a.m., during the first term, by Mr. Taylor.

SUBJECTS.—Structure and classification of insects. Life history of certain types.

Geology

Lectures on Mondays, Wednesdays, and Fridays, at 11.30 a.m. Practical work Tuesdays, from 2 to 4 p.m. by Professor Kendall.

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.

Agricultural Engineering

Mondays, Wednesdays, and Thursdays, 2 p.m, by Professor Goodman.

1. *Mechanics.*—Centre of gravity; stability of structures. The lever; toothed wheels; pulleys and ropes; wrapping connectors; winches; differential pulleys. Laws of motion. Strength of materials, tensile, compressive, torsional, and transverse; elastic limit; ultimate strength. Work; horse-power; animal and human power. Friction of surfaces and axles; lubrication.

2. *Air.*—Properties of air; elasticity; specific heat Barometer. Moisture. Movement. Winds. Windmills.

3. *Water.*—Composition. Weight. Height of column to balance atmosphere. Flow of water. Friction of water in pipes and channels. Usual speed of flow. Power derived from falls of water. Water-wheels; turbines; water-pressure engines; pumps. Potable water. Sources of supply. Means of purification. Storage.

4. *Heat.*—Nature of heat; thermometer; absolute zero; specific heat; latent heat; the unit of heat. Total heat of water; as ice, water, and steam. Conduction, convection, and radiation of heat. Mechanical equivalent of heat. Principle of combustion. Quantity of heat generated by combustion. Modes of transforming heat of combustion into power, as in the steam engine, and gas and oil engine.

5. *Steam-engine.*—Construction of an ordinary portable engine boiler, of a Cornish boiler, and its setting. Fittings of a boiler. Construction of the stationary and portable steam-engine. Single cylinder. Double cylinder. Compound. Slide-valve. Expansion valve. Cylinder. Piston-rod. Glands. Connecting-rod. Crank and crank shaft. Fly-wheel. Bearings Pet cocks. Lubrication. Steam and fuel consumed per horse-power.

6. *Gas and Petroleum Engines.*—Principle of action. Construction of valve gear. Sources of loss. Fuel and water required per horse-power.

7. *Electrical Generators, Motors, and Conductors.*—Principles of action—shunt; losses in electrical machinery. Efficiency. Detection of faults. Regulation of shunt and series motors. Use of fuses and cut-outs. Horse power of motors, and calculation of Watts to be delivered at terminals. Ohm's law. Losses in conductors, and calculation of sizes to convey given currents with definite losses. Insulation of conductors.

Surveying

Mondays, at 10.30 a.m. and 4 p.m., by Mr. Archibald.

These lectures are intended for students who have attended the course of Surveying in the summer term, a syllabus of which is given on page 20. A general revision will be made of the work already done, illustrated by further examples of surveying and levelling; together with a more detailed study of the adjustments of the instruments, the ordnance maps and other matters, than is possible during the summer course.

Summer Course

Agriculture

A study of the practical operations and experiments at the Manor Farm, Garforth.

Practical Agricultural Chemistry

Mondays and Thursdays at 2 p.m., by Dr. Crowther.

Qualitative and quantitative analysis.

Forest Botany

Mondays and Wednesdays, 9.30 to 11.30 a.m., by Mr. J. M. Hector.

SUBJECTS.—(1) Forest Botany: Recognition of the principal British trees. Identification of the more important timbers. The growth of trees and timber. Diseases of trees.

(2) General Forestry: Trees in relation to soil and climate. The growth of trees in the open and in forests. Formation and regeneration of woods and plantations. Pure and mixed woods. General management of trees. Formation and care of nurseries.

Occasional excursions will be made during the term; students to pay their own railway fares or other expenses.

Horticulture

Tuesdays at 10.30 a.m., by Mr. T. Redington.

SUBJECTS:—Preparation of the soil of the garden. The use and application of farm yard manure, artificial manures and lime. Seeds and their treatment. *Garden Crops.*—Their cultivation and management. *Fruit Culture.*—Propagation by seed, cuttings, layering, budding, grafting, &c.; planting; root and branch pruning. Produce—gathering, grading, storing, packing, marketing, preserving, bottling, &c. *The Flower Garden.*—Autumn, Spring, and Summer work; special subjects of the flower garden.

Poultry Keeping

Mondays and Wednesdays at 11.30 a.m., by Mr. Parton.

SUBJECTS.—Origin and antiquity of fowls. Breeds and their characteristics. The anatomy of the fowl. Accommodation and sanitation of the house. Embryology of the chicken. Natural incubation. Rearing chickens. Use of Incubators and of Brooders for artificial rearing. Foods—the principles and methods of feeding. Fattening—the different methods adopted. Breeds of ducks, geese, and turkeys. Marketing poultry produce—preserving eggs. Diseases of poultry. General management.

Dairying

Tuesdays, Thursdays and Fridays at 9.30 a.m., by Mr. Haydon.

SUBJECTS:—Commercial aspects. Conditions which favour foreign importation. The factory system. Relative merits of milk-selling, butter-making and cheese-making under different conditions. Cost of production and realisation. Influence of breed, strain, feeding, and general management on the quantity and quality of milk. Testing quality. Pasteurisation and sterilisation. Separation of cream by gravitation and centrifugal force. Merits of different separators. Ripening and preparation of cream for churning. Butter-making.

Live and dead stock and buildings required on cheese-making farms. General management of the herd. Details of the manufacture of Cheddar, Stilton, Cheshire, and Wensleydale cheese. Utilisation of by-products.

Dairy Bacteriology.[1]—Bacteria: Nature and functions. Food. Secretion and excretion. Respiration. Multiplication. Resting and active stages. Motile and non-motile forms. Relation between environment and activity. Bacteria and disease.

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1 Previous to attendance on this course students are recommended to take the practical Bacteriological Course in the Leather Industries Department. The course consists of instruction in the general methods of Bacteriology and the study of Fermentation. It will embrace the preparation of nutrient media, separation of micro-organisms, and the preparation of pure cultures Students will be made familiar with the characteristics of typical forms of micro-organisms.

Origin, nature, function, and control of bacteria in milk, butter, and cheese. Useful and injurious species. Tainted milk, rancid butter, sour, soapy, and discoloured cheese. Pure cultures for butter and cheese-making—their preparation and use. Diseases spread by milk and its products.

Surveying

Tuesdays and Thursdays at 11.30 a.m. and 2 to 5 p.m.; Wednesdays, 2 to 5 p.m.; Fridays, 11.30 a.m.; by Mr. Archibald.

Chain surveys. Principles involved. Chains. Arrangement of lines and method of proving the work. Sources of error and precautions to be adopted. Chaining past obstacles. The field book. Scales. Plotting the survey. Calculating areas from the field notes; by the computing scale; and by give and take lines. Surveys in which the lines are fixed by angles. Instruments required. The Theodolite. Box Sextant. Prismatic Compass. Graduated Cross Staff. The Vernier, its construction and use. Proving the accuracy of the angles taken.

The maps of the Ordnance Survey, their value to the land agent and farmer.

Levelling. The Level and Staff. Bench marks. Booking the readings and working out the reduced levels. Checking the level book. Proving the field work. Sections, their use for road making and similar purposes. Cross sections. Contours. Curvature and refraction.

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, DAIRYING 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 in the case of the East and West Ridings, 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. R. Howie, Mr. F. W. Parton, Mr. T. Redington, Mr. A. Gaut, Mr. A. S. Galt, Miss A. D. McKerrow, 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 subjects treated in the several Courses embrace : Results of Garforth experiments, soils and their properties, manures, farm crops, insect pests and diseases of crops, the management of grass land, live stock and feeding stuffs, dairying and poultry keeping, horticulture and fruit culture, small farming and gardening, management of allotments, the foot of the horse, and the principles of horse shoeing.

Dairying 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 female students for the period of six weeks for the sum of £5.

Single Demonstrations on Butter-making are given at Centres in the East and West Ridings, 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 Horticulture given in Gardens connected with various Evening Schools in the East and West Ridings.

Instruction in Horticulture at Garforth

A course of Horticulture and Experimental Plant Physiology will be conducted on Saturdays at the Manor Farm, Garforth, commencing on the 11th September, 1909, and concluding about the end of the following May. The class is for teachers of Horticulture and those intending to teach this subject. 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.

The Fee for the course is £1 12s. 6d.

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.

	9.30—10.30.	10.30—11.30	11.30—12.30.
MONDAY.	Greek IV. Latin I. German IV. Math. I. III. & VI. Chemistry II. Chem. V B *a*. Chem. V C *b c*. 9.30-11.30. Bot. VI *c*. Geology XIII *b c*. Engineering II A. Mining II. 9.30-11.30. Text I (2nd year). Agric. III *a b*, VIII *a b*, XIII & XV *a b*.	Greek VI. Latin I. Eng. I. and II French VII. History XII. Final Law I. Physics II. Zoology I. 10.30-12.30 Zool. IV *a* 10.30-12.30. Bot. IV *b*. Engineering VI. Leather Ind. I *a b*. Leather Ind. V *c*. Agric. VII *a b*.	Greek II. Latin II. French I. History VII. Final Law II. Mathematics V. Physics I. A *a b* Chemistry I. 12. Chem. V A *a b*. Geol. X *a b*. Elect. Eng. IV. Text. II (2nd yr.) *a b*. Agric. X *a b*. Agric. XXIII *c*.
TUESDAY.	Greek V Latin IV. French VI History VI Education II. A Physics I. Chem. III and V D. Botany I. Engineering IV. 9-11.30. Text. I (1st year). Tinct. Chem. I *a* and II *b*. Leather III. Agric. I, VIII *c*., XIII *a b*. & XX *c*. Agric. XXV *c*.	Greek VI. Latin I (Comp). German VI *a b*. History III and IV. Economics I. Geology I. Engrg. VII A *a b*. Engrg. VII C *c*. Leather Ind. II. Agric. II & VII *a b*. 10.30-12.30. Agric. XII *a b*. Agric. XXII *c*.	Latin II and III (Comp.). German IX History I and IX Mathematics IV. 12. Chemistry IV. Text. II (1st yr.) *a b*. Agric. XI *a b*. Agric. XXIV *c*
WEDNESDAY.	Greek IV. Latin I. German IV. Math. I. III. & VI. Chemistry II. Chemistry V B *a*. Chemistry V C *b c*. 9.30-11.30. Bot. VI *c*. Geology XIII *b c*. Engineering II A. Mining II. 9.30-12.30. Textile VIII (1st and 3rd years). Agric. I, XI and XIII *a b*.	Greek VI. English I. and II. History XII. Physics III. Zoology I. (Pract.) Engineering VI. Leather Ind. I *a b*. Leather Ind. V *c*. Agric. II & VII *a b*.	Greek II. Latin II. French I. History VII. Mathematics V. Physics I A *a b* Chemistry I. 12. Chem. V A *a b*. Zool. IV *a* Botany IV *b*. Geology IX. Geology X *a b*. Agric. IX *a b*. Agric. XXIII *c*.

a—1st Term. *b*—2nd Term. *c*—3rd Term.

2—3.	3—4.	4—5.	5—6.
Eng. III French III. German I. Economics II. Inter. Law I. Math. II. 2-4. Bot. V *a b.* Geology II. Engrg. II B *a b.* Elect. Eng. I. 2-4. Elect. Eng. IV. Mining I. 2-5. Text. I (3rd yr.) 2-5. Agric. IV *a b.*) Agric. XXI *c.*	Greek III. German III. Inter. Law III. Physics I.	Latin III. French II. and VI. German II. Education I. Inter. Law II. Engineering I. Engrg. II C *a c.* Elect. Eng. II. Agric. XV *a b.*	Geol. XIV. *b c* 5.30-7. Engrg. II (Lab.).
German VIII. Final Law III. 2-5. Pract. Chem. 2 *c.* 2-5. Zool. I (Pract.) 2-4. Geol. X (Pract.) *a b.* 2-5. Text. I (3rd yr.). 2-4. Text. III. Agric. XXIV *c.*	French IV. French V *a b.* German VII. Accountancy I.	German V *a b.* Accountancy II. Geology XII *b c.* Engineering III. Elect. Eng. III. Text. IV (2nd yr. *a b.*) Tinct. Chem. III *a b.* Tinct. Chem. IV *c.*	
Eng. III. French III. German I. Math. II 2-4. Bot. V *a b.* Geology II. Engrg. II B *a b.* 2-5. Text I. (3rd year) 2-4. Text. VIII (1st and 3rd years). 2-5. Agric. XXIV *c.*	Greek III. German III. Education III *a b.* Physics I. 3-5. Textile VIII (1st year).	Latin III. French II German II. and IX. Education II B Engineering I. Textile IV (1st year) *a b.*	

Classes not marked meet throughout the Session.

	9.30—10.30	10.30—11.30.	11.30—12.30.
THURSDAY.	Greek V. Latin IV. French VI. Hist. VI. Education II. A Physics I. Chemistry III. Botany I Engineering IV. 9.30-12.30. Elect. Eng. IV. 9-11.30. Text. I (1st year). 9.30-12.30. Text. VIII (2nd & 3rd yrs.) Tinc. Chem. I *a* & II *b* Leather Ind. III. Agric. I, VIII *a b*, XIII *a b*, XX *c*. Agric. XXV *c*. 9.30-12. Text VIII (2nd and 3rd years).	Greek VI. History III and IV. Economics I Education III A. Geology I. Engrg. VII A *a b*. Engrg. VII C *c*. Leather Ind. II. Agric. II & VII *a b*.	History I, and IX Mathematics IV. 12. Chemistry IV. Zoology V *b*. Engineering VIII *b*. Text. II (1st year) *a b*. Text. VIII (2nd year) Agric. III & IX *a b*. Agric. XXIV *c*.
FRIDAY.	Greek IV. Greek V. Latin I. French VII German IV Hist. V. Math. I. III. & VI. Chemistry II. Chemistry V B *a*. Chem. V C *b c*. 9.30-11.30. Zool. IV *a* and *b*. 9.30-11.30. Bot. IV *b*. Geology XIII *b c*. Engineering II A. Mining II. Text. III. Agric. X *a b*, XX *c*. Agric. XXV *c*.	Latin I. Engl. I. and II History XIII. Final Law I. Physics II. Zoology I. Engineering VI. 10.30-12.30. Text. I (2nd year). Leather Ind. I *a b*. Leather Ind. VI *c*. Agric. VII *a b*.	Greek II. Latin II. French I. Final Law II. Mathematics V. Physics I A *a b*. Chemistry I. 12. Chem. V A *a b*. Geology IX. Geology X *a b*. Agric. III & IX *a b*. Agric. XXIV *c*.
SATURDAY.	Greek I. Greek IV. Latin IV. Chemistry III. 9.30-12. Zool. VI. Engineering VII. Engineering VIII *a*. Leather Ind. III. 9.30-12.30. Agric. XII *a b*.	Greek II (Comp.). Latin IV (Comp.). 10.15-12.15. French VIII and IX. 10.12. German X and XI. Geology I. Engineering IV. Engineering VII B. Leather Ind. IV.	Greek VI (Comp.). 12. Chemistry IV. Engineering III.

a—1st Term *b*—2nd Term *c*—3rd Term

2—3.	3—4.	4—5.	5—6.
German VIII. Education III B. 2-5. Prac. Chem. 2 *c*. Engineering II B *a b*. 2.5. Text. I (3rd yr.). 2-4. Textile III. 2-4. Textile VIII (2nd and 3rd years). 2-4. Agric. XII *a b*, XXI *c*. 2-5. Agric. XXIV *c*.	German VII. 3.15-4.45. Education I, II and III (Criticism).	Inter. Law II. Engineering III. Elect. Eng. I. Text. V (2nd yr.) *a b*. Tinct. Chem. III *a b*. Tinct. Chem. IV *c*.	
English III *b c* French III. Final Law III. Economics II. Math. II Botany V *a b*. Geology II. Elect. Eng. I. 2-5. Text. I (3rd yr.).	Greek III. German III. Physics I. Zoology V *b*.	Greek III. Latin III. French I. German IX. Education I. Engineering I. Elect. Eng. IV. Text. V (1st year) *a b*.	

Classes not marked meet throughout the Session.

TIME TABLE OF INTERMEDIATE ARTS COURSES

	9.30.	10.30.	11.30.	2.	3.	4.
MONDAY	Latin.	English Literature. Zoology.	French I. Chem.	Mathematics.	Greek. German. Physics.	French II.
TUESDAY.. ..	Botany.	Latin Comp. Geology I.	Ancient History.	..	..	..
WEDNESDAY ..	Latin.	English Literature.	French I. Chem.	Mathematics.	Greek. German. Physics.	French II.
THURSDAY ..	Botany.	Geology I.	Ancient History.	..	..	..
FRIDAY	Latin.	Zoology. English Literature.	French I. Chemistry.	Mathematics.	Greek. German. Physics.	French II.
SATURDAY ..	..	Geology I.	..	..	..	..

The time for the English Language and Modern History Classes to be arranged with Students.

TIME TABLE OF FINAL ARTS COURSES

MONDAY	Greek. † German. English Hist. †	English Literature.	Latin. * Mathematics. European Hist. †	French. European Hist. * Economics. *	..	Greek. * Latin. † Education. *
TUESDAY.. ..	Grk.* Grk. & Rom. Hist.† Education.†	European Hist * Education. ‡	Latin Comp. * †	..	French Literature.	German Literature (1st and 2nd terms).
WEDNESDAY ..	Greek. † German. English Hist. †	English Literature.	Latin. * European Hist. † Mathematics.	French. Economics.	Education Disc. Class (1st and 2nd terms).	Latin. † Education. *
THURSDAY ..	Greek and Roman History. † Education. †	European Hist. * Education. ‡	..	Education ‡	3.15—4.45. Education Criticism Lessons.	..
FRIDAY	Greek. * † German. English Hist. †	Greek. * English Literature.	Latin. *	French. Economics. *	Greek Comp. †	Greek Comp. * Latin. † Education. *
SATURDAY ..	Greek. *	..	..	..	..	..

* First Year. † Second Year. ‡ Third Year. At times to be arranged :—
Economics, second year. History of Ancient Philosophy, three hours. English Literature and Language, one hour.
Psychology, three hours.

Course for the First Examination in Medicine

Time Table

	9.30—10.30.	10.30—11.30.	11.30—12.3	2.0—3.0.	3.0—4.0.	4.0—5.0.
MON.	Chem. Lects.	Zool. I	Phys. I*a*	Chemic	al Laborator	y, 2.0—5.0
TUE	Botany I	Practical 10.30—	Botany 12.30	Practical	Zoology,	2.0—5.0
WED.	Chem. Lects.	Practical Zool.	Phys. I*a*	..	..	..
THU.	Botany I	Practical 10.30—	Botany 12.30	Chemic	al Laborator	y, 2.0—5.0
FRI.	Chem. Lects.	Zool. I	Phys. I*a*	Chem.	Lab. 2—4.	..
SAT.	Physical	Laboratory,	9.30—12.30	..	..	..

NOTE.—The Courses in Chemistry and Physics will be completed in the first two terms; the Course in Biology lasts throughout the session. The times arranged for Chemical Lectures are subject to revision.

This Course will meet the requirements of students preparing for the First examination in Medicine or Parts I and II of the First examination in Dental Surgery of the University of Leeds. 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 Union fee £26 10s. 6d.

Students preparing for the Conjoint Board Examinations (L.R.C.P. and M.R.C.S.) will attend classes in Physics (lectures and laboratory as above), Chemistry (lectures and laboratory as above), and Biology (lectures and laboratory as above during first and second terms only). Composition fee for the course (including Entrance fee and Union fee), £23 10s. 6d.

Students preparing for the Preliminary examination in Science for the Diploma in Dental Surgery, will attend classes in Physics and Chemistry, as above. Fee for six months only (including Entrance fee and Union fee), £15 2s. 6d.

THE UNIVERSITY OF LEEDS

Session 1909-1910

The School of Medicine

UNIVERSITY TERMS

The University session or academic year in the School of Medicine is divided into three terms. The first term begins Friday, October 1, 1909, and ends Saturday, December 18, 1909; the second term begins Monday, January 3, 1910, and ends Wednesday, March 23, 1910; the third term begins Monday, April 25, 1910, and ends Saturday, July 2, 1910.

The terms for students pursuing the first year's course of study are the same as those in other Faculties (see page 117).

ADMISSION OF STUDENTS

The Dean will enter students in the School of Medicine for their courses of lectures from 9.30 to 10 a.m., on October 1 and 2, 1909; and on April 25 and 26, 1910. The Fees due must be paid at the same time to the Registrar, who will be present to receive them. The Composition Fee is payable at the commencement of the third term of the first year at the University.

The Dean is generally in his office, in the School of Medicine, from 9 to 10 a.m. daily, and can be seen at other times by appointment. Enquiries about medical studies should be addressed 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.

Enquiries relating to hospital attendance should be addressed to the Senior Secretary of the Faculty of the Infirmary, Dr. W. H. Maxwell Telling, 29, Park Square, between the hours of 11 a.m. 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 desiring to enter the School of Medicine, who are not already students of the University, must produce a satisfactory certificate of good conduct.

Students pursuing the first year's course of study are admitted at College Road according to the arrangements published on page 117.

ENTRANCE EXAMINATIONS

1. For students preparing for the Degrees of M.B. Ch.B. in the University of Leeds.

All students who intend to present themselves as candidates for the degrees of M.B. and Ch.B., in the University of Leeds are required, before entering upon their degree course, to have passed the Matriculation examination (Faculty of Medicine) of the Universities of Manchester, Liverpool, Leeds, and Sheffield, or some examination recognised by the Joint Matriculation Board of those Universities as exempting from the Matriculation examination.

The Matriculation examination (Faculty of Medicine) is held at each University in July and September. Candidates presenting themselves for this examination are required to satisfy the Examiners in :

1. English Language *or* Literature
2. English History
3. Mathematics
4. Latin
5. *Two* of the following, *one* of which must be a language :
    - i. Greek
    - ii. French
    - iii. German
    - iv. Some other modern language approved by the Board
    - v. *Either* Mechanics *or* Physics
    - vi. Chemistry (Physical, Political, and Commercial)
    - vii. Geography
    - viii. Natural History (Plants and Animals)

Candidates who have passed the Matriculation examination in *six* subjects, but have not included *both* Latin

and either Greek or a modern language, will be deemed to have passed the Matriculation examination (Faculty of Medicine), provided they satisfy the Examiners in the subject omitted.

Candidates for entrance to the Faculty of Medicine who have already obtained the certificate of having satisfied the Examiners in English subjects, Mathematics, Latin, and another language, will be deemed to have passed the Matriculation examination (Faculty of Medicine), provided they satisfy the Examiners in one other subject in the Matriculation examination.

Conditions of Exemption from the Matriculation Examination

A student is entitled to exemption from the Matriculation examination provided he has satisfied any one of the five following conditions:

(*a*) Has passed Responsions of the University of Oxford, including both Geometry and Algebra, and one Additional Subject.

(*b*) Has passed Parts I and II of the previous examination of the University of Cambridge, and also passed in one of the Additional Subjects of that examination.

(*c*) Has gained a Higher Certificate or Higher Certificates of the Oxford and Cambridge Schools Examination Board, including (1) one foreign language, (2) *either* English *or* English History, in either case with English Essay; (3) Elementary Mathematics together with Algebra and Geometry as required for passing in Additional Mathematics; (4) *two* other subjects (of which Scripture Knowledge shall not be one) which may include the alternative subject not taken under (2) and Additional Mathematics.

(*d*) Has obtained an Oxford Senior Local Certificate, provided that the candidate has passed at one and the same examination in (1) English Language and Literature, including Composition (2) Arithmetic, Geometry and Algebra, and (3) *either* History *or* Geography, and *two* of the following nine sections, one at least being a language, namely, (4) Latin, (5) Greek, (6) French, (7) German, (8) Italian, (9) Spanish, (10) one subject in Higher Mathematics, (11) Chemistry, (12) one subject in Physics.

(*e*) Has obtained a Cambridge Senior Local Certificate, provided that the candidate has passed at one and the same examination in (1) English Language and Literature, including Composition, (2) Arithmetic, Geometry, and Algebra, and (3) *either* History *or* Geography, and *two* of the following eight sections or parts of sections, one at least being a language, namely, (4) Latin, (5) Greek, (6) French, (7) German, (8) Spanish, (9) an additional subject in Mathematics, (10) Chemistry, (11) one subject in Physics.

The holder of a certificate who desires exemption must submit the certificate to the Secretary for verification of the subjects.

The fee charged for registering an external Certificate is £1.

Faculty of Medicine

The Board will grant exemption from the Matriculation examination to graduates of any University of the United Kingdom, provided Latin has formed part of one of the degree examinations.

Provided that the certificate shows that all the subjects required by the General Medical Council have been included, the Board is prepared to receive applications for exemption from persons who hold certificates of having passed the London Matriculation examination.

The Board will exercise its discretionary power of granting exemption to applicants holding certificates of having passed examinations of a standard at least equal to those above mentioned.

A complete syllabus of the examination may be obtained from the Secretary, the Joint Matriculation Board, 24, Dover Street, Manchester, to whom all applications for exemption should also be addressed.

2. For other Students

Students who intend to pursue the study of Medicine without becoming candidates for the degrees of M.B. and Ch.B. in the University of Leeds are admitted to the Leeds School of Medicine on presenting certificates of having passed one of the preliminary examinations recognised by the General Medical Council. The Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield issues such a certificate to candidates who have satisfied the examiners at the Matriculation examination (see above) in English subjects, Mathematics, Latin, and another language, although they may not have passed the examination. This certificate does not entitle the candidates to proceed to degrees in any of the Universities.

Candidates for the Medical degrees of the University of London must satisfy the Matriculation requirements of that University before beginning a course of study in the Leeds School of Medicine.

FEES

All fees are payable in advance to the Registrar. Cheques should be made payable to "The University of Leeds," and crossed "Beckett & Co."

1. and 2. Entrance and University Union Fees

As in the other Faculties. See page 120.

3. Lecture and Laboratory Fees

The general regulations, as well as the special regulations for lecture, laboratory, and research fees, are the same as in the other Faculties (see pages 120-122). The following are the composition fees for students preparing for University degrees in Medicine:

i. For the complete course qualifying for the First examination of the University, or the Preliminary Scientific (M.B.) examination of the University of London, the fee is £26, exclusive of Entrance and Union fees.

ii. 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 £73 2s. 6d. if paid in one sum on entrance, or £37 12s. on entrance and £37 12s. at the end of twelve months, and entitles to attendance upon one course of the subjects in Sections I and II. This fee is payable in the third term of the first year, viz., in April, when the students begins his work in the School of Medicine. The privilege extends over *six years* only from the date of the first instalment.

iii. For students preparing for University degrees who have passed the Second examination (Anatomy, Physiology, and Materia Medica), the fee is £48 16s. 6d., and entitles to attendance upon one course of the subjects in Section II. The privilege extends over four years only.

SECTION I.

Descriptive Anatomy, Junior and Senior Sections.
Use of Dissecting Room with tutorial instruction for two sessions.

Physiology, general and advanced courses.
Practical Physiology and Histology.
Materia Medica.
Practical Pharmacy.

SECTION II.

Pharmacology and Therapeutics.	Gynæcology.
Pathology and Bacteriology.	Forensic Medicine.
Practical Pathology.	Practical Toxicology.
Medicine.	Mental Diseases.
Do. a second course.	Ophthalmology.
Surgery.	Public Health.
Practical Surgery.	Applied Anatomy.
Obstetrics.	Infectious Diseases
Intern Maternity	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.

4. 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.

On application for the degree of M.D., £5.

5. 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 lecturer, 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.

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 (see page 124), 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 October 1 or May 1, 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 135), and Registered Lodging and Boarding Houses (page 134).

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. Dinner is served from 12 to 2 p.m. Tea, coffee, and light refreshments may be obtained until 5 p.m.

Dinners for each separate term may be compounded for by special arrangement.

LIBRARY

Honorary Librarian: Professor GRÜNBAUM

Assistant Librarian: W. MERRIMAN

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, and is being continually increased. The Library of the Old Infirmary, rich in medical classics, became the property of the School of Medicine in 1865.

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 on application to the Assistant Librarian.

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 to the Assistant Librarian or his substitute whenever the student desires to borrow a book. The name of the book and date of issue will be entered upon the card, which will then be placed on the shelf in the place of the book borrowed. The card will be given back to the student when the book is returned.

(*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 each term.

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 fœtus. The DENTAL MUSEUM is attached to the Museum of Anatomy.

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.) Ordinance.

Doctor of Medicine (M.D.)

Master of Surgery (Ch.M.).

Degrees of Bachelor of Medicine and Bachelor of Surgery

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.

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. Regulations

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 : Ordinance.

The Matriculation examination,[1] or such other examination as may have been recognised by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield in its stead ; the First examination ; the Second examination ; the Final examination.

1 For particulars of the Matriculation examination see page 397.

Regulations. 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 subject of Part I of the Final examination for the degrees of M.B. and Ch.B., or (*d*) in any subject of Part II 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 [1]

Ordinance. The First examination shall consist of two parts:

PART I. Physics
Chemistry.

PART II. Biology.

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.

Candidates who have passed the Intermediate examination for the degree of Bachelor of Science in Chemistry, Physics, and Biology 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.

The names of candidates who have satisfied the Examiners in either part of the First examination shall be published in alphabetical order.

Regulations. Candidates for the First examination are required to furnish certificates of having attended approved courses

1 In 1910 this examination will be held as follows: Part I will begin on Friday, March 18, Part II on Monday, June 13, and Parts I and II on Monday, September 12. The latest days for entry and payment of fees will be as follows:—for the March examination, Tuesday, February 1; for the June examination, Tuesday, March 1; for the September examination, Tuesday, August 30th

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 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 six months.
2. Biology (Zoology and Botany): lectures and laboratory work: at least one year.
3. Physics: lectures and laboratory work: at least six months.

The examination will include laboratory work in the three subjects. Candidates may pass in each part separately.

Second Examination [1]

Ordinance.

The Second examination shall consist of two parts:

PART I. Anatomy
Physiology.

PART II. Materia Medica
Pharmacy.

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.

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; (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.

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1 This examination is held twice in each calendar year. In 1910 it will begin on Friday, March 18, and Saturday, June 25. Notice must be given and fees paid fourteen days before these dates.

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.

Materia Medica and 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.

Final Examination[1]

Ordinance.

The Final examination shall consist of two parts:

PART I. Pathology and Bacteriology
Forensic Medicine
Public Health.

PART II. Medicine
Surgery
Obstetrics and Gynæcology
Pharmacology and Therapeutics.

Candidates, before presenting themselves for the first part or the second 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.

The names of candidates who have satisfied the Examiners in the first part of the Final examination shall be published in alphabetical order.

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.

1 This examination is held twice in each calendar year. During the present session it will begin as follows: On Saturday, December 11, 1909, and on Saturday, June 25, 1910. Notice must be given and fees paid fourteen days before these dates.

Certificates of attendance

Regulations.

Candidates, before presenting themselves for the first 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 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. Systematic Surgery, two terms ; Practical Surgery, two terms ; Ophthalmology, one term.
7. Systematic 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 three 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.

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 will 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

Ordinance. No candidate shall be admitted to the degree of Doctor 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.

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.

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 Registrar and will be retained by the University.

Degree of Master of Surgery

Ordinance.

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.

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.

Subjects of Examination.

Surgical Anatomy
Surgery
Operative Surgery
Clinical Surgery
Ophthalmology
Pathology and Bacteriology.

The names of candidates who have satisfied the Examiners shall be published in alphabetical order.

Regulations.

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.

Candidates proposing to present themselves for this examination are required to give notice, in writing, to the Registrar 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.

DIPLOMA IN PUBLIC HEALTH

Regulations. The examination is held twice in each year, in June and December,[1] 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;

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.

Candidates before entering the second part of the examination must present certificates,

iii. Of having, after obtaining a registrable qualification, attended 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 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

1 In the current session it will begin on Monday, December 13, 1909, and on Monday, June 27, 1910. The latest dates of entry and payment of fees will be Saturday, November 27, 1909, and Saturday, June 11, 1910.

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. 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.

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.

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.

Order of Examination

Part I

The examination will include :

1. A two hours' written examination on Chemistry and Physics as applied to Public Health.
2. A four hours' practical and oral examination on Chemistry and Physics as applied to Public Health.
3. A three hours' written examination on the Ætiology of Disease.
4. A four hours' practical and oral examination on bacteriology, the pathology of infectious diseases, diseased meat, and the use of the microscope as applied to the examination of food, air, and water.

Part II

The examination will include :

1. A three hours' written and oral examination on Engineering as applied to Public Health.
2. A three hours' written examination on Sanitary Law and Administration, and on Vital Statistics.
3. Sanitary reporting.
4. Oral examination on the above subjects.

DEGREES AND DIPLOMA IN DENTAL SURGERY

Ordinance. 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

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.

All candidates shall be required to have passed the following examinations: The First examination, the Second examination, the Final examination.

Each examination shall include practical work in the subjects offered.

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.

Regulations. In each examination the names of candidates who have satisfied the Examiners shall be published in alphabetical order.

First Examination

Ordinance. The First examination shall consist of three parts:

PART I. Physics

Chemistry.

PART II. Biology.
PART III Dental Mechanics
Dental Metallurgy.

Candidates shall be allowed to pass in each part separately.

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.

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.

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.

Regulations.

Candidates for the First Examination are required to furnish certificates of having attended approved courses of instruction at the University or at an institution recognised for this purpose by the University, or having attended, at some other institution, courses of instruction 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 six months.
2. Biology (Zoology and Botany): lectures and laboratory work: at least one year.
3. Physics: lectures and laboratory work: at least six months.

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 pupilage 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. The subjects of the Second examination shall be:

Anatomy
Physiology
Dental Anatomy and Physiology
Dental Materia Medica.

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.

Ordinance. The subjects of the Final examination shall be:

Dental Surgery
Dental Pathology and Bacteriology
Operative Dental Surgery
Medicine and Surgery.

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.

Regulations.

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 (L.D.S.)

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.

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.[1]

Preliminary Examination in Science

The Preliminary examination in Science shall be held twice yearly.[2] 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 accepted by the University as equivalent to the above courses.

First Professional Examination

The subjects of the First Professional examination[3] 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[4] shall consist of two parts:

PART I. Anatomy
Physiology
Dental Anatomy and Physiology

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1 The subjects are the same as for the Matriculation Examination (page 397) except that under (5) only *one* subject, Greek *or* a modern language is required.

2 In 1910, it will begin on Friday, March 18, and Monday, September 12. The latest dates for entry and payment of fees will be Tuesday, February 1, and Wednesday, August 31, respectively.

3 This examination begins on Monday, December 13, 1909, and Saturday, June 25, 1910. The latest dates of entry and payment of fees will be Saturday, November 27, 1909, and Saturday, June 11, 1910, respectively.

4 See footnote 3.

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.

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 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.

For the diploma in Dental Surgery the composition 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.

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 Medicine

I. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD

PHYSICS

Professor BRAGG Mr. ALLEN
Mr. SHORTER Mr. EDMONDS Mr. KEENE

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 Monday, Wednesday and Friday at 11.30 a.m., during the first two terms.

The Physical laboratory is open daily. A special course of Practical Physics for Medical students will be held on Saturday mornings, from 9.30 to 12.30, during the first two terms.

For further information see page 256.

CHEMISTRY

Professor SMITHELLS Professor COHEN
Dr. DAWSON Mr. LOWSON
Mr. PERKINS Mr. MARSHALL Mr. CALAM Mr. KING

I. General Course

This course extends over the first and second terms, Monday, Wednesday and Friday, at 9.30 a.m., and an additional hour to be arranged later.

II. Practical Chemistry

During the First and Second Terms. Monday, 2 to 5; Thursday 2 to 5; Friday 2 to 4.

III. Organic Chemistry

During the Session, 12 noon 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 Third Term, 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

Professors BLACKMAN and GARSTANG.
Mr. TAYLOR Mr. WALKER
Miss WILLIAMS

For full details of the various courses see under the Departments of Zoology and Botany (see pages 264–271).

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. The Professors will be glad to advise students on these points.

Students preparing for the First M.B. examination of the University of Leeds, or the Preliminary Scientific (M.B.) of London, should take the courses in Zoology and Botany, specified on pages 265, 268.

Students preparing for the Fellowship examination of the College of Surgeons of England may take a three months' course of Zoology in the first term, including not less than four hours' practical work per week.

Fee, £3 3s.

Where Botany is required for any of the medical examinations, the ordinary course (Course I, page 268) should be taken. Fee, £5 5s.

II. COURSES HELD IN THE SCHOOL OF MEDICINE

ANATOMY

Professor GRIFFITH Mr. JAMIESON
Mr. TEALE Mr. DOBSON
Mr. GOUGH

I. Systematic and Descriptive Anatomy

Monday, Wednesday, Thursday, and Saturday at 9.15 a.m.

The general course of lectures begins in the summer and extends over three terms, the 3rd and the following 1st and 2nd. 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

The dissecting room is open daily from 9 a.m. till 5 p.m., (Saturday until 12.30 p.m.) throughout the session, the work of the students being constantly supervised by the Demonstrators, who attend daily. Tutorial classes and examinations are held daily on recent dissections and on preparations from the anatomical museum; and 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.

Fees	£	s.	d.
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 Wednesday and Saturday at 9 a.m., during the third term, in the Anatomy Theatre. It is intended for senior students and for qualified practitioners. It deals with the application of anatomical facts to medicine and surgery, and is fully illustrated by dissections, diagrams, and the living model.

Fee, £2 2s.

PHYSIOLOGY AND HISTOLOGY

Professor BIRCH Mr. CROWTHER
Mr. RAPER

I. General Course

This course of lectures deals with Physiology generally, and is illustrated by experiments. Monday, Wednesday, Thursday, Friday, at 2 p.m., during the first and second terms.

Fee, £8 8s.

II. Microscopical Demonstrations

are held at 11 a.m. every Saturday throughout the session, and are open to all students attending courses of Physiology.

III. Practical Physiology

This course is divided into two parts. Students are required to attend both parts before they are entitled to signature for a course of Practical Physiology.

Part I. Practical Histology: During the third term, on Monday, Wednesday, and Friday, for about two hours in the morning.

Students are required to provide themselves with the following: (1) A microscope of good construction, provided with 1 inch and $\frac{1}{6}$ inch objectives and a condenser, which should be submitted to the approval of the Professor before the commencement of the class as no one will be permitted to work with an inefficient instrument. The Professor will be glad to assist students in the choice of an instrument. (2) Some accessories (such as scissors, forceps, needles, slides and covers, etc.), a list of which can be had on application.

Part II extends through the first and second terms.

This covers the work in chemical and experimental Physiology required by the University.

Fees for part I, £6 6s.; for part II, £4 4s.

IV. Practical Physiology

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. Physiological Demonstrations and Catechetical Classes

are regularly held during the session at such times as are found convenient.

VI. Recapitulatory Class

A short laboratory course for students who desire to recapitulate their laboratory work. Classes will be formed in the second and third terms, and will meet twice a week, at times to be arranged.

Fee, £2 2s.

The Physiological Laboratories

are open daily during University hours for research work: the fees are on the same scale as in the other laboratories of the University. (See page 122.)

PATHOLOGY AND BACTERIOLOGY

Professor GRÜNBAUM

Mr. GASKELL Dr. COPLANS Mr. COLLINSON

Dr. TELLING

I. General Pathology

This course will be given in the third term (in second term in 1911 and after) on Monday, Tuesday and Thursday at 12 o'clock.

Fee, £4 4s.

II. Practical Pathology and Bacteriology

Tuesday, Wednesday, and Friday, from 12 noon to 1.30 p.m. during the first and second terms. In this class practical instruction with intercalated lectures is given in Morbid Histology, Bacteriology and Pathological Chemistry. Students will make and mount preparations for microscopical examination and will make bacteriological investigations required for diagnosis.

Each student must provide himself with a good microscope, having an oil immersion lens and a condenser, and with the usual accessories.

Fee, £5 5s.

III. Tutorial Classes in Surgical and in General Pathology

will be held by Dr. Telling, Mr. Collinson and by Mr. Mr. Gaskell, as may be arranged from time to time.

IV. Clinical Pathology

A post-graduate practical class in this subject will be held during the first term, on Wednesday at 4 p.m.

Fee, £3 3s.

V. Bacteriology for the Diploma in Public Health

This course will be held in the second term. It will include practical instruction in the pathology of those diseases of animals which are communicable to man. (See page 437.)

Fee, £5 5s.

The Laboratories of Pathology and Bacteriology

are open daily for research work The fees are on the same scale as in other laboratories of the University. (See page 122.)

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 BARRS Dr. WATSON

Monday, Wednesday, and Friday, at 9 a.m., during the first and second terms.

The complete course extends over two years. It is divided into the following sections:

Diseases of the nervous system.
Diseases of the organs of circulation.
Diseases of the organs of respiration.
Diseases of the digestive and blood-forming organs.
Diseases of the kidneys.
Infectious and contagious diseases, fevers, diphtheria, syphilis, hydrophobia, &c.
Parasites.
Diseases of the skin.
Diseases of special trades.
Diseases and Feeding of Infants.

Fee, £6 6s.

SYSTEMATIC SURGERY

Professor LITTLEWOOD Mr. COUPLAND

Tuesday, Thursday, and Saturday, at 9 a.m., during the first and second terms.

The course comprises the following subjects:

The process of repair.
Inflammation; suppuration; ulceration.
The constitutional effects of injury; shock, fever, delirium, &c.
Injuries and wounds, including special injuries of head, spine, throat, chest, and abdomen.
Special fractures and dislocations.
Surgical diseases; gangrene; erysipelas; septicæmia; pyæmia; tetanus.
Tumours; tubercle; venereal diseases.
Surgical diseases of special parts:—skin, lymphatic system, vascular system, nervous system, bones, joints, &c.
Deformities. Plastic and orthopædic surgery.
Abdominal surgery, including hernia.
Diseases of the urinary and generative organs.

Fee, £6 6s.

PRACTICAL SURGERY

Mr. KNAGGS

Tuesday and Thursday at 4 p.m., during the first and second terms.

In this are comprised :

1. A course of bandaging and application of splints and other appliances.

2. Demonstrations and descriptions of instruments and surgical appliances used in diagnosis or treatment.

3. The application of anatomical knowledge to the investigation of surgical diseases.

4. Methods of reducing dislocations, setting fractures and dressing wounds.

5. A course of operations performed on the dead body before the class, the members of which will be required to operate.

Fee, £4 4s.

OPERATIVE SURGERY

Mr. THOMPSON

During the third term classes will be formed for the performance of operations on the dead body, under the superintendence of the lecturer. 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 HELLIER

Dr. OLDFIELD

Monday, Thursday and Friday, at 9 a.m. during the third term. Demonstrations on Thursday at 9 a.m. Subjects :

Outline of the history of Obstetrics.

The female pelvis and organs of reproduction. Menstruation, Ovulation, Fertilization.

Pregnancy—normal and abnormal. Diseases of pregnancy. Abortion.

The fœtus, membranes and placenta. Diseases of the same.

Labour — normal and abnormal. Mechanism and management.

The puerperal state and its pathology.

Pelvic deformity.

Obstetric instruments and obstetric operations.

The new-born child and its management.

Relation of child-bearing to diseases of the body generally.

The lectures will be illustrated by diagrams, models, lantern slides and museum specimens.

The various presentations will be demonstrated on the Phantom, and practical instruction given in the use of obstetrical instruments.

Tutorial classes are also held from time to time for students preparing for their final examinations.

The necessary facilities are given by the Maternity department of the Infirmary, the Hospital for Women and Children, and the Leeds Maternity Hospital, for students to attend cases of labour.

By the rules of the Infirmary, the Maternity clerkship must not be taken until after the attendance upon this course of lectures and demonstrations has been completed.

Fee, £5 5s.; together with Gynæcology, £6 6s.

GYNÆCOLOGY

Dr. CROFT Dr. OLDFIELD

Wednesday and Friday at 4 p.m. during the first term. Subjects:

The structure and functions of the female reproductive organs in relation to pathology and treatment.

A general account of the causation and prevention of gynæcological disease.

The methods and appliances employed in diagnosis.

The relation of gynæcological disease to the neuroses and other general diseases.

A systematic account of the various diseases peculiar to women; their pathology, diagnosis, and treatment.

Fee, £3 3s.; together with Obstetrics, £6 6s.

THERAPEUTICS, PHARMACY, AND MATERIA MEDICA

Professor CAMPBELL Mr. GOUGH

I. Pharmacology and Therapeutics

Monday, Wednesday and Friday, at 4 p.m. during the second term.

The course will include consideration of (*a*) the general principles of the treatment of disease; (*b*) the physiological and therapeutical action of drugs and the mode of their administration; (*c*) the use of remedial measures other than drugs, including heat, cold, massage, electricity, climatic and dietetic treatment.

Fee, £3 3s.

II. Materia Medica and Pharmacy

Monday and Wednesday, 2.45 to 5 p.m., during the third term. Subjects:

Materia Medica: Sources, preparation, physical characters, pharmacopœial combinations, tests, doses, and general uses of the principal drugs.

Practical Pharmacy: General pharmaceutical processes; prescriptions; weights and measures; the compounding of a large series of typical prescriptions, including mixtures, pills, powders, emulsions, tinctures, lotions, inhalations, plasters, ointments, &c. The best methods of dispensing the principal drugs. Incompatibility.

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 CAMERON

Wednesday and Saturday, at 9 a.m., during the third term. Subjects:

Comparison of rates of mortality in town and country. Epidemic and endemic diseases and their prevention. Isolation hospitals. Disinfection and disinfectants. Influence of occupation on health. Factory and workshop legislation.

Meaning to be attached to death rates. How they are affected by constitution of the population in regard to age and sex.

Registration of births. Certificates of causes of death, for burial, for cremation.

Notification of infectious diseases.

The dwelling: site, subsoil, aspect, structure, lighting, ventilation, drainage, overcrowding.

Public and private water supplies, their dangers.

Disposal of refuse, including sewage.

Visits to works, &c.

Fee, £3 3s.

N.B. For candidates for degrees or diplomas in Public Health, this course will be supplemented by additional lectures.

FORENSIC MEDICINE & TOXICOLOGY

Professor EURICH

I. Forensic Medicine

Tuesday, Wednesday, Thursday, and Friday at 4 p.m. during the third term. Subjects :

The qualifications, duties, and responsibilities of medical witnesses.

Questions concerning age, sex, identity, insanity and life nsurance.

Death :—Real and apparent death ; date of death ; causes of sudden and violent death ; post-mortem examinations.

Death by wounds ; by lightning, burns, cold and starvation ; by drowning, hanging, strangling and suffocation.

Rape ; pregnancy ; delivery ; the legitimacy of children ; abortion ; infanticide.

Toxicology :—general considerations respecting poisoning ; toxicological processes and the evidence of poisoning ; symptoms of special poisons ; treatment and analysis.

Fee, £5 5s.

II. Practical Toxicology

The class meets on Thursdays and Fridays from 3 to 5 p.m., in the third term, in June. Students receive practical instruction in the methods of detecting the more common poisons, including prussic acid and the cyanides, carbolic

acid, oxalic acid, and the oxalates, arsenic and metallic poisons, mineral acids, caustic alkalies, alcohol, chloral and chloroform, alkaloids, &c.

Fee, £2 5s., including the use of apparatus.

OPHTHALMOLOGY AND OTOLOGY

Mr. Secker Walker

Tuesday and Friday at 9 a.m., during the third term. Subjects:

Ophthalmology: Surgical anatomy of the eye, theory of the ophthalmoscope, retinoscopy; emmetropia, hypermetropia, myopia, astigmatism; theory of accommodation; diseases of the conjunctiva and cornea, of the iris, ciliary body and choroid; cataract; glaucoma; diseases of the retina and optic nerve; functional diseases of the eye; affections of the ocular muscles and lacrymal apparatus; diseases of the orbit and eyelids.

Otology: Diseases of the external ear; diseases of the middle ear, their connection with naso-pharyngeal disorders; disease in the mastoid process, its extension to the cranial cavity; diseases of the internal ear.

Fee, £3 3s.

MENTAL DISEASES

Professor Bevan-Lewis

Dr. Bedford Pierce

Systematic lectures are given at the School of Medicine on Friday at 4 p.m., and clinical lectures and demonstrations at the West Riding Asylum, on Tuesday, at 3.30 p.m., during the third term.

In the systematic lectures, the pathology, symptoms, medico-legal relations and treatment of insanity will be discussed.

The clinical course will embrace: Illustrations of the various forms of mental disease; instruction in the method of examining insane persons; practical demonstrations on the moral and therapeutic treatment of the insane; compulsory feeding, &c.; filling up certificates of insanity; class examinations.

The pathological aspects of insanity will be freely illustrated by morbid specimens and microscopic preparations from the museum of the Asylum.

Fee, £3 3s.

III. COURSES OF INSTRUCTION FOR CANDIDATES PREPARING FOR PUBLIC HEALTH DIPLOMAS

For the regulations of the University for the diploma in Public Health see page 414.

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 434).

2. Sanitary Chemistry. In the Chemical laboratory, College Road. (See page 262).

3. Bacteriology. At the School of Medicine during the second term. The course will include practical instruction in the pathology of those diseases of animals which are communicable from animals to man. Subjects: General sketch of bacteria; preparation of nutrient media; sterilisation; methods of cultivation; inoculation; microscopical examination and methods of staining; examination of the chief pathogenic bacteria—anthrax, tubercle, typhoid, cholera, diphtheria, &c; methods of bacteriological examination of air, water, food.

Each student must be provided with a microscope approved by the Professor. The microscope must have an immersion lens and a condenser.

Fee, £5 5s.

4. Attendance at a Hospital for Infectious Diseases. A special course, including instruction in administration, is given in the Leeds City Hospitals. Times of attendance to be arranged.

Fee, £5 5s.

5. Practical Work in Sanitation. With the sanction of the Sanitary Authorities 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 Dr. Spottiswoode Cameron, at his office, 41, Park Square, between 10 and 11 a.m., £10 10s.

The University entrance fee of £1 1s. is charged to those who have not previously been students of the University, unless a sessional fee of 7s. is paid for each class attended.

HOSPITAL PRACTICE

1. For degrees at the University of Leeds and certain other Universities, three years' hospital practice is necessary. *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.

2. In order to be entered upon the Infirmary register a student must first pay his fees to the Treasurer of the Faculty (Mr. H. Secker Walker), at 45, Park Square, and then interview the Secretary of the Faculty (Dr. W. H. Maxwell Telling), at 29, Park Square, to obtain advice in arranging his work at the Infirmary.

3. An introductory class is held twice a year, viz., in April and October. It consists of 15 demonstrations or lectures on elementary subjects, and is conducted by the resident medical, surgical, and ophthalmic officers. Students are required to attend this class as soon as possible after passing the Second or a corresponding examination, and before holding any Infirmary appointment.

4. 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 and children's 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 40,000 medical and surgical cases are treated annually, partly as out-patients, and partly at their own homes. There are three resident medical officers, to each of whom 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.

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 courses of instruction are from November to January (two meetings a week), February and March (three meetings a week), and April to July (two meetings a week). The hospitals are not open to students during August and September. Application for admission must be made to the Dean before the commencement of the course. Clinical lectures 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, Dr. J. S. Cameron, at his office in 41, Park Square, between the hours of 10 and 11 a.m.

Fee for the three months' course, £2 2s.

Hospital for Women and Children. A limited number of senior students can here receive instruction in the practical treatment of diseases of women. The hospital is recognised for this purpose by the University of Leeds. Application is to be made to one of the Honorary Staff. A new building for 55 beds is now occupied, including a maternity department for lying-in cases.

Leeds Maternity Hospital. The practice of the newly-founded Maternity Hospital in Tonbridge Street will be available for the instruction of a limited number of students, subject to regulations laid down by the Hon. Medical Officers.

West Riding Lunatic Asylum, Wakefield. This institution, which accommodates 1,900 patients, offers unusual advantages to those who desire to make themselves conversant with the treatment and management of the insane. Further accommodation in connection with the Asylum for 280 patients has been provided by the erection of a hospital 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 Bevan-Lewis, in connection with the systematic lectures on insanity delivered at the School of Medicine, by Dr. Bedford Pierce.

Instruction in Vaccination is given under the Local Government Board at the General Infirmary 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.

Fee, £1 11s. 6d. Application to be made to the Dean.

Courses in Dental Surgery

1. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD.

The courses arranged in Physics, Chemistry, and Elementary Biology are the same as those set forth in detail as Courses in Medicine on pages 425-6.

2. COURSES HELD IN THE SCHOOL OF MEDICINE.

The courses arranged in Anatomy, Principles and Practice of Medicine, Systematic Surgery, are on the lines of those set forth in detail as Courses in Medicine on pages 427, 428, 431. The course in Physiology and Histology is also as stated on page 429. Attendance on Parts I. and II. Practical Physiology is required for the degree of B.Ch.D., Leeds, and on Part I. only for the Diploma.

Dental students attend a short course of lectures and laboratory instruction on Pathology and Bacteriology at times to be arranged.

DENTAL SURGERY AND THERAPEUTICS

Mr. PLUMLEY.

Thursday at 12 during the first and second terms.

Condition of the jaws and teeth at birth.

Relation of the teeth to the bone and adjacent structures.

Temporary dentition: infantile disorders dependent thereon.

Permanent dentition.

Malocclusion: diagnosis and treatment.

Dental irregularities: classification as to size, form, and number.

Abnormal teeth: syphilitic, hypoplastic, supernumerary, geminated, dilacerated, deflected.

Dental Caries: etiology, prophylactic and remedial treatment.

Erosion: etiology and treatment. Atrition.

Pathological conditions of the tooth pulp: acute and chronic inflammation, ulceration, gangrene, polypus intrinsic calcification, degeneration.

Injuries to the teeth: fracture, dislocation, treatment by replantation and implantation, transplantation.

Periodontitis, acute and chronic. Exostosis, pyorrhœa alveolaris.

Alveolar abscess: etiology, pathology, and treatment.

Salivary calculus.

Neuralgia and odontalgia.

Lesions due to dental causes: nervous, muscular trophic.

Iujuries and diseases of the maxillæ: fractures, necrosis pathology and treatment.

Diseases of temporo-maxillary articulation: operative and mechanical treatment.

Diseases of the antrum: cysts and empyema, mechanical appliances for drainage.

Cleft palate and oral deformities: treatment by obturators, and vela.

Diseases of the gums: acute and chronic inflammation, hypertrophy, polypus, papilloma, stomatitis.

Morbid growths: Innocent. Cystic. Malignant. Odontomes.

OPERATIVE DENTAL SURGERY.

Mr. T. S. CARTER

Wednesday, at 4 p m., during the third term.

The surgery: its fittings and hygiene.

Instruments and surgical cleanliness.

Treatment of patients: time and pain-saving methods.

Uses of electric current in dental therapeutics.

Case recording.

Scaling and oral hygiene.

Prophylaxis and treatment of dental caries.

Rubber dam and other means of controlling saliva

Separating and separators.

Principles of cavity preparation.

Filling materials: characteristics and manipulation.

Special preparation of cavities for and filling with: gold and tin, cements, gutta percha, amalgam, and porcelain inlays, and the treatment of fillings with respect to contour.

Treatment of the dental pulp: its conservation and devitalization, gradual and immediate.

Root fillings.

Treatment of septic roots and alveolar abscesses.

Extractions and the casualties liable to occur.

Fractures of the jaws and their treatment.

Crowning: mechanical principles, root preparation for, construction and fixing of banded crowns and flush crowns.

Repair of crowns.

Cleft palate: obturators and treatment.

DENTAL ANATOMY AND PHYSIOLOGY

Mr. Alan Forty

Thursday at 4 p.m. during the first and second terms.

Human Anatomy

Morphology of the teeth.

The teeth as dermal appendages.

The dental tissues: Enamel, dentine, secondary dentine, cementum, tooth pulp, alveolo dental membrane, gum.

Nasmyth's membrane.

Development of the teeth.

Calcification of the dental tissues.

Development and growth of the maxillæ and mandible.

Eruption: attachment and absorption.

Comparative Anatomy.

The homologies of the teeth.

The attachment of the teeth.

Plici-dentine, vaso-dentine, osteo-dentine.

The evolution and characteristics of the mammalian dentition.

Notation of the teeth, or dental formulæ.

The development and characteristics (*in outline only*) of the teeth of vertebrata.

Pisces, Amphibia, Reptilia, Aves (Extinct).

Mammalia, Prototheria and Monotremata.

Metatheria and Marsupialia, Eutheria, Edentata, Sirenia, Cetacea, Ungulata, Rodentia, Carnivora, Insectivora, Chiroptera, Primates.

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 4 p.m. during the third and first terms.

Making impression trays.

Obtaining impressions of the mouth in plaster of Paris, composition, gutta-percha, bees' wax.

Making and preparation of models for vulcanite and plate work.

Methods of obtaining the correct bite.

Use of articulators.

Mounting porcelain teeth.

Making bands and clasps.

Making wire for bands and springs.

Use of the various flasks for vulcanizing.

Casting metal dies and counter dies.

Swaging of gold and other metal plates.

Soldering: solders, their composition and qualities.

Making crowns: all gold, gold and porcelain, all porcelain, etc.

Bridge work, removeable and fixed.

Gum section work.

Continuous gum work.

Inlay work, gold and porcelain.

Making of regulating appliances.

The mechanical treatment of cleft palate.

The mechanical treatment of fractured jaws.

The use of the various work-room materials.

DENTAL METALLURGY[1]

Mr. LOWSON

Monday and Friday at 11 a.m. during the first half of the third term (lectures).

Thursday at 2 p.m. during the first term (practical).

Physical and Chemical Properties of the metals: gold, platinum, palladium, silver, tin, antimony, mercury, lead, bismuth, zinc, cadmium, copper, aluminium, iron, nickel.

Alloys: Preparation, composition and properties.

Amalgams: Preparation and properties.

Solders: Composition and uses.

Description of blowpipes, furnaces, muffles, and their uses.

Fluxes: Purification of scrap and sweep.

Methods of testing metals and alloys. Essay of gold and silver.

Dental cements and their preparation.

N.B. The lectures will be supplemented by practical work in the laboratory.

MATERIA MEDICA

Professor CAMPBELL Mr. J. H. GOUGH

Monday and Wednesday, 2.45 to 3.45 p.m. during the third term.

The course includes the sources, preparation, physical characters, pharmacopœial combinations, tests, doses and general uses of the principal official drugs.

After each lecture a tutorial class is held in which the students are exercised in the actual recognition of the most important drugs.

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1 These lectures will be given at College Road.

EVENING CLASSES.

I. Classes in Technical Subjects.

The University has instituted Evening Classes in the following subjects:

1. Civil and Mechanical Engineering, Electrical Engineering, Coal Mining, Textile Industries, Tinctorial Chemistry and Dyeing, and Leather Industries. By recent a arrangement with the Education Committee of the Leeds City Council, the instruction in these subjects is co-ordinated with the City's scheme of evening classes in Technology.
2. English Literature and Economics.

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 Session. Certificates will be given to such students, if qualified, admitting them to the University without Entrance Examination.

In the case of other students an entrance test will be required unless certificates of satisfactory attendance on preparatory classes are produced, or other satisfactory evidence of sufficient preliminary training is afforded.

The opening dates for the Evening Class Session (except in the case of Coal Mining) will be found under the respective Departments. The first term ends on Wednesday, December 22, 1909. The second term begins on Monday, January 3, and ends on Wednesday, March 23, 1910.

The dates for the Evening Session in Coal Mining will be found on page 455.

The fee for the whole, or any part of a group course, is 10s. 6d., payable to the Registrar in advance.

For each of the Engineering Departments Evening Class Students resident in the City of Leeds who are under the age of 18 must produce certificates of satisfactory attendance

upon Leeds Municipal Evening Classes 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 standard equivalent to the second stage of the Board of Education Examinations.

Certificates of having passed the second stage of the Board of Education Examinations in Mathematics and in the particular subject which the student proposes to take in the University will also be accepted as evidence of adequate preparation. 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.

In special cases advanced students may be admitted without examination.

CIVIL AND MECHANICAL ENGINEERING

Professor GOODMAN Mr. GILCHRIST

Mr. KEAN Mr. DUNCAN

Mr. THOMSON

The evening courses are arranged to cover the work required for the examination for Associate membership of the Institution of Civil Engineers.

Dates of Entrance Examinations

All who intend to become evening students must attend on Monday, September 20th, at 7.30 p.m., and bring their certificates either from the Board of Education or from other educational authorities.

The examinations for those who do not hold exempting certificates will be held as follows, the standard in all cases being that of the second stage of the Board of Education:

Tuesday, September 21, at 7.30 p.m., Mathematics.
Wednesday, September 22, at 7.30 p.m., Steam.
Thursday, September 23, at 7.30 p.m., Strength of Materials and Structures.
Friday, September 24, at 7.30 p.m., Laboratory Courses.

Engineering Laboratory

Mr. KEAN, Mr. DUNCAN, and Mr. THOMSON

Courses of instruction will be given in the Engineering Laboratory, on Tuesdays, from 7.30 to 9.30 p.m., as follows:

Course A. Testing of Materials

The testing of iron, steel, alloys, &c., in tension, torsion, compression, bending, and punching. 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. Special appliances for torsion testing.
5. A Denison machine for testing the hardness of metals.

Course B. Steam, Gas, and Oil Engines

Testing pulsometer, indicating and testing steam, gas, and oil engines, testing a De Laval steam turbine. Steam boiler and engine trials. The indicating and testing work is done on a 70 h.p. compound Willans engine; a 30 h.p. Fowler compound engine; a small fan engine; a Premier gas engine of 15 h.p.; a Campbell 13 h.p. oil engine; and a small petrol engine.

Course C. Hydraulics

Experiments on the flow of water over weirs and through orifices, the friction of water in pipes, 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" × 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.

The Theory of Heat Engines

Mr. THOMSON

Wednesdays, from 7.30 to 8.30 p.m.

Properties of steam and the permanent gases; work done in isothermal and adiabatic processes; thermo-dynamic laws and their application to steam, hot-air, gas and oil engines; Carnot and Rankine cycles; temperature-entropy diagrams; advantages of high-pressure steam, compounding, superheating and steam jacketing; testing of steam boilers and engines, gas producers and gas engines, and the apparatus employed.

Book recommended:

RIPPER'S Steam Engine Theory and Practice (Longmans, 9s.)

Steam Turbines

Mr. KEAN

Wednesdays, 8.30 to 9.30, for students attending or who have attended the above course of lectures.

The temperature-entropy chart and its application in steam turbine design; the theory of steam flow in orifices and nozzles; experimental work upon the flow of steam in nozzles; general principles of turbines; design of blades for impulse and reaction turbines; experimental work on the flow of steam in turbine blades; description of turbines, with notes on construction; consideration of the friction of steam in turbines, horse power and efficiency; effects of superheat and vacuum; questions of cost, weight and dimensions of turbine units; arrangement of governors; steam, exhaust and overload valves; oil cooling devices; condensers and augmentor condensers; exhaust steam turbines; heat accumulators; mixed pressure turbines; variable speed turbines; marine turbines; turbo-pumps and turbo-blowers; the torsion meter and its use.

Book recommended:

FOSTER'S "Steam Turbines" (Scientific Publishing Co., Manchester. 10s. 6d. net).

Hydraulics

Mr. KEAN

Wednesdays, 7.30 to 8.30 p.m.

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.

Bernouillis' 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.

Structural Steel Work for Buildings, Bridges and Roofs

Mr. GILCHRIST

Thursdays, from 7.30 to 8.30 p.m.

Girders for Buildings and Bridges: Calculation of maximum bending moments and shearing forces, method of utilizing bending moments and shearing forces in the detailed design of plate girders. General proportioning of girders, shapes and sizes of material, arrangement of riveting. Continuous girders of two and three spans.

Lattice Girders and Roofs: Calculation of maximum stresses, and details of design.

The Strength and Elasticity of Materials

Mr. THOMSON

Thursdays, from 8.30 to 9.30 p.m.

Tensile compressive and shear stresses, modulus of elasticity, coefficient of rigidity.

Beams: Bending moments, modulus of the section, moment of inertia, shear on beams, deflection of beams, built in beams. Plate springs.

Torsion: Polar modulus of the section, for circular, square, and other sections. Spring of shafts, combined torsion and bending. Helical springs.

Columns: Euler and Gordon theories. Effect of end holding. Columns loaded eccentrically.

Book recommended:

GOODMAN'S "Mechanics Applied to Engineering" (Longmans, 9s. net).

ELECTRICAL ENGINEERING

Mr. PARR Mr. FRENCH

All intending students must present themselves at the Reception to be held on Monday, September 20, at the University, between 7.0 and 9.0 p.m., 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.

Dates of Entrance Examination

The Entrance Examination will be held on TUESDAY, SEPTEMBER 21, at 7 p.m., in Electrical Engineering, and on WEDNESDAY, SEPTEMBER 22, at 7.30 p.m., in Mathematics, after which dates students will not be admitted except under special circumstances.

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 two advanced lectures (experimentally illustrated when possible) on Thursdays, beginning September 30, from 7.15 to 8.15 p.m., and from 8.30 to 9.30 p.m., on Alternating (single- and polyphase) Current Practice. The advanced laboratory course of practical work is specially arranged with the view of assisting students in understanding the lecture work. All the work will have special reference to the electro-technological examinations of the City and Guilds of London Institute, and will practically cover the ground for the Ordinary Grade Alternating Currents and one of the three subjects annually of the Honours Grade of those examinations, and meet the requirements of those desirous of taking a certificate in either the Ordinary or in one of the three subjects of the Honours' Grades (see the City and Guilds programme).

Syllabus of Lecture Courses

The work will embrace selections from the following subjects:

Magnetic properties of materials, and methods of determining magnetising force, induction, permeability and

hysteresis. The solenoid and its properties. The electro-magnet and its adaptations to electro-mechanical devices. Mechanical strength, qualities, and resistance of insulating and other materials, and the electrical properties of such. Influence of temperature. Testing of insulation resistances. Ohmmeters. Magneto-electric induction. Self and mutual induction. Induction balances and standards of induction. Outline of theory of direct-current dynamos and motors. Characteristic curves. Types of field magnets and armatures considered magnetically. Winding of such. Mechanical features of dynamos and motors as regards strength of parts, heating, durability, ease of repairs, construction of brushes, commutators, &c. Motor generators, rules for winding speed and output. Methods of obtaining the electrical and mechanical efficiency of dynamos and motors. Construction and theory of alternators, transformers and alternating current motors. Theory and construction of storage cells. Armature reaction; heating and sparking of machines. Parallel working of alternators. Polyphase machines. Construction and gearing of motors for traction work. Transmission and distribution of power by direct and alternate currents. Electric tramways and railways. Size of feeders and overhead and underground mains.

The following may be consulted with advantage.—

Parr's Electrical Engineering in Theory and Practice (Macmillan & Co., 12s. net); Maycock's Electric Lighting and Power Distribution (Whittaker & Co., Vol. II., 6s.); Dynamo-Electric Machinery: S. P. Thomson, (Spon, Vols. I. and II., 30s. each); Alternate Current Transformers, Vols. I. and II.; J. A. Fleming (*Electrician* Office, 18s.); Munro and Jamieson's Pocket Book of Electrical Rules and Tables (Griffin & Co.,) about 10s.6d.; Rhodes's Alternating Currents (Longmans, Green & Co.); Electricity as applied to Mining, by Lupton, Parr, and Perkin (Crosby Lockwood, 12s. net.); Standard Polyphase Apparatus by Oudin, 12s.; Parr's Electrical Engineering Measuring Instruments (Blackie & Son, 9s. net); Hay's Direct Currents (Bottone, 6s. net); Hay's Alternating Currents (Harper, 6s. net).

Laboratory Course

The course of advanced practical work in the electrical engineering laboratories in connection with lecture courses

consists of about 26 attendances held on Mondays instead of Tuesdays, from 7 to 9-30 p.m , commencing September 27, at 7 p m. The course will embrace the following advanced practical work :—

Calibration of commercial ammeters, voltmeters, watt-meters and electricity supply meters, measurement of magnetic leakage in dynamos ; of self-induction ; of C.P. and efficiency of glow and arc lamps ; efficiency of secondary cells, dynamos, and motors by well known commercial methods, and also of motor generator sets, rectifiers, and alternators; efficiency of high and low tension transformers; output and efficiency of mono, two- and three-phase rotatory converters ; insulation resistance of electric light mains and cables by works method and a Silvertown portable testing set ; testing of continuous and alternating current (single-phase and polyphase) electro-motors ; permeability and hysteresis of iron used in dynamos and transformers ; calibration of high tension instruments ; standardising ammeters by copper and silver voltameters ; characteristic curves of series, shunt, and compound wound dynamos and alternators ; measurement of the "true power" in single, two- and three-phase alternating current circuits. B.H.P. and efficiency of a General Electric Co.'s 500 volt 25 H.P. tramway motor, &c.

For the laboratory course students must get Parr's Advanced Electrical Engineering Test (Chapman & Hall, 9s. net.

Practical Work

The importance of carefully entering up the results of tests as soon after performing them as possible cannot be too strongly urged. For this purpose, evening students who take Laboratory work must provide themselves with a good and suitable note book, preferably the one which the University supplies, and leave it, with all their experimental work fully written in up to date, for perusal and correction at definite and stated times, which will be arranged at the commencement of the course.

MINING

Professor THOMPSON Mr.

Evening students resident in the City of Leeds will be required to produce certificates of satisfactory attendance upon the preparatory evening courses of the Leeds City Council for at least two sessions or to have given satisfactory attendance upon the West Riding Mining Course for at least two years, or to give evidence of possessing equivalent knowledge in the subjects of Mathematics, Mechanics and English.

Date of Entrance Examination

For students who cannot satisfy these tests an Entrance examination will be held on Monday, October 4, at 3 p.m.

Three 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 C.M.R. Act, 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.

The course extends over three years. The first and third year students attend on Mondays from 3 to 7 p.m; the second year students on Tuesdays during the same hours. 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.

The first and third year courses begin on Monday, October 11, and the second year on Tuesday, October 12. Students must call at the Registrar's office on either October 11 or 12, between 2 and 3 p.m. to register their names and take out their class tickets.

The session in the Mining Department will be as follows: Monday, October 11 to Tuesday, December 21, 1909; Monday, January 10 to Tuesday, March 22, and Monday, April 25 to Tuesday, June 28, 1910.

Syllabus

First Year	*Second Year*	*Third Year*
Mathematics	Mining	Mining
Engineering	Chemistry of Coal Mining	Electricity
Engineering Laboratory	Surveying	Electrical Engineering Laboratory
Mining	Geology	

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.	Surveying, Drawing, and Calculations.
2nd TERM. TUE.	Mining.	Geology.	Geological Laby.
3rd TERM. TUE.	Mining.	Geology.	Practical Surveying.

Third Year Time Table

	3 to 4.	4 to 5.	5.30 to 7.
MONDAY	Electricity.	Mining	Electrical Engineering Laboratory.

TEXTILE INDUSTRIES

Professor BEAUMONT
Mr. HOLLIS Mr. YEWDALL
Mr. LAW Mr. FARLEY
Mr. HOLLOWAY

For entrance into the Textile Evening Classes candidates must show adequate knowledge in the following subjects: English, Mathematics of the standard of Stage I of the Board of Education Examinations, Freehand or Machine Drawing of the standard of Stage I of the Board of Education Examinations. They may, at the discretion of the Head of the department, be required to take an Entrance examination, which will be held on Monday, September 20, at 7.30 p.m.

Woollen Yarn Manufacture

First Year:

Lectures, on Thursdays, from 7 to 8 p.m.

Recording Experiments and Testing, Thursdays, 8 to 9 p.m.

Sketching Machine Details, Fridays, 8 to 9 p.m.

SUBJECTS.—*Materials:* Their character, qualities, uses and relative values. Processes through which the materials are passed until ready for the cards.

Machinery: Particulars of machines for dusting, steeping, scouring, drying, carbonising and burring wool; also for the manufacture of mungo and shoddy: garnetting hard waste, and for teazing, blending, and oiling fibrous materials.

Calculations: Relating to materials and machinery.

NOTE.—Students taking this course may take also a class in Mechanics, theoretical and practical, on Monday evenings, at the Central Technical School (Leeds Institute).

Second Year:

Lectures, on Thursdays, from 8 to 9 p.m.

Sketching Machine Details, Wednesdays, 7 to 9 p.m.

Recording Experiments and Testing, Thursdays, 7 to 8 p.m.

Experimental Spinning, Fridays, 7 to 9.30 p.m.

SUBJECTS.—*Processes:* For converting the blended materials in yarn.

Machinery: The different types of feeding mechanism, of scribbling and carding engines, condensers, &c., of card clothing for various parts of the machines, and the variation for treating different materials, &c., of spinning machines on the intermittent (self-actor mule), or continuous systems.

Calculations: On speeds and output, and also on results, &c.

Worsted Yarn Manufacture

First Year:

Lectures, Fridays, from 7 to 8 p.m.

Recording Experiments and Testing, Fridays, from 8 to 9 p.m.

Sketching Machine Details, Thursdays, from 8 to 9 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.

For particulars of raw materials and the preliminary processes up to and including drying, students are advised to take the First Year Course in Woollen Yarn Manufacture.

NOTE.—Students taking this course may take also a class in Mechanics, theoretical and practical, on Monday evenings, at the Central Technical School (Leeds Institute).

Second Year:

Lectures, Fridays, from 8 to 9 p.m.

Recording Experiments and Testing, Fridays, from 7 to 8 p.m.

Sketching Machine Details, Tuesdays, from 7 to 9 p.m.

Experimental Spinning, Thursdays, from 7 to 9.30 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, production, &c.

Designing and Weaving

First Year:

Lectures, Tuesdays, from 7 to 8 p.m.

Pattern Analysis, Tuesdays, 8 to 9 p.m.

Sketching Machine Details, Fridays, 7 to 8 p.m.

Design Practice and Calculations, Fridays, 8 to 9 p.m.

SUBJECTS.—Principles of cloth construction, plan making, drafting, yarns and settings, simple patterns due to arrangement of coloured threads, &c.

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.

NOTE.—Students taking this course may take also a class in Mechanics, theoretical and practical, on Thursday evenings, at the Central Technical School (Leeds Institute).

Second Year:

Lectures on Designing and Weaving, Wednesdays, from 7 to 8 p.m.

Lectures on Colouring, Wednesdays, 8 to 9 p.m.

Pattern Analysis, Mondays, from 7 to 8 p.m.

Design Practice and Calculations, Mondays, 8 to 9 p.m.

Sketching Machine Details, Thursdays, 7 to 8 p.m.

Experimental Weaving, Thursdays, 8 to 9.30 p.m.

SUBJECTS.—*Designing*: For more complex fabrics, imitation backed, backed, and simple compound fabrics.

Machinery: The principal makes of power looms for woollen and worsted fabrics.

Calculations: On setting and costing fabrics, &c.

Colouring: Theories of colouring, qualities of colours, harmony and contrast, various styles of patterns produced by colours in solid colour threads, twists, marls, mixtures, &c.

Third Year:

Lectures on Designing, Mondays, from 7 to 8 p.m.

Lectures on Colouring, Mondays, 8 to 9 p.m.

Pattern Analysis, Wednesdays, from 7 to 8 p.m.

Experimental Weaving, Wednesdays, 8 to 9.30 p.m.

Experimental Weaving, Thursdays, 7 to 9.30 p.m.

SUBJECTS.—*Materials*: Yarns, &c.; the principles of designing and colouring compound fabrics, as double and treble-make cloths, vestings, matelasses, rugs, shawls, velvets, gauzes, and plushes.

The looms for the use of Third Year students are mounted to weave backed and double make textures for trouserings, suitings, mantlings, &c., also for jacquard patterns in dress fabrics, vestings, rugs, and shawls.

Students may devote themselves to any special branch of manufacture in which they are principally interested, and every facility is afforded them in original work.

DYEING

Professor GREEN Mr. ORCHARDSON

Evening Class Students resident in the City of Leeds must produce certificates of satisfactory attendance at the

Leeds Institute upon the third year's work of the group course arranged for students of Dyeing. 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.

The courses of instruction will consist of Lectures and Experimental Dyeing, either of which can be attended separately.

Lecture Course

A course of twenty-six lectures on the Technology of the Textile Fibres, Dyeing and Dyeing Materials will be given on Mondays from 7 to 8 p.m., beginning September 20, 1909.

The course is intended to meet the requirements of practical men and foremen dyers.

Experimental Dyeing Course

This class is held on Mondays, between 8 and 10 p.m. 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. No previous knowledge of dyeing is required from those attending.

Students in this class will make systematic dyeing trials with the different groups of natural and artificial dyestuffs.

NOTE.—Students taking this course should take also a class in Organic Chemistry or Technical Analysis, on Wednesday evenings, at the Central Technical School (Leeds Institute).

LEATHER INDUSTRIES

Professor PROCTER Dr. E. STIASNY

Evening Class students resident in the City of Leeds must produce certificates of satisfactory attendance upon the third year's work of the group course arranged for students of Leather Industries. Other students must give evidence of possessing equivalent knowledge in the subject of Chemistry, or may be required to pass such Entrance examination as may be fixed by the Head of the Department.

Principles and Methods of Tanning

A course of lectures will be given on Tuesdays, if a sufficient number of students present themselves, from 7 to 8 p.m., by Dr. Stiasny, followed by demonstrations in practical Leather Manufacture from 8 to 9.30 p.m. The lectures will comprise the following subjects:

The vegetable tanning materials, the elementary chemistry of tanning materials, grinding, leaching of tanning materials, the manufacture and use of extracts, the principles of vegetable tanning, the methods of tanning sole leather, belting leather, harness leather, upper leathers, and the principal varieties of light and fancy leathers. The general principles of the chrome and other mineral tannages, the two-bath and one-bath processes, and their principal combinations and variations, the methods of tanning box-calf, willow-calf, glacé kid, and the heavier chrome leathers. The alum tannages, glove kid and calf kid. The principles of the oil and aldehyde tannages, the manufacture of chamois, buff and buck leathers, fat tannages, formaldehyde tannages.

The opening lecture will be on Tuesday, September 21st, 1909.

Fee for the course, 10s. 6d.

NOTE.—Students taking the above lecture course should also attend at the Central Technical School on Mondays, and, if possible, on Wednesdays also. A special course has been arranged on Monday evenings, giving practical instruction in such chemical testing and analysis as is required in Leather Manufacture. Similar practical work, of a more specialised character, is also arranged for Wednesdays.

GEOLOGY

Professor KENDALL

Geology applied to Sanitary and Civil Engineering

About fifteen lectures on Mondays, at 5 p.m., beginning January 10, 1910.

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.

Fee 10s. 6d.

II. Classes in Non-Technological Subjects

To be held in the rooms of the Leeds Philosophical and Literary Society, Park Row.

ENGLISH LITERATURE

Shakespeare

A course of six lectures by Dr. Moorman on "Shakespeare," on Tuesdays, at 8 p.m., during the first term. These lectures will be delivered on the following dates :—October 26 ; November 9, 16, 23, 30 ; December 14.

Fee for the course, 3s.

ECONOMICS

The Poor Laws

A course of six lectures by Professor Macgregor on the History of the English Poor Laws, and the chief results of the recent enquiry into their operation

This course will be given in the second term, on alternate Tuesdays, at 8 p.m., beginning January 11, 1910.

For the course, 3s.

LAW

Local Government

Five Evening Class lectures by Dr. Chapman, on alternate Fridays, at 8 p.m., in the first term, beginning October 22, 1909.

Fee for the course, 3s.

EXTENSION LECTURES

I. INTRODUCTION

The University of Leeds is prepared to supplement the academic work carried on within its walls by instituting courses of Extension Lectures for those who are unable to attend the classes held in the University itself. With this end in view, it has secured the services of members of its staff who have had experience as teachers, and whose subjects are most likely to prove of interest to University Extension audiences. It has also added to its list of Extension Lecturers the names of scholars who are not members of the University staff, but who have made a special study of subjects of higher education suitable for Extension courses. The aim which the University sets before itself in providing such courses is to arouse and stimulate the interest of its audiences in what is best in art and thought and life, and to bring them into touch with the advance of science, and with some of the practical issues of modern life.

The University has placed the general control of the arrangements for Extension Lectures in the hands of a Committee, the University Extension and Tutorial Classes Committee, to the Secretary of which all letters should be addressed.

II. GENERAL ARRANGEMENTS

Before the University can undertake to provide for the delivery of a course of Lectures in any particular locality, the following steps must be taken :—

1. A Local Committee must be appointed. Such Committee may be—
   (*a*) A Committee specially appointed for this 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 organised institution.

2. A fund sufficient to cover the University charges must be guaranteed by the Local Committee.

The Honorary Secretary of the University Committee will be glad to furnish assistance in the organisation of a course in any locality, and when the above steps have been taken, he will place the Local Committee in direct communication with the Lecturer of any of the courses given below.

Arrangements can then be made with the Lecturer as to the dates and hours at which the lectures shall be delivered.

III. LECTURE COURSES

The following courses of University Extension Lectures can be provided :—

Sessional Courses	...	Twenty to twenty-four lectures.
Terminal Courses	...	Ten to twelve lectures.
Semi-terminal Courses		Not less than five lectures.
Pioneer Courses	...	Not more than four lectures.

Lectures are given either in successive or alternate weeks, usually in the first and second terms (October—March). Each lecture lasts, as a rule, about an hour, and is followed, or preceded, by a class. The holding of the class is a matter of great importance, the object being to give opportunity for a fuller discussion of the matter contained in the lectures, and to bring the lecturer into closer touch with his audience. Questions bearing on the lectures are also set by the lecturer; the written answers to such questions must be sent to the lecturer by post, and will then be corrected by him and returned at the following class. In connection with some of the lecture courses, arrangements will be made to supplement the lecture and class by excursions of an educational character.

Students will not be admitted to the certificate examinations held at the end of the course, unless they have attended at least three-fourths of the lectures and classes, and have satisfied the lecturer with their written work. (Attendance sheets are furnished to Local Secretaries by the University.) All candidates for certificate examinations must have reached the age of fifteen years.

IV. EXAMINATIONS AND CERTIFICATES

At the conclusion of a sessional or terminal course of lectures the University of Leeds shall appoint an Examiner, who shall not be the Lecturer, to examine those students who, having fulfilled the above-mentioned requirements for entrance to the examination, desire to compete for a certificate. The Secretary of the University Committee, on receiving information from the Local Committee that an examination is required, will forward to the Local Secretary full instructions for the conduct of such examination.

Students who pass the examination held on the conclusion of a sessional course shall be awarded a sessional certificate; those who pass the examination held on the conclusion of a terminal course shall be awarded a terminal certificate.

No certificate shall be awarded on a course of less than ten lectures; but, if desired, an examination may be held at the conclusion of a semi-terminal course; the examiner's report on such an examination would in all cases be submitted to the Local Committee.

Candidates may be awarded, after examination, the terminal certificate on the work of two semi-terminal courses, provided that

(i.) The courses shall have been given in educational sequence, and in successive terms of the same session;

(ii.) The candidate shall, in the intervening period, have undertaken a course of connecting study approved by the lecturer.

In all awards of certificates, weight will be given to the weekly papers as well as to the final examination.

V. MANAGEMENT OF EXAMINATIONS

1. The examination shall be held as soon as convenient after the close of the course of lectures.

2. When an examination is desired, the Local Committee shall communicate with the Secretary of the University Committee at least twenty-one days before the date proposed for the examination, and shall state (approximately) the number of candidates. A special form is issued on

which the details of the examination are to be entered. After the hour or date of the examination has been confirmed by the University Secretary, no change can be permitted without his further sanction.

3. The examination shall be conducted by means of printed papers, and shall be of three hours' duration.

4. The Local Committee are required to make arrangements for a suitable room for the examination, to appoint a qualified Supervisor or Supervisors, and to provide the necessary materials.

5. The Secretary of the Local Committee will receive from the University Secretary the examination-papers, and will be responsible for their safe custody.

The packets of papers must not be opened until the commencement of the examination, or in any other place than the examination-room.

A form (Form A) on which the names of the candidates are to be entered, and a copy of Regulations for the Conduct of Examinations, will be forwarded with the examination-papers.

6. The Supervisor (or one of the Supervisors) must be present during the whole time of examination, and will be responsible for giving out the examination-papers, for preserving silence, for securing that there shall be no copying, from books or otherwise, on the part of any of the students, for collecting the papers when the allowed time has expired, and generally for the examination being conducted in an orderly manner.

7. At the completion of the examination, the Supervisor or Local Secretary shall, without delay, send

(i.) The candidates' answers,

(ii.) Copies of the examination-paper, and

(iii.) Form A properly filled up,

by registered post, to the Honorary Secretary of the University Extension and Tutorial Classes Committee, The University, Leeds, or to some other person named by the Secretary.

8. The Examiner shall send to the University Secretary a copy of the examination list, signed by himself, together with a report on the results of the examination. The list shall include the names of all candidates who entered for the examination, whether successful or not.

9. The University Secretary will send a list of the names of successful candidates, arranged in alphabetical order, to the Secretary of the Local Committee. An asterisk will be placed opposite the names of any candidates who pass the examination with distinction.

VI. FEES

1. University Fees for Lecture Courses

The scale of charges is as follows:—

(*a*) For each pioneer lecture, or lecture in a pioneer course	3 guineas.
(*b*) For a course of 5 lectures, with class and paper work	18 „
For a course of 6 lectures, with class and paper work	21 „
For a course of 8 lectures, with class and paper work	26 „
For a course of 10 lectures, with class and paper work	31 „
For a course of 12 lectures, with class and paper work	36 „
For a course of 24 lectures, with class and paper work	71 „

Certain courses illustrated by experiments, and marked with an asterisk in the list of courses given on pp. 9-17 of this prospectus, will be charged on a higher scale.

2. Examination Fees

The fees for examination (including the cost of certificates or printed lists) 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.

VII. OTHER EXPENSES

The Local Committee defrays the travelling expenses of the lecturer, together with all expenses incurred in the illustration of the lectures by means of experiments, lantern slides, etc. The Local Committee also defrays all incidental expenses, such as hire of hall, lighting, attendance, and advertising.

VIII. SYLLABUSES

The ground to be covered by the lectures, and the mode of treatment adopted, will be indicated by a Syllabus, published at the commencement of the course. The Syllabus will contain lists of books recommended, and the lecturer will give advice as to the choice of books and method of study. (See also the section on Travelling Libraries below.) Notice of the number of Syllabuses required must be sent to the Honorary Secretary as early as possible.

IX. TRAVELLING LIBRARIES

Travelling Libraries are issued by the University, in connection with courses of University Extension Lectures, under the following regulations :—

1. Each Library contains a selection of books, chosen by the lecturer as the most suitable to be studied for the course concerned.

2. Any Committee desiring the use of a Library for a course of University Extension Lectures must make application to the Honorary Secretary of the University Extension and Tutorial Classes Committee, The University, Leeds, *as early as possible before the commencement of the course.*

3. The Libraries are the property of the University, and are placed by them in the hands of the Local Committees, who are held responsible for their care, and are required to replace any volume or volumes that may be damaged or lost whilst the books are in their charge.

4. The fee for the loan of each Ordinary Library is half-a-guinea.

FELLOWSHIPS, SCHOLARSHIPS, EXHIBITIONS, BURSARIES, FREE STUDENTSHIPS, AND PRIZES

GENERAL REGULATIONS

Applicable to all Scholarships

1. No election to a Scholarship will take place unless the candidate has attained a sufficient standard of merit.

2. All Scholarships are held subject to the good behaviour of the Scholar. The Council 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 recommended by the Senate.

3. Scholars are required to devote the whole of their time to their studies. Except in special cases, 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 students hold Scholarships the aggregate value of which amounts to more than £75, the Senate reserves power to reduce them to this sum.

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. 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.

8. 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.

9. 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.

10. Candidates who have passed the Matriculation examination in one year, and who are prepared to present themselves in the following year for such Higher Papers as qualify for Scholarships, have permission to so present themselves, and are deemed eligible for such Scholarships.

(A) ENTRANCE SCHOLARSHIPS

The latest date of Entry for Entrance Scholarships is May 1st, after which no application will be received.

The following Entrance Scholarships, tenable from October, 1910, in the University of Leeds, will be offered for competition to candidates who have not been registered Students of the University, and who will be not less than 16 years of age on October 1st, 1910.

I. Tenable at Day Classes

1. Awarded on Results of Matriculation Examination

Name of Scholarship.	Number offered.	Annual Value of each.	Periods for which tenable.	Departments in which tenable.
Leeds City Council	One ..	£50	3 years	Arts, Sci., Tech.
Emsley	Two ..	£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 Summers ..	One ..	£35	3 years	Arts
Brown	One ..	£40	2 years and renewable	Science, Tech
Akroyd	Two ..	£40	2 years and renewable	Science, Tech.
Medical	One ..	Fees for complete course		Medicine
Craven	One ..	£25	3 years	Tech. (Enginrg).

2. Awarded by Special Examination

William Cooke & Co.	One ..	£21	2 years	Tech. (Mining)

3. Awarded without Examination

Tannett-Walker ..	One ..	£25	3 years	Tech. (Enginrg.)

II. Tenable at Evening Classes

Edward Baines Scholarships not exceeding forty in number of the value of a guinea each for one year.

For particulars of the special conditions of award and tenure in each case, see pages 474 and 484.

I. ENTRANCE SCHOLARSHIPS TENABLE AT DAY CLASSES

The Matriculation Examination to which reference is made in the following Regulations is that conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds and Sheffield. The next Examination will begin about June 28, 1910.

A Syllabus of the Examination may be obtained on application to the Secretary, Joint Matriculation Board, 24, Dover Street, Oxford Road, Manchester, to whom the fee, and the entry form for the Examination duly filled up, must be sent direct before May 28.

The Examination includes the following subjects:—(1) English Language or Literature (Candidates must state which of these alternatives they propose to take); English History. (2) Mathematics. (3) *Three* other subjects chosen from amongst 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.) Elementary Mechanics. (vii.) Chemistry. (viii.) Geography or Natural History.

Alternative papers of a higher standard are set in English Literature, English History, Mathematics, Greek, Latin, French, German, Mechanics (including Physics) and Chemistry.

(a) Awarded on Results of Matriculation Examination

1. Tenable in the Faculties of Arts, Science, and Technology

Leeds City Council Scholarship

This Scholarship was founded by the Council of the University, in 1892, out of the sum voted by the Leeds City Council.

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination. The Scholarship can be held only by students living with their parents or guardians resident in the City of Leeds.

The Scholarship is of the annual value of £50, and will be tenable, subject to the continuance of an adequate grant by the City Council, for three years.

The Scholar will be required to pursue such a course of study in the University as shall, in the opinion of the Senate, constitute an effective preparation for a degree in Arts or Science of the University, or for the pursuit of some branch of industry, instruction in the principles of which is given in the University.

Leeds City Council 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.

This Scholarship is now awarded on the results of the July Matriculation examination. *Candidates are required to take higher papers in two subjects at this examination, at their own choice.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

1892 Hefford, Charles Nelson
1893 Watson, Herbert Wood
1894 Cooper, Albert Henry
1895 Findlay, Mary Grace
1896 Whiteley, Charles Edward
1897 Chapman, Fitzroy Tozer
1898 Gray, Arthur Lambert
1899 Grant, Frederick Ernest
1900 Cunningham, Jean Orme
1901 Phillipson, Abram
1902 Mellor, Fred
1903 Klein, Harris
1904 Crowther, William Edmund
1905 [1]Simpkiss, Nellie
[1]Webster, Herbert William
1906 Bannister, Albert
1907 Brodie, Morris
1908 Jones, Edward Oswald
1909 Woodroffe, David

[1] Scholarship divided.

Emsley Scholarship

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.

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination.

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 or Science of the University, or an alternative course in the Faculties of Arts, Science, and Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

This Scholarship is now awarded on the results of the July Matriculation examination. *Candidates are required to take higher papers in two subjects at this examination, at their own choice.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

1887	Croft, Emily
1888	Houfton, Ernest Henry
1889	Hurst, Thomas Ockerby
1890	Byles, William Esdaile
1891	Oyston, William Fletcher
1892	Jackson, Edwin
1893	Bell, Ambrose John
1894	Barley, Bunten Archibald Hurd
1895	Corrie, William Edward
1896	Christien, Alfred Eustace
1897	Oddy, Annie Maude
1898	Hunt, Arthur Douglas
1899	Robinson, Ethel Margaret
1900	Findlay, George Hindson
1901	Landman, Samuel
1902	Conyers, Hilda
1903	Bibby, Edward Ernest
1904	Brook, Annie
1905	Leslie, May Sybil
1906	Wigglesworth, Frank
1907	Claridge, Marjorie Muriel
1908	Wilkinson, Eric Fitzwater
1909	

Edward Baines Scholarship

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 to candidates who have attended a Public Elementary School within the City of Leeds; the other half to such candidates as the Yorkshire Union of Educational Institutes shall, after examination, select. Particulars of the latter Scholarships may be obtained from the Secretary of the Yorkshire Union of Educational Institutes, South Parade, Leeds. (See also page 484).

Candidates for the Edward Baines (Day) Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination. 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 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 or Science of the University, or an alternative course in the Faculties of Arts, Science, and Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

This Scholarship is now awarded on the results of the July Matriculation examination. *Candidates are required to take higher papers in two subjects at this examination, at their own choice.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

1886 Hutchinson, Herbert
1888 Legg, Thomas Percy
1891 Dawson, Harry Medforth
1892 Parker, George Robert
1894 Hampshire, Florence Elizabeth
1895 Warmington, Edith
1896 Scholes, Thomas Wilfrid
1897 Westerman, Ethel
1898 Stevenson, Ethel Mary
1899 Savage, Hilda
1900 McKeand, Maggie Woodrow
1901 Calam, Harold
1902 Robinson, Lilian Dorothea
1903 Wilson, Florence Grey
1904 Hargreaves, Edith
1905 Christie, John Hugh
1906 Marsh, Frank Salton
1907 Guy, Ernest
1908 Dawes, Ivy Emily
1909 Stephenson, Cyril Richard William

2. Tenable in the Faculty of Arts

Charles Wheatley Scholarship

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.

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination.

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. degree of the University.

This Scholarship is now awarded on the results of the July Matriculation examination. *Candidates are required to offer in this examination at least two languages, whether at the ordinary or at the higher standard, and to take higher papers in two subjects chosen from English Literature, History, Greek, Latin, French, and 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 Registrar not later than May 1st, after which date no application will be received.

1904	Scholes, Katharine Louise
1905	Frank, Dorothea Ethel
1906	Batchelor, Edith
1908	Redfearn, Florence Mary
1909	Cass, Muriel

William Summers Scholarship

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 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 shall be required to pursue in the University of Leeds a regular course of study in one of the following Honours Schools: (1) Classics; (2) History; (3) English Language and Literature; (4) Philosophy; (5) Modern Languages and Literature; or any other Honours School in the Faculty of Arts, approved by the Senate. Such course shall be commenced in the October next after election to the Scholarship.

The Scholarship is awarded on the results of the July Matriculation examination. *Candidates are required to offer in this examination at least two languages, whether at the ordinary or at the higher standard, and to take higher papers in two subjects chosen from English Literature, History, Greek, Latin, French, and 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 Registrar not later than May 1st, after which date no application will be received.

1905 Hirst, John Crosland
1906 Dearnley, Charles
1907 Hobson, Julia
1908 Carter, John Wilfred

3. Tenable in the Faculties of Science and Technology

Brown Scholarships

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.

Candidates for these Scholarships must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination.

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 Registrar 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.

Brown 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 the results of the July Matriculation examination. *Candidates are required to take in this examination higher papers in two subjects, of which one must be Mechanics (including Physics), or Chemistry.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

1880 Senior, William Ottè
Skirrow, Benjamin Beck
1881 Overend, Wilkinson
Easterfield, Thomas Hill
1882 Courtice, George Robert
Aulton
1883 Teanby, George William
Alvey
1885 Marriner, William Wright
1886 Jennison, Francis Herbert
1887 Hartley, Thomas
1888 Mann, Harold Hart
Parkin, Ernest
1889 Smith, James Cowlishaw
Cobb, John William
1890 Crouch, John Peachey
Norman, Frank Meade
Peatfield, Albert Edward
1891 Dewhirst, Wilfrid Arthur
Liversidge, Will
French, James Wilson
Duncan, John
1892 White, Arthur Lee
Barber, John Watson
Conyers, James Reeve
1893 Chapman, Harold Percy
1894 Dalton, John Edwin
1895 Leach, Elsie
Robinson, Elizabeth Clare
1896 Blackburn, William
Broughton
Hinchcliff, Joseph Henry
1897 Forsyth, Christina Brand
Hunt, Francis William
1898 Hummel, Alfred Roland
Ure
Lodge, Harry Livingstone
1899 Goodson, Ethel Elizabeth
Grimshaw, Norman
1900 Gough, Alfred
1901 Booth, Meyrick
1902 Armes, Henry Percy
Crosland, Percy Field
Lord, William Ernest
1903 Hodsman, Henry James
1904 McGill, Ernest Arthur
1905 Barker, Christopher James
Watson, James Arthur
1906 Wood, George
1907 Lee, Elsie
1908 Atkin, William Rearden
1909 Lee, Elsie
Stocks, Herbert Holroyd

Akroyd Scholarships

These Scholarships, founded in 1875, are maintained by funds accruing from the Akroyd Trust, and are intended for the encouragement of the study of Natural Science.

Candidates for these Scholarships must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination.

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 Registrar before the end of the second term.

Women are not eligible to 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 now awarded on the results of the July Matriculation examination. *Candidates are required to take in this examination higher papers in two subjects, of which one must be Mechanics (including Physics), or Chemistry.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

1877	Bothamley, Charles Herbert
1878	Briggs, William
	Ingle, Herbert
1879	Wilson, Albert Edward
	Atkinson, Thomas Francis
1880	Stables, William Herbert
1881	Taylor, Arthur
1882	Wright, Joseph
	Allen, Harold Newman
	Hurtley, William Holdsworth
	Wright, George Ward
1883	Dibb, John Hustwick
	Speak, Savannah Johnson
1883	Tucker, Clara
	Hick, Herbert Edward
	Wilson, Edwin
1884	Fry, Ernest Bickersteth
	Moore, Ira
	Wheelwright, Edwin Whitfield
	Pocklington, Henry Cabourn
	Thompson, George Robert
	Booth, Robert Davis
1885	Duncan, William
	Watmough, Benjamin
	Dains, Herbert Henry
1886	Hunt, Tom Harold
	Ives, James Percy
	Sykes, Ernest
1887	Holmes, Harry Slater
	Booth, Frederick William
	Horrell, Ernest Charles
1888	Miall, Stephen
	Nicholls, Percy
	Myers, John Ellis
	Sowry, George Herbert
1889	Porter, John Fletcher
	Sunderland, Arthur
	Acott, Richard Harry
	Midgley, Harry
1890	Mitchell, Clifford
	Archdeacon, William Henry
1891	Holt, John Lupton
	Halliwell, Edward
1892	Turton, Edward
	Brown, James Herbert
1893	Gough, William
1894	Calvert, Harry Thornton
1895	Groocock, Henry Lloyd
	Robinson, Harold
1896	Shepherd, Arthur Burton
1897	Middlemiss, James Ernest
1898	Livesey, Charles Edwin Leonard
1899	White, Herbert Leslie
1900	Scholefield, Fred
	Willey, Edward
1901	Radcliffe, Norman Brooke
	Zortman, Israel Hyman
1902	Brown, John Duncan
	Hollins, Cecil
1903	Harris, Marks Solomon
1903	Horsfall, Ronald Smith
1904	Davies, Hamilton
	Sinson, Israel Lewis
1905	Jenkins, Gilbert Ramsden
	Marshall, Francis
	Riley, Frank
1906	Dudley, Harold Ward
	Hurst, Frank
1907	Rawling, Francis George
	Varley, Gilbert
1908	Pearson, William
	Staveley, John
1909	Dudley, Harold Ward
	Rawling, Arthur
	Rawling, Francis George
	Taylor, Ernest
	Varley, Gilbert

4. Tenable in the Faculty of Technology

Craven Scholarship

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.

Candidates for this Scholarship must not have been previously registered students of the University and must be under the age of nineteen years on the 30th of September following the date of examination.

The Scholarship will be awarded triennially to the Engineering student who, having passed the Matriculation 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 Registrar not later than May 1, after which date no application will be received.

1888	Banks, Arthur	1901	Frazer, Edgar Hamilton
1890	Perkin, Herbert	1903	Maddison, Wilfred Guy
1892	Hammond, Joseph Wetheril	1905	No award
1894	Millard, Frederick Stanley	1906	No award
1900	Sturgeon, Robt. Alexander	1907	Gerard, Inglis Joseph
1900	Anderson, Robert		

5. Tenable in the Faculty of Medicine

Medical Scholarship

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 will be awarded on the results of the July Matriculation examination. *Candidates will be required to take in this examination higher papers in two subjects, of which one must be Mechanics (including Physics), or Chemistry.* Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

Candidates must be under the age of nineteen years on the 30th of September following the date of examination. They 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.

1889	Houfton, Ernest Henry	1901	Gough, Alfred
1890	Callum, Harold Sidney Hill	1902	[1]Booth, Sydney Herbert
1891	Greenwood, Henry Harold		[1]Rawlings, Harry Richardson
1892	Towse, Walter	1903	Hamilton, William Douglas
1893	Field, Richard Cullingworth	1904	No award
1894	Turton, Edward	1905	Thoseby, John Norman Lonsdale
1895	Gough, William	1906	Little, Cuthbert Joseph Harwood
1896	Radcliffe, Percy Alexander Hurst	1907	Kirk, George William Lister
1897	Coupland, James Alane	1908	Knowles, Henry Rylands
1898	Middlemiss, James Ernest		
1899	Boyle, Alan		
1900	Edmondson, Watts		

[1] Scholarship divided.

(b) Awarded by Special Examination

William Cooke & Company Scholarship

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 two years. It is awarded biennially.

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of the examination.

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 1910, the examination will be held about the middle of June. Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Registrar not later than May 1st, after which date no application will be received.

(c) Awarded without Examination

Tannett-Walker Bursaries

These Bursaries were instituted in 1900 by F. W. Tannett-Walker, Esq., of Leeds. A Bursary of £25 per annum,

tenable for three years, is offered to holders of Scholarships or Free Studentships at the University of Leeds, who are preparing to follow the profession of an Engineer, under the following conditions :

(1) The recipient must have attended a public elementary school in Hunslet at some period of his school career, although he need not have taken his University Scholarship directly from such school.

(2) He must at the time of his election to the Bursary declare his intention of attending an approved course of education in the University for a period of not less than three complete sessions. This course will, as a rule, be that set out in the University Calendar as required for the degree of B.Sc. in Engineering of the University, either for an Ordinary or an Honours degree.

Mr. Tannett-Walker offers one such Bursary in each year, so that if an election were made each year there might be three recipients of these Bursaries in the University at the same time.

In addition to these Bursaries, Mr. Tannett-Walker offers to take into the works of Messrs. Tannett-Walker & Co. Limited, Engineers, Hunslet, the Scholar who has passed successfully through his University course, on the same footing as a premium apprentice, without requiring any premium from him, but giving to him the same amount of wages as would be earned by an ordinary apprentice.

These Bursaries will not be awarded on the result of a special examination, but holders of Scholarships and Free Studentships, who have complied with the above conditions, are required to make application for them, by letter addressed to the Vice-Chancellor, as soon as possible after the elections to the Scholarships have been announced.

II. ENTRANCE SCHOLARSHIPS TENABLE AT EVENING CLASSES

Edward Baines Scholarships

Scholarships not exceeding forty in number of the value of a guinea each are given annually in teaching and text books. Candidates' names must be sent to the Secretary of the Yorkshire Union of Educational Institutes, South Parade, Leeds, by the last day in August in each year.

Candidates for these Scholarships must have been members of some institution in the Union three months

previous to the date of their candidature. They may be of either sex, but no teachers or assistant teachers are admissible. Candidates must be in circumstances to require free Scholarships.

The successful candidates will receive free instruction for one year, and will be provided with necessary text books.

Clothworkers' Textile Free Studentships

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.

SCHOLARSHIPS TENABLE AT THE UNIVERSITY ON THE AWARD OF PUBLIC BODIES

City and County Council Scholarships

Scholarships are offered by the Leeds City Council and the County Councils of the North, East, and West Ridings of Yorkshire, tenable at the University of Leeds in common with other institutions, in scientific and technical subjects, including Agriculture, as well as in Arts subjects. 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 apply as follows :—

For Leeds City Council Scholarships: The Secretary, Higher Education Department, Leeds City Education Committee.

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

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

For West Riding Scholarships and Free Studentships : The Director, Education Department, County Hall, Wakefield.

In all cases where there is a possibility of Scholarships being renewed, application for renewal should be made to the Vice-Chancellor not later than the end of the second term.

Assisted Studentships for Teachers

The Lords of the Committee of Council on 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, South Kensington, not later than August 1 in each year.

I. 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.

Zoology: The lecture courses, Elementary (including practical work), and Advanced.

Botany: The lecture courses, Elementary (including practical work), Advanced, and Agricultural (including practical work).

Biology: Laboratory, not less than one day per week; course in Nature Knowledge.

Mathematics: Any of the lecture courses, not exceeding two in number.

Electrical Engineering: Lectures and laboratory as above.

Agriculture: The lecture courses, first year (including practical work), and second year (including practical work).

Agricultural Chemistry: Any of the lecture courses, not exceeding two in number. Laboratory instruction for not less than half a day per week.

II. Evening Classes

Electrical Engineering: Any of the lecture courses, not exceeding two in number. Practical class.

For fees and other particulars of above classes see page 256, and following pages.

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.

Akroyd Senior Scholars

1882	Parkin, Alfred
1883	Taylor, Arthur
1884	Wright, Joseph
1885	Speak, Savannah Johnson
1886	Wilks, Stephen Longmore Butterworth
	Wheelwright, Edwin Whitfield
	Courtice, George Robert Aulton
1887	Hastings, Hugh
1888	Stoney, William Walter
1889	Ingle, Harry
1890	Miall, Stephen
	Mann, Harold Hart
1891	Cobb, John William
1892	Archdeacon, William Henry
1893	Wise, Julian Stanton
	Welpton, William Parker
	Guthrie, Thomas
1894	Wilson, Harold Albert
	Haworth, Frederic
1895	Rigby, William
	King, Herbert
1896	Calvert, Harry Thornton
	Jowett, Albert
	Tansley, George Edward
1897	Storr, Bertram Vincent
	Cooper, Albert Henry
1898	Groocock, Henry Lloyd
1898	Shepherd, Arthur Burton
1899	Hunt, Francis William
	Gawler, Robert
1900	Grant, Charles Henry
	Thompson, John Thomas
1901	Denton, Ernest
	Gray, Arthur Lambert
1902	Raper, Henry Stanley
1903	Zortman, Israel Hyman
1904	Phillipson, Abram

Brown Senior Scholars

1880	Ingle, Herbert
	Passavant, Laura Maude
1881	Wilson, Albert Edward
	Armstrong, Wilhelmina Maria
1882	Senior, William Ottè
	Stables, William Herbert
1883	Allen, Edgar Johnson
	Ahrons, Ernest Leopold
1884	Potter, Arthur Edward
	Schmitz, Herman Emil
1885	Dibb, John Hustwick
	Hurtley, William Holdsworth
1886	Pocklington, Henry Cabourn
	Thompson, George Robert
1887	Duncan, William
	Thorp, Walter
1888	Sykes, Ernest
1889	Watson, Frank Leslie
1890	Nicholls, Percy
	Myers, John Ellis
1892	Davis, Frederick William Daniel
	Marsland, Roland
1893	Dawson, Harry Medforth
	Motley, Parker
1894	Eurich, Hermann Oskar
1895	Guthrie, Thomas
1896	Dalton, John Edwin
1897	Broadbent, Francis James
	Skirrow, Frederick William
1898	Findlay, Mary Grace
1899	Whiteley, Charles Edward
1900	Chapman, Fitzroy Tozer
	Unwin, Ernest Ewart
1901	Hummel, Alfred Roland Ure
	Stoddard, Arthur Askwith
1902	Dell, John Alexander
	Goodson, Ethel Elizabeth
1903	Calam, Harold

(B) SENIOR SCHOLARSHIPS

(a) SCHOLARSHIPS TENABLE ONLY BY GRADUATES OF THE UNIVERSITY

1. University Scholarships

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 laid before the Senate. Scholarships may be renewed for a second year when the scholar is undertaking advanced study or research.

1905 Armes, Henry Percy (Chemistry).
[1]Gunnell, Doris (Modern Languages).
[1]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).
Thorp, Hilda (Modern Languages).
Walker, Jessie (English).
1908 Blockey, John Reginald (Chemistry).
Jackson, Colin Gyrth (Chemistry).
Leslie, May Sybil (Chemistry).
Riley, Frank (Chemistry).
[2]Strange, Edward Howard (Philosophy).
1909 Dudley, Harold Ward (Chemistry).
Peel, Albert (History).

1 Renewed in 1906. 2 Renewed in 1909.

2. 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 for 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 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 make 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
1907 Thorp, Hilda
1908 Murphy, Bertha Mary
1909 Longbottom, Nellie

3. Clothworkers' Research Scholarship in Colour Chemistry and Dyeing

This Scholarship, of the value of £60 a year, tenable in the Department of Tinctorial 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
1908 Woodhead, Arthur Edmund.

4. 1851 Exhibition Science Scholarship

Since 1891 the Commissioners for the Exhibition of 1851 have placed at the disposal of the Yorkshire College, now the University of Leeds, 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 Scholarship is limited to those branches of science (such as Physics, Mechanics, and Chemistry), the extension of which is specially important for our national industries.

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 Registrar of the University up to the last day of February in each year.

1891–4	Ingle, Harry, B.Sc.
1892–4	Mann, Harold Hart, B.Sc.
1893–6	Myers, John Ellis, B.Sc.
1894–6	Dent, Frankland, B.Sc.
1896–9	Dawson, Harry Medforth, B.Sc
1897–1900	Wilson, Harold Albert, B.Sc.
1898–1901	Calvert, Harry Thornton, B.Sc.
1899–1902	Skirrow, Frederick William, B.Sc.
1900–3	Varley, William Mansergh, B.Sc.
1901–4	Denison, Robert Beckett, B.Sc.
1902–5	Dakin, Henry Drysdale, B.Sc.
1903–6	Gaunt, Rufus, B.Sc.
1904–7	Raper, Henry Stanley, B.Sc.
1905–7	Zortman, Israel Hyman, B.Sc.
1906–8	Armes, Henry Percy, B.Sc.
1907–10	Hodsman, Henry James, B.Sc.
1908–10	Cross, William Ernest, B.Sc.
1909–10	Leslie, May Sybil, B.Sc.

(b) SCHOLARSHIPS OPEN TO STUDENTS OF THE UNIVERSITY ONLY

1. Tenable in the Faculties of Arts, Science and Technology

Leighton Scholarships

These Scholarships 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 Scholarships are ordinarily offered each year, each of the annual value of £10, and tenable for two years, subject to the reports on the student's work during the first year of tenure being satisfactory.

The Scholarships 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 Registrar not later than May 1 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 Scholarships 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
1895	Hampshire, Florence Elizabeth
1896	Shacksnovis, Reuben
1897	Porritt, Florence Mary
	Scholes, Thomas Wilfrid
1898	Gawler, Robert
1899	Crosfill, John
	Phillipson, Coleman
1900	Savage, Hilda
	Robinson, Ethel Margaret
1901	Burgess, Lillie
	Scholefield, Fred
1902	Calam, Harold
	Landman, Samuel
	Stead, Frank Cawthron
1903	Appleyard, John Ernest
	Robinson, Lilian Dorothea
	Waite, Joseph Henry
1904	Carlton, George Westerdale
	Maddison, Wilfred Guy
	Thorp, George

1905	Lacy, Arthur	1908	Mann, Clarissa
	Vernon, Edgar		Powis, Frank
1906	Hogan, Kathleen		Webster, Herbert William
1907	Everett, Percy Newton		Wood, Louis Albert
	Marsh, Frank Salton	1909	Ellis, Henry Carl Noel
	Turner, Frederick William		Taylor, Arthur
1908	King, Norman		Worsnop, Edgar

2. Tenable in the Faculty of Arts

Salt Scholarship

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 teancy, the Scholar will be required to name a course of post graduate study satisfactory to the Senate.

Applications from candidates for these Scholarships must be sent to the Registrar of the University not later than May 1.

1882	Wright, Benjamin	1899	Melville, Ellen Louisa
1885	Barker, Arthur Henry	1901	Stevenson, Ethel Mary
1887	Jackson, Thomas Chalice	1903	Davis, William Hathaway
1891	Hurst, Thomas Ockerby	1904	Landman, Samuel
1893	Cleasby, Mabel	1906	Gill, William Conrad
1895	Hornby, George Goodall	1908	Dean, Arthur Ernest
1897	Robinson, Elizabeth Clare	1909	Dean, Arthur Ernest

John Rutson Scholarship

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.

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 laid before the Senate.

1908 Hogan, Kathleen
1909 Hogan, Kathleen

3. Tenable 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.

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, held in March and June of each year. Candidates must send in their names to the Secretary of the Faculty, General Infirmary, Leeds, not later than June 1.

1889 Fearnsides, Philip Henry
1890 Gross, Phineas
1891 Greenwood, Henry Harold
1892 Field, Richard Cullingworth
1893 Dewhirst, Wilfrid Arthur
1894 Andrews, Joseph Dalby
1895 Pegler, William Vernon
1896 Matthews, Crawford Tait
1897 Middlemiss, James Ernest
1898 Heald, Samuel Linley
1899 Smailes, William Herbert
1900 Gough, Alfred
1901 Rawlings, Harry Richardson
1902 Pickles, William Norman
1903 Carlton, George Westerdale
1904 No award
1905 No award
1906 Fisher, John Barugh
1907 Sinson, Julius Barnet
1908 Metcalfe, John Clifford
1909 Sinson, Harry Abram

4. Tenable in the Faculty of Technology

Clothworkers' Scholarships

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 Day Scholarships will be required to attend an Advanced Course in Textile Industries, and the Senior Class in Applied Art. The Day 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 Second year students will be in

(*a*) Designing and Weaving,
(*b*) Textile Colouring,
(*c*) Applied Art;

and in the case of Third year students in

(*a*) Designing and Weaving,
(*b*) Textile Colouring,
(*c*) Cloth Finishing,
(*d*) Applied Art.

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 Registrar not later than January 31.

1901	Grimshaw, Norman
	Wilson, Stanley Ewart Ashley
	Brigg, Lawrence Heriot
	O'Flynn, James
1902	Mellor, Cecil Smith
	Duncan, Harold
	Gaunt, Frederick William
	Munro, William Thow
1903	Smith, Lister
	Rayner, Harold Kingsbury Hodgson
	Horsham, Wilfred Robert
	Beaumont, Frank
1904	Whitworth, Abraham
	Hart, Harry Leatham
	Horsham, Wilfred Robert
	Holloway, Joseph
1905	Mills, James
	Hart, Harry Leatham
	Bradley, Jim
	Broadbent, Lees
1906	Broadbent, Lees
	Cockcroft, Ernest Edward
	Mills, James
	Sutcliffe, Arthur Livsey
1907	Cockcroft, Ernest Edward
	Fairburn-Hart, George Stanley
	Wilson, James Blackburn
1908	Eadie, Thomas Tait
	Pfenniger, Paul
	Wilson, James Blackburn
1909	Bradley, William
	Eadie, Thomas Tait
	Twohig, John Patrick

(C) FELLOWSHIPS

(a) University Fellowships

University Fellowships are open to graduates of the University within three years from the date of graduation, and are 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 furnish a report of the work done by them during the tenure of the Fellowship, such report to 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.

1905 Marshall, Joseph, B.Sc. (Chemistry). £100.
Waterhouse, Osborn, B.A. (English). £100.

(b) Fellowship for 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 Registrar of the University on or before May 1 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 Institute 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., Victoria.
1908 Forshaw, Arthur, M.Sc., Victoria.
1909 Hartley, Harold, M.Sc., Victoria.

(c) **Medical Research Fellowship**

The Fellowship, founded by an anonymous donor, of the value of £200 per annum, will be awarded to a duly qualified candidate for the prosecution of original work on Inflammatory Bright's Disease. It is tenable for two years, at the expiration of which time the question of its continuance will be considered by the donor in the light of the results which may have been, or are likely to be obtained from the work. The holder is required to give attention to both the clinical and experimental aspects of the subject, with the object of discovering a means of destroying or counteracting the poisons present in the acute stage of the disease, or of healing the diseased tissues. The administration of and appointment to the Fellowship is under the supervision and control of the Board of the Faculty of Medicine.

1909 Watson, George William, M.D.

X. 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 for an Essay on some subject connected with History or Political Science or Economics.

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.

3. No student who has once obtained the Prize may compete a second time.

The Essay must be sent in to the Professor of History not later than the end of September.

1902	Savage, Hilda	1906	Findlay, Sarah Kennedy
1903	Davis, William Hathaway	1907	[1]Simpkiss, Nellie
1904	Gill, William Conrad		[1]Winter, John Edgar
1905	Butterworth, George William	1908	Dean, Arthur Ernest

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, Nicolas 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	1905	Davies, Arthur Hugh
1892	Mann, Harold Hart	1907	Baddiley, James
1898	Skirrow, Frederick William	1908	Woodhead, Arthur Edmund

[1] Prize divided.

Thorp Prizes in Forensic Medicine and Hygiene

These prizes, amounting altogether in value to the sum of fifteen pounds, were instituted by the late Dr. Disney L. Thorp, one of the original founders of the Leeds School of Medicine, and are awarded at the close of every third term, in accordance with such regulations as may be made from time to time.

In Forensic Medicine

1900	Gough, William	1906	Heppenstall, Clement Hoyle
1901	Cundall, Edward	1907	Dunbar, Dean
1902	Boyle, Alan	1908	No award
1903	No award	1909	Cross, George Harold
1904	Parkinson, Alfred Howard		
1905	Shacksnovis, Reuben		

In Public Health

1900	Radcliffe, Adolphus Harold	1905	Hamilton, William Douglas
1901	Braithwaite, Leonard Ralph	1906	No award
1902	Tomlin, Herbert	1907	No award
1903	Legge, James Huntly	1908	
1904	No award		

Thorp Prize Essay

A sum of fifteen pounds is offered every three years for an essay or original research on some subject connected with Forensic Medicine or Public Health. The competitors must have attended in the University of Leeds all the courses necessary to qualify for degrees or diplomas in Medicine, and must have received their degree or diploma not more than three years before the competition. The scope and nature of the essay or research may be either physical, chemical, microscopical, physiological, clinical or statistical, but its subject must have received the approval of the Board of the Faculty of Medicine one year before the award is made. The successful essay or paper with the drawings and specimens by which it may be illustrated will become the property of the University.

Hardwick Prize in Clinical Medicine

This prize, of the value of ten pounds, is given annually on a competition which takes place in the month of May. 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	1906	No award
1901	Saville, Edwin	1907	No award
1902	Coupland, James Alane	1908	Mitchell, Guy Annesley Carter
1903	Matthews, Crawfurd Tait		
1904	Tomlin, Herbert	1909	Thoseby, John Norman Lonsdale
1905	Gough, Alfred		

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	1906	No award
1901	Keeling, Hugh Neville	1907	No award
1902	Coupland, James Alane	1908	Mitchell, Guy Annesley Carter
1903	Braithwaite, Leonard Ralph		
1904	Brierley, Wilfred Edward	1909	Thoseby, John Norman Lonsdale
1905	Gough, Alfred		

Scattergood Prize

This prize, instituted in memory of the first Dean of the Medical Department, Yorkshire College, is awarded annually to the most distinguished student in the class of Obstetrics. The value of the prize, which consists of books or instruments, is five pounds.

1900	Acomb, John	1906	Heppenstall, Clement Hoyle
1901	Coates, Richard	1907	Thoseby, John Norman Lonsdale
1902	Tomlin, Herbert		
1903	Smailes, Herbert William	1908	Hooton, William Henry
1904	No award	1909	Bernstein, Isaac Parnett
1905	Hamilton, William Douglas		

Gold Medal

A Gold Medal of the value of ten pounds, formerly presented by the Treasurer, and since 1901 by the Faculty of the Infirmary, is awarded on the collated results of the prize examinations in the following subjects:—(1) Surgery; (2) Medicine; (3) Pathology; (4) Obstetrics (Scattergood

Prize); (5) Forensic Medicine (Thorp Prize); (6) Clinical Medicine (Hardwick Prize); (7) Clinical Surgery (McGill Prize); (8) Gynæcology; (9) Public Health (Thorp Prize); (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. Should a student desire to spend an additional year antecedent to the study of the subjects in part ii 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. Of these prizes one must be either the Surgery or the McGill Prize, and another either the Medicine or the Hardwick Prize.

1900	Gough, William
1901	Saville, Edwin
1902	Coupland, James Alane
1903	No award
1904	No award
1905	Gough, Alfred
1906	No award
1907	No award
1908	Mitchell, Guy Annesley Carter
1909	Thoseby, John Norman Lonsdale

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 ii); (5) Materia Medica; 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." To qualify, the candidate must obtain two prizes or their equivalent.

1899	Coupland, James Alane
1900	Braithwaite, Leonard Ralph
1901	Boyle, Alan
1902	Gough, Alfred
1903	No award
1904	No award
1905	Hamilton, William Douglas
1906	Mitchell, Guy Annesley Carter
1907	No award
1908	Hooton, William Henry

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.

SCHOLARS AND EXHIBITIONERS, 1909-10

	Date of Election	
University (*Philosophy*)	1908	Strange, Edward Howard
,, (*History*)	1909	Peel, Albert
,, (*Chemistry*)	1909	Dudley, Harold Ward
1851 *Exhibition* ...	1907	Hodsman, Henry James, B.Sc.
,, ,, ...	1908	Cross, William Ernest, B.Sc.
,, ,, ...	1909	Leslie, May Sybil
Salt	1908	Dean, Arthur Ernest
Leighton	1908	King, Norman
,,		Mann, Clarissa
,,		Powis, Frank
,,		Webster, Herbert William
,,		Wood, Louis Albert
,,	1909	Ellis, Henry Carl Noel
,,		Taylor, Arthur
,,		Worsnop, Edgar
Clothworkers' Textile ...	1908	Eadie, Thomas Tait
,, ,, ...	1909	Bradley, William
,, ,,		Twohig, John Patrick
Leeds City Council ...	1907	Brodie, Morris
,, ,, ...	1908	Jones, Edward Oswald
,, ,, ...	1909	Woodroffe, David
Charles Wheatley ...	1908	Redfearn, Florence Mary
,, ,, ...	1909	Cass, Muriel
William Summers ...	1907	Hobson, Julia
,, ,, ...	1908	Carter, John Wilfred
Brown	1907	Lee, Elsie
,, ...	1908	Atkin, William Rearden
,, ...	1909	Stocks, Herbert Holroyd

	Date of Election	
Akroyd	1907	Rawling, Francis George
,, ...		Varley, Gilbert
,, ...	1908	Pearson, William
,,		Staveley, John
,, ...	1909	Dudley, Harold Ward
,, ...		Rawling, Arthur
,, ...		Taylor, Ernest
Emsley	1908	Wilkinson, Eric Fitzwater
Edward Baines ...	1908	Dawes, Ivy Emily
,, ,, ...	1909	Stephenson, Cyril Richard William
Craven	1907	Gerard, Inglis Joseph
Medical	1905	Thoseby, John Norman Lonsdale
,, ...	1906	Little, Cuthbert Joseph Harwood
,, ...	1907	Kirk, George William Lister
,, ...	1908	Knowles, Henry Rylands
Infirmary	1906	Fisher, John Barugh
,, ...	1907	Sinson, Julius Barnet
,, ...	1908	Metcalfe, John Clifford
,, ...	1909	Sinson, Harry Abram

GRADUATES OF THE UNIVERSITY OF LEEDS

(The names of deceased graduates are printed in italics)

Honorary Graduates

Doctor of Laws

1904 Lady Frederick Cavendish
The Archbishop of York (Dr. Maclagan)
The Duke of Devonshire
The Earl of Harewood
Viscount Cross
Lord Herries
Lord Allerton
The Right Honourable Arthur Herbert Dyke Acland
Sir Francis Sharp Powell, Bart., M.P.
Sir John Barran, Bart.
Sir Charles Hubert Hastings Parry, Bart.

1904 Sir Alexander Campbell Mackenzie
Sir Charles Villiers Stanford
Sir Edward Elgar
Sir William Bousfield
Henry Walford Davies
Rt. Hon. Charles George Milnes Gaskell
Charles Wood
1906 Lord Wenlock
Sir Owen Roberts
1909 The Archbishop of York (Dr. Lang)
Thomas Walter Harding

Doctor of Letters

1904 Sir Albert Kaye Rollit
Alfred Austin
Andrew Martin Fairbairn
Joseph Wright

1906 The Bishop of Ripon
Sir Charles Holroyd
1907 The Rev. Robert Collyer

Doctor of Science

1904 *The Earl of Rosse.*
Lord Kelvin
Lord Airedale
Sir Isaac Lowthian Bell, Bart.
Sir William Henry Broadbent, Bart.
Sir Arthur William Rücker
Tempest Anderson
Sir Jonathan Hutchinson
John Hughlings Jackson
Louis Compton Miall
Arthur William Mayo Robson
Thomas Pridgin Teale

1904 Sir Thomas Edward Thorpe
Claudius Galen Wheelhouse
1906 *Sir William Henry Perkin*
Sir Thomas Clifford Allbutt
Heinrich Caro
Alfred Grandidier
Albin Haller
Edwin Ray Lankester
Carl Theodor Liebermann
Carl Alexander von Martius
Paul Pelseneer
Heinrich Rubens
Herbert Hall Turner
1909 Sir James Crichton-Browne
Ronald Ross

Master of Arts

1906 Thomas Percy Sykes

Graduates

Faculty of Arts (including Commerce and Law)

Master of Arts

1908 Ashburner, Frederick
1907 Bibby, Edward Ernest
1908 Blackburn, Elizabeth Maria
1908 Butterworth, George William
1908 Chapman, Harry Garfield
1905 Chapman, Maude (Briggs)
1909 Cohen, Alexander
1907 Conyers, Hilda
1906 Davis, William Hathaway
1908 Daykin, John Bertram
1909 Edwards, Maud Mary
1908 Findlay, George Hindson
1908 Findlay, Sarah Kennedy
1907 Frank, Sarah
1908 Gill, William Conrad
1907 Hand, William Thomas
1907 Hastings, Margaret
1909 Hirst, John Crosland
1909 Hobson, Elsie Irene
1909 Hodges, Raymond John
1909 Hogan, Kathleen
1907 Holmes, Carrie
1907 Illingworth, Maria Emma
1907 Jowett, Jessie
1907 Kitchener, Ernest Edward
1907 Landman, Samuel
1906 McKeand, Maggie Woodrow
1909 Mallinson, Dorothy
1908 Matthews, Felix Hackett
1907 Molland, Theodora Mary
1909 Monahan, Alexander James
1908 Moulden, John William
1907 Naylor, Nellie Noble
1907 Neville, Ethel May
1907 North, Fanny Caroline
1905 *Robinson, Ethel Margaret*
1905 Savage, Hilda
1908 Scholes, Katherine Louise
1905 Scholes, Thomas Wilfrid
1909 Simpkiss, Nellie
1907 Smith, Egerton
1906 Stables, William Herbert
1908 TenBruggenkate, George Herbert
1908 Walker, Jessie
1908 Wallace, Harry Bruce
1906 White, Ethel
1907 Whitehead, Mary
1906 Wilson, Florence
1908 Wilson, Florence Grey
1905 Wilson, George William

Bachelor of Arts

1908 Abrahams, Solomon
1909 Allott, Effie Gwen
1906 Anderson, John
1909 Anderton, Louisa
1905 Armitage, John Henry
1906 Armstrong, Lilias Eveline
1905 Atkinson, Janet
1905 Barras, Elsie Clara
1906 Bartle, Ida
1909 Batchelor, Edith
1908 Bentley, Hannah Grimshaw
1905 Bishop, Sarah Ellen
1906 Boardman, Ernest Edmund
1906 Bradley, Florence Margaret
1905 Braithwaite, William Dalston
1905 Brigham, Fanny Muriel
1907 Brown, Constance Mabel
1905 Burgess, Lillie
1905 Burley, Leo Le Gay
1909 Cawthron, Edwin
1905 Chard, Edith Annie
1908 Charlesworth, Alice
1908 Cowling, Alice Beatrice
1909 Cridland, Dorothy
1905 Dalton, John Edwin
1906 Darycott, Ernest Jenkinson
1909 Dean, Arthur Ernest
1909 Dearnley, Charles
1905 Denby, Maurice
1905 Dickinson, Frederick Walter
1906 Dixon, Elizabeth
1905 Dobson, Constance
1907 Donaldson, Lawrence Richard Leverton

1905 Easterfield, Thomas Hill
1905 Elliott, Spencer Hayward
1905 Fairbrother, Jessie
1907 Fairley, Barker
1907 Flynn, Bridie
1905 Fox, Arthur Cunliffe
1905 Foggitt, Emma
1908 Frank, Dorothea Ethel
1906 Gale, Florence
1905 Garside, Bertha
1905 Gascoigne, Evelyn May
1909 Gendall, Philip Parsons Watkins
1909 Gittleson, John
1908 Golding, Mary Muriel
1905 Gray, Arabella Hyde Janet Ethel
1905 Gray, Catherine Isabella
1907 Greening, Edward Baptist
1905 Gunnell, Doris
1909 Hand, Harry Aram
1905 Hepworth, Frank
1905 Hepworth, Minnie
1905 Hield, Esther Margaret
905 Hirst, Miriam
1905 Hitcham, Charlotte Elsie
1905 Holgate, Jane
1905 Holmes, Ethel
1908 Horsfall, Jessy Eveline
1905 Howarth, Fred
1908 Howe, Grace Alice
1905 Hurst, Thomas Ockerby
1906 Jackson, Mabel
1906 Jackman, Elizabeth
1907 Langstaff, Bilton, B.Sc.
1907 Lea, George William
1909 Lee, Catherine
1906 Lidbetter, James Staples
1906 Linforth, Edith Mary Elizabeth
1905 Lister, Martha
1908 Lock, John
1909 Longbottom, Nellie
1905 Maccoby, Sarah Judith
1906 Martin, Alice Walford
1909 Martin, Thomas Haigh
1909 Matthews, Basil Wilfrid
1906 Maud, Ida Marian
1906 Mitchell, Margaret
1905 Mitchell, Myra
1909 Morrell, Frank
1905 Mountain, Eliza
1908 Murphy, Bertha Mary
1909 Murphy, Grace Louisa
1908 Naylor, Alice Maude
1906 Nicholson, Ethel
1907 Outram, Edith May
1905 Owen, Florence
1905 Parnaby, Margaret Ellen (Hudson)
1908 Pearson, Eunice
1909 Peel, Albert
1906 Perfect, Douglas
1908 Perkins, Sarah Elizabeth
1905 Porritt, Florence Mary
1907 Poynton, Lucy Ellen
1905 Precious, Julia Hopper
1905 Raven, Hilda Mary
1909 Rennard, Thomas Ambler
1906 Rider, Martha Hannah
1905 Ridge, William Sheldon
1905 Robinson, Lilian Dorothea
1905 Rogers, Hannah
1906 Rogers, Violetta
1905 Scruton, Harriett Annie
1906 Scruton, Kate Ellen
1905 Sheard, Dora
1905 Sheard, Mary Beatrice
1905 Skinner, Mabel
1907 Southern, Alfred Collingwood
1906 Spencer, Frances Mary Elvira
1907 Storey-Bates, William Edward
1908 Strange, Edward Howard
1907 Thorp, Hilda
1906 Townsend, Florence Emma
1905 Turner, Harriet Marie
1905 Walker, Ada
1905 Walker, Julia Beatrice
1905 Wallace, Harry Bruce
1909 Ward, Alice Rose
1906 Warnes, Sarah Catherine
1905 Waterhouse, Osborn
1905 Watson, George Alston
1907 Weatherell, Thomas Bertram
1906 White, Arthur Ernest
1905 Wilson, Selina Ethel
1908 Winter, John Edgar
1905 Wood, Jessie Graham
1909 Wortz, Frederick Robert
1905 Wrigley, Isaac

Bachelor of Laws

1908 Beecroft, Philip Beilby
1907 Brayshay, Stanley, B.A.
1909 Croft, Thomas Lister
1909 Daiches, Salom
1909 Fisher, Arthur Samuel
1908 Gundill, Edward Norman
1905 Lee, Edmund
1906 McConnell, John William
1908 Maude, Arthur Percy Lees
1905 Robson, William Newby
1906 Scott, Hubert Edward
1905 Sykes, James
1906 Wade, James Mervyn

Faculties of Science and Technology

Doctor of Science

1909 Dakin, Henry Drysdale
1907 Dawson, Harry Medforth
1907 Denison, Robert Beckett
1905 Dwerryhouse, Arthur Richard
1905 Frankland, John Naylor
1905 Ingle, Harry
1905 Mann, Harold Hart
1907 Standing, Herbert Fox
1905 Varley, William Mansergh

Master of Science

1905 Agar, Herbert William
1905 Andrews, William Allen
1908 Ashby, William Ewart
1906 Barker, Aldred Farrer
1905 Beaumont, Roberts
1906 Beeley, Arthur
1907 Bennett, Hugh Garner
1905 Bevan-Lewis, William
1908 Bibby, Joseph Richard
1909 Blockey, John Reginald
1906 Bothamley, Charles Herbert
1906 Brayshay, Maurice William
1905 Briggs, Samuel Henry Clifford
1908 Brittain, Charles Edward, M.Sc., Vict.
1905 *Brown, Walter Henry*
1907 Calam, Harold
1905 Calvert, Harry Thornton
1906 Chapman, Thomas William
1905 Cooper, Albert Henry
1907 Cooper, William Arthur
1905 Copley, Frederick
1906 Coulson, Alfred
1907 Davies, Arthur Hugh
1905 Dent, Frankland
1908 Dudley, James
1905 Edwards, Ernest John
1905 Findlay, Mary Grace
1908 Frank, George Herbert
1905 Fry, George Cecil
1906 Gardner, Walter Myers
1907 Gaunt, Rufus
1905 Gawler, Robert
1905 Goodman, John
1905 Grant, Charles Henry
1905 Green, Arthur George
1905 Hammerton, Jonas
1905 Hefford, Charles Nelson
1907 Hodsman, Henry James
1907 Horsfall, Ronald Smith
1905 Hummel, John James
1908 Jackson, Colin Gyrth
1905 Jackson, Harry Percival
1909 Jenkins, Gilbert Ramsden
1907 Jordan, Albert
1905 Jowett, Albert
1905 Kendall, Percy Fry
1907 King, Charles Arthur
1905 King, Herbert
1905 Kirby, Frederick Oscar
1909 Leslie, May Sybil
1907 Lister, Mary Florence Grace
1905 Littlewood, Harry
1909 Marshall, Francis
1908 McGill, Ernest Arthur
1907 Morrison, James Alexander Shepherd
1905 Motley, Parker
1905 Norminton, Harold
1907 Osborne, Ethel Elizabeth (Goodson)

1908 Outram, Nora Aline Jane
1905 Parr, George Dudley Aspinall
1905 Procter, Henry Richardson
1905 Raper, Henry Stanley
1907 Richardson, John Stocks
1908 Shuttleworth, Newton
1908 Sinson, Israel Lewis
1905 Skirrow, Frederick William
1906 Slater, John Henry
1907 Smailes, Alan
1908 Sykes, Albert Howarth
1905 Thompson, John Thomas
1907 Thorp, George
1907 Townsend, Robert
1907 Turner, Florence Mary Beatrice
1906 Unwin, Ernest Ewart
1905 Walker, Henry Secker
1909 Webster, Herbert William
1909 Whitaker, Herbert
1905 Whiteley, Charles Edward
1909 Woodhead, Arthur Edmund
1905 Wright, Charles James

Bachelor of Science

1905 Ackroyd, John Prest
1909 Addison, Herbert
1905 Allen, Lilian
1906 Anson, Emily
1909 Appleyard, Ada Evelyn
1905 Appleyard, John Henry Ross
1905 Armes, Henry Percy
1906 Armes, Jane Prue
1909 Armin, Edwin Bates
1908 Armitage, Harry
1909 Arnold, Joseph Sykes
1907 Baddiley, James
1908 Bailey, Annie Rosa
1909 Bannister, Albert
1908 Barker, Christopher James
1905 Barlow, Percival Smith
1905 Barton, Edith Beatrice
1909 Beckwith, Kathleen Mary
1907 Bell, Herbert Nutter
1909 Bendrey, Hilda
1907 Birkhead, Florence Ethel
1905 Booth, Meyrick
1907 Bowes, George Robert
1905 Boyd, Simeon
1905 Brier, Albert
1905 Briggs, William, M.A., LL.D., Cantab.
1905 Broadhead, James Arthur
1906 Broadley, William
1907 Brook, Annie
1905 Brook, Harry
1905 Bulman, John Arthur
1905 Burgess, William Ernest
1908 Burras, Catherine
1907 Cameron, James Neild
1906 Carlton, George Westerdale
1909 Carter, Frederick Edward
1906 Claridge, Margaret Elsie
1905 Cobb, John William
1909 Coope, Hilda
1906 Cooper, John George
1905 Coxon, Lawrence Adams
1905 Craig, David
1905 Crawshaw, Annie
1909 Crawshaw, Nellie
1909 Crosby, Berkley Cecil
1905 Crosfill, John
1906 Crosland, Percy Field
1907 Cross, William Ernest
1906 Crowther, Herbert
1907 Crowther, William Edmund
1908 Crowther, Philip Townsend
1909 Cundall, Leonard Bertram
1905 Cunningham, Jean Orme
1905 Davies, Ivor Parry
1907 Davies, Hamilton
1908 Davies, Henry
1905 Denbigh, George James
1905 Dickinson, Cyril
1909 Dixon, James Harvey
1906 Draper, Alick Darby
1909 Dudley, Harold Ward
1906 Dudley, Nora
1908 Ebbage, Edith Mabel
1906 Elliott, Bertram Warren
1905 Ellis, James John
1906 Ellis, John Newman
1905 Everett, James Herbert
1905 Fearnley, Lewis William Knapton
1906 Field, Margaret
1905 Finn, Cornelius Philip

1907 Fletcher, Alfred Edgar
1905 Forsyth, Christina Brand
1909 Fort, Morris
1908 Fottrell, Edward Joseph
1908 Gaunt, Louis Henry Armistead
1905 Gaut, Robert Charles
1908 Gilchrist, David
1905 Goddard, Clara Annie
1908 Goddard, Edith Eleanor
1908 Goddard, Ethel Mary
1908 Goodson, Arthur Godfrey
1905 Gomersall, Ernest Edward
1905 Grant, Frederick Ernest
1905 Greenwood, Arthur
1909 Greenwood, Edward Joseph Bernal
1907 Gregg, Herbert Atkinson
1905 Gregory, Frederick Maurice
1909 Groocock, Helena
1905 Gunter, John Henry
1909 Haigh, John Henry
1905 Haler, Percy James
1905 Hampshire, Florence Elizabeth
1906 Hansell, John Bentley
1905 Harding, Oswald Jackson
1905 Hardy, Joseph
1907 Hargreaves, Edith
1905 Hartley, Percival
1908 Haworth, Richard
1905 Hefford, George Winfield
1905 Heptinstall, Richard
1905 Hield, Mary Elsie
1905 Hilary, Daisy
1908 Hinckley, Arthur
1905 Hirst, Henry Reginald
1905 Hobart, John William
1905 Hobley, Robert Arthur
1906 Holgate, Edward
1909 Holroyd, Eleanor Mary
1905 Hummel, Alfred Roland Ure
1907 Hummel, Ernest Lonsdale
1905 Hunt, Francis William
1905 Hunter, Herbert
1909 Hurst, Frank
1905 Hurtley, William Holdsworth
1905 Hutchinson, Florrie
1905 Hutton, Wilfred
1905 Ingle, Herbert
1905 Jackson, Arthur
1905 Johnson, John William Haigh
1905 Kay, Douglas John
1905 Kaye, Edward Percy
1905 Knowles, George William, M.A., Royal Univ., Irel.
1907 Lacy, Arthur
1905 Langstaff, Bilton
1907 Law, Marion Rosalind
1905 Livesey, Charles Edwin Leonard
1905 Lodge, Harry Livingston
1905 Lord, William Ernest
1905 Lowson, William
1907 Loyd, Jessie
1905 McCandlish, Douglas
1905 McCrae, Mary Walbrand (Bruce)
1907 Maddison, Wilfred Guy
1905 Manasseh, Antonius Joseph
1908 Mann, James William
1909 Margetts, Percy Alexander
1905 Marriner, William Wright
1905 Marsden, Ernest Vane
1909 Marsh, Frank Salton
1905 Marshall, Herbert
1905 Marshall, Joseph
1909 Mawson, John Halliwell
1905 Mellor, Fred
1909 Mitchell, John Arnold
1905 Morris, Florence Annie
1905 Morton, Dora
1905 Moss, Charles Edward
1909 Mountain, Frank
1908 Mulcahy, Julia
1905 Murphy, Harold Newton
1906 Myers, Mary Alice
1905 Nicholls, Percy
1908 Normington, May
1905 Oddy, Annie Maude
1909 Omar, Abdel Mageed
1905 Owen, Samuel Joseph
1909 Paniker, Manakath Allampatath Rammuni
1909 Parsons, Ernest
1905 Peacock Arthur
1906 Pearce, Cyril Thomas
1905 Phillipson, Abram
1908 Platts, Matthew George
1905 Pocklington, Henry Cabourn, B.A., Cantab., D.Sc., Lond.

1906 Procter, Herbert
1907 Raistrick, John William
1905 Rankin, William Munn
1905 Rayner, Herbert Emmett
1908 Rhodes, Norman
1907 Rider, Charles Matthew
1908 Riley, Frank
1909 Roberts, Augustus Alphonso
1906 Ross, William Oatey
1906 Rydall, George Herbert
1905 Scholefield, Fred
1906 Schmitz, Herman Emil
1905 Scouller, Walter Daly
1905 Scruton, Harold Adams
1905 Shacksnovis, Reuben
1905 Shorter, Sydney Alfred
1905 Skirrow, Benjamin Beck
1908 Smith, Bracewell
1905 Smith, Henry Archbold
1905 Sowerbutts, Edith Utley
1905 Standing, Edwin Mortimer
1905 Stead, Frank Cawthron
1905 Stewart, Tom
1905 Stocks, Arthur
1905 Studley, Charles Wilcock
1907 Sutcliffe, James
1905 Taylor, Francis
1905 Thompson, George Robert
1905 Thompson, Hubert
1909 Thornton, Edwin
1905 Thorp, Samuel
1905 Thorp, Walter
1905 Tiffany, Frank
1905 Tiffany, Joseph Edgar
1907 Tomlinson, John Arthur
1906 Tomlinson, Thomas Fowler
1907 Turner, Frederick William
1908 Tunnicliffe, Eveline Mary
1908 Vernon, Edgar
1908 Vince, Eva Mary
1905 Wagstaffe, George William
1905 Waite, Joseph Harold
1905 Walbank, Wilfrid Stephen
1905 Walker, Joshua
1908 Walker, Leonard
1909 Ward, Herbert Wainwright
1906 Ward, Margaret Naomi
1906 Warin, Phillipson
1905 Warmington, Edith
1908 Watson, James Arthur
1908 Watts, Frank Maxfield
1908 West, William Ernest
1909 Westerman, Mabel
1905 Whaley, James
1905 White, Robert George
1905 White, William Henry
1905 Whitehead, Pollie
1905 Whittaker, Croyden Meredith
1909 Wilby, Arthur Edwin
1907 Wilkinson, Eltoft Wray
1905 Wilson, Frances Annie
1905 *Wise, Julian Stanton*
1909 Wood, George
1905 Wood, Margaret
1909 Woodmansey, Arnold
1908 Zelensky, Lily Aurelia
1905 Zortman, Israel Hyman

Faculty of Medicine

Doctor of Medicine

1906 Anderson, William Jenkins Webb
1905 Parkinson, Arthur Stanley
1905 Stoney, William Walter, M.D., Vict.
1903 Turton, Edward

Bachelor of Medicine and Bachelor of Surgery

1905 Bailey, Fred
1907 Bibby, James Paley
1905 Birtwhistle, Frederick Percy Hewetson
1905 Boyle, Alan
1905 Braithwaite, Leonard Ralph
1905 Brierley, Wilfred Edward
1905 Broadley, John
1905 Brown, Henry
1907 Carter, Godfrey
1906 Crawford, James Stirling
1905 Cundall, Edward

1906 Daly, Ramsay Lamy
1905 Darlow, Francis
1905 Deane, Arthur Maslen
1907 Dibb, William Land
1905 Dixon, Robert Garside
1906 Dobson, Francis George
1905 Eames, Charles William
1905 Fearnley, Harold
1906 Flint, Ethelbert Rest
1909 Flint, Horace Lance
1908 Frobisher, James Hebblethwaite Martin
1906 Gloyne, Stephen Roodhouse
1905 Gough, Alfred
1905 Greaves, Frederick William Marshall
1905 Greenwood, Charles Henry
1905 Greenwood, Henry Harold
1905 Greenwood, William Osborne
1906 Hackworth, Vivian Cuthbert
1907 Hardy, Digby Wrangham
1905 Hayes, Frederick William
1909 Hepworth, Sydney Milverton
1905 Hopton, Ralph, M.D., Lond.
1906 Hummel, John James, M.Sc.
1905 Hustler, George Herbert
1905 Kellett, Alfred Featherstone
1906 Kendall, Frank Edward
1905 Ladell, Robert George Macdonald
1905 Legge, James Huntly
1905 Lister, Thomas Edmund
1906 McKane, William Oliphant
1905 Mackenzie, Alexander, M.A., Cantab.
1905 Macvean, Herbert James
1905 Maffin, Harry
1905 Manknell, Arthur
1905 Matthews, Crawfurd Tait
1908 Mitchell, Guy Annesley Carter
1905 Moorhouse, Charles Herbert
1905 Morton, Armitage
1908 Nichol, George Colin Henderson
1906 Radcliffe, Roland Brooke
1906 Reed, Ernest William
1905 Reed, John Arthur
1905 Seaton, Douglas
1909 Shaw, William
1905 Smailes, William Herbert
1905 Smith, Charles Nixon
1909 Smith, Reginald Eccles
1905 Spink, Ernest William, M.D., Lond.
1905 Stansfield, Harry
1905 Stott, William Atkinson
1905 Suggit, Bertram
1909 Thoseby, John Norman Lonsdale
1905 Todd, Aldred Bertram Slingsby
1905 Tomlin, Herbert
1906 Trumper, Oscar Bagster
1906 Walker, Albert Latimer
1905 Walker, Melville George Leslie
1905 Wells, George Lee
1905 Whalley, Frederick
1906 Whitehead, Thomas
1905 Wilks, Stephen, Longmore Butterworth, M.D., Lond.
1905 Willans, Charles Rudolph
1906 Williamson, Joshua

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

1907 Myers, Mary Alice
Outram, 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

Commerce

1904 Whiting, John Roland
1906 Potts, Roland Beeton

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

Teachers of German

1907 Oates, Ethel Marian
1908 Ife, Mary Eleanor

Mechanical Engineering

1905 Wharton, John
1909 Tsing Ming-Poh

Civil Engineering

1908 Bauer, Noah
1909 Hsu, Hoon Yu

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

Coal Mining

1904 Frazer, Edgar Hamilton
Paterson, George Stewart
Willey, Edward
1908 Holden, Athole Frederick.

Dyeing

1906 Sen, Gopal Chundra
1907 Dawson, Walter
Marchant, Ernest Norman
1908 King, Percival Edgar
1909 Sen, Rajendra Nath

Leather Manufacture

1904 Casaburi, Vittorio
Doikawa, Saichiro
Prévôt, Jules Mathieu
1906 Feldheim, Herman Dietrich Ernst
Mende, Stephan
1907 Blyth, James Rupert
Hardie, Alexander Greenhorn
Morrison, James Alexander Shepherd, M.Sc.
1908 Fenner, Joseph Henry
1909 Bose, Surendra Nath
Ellis, Leonard Eric Kensett
Paniker, Manakath Allampatath Ramunni
Sen, Atul Chandra
Seymour-Jones, Arnold

Public Health

1906 Halliwell, Thomas Oates
1907 Scatterty, William
Sharpe, Frederick Augustus
Mason, Harry
1909 Carnes, William

Dental Surgery

1909 Salt, Charles Frederick
Wilson, Francis Cecil

UNIVERSITY OF LEEDS

FELLOWS, SCHOLARS, AND PRIZEMEN

(See pages 469-503.)

VICTORIA UNIVERSITY
FELLOWS, SCHOLARS, AND PRIZEMEN
(YORKSHIRE COLLEGE STUDENTS)

University Fellowships

1899	Stuart, Wilson	*Arts*
1900	Stuart, Wilson	*Arts*
1901	Whiteley, Charles Edward	*Science*

University Scholarships

1898	Stuart, Wilson	*Philosophy*
1899	Cooper, Albert Henry	*Physics*
	Dwerryhouse, Arthur Richard	*Geology*
	Varley, William Mansergh	*Physics*
1900	Braithwaite, Leonard Ralph	*Medicine*
	Denison, Robert Beckett	*Chemistry*
1902	Stelfox, Sydney Herbert	*Engineering*
	Stoddard, Arthur Askwith	*Engineering*
1903	Raper, Henry Stanley	*Chemistry*
1904[1]	Waterhouse, Osborn	*English*
	Zortman, Israel Hyman	*Physics*

Derby Scholarship

1899 Frankland, John Naylor

John Bright Scholarship

1897 Stuart, Wilson
1899 Hartley, Harold (prizeman)
1906 [1]Waterhouse, Osborn

Mercer Scholarship

1901 Dakin, Henry Drysdale

Leblanc Prize

1891 Ingle, Harry
1892 Mann, Harold Hart
1898 Skirrow, Frederick William

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

[1] Victoria University of Manchester.

1907	*Class* 2	Hodges, Raymond John
1908	*Class* 1	Hirst, John Crosland
	Class 2	Mallinson, Dorothy
1909	*Class* 2	Dearnley, Charles

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

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 [1]
	,,	Thorp, Hilda [2]
1908	*Class* 1	Cohen, Alexander
	,,	Murphy, Bertha Mary
1909	*Class* 1	Longbottom, Nellie [2]
	Class 2	Cridland, Dorothy
	Class 3	Batchelor, Ethel

History

1906	*Class* 2	Wilson, Florence Grey
1907	*Class* 1	Findlay, Sarah Kennedy
	Class 2	Gill, William Conrad
1908	*Class* 1	Simpkiss, Nellie
	Class 3	Hobson, Elsie Irene
1909	*Class* 1	Dean, Arthur Ernest
	,,	Peel, Albert
	,,	Wortz, Frederick Robert
	Class 2	Cawthron, Edwin
	,,	Gendall, Philip Parsons Watkins
	,,	Morrell, Frank
	Class 3	Hand, Harry Aram

Philosophy

1908	*Class* 1	Strange, Edward Howard

Mathematics

1905	*Class* 2	Phillipson, Abram
1907	*Class* 2	Smailes, Alan
	Class 3	Ashby, William Ewart
1909	*Class* 1	Marshall, Francis

[1] Distinguished in French and German.
[2] Distinguished in German.

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

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

Botany

1905	*Class* 2	Turner, Florence Mary Beatrice
1909	*Class* 2	Westerman, Mabel

Physiology

1905	*Class* 1	Lord, William Ernest
1907	*Class* 1	Crowther, William Edmund

Geology

1906	*Class* 1	Jordan, Albert
1909	*Class* 2	Parsons, Ernest
	Class 3	Haigh, John Henry

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

Electrical Engineering

1907	*Class* 1	Shuttleworth, Newton
	Class 2	Wilkinson, Eltoft Wray
1909	*Class* 1	Bannister, Albert
	Class 2	Greenwood, Edward Joseph Bernal

Mining

1909	*Class* 2	Gilchrist, David

Colour Chemistry and Dyeing.

1907	*Class* 1	Baddiley, James
	Class 2	Frank, George Herbert
1908	*Class* 1	Rhodes, Norman
	,,	Woodhead, Arthur Edmund

Honours at M.B. and Ch.B. Examinations

1908	*Class* 1	Mitchell, Guy Annesley Carter
1909	*Class* 1	Thoseby, John Norman Lonsdale
	Class 2	Flint, Horace Lance
	,,	Smith, Reginald Eccles

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[1]	*Class* 2	Davis, William Hathaway

English Language and Literature

1904[1]	*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[1]	*Class* 1	Airey, Millicent
	Class 2	Dodgson, Sarah Alice
	Class 3	Raven, Hilda Mary

[1] Victoria University of Manchester.

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[1]	*Class* 1	Phillipson, Abram

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
	,,	King, 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	Denison, 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

[1] Victoria University of Manchester.

	Class 3	Coxon, Lawrence Adams
1903	*Class* 1	Raper, Henry Stanley
	,,	Scholefield, Fred
	Class 2	Ellis, James John
	Class 3	Rhodes, Edwin
1904[1]	*Class* 1	Gatecliff, John
	,,	Hartley, Percival
	,,	Marshall, Joseph
	,,	Zortman, Israel Hyman
	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	Groocock, 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

[1] Victoria University of Manchester.

Honours at M.B. and Ch.B. Examinations

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	*Class* 2	[1]Boyle, Alan
	,,	Tomlin, Herbert

First Classes at Final LL.B. Examination

1902 Sykes, James
1903 Jessop, Frederick Hubert

UNIVERSITY OF LEEDS

EXAMINATION LISTS

(*September*, 1908–*July*, 1909)

Faculty of Arts (including Commerce and Law)

M.A. Examination

Education - - - - - - Monahan, Alexander James

Examination for B.A. Degree with Honours

Classics - - - - -	*Class* 2.	Dearnley, Charles
Modern Languages and Literatures - - -	*Class* 1.	Longbottom, Nellie
	Class 2.	Cridland, Dorothy
	Class 3.	Batchelor, Edith
History - - - - -	*Class* 1.	Dean, Arthur Ernest
	,,	Peel, Albert
	,,	Wortz, Frederick Robert
	Class 2.	Cawthron, Edwin
	,,	Gendall, Philip Parsons Watkins
	,,	Morrell, Frank
	Class 3.	Hand, Harry Aram

Ordinary B.A. Final Examination

Allott, Effie Gwen
Anderton, Louisa
Gittleson, John
Lee, Catherine
Martin, Thomas Haigh
Matthews, Basil Wilfrid
Murphy, Grace Louisa
Rennard, Thomas Ambler
Ward, Alice Rose

Ordinary B.A. Intermediate Examination

September, 1908

Bartle, Arthur
Billam, Bertram
Brown, Ralph Noel
Ellis, Arthur Harold Carteret
Gray, Isabel
Greenberg, David
Longstaff, Stella Marguerite
Mellors, Clarissa Florence Horsley
Reakes, Gilbert Spofforth
Stainsby, George William
Taylor, Beatrice

June, 1909

Beevers, Sydney
Bevan, Albert Edward
Boden, Cecil Arthur
Broadley, Mary Anne
Brook, Elsie
Charlton, Henry Buckley
Crofts, Guy Prescott Shipley
Crossland, Elsie
Dawson, Thomas Henry
Dearden, Gladys May
Dransfield, Henry Ewart Stanley
Ellis, Henry Carl Noel
Fairley, Duncan
Fawcitt, Edwin Henry
Firth, John Rupert
Foggitt, Ida

Gibson, George William
Heaton, Herbert
Hinckley, Philip
Hosking, John
Hoyle, Harold
Hughes, Frederick Cleaton
Lee, Harry
Maddock, William
Major, Irene Carlotta
Miller, Florence Clark
Miller, Solomon
Moody, Sydney
Papworth, Harold Charles
Parker, Frank
Peacey, Pasil William
Phillips, Samuel
Pickett, Bertram Arthur
Pollard, Mabel
Potter, Hilda
Pounder, Benjamin William
Redfearn, Florence Mary
Rhodes, Arthur Wellesley
Sanderson, Tom
Sheldon, Clara
Shout, Leonard West
Taylor, Bertha
Tomlinson, John Lansdowne
Walker, Algernon Stanley
Wallace, Dorothy Kate
Warren, Albert Edmund
West, Evangeline
Wright, Bertha Helen

LL.B. Final Examination

Croft, Thomas Lister
Daiches, Salom
Fisher, Arthur Samuel

LL.B. Intermediate Examination

Ineson, Donald Gordon
Milner, James

Diploma in Education

Bailey, Annie Rosa
Frank, Dorothea Ethel
Golding, Mary Muriel
Hirst, John Crosland
Mallinson, Dorothy
Normington, May
Simpkiss, Nellie
Zelensky, Lily Aurelia

Diploma for Teachers of French.

March, 1909

First Examination

Abbott, Constance Maude
Best, Winifred Jane
Cooke, Sarah Grace
Ife, Mary Eleanor

June, 1909

Abbott, Clifford Hewson
Cromie, Eily Kathleen
Kremer, Helene
Wheatley, Annie

Second Examination (*carrying Diploma*)

Abbott, Constance Maude
Best, Winifred Jane
Cooke, Sarah Grace
Frank, Dorothea Ethel
Hollom, Edith Gertrude
Ife, Mary Eleanor
Lingard, Joseph Hartley
Walker, Theodora Minnie Hirs

Diploma for Teachers of German.

March, 1909

First Examination

Lauenstein, Harold Heinrich

June, 1909

First Examination

Baker, Agnes Gertrude

Diploma in Commerce

June, 1909

First Examination

Barringer, Ronald

Faculties of Science and Technology

Examinations for B.Sc. Degree with Honours

Mathematics	*Class* 1.	Marshall, Francis
Physics	*Class* 3.	Ward, Herbert Wainwright
	,,	Wood, George
Chemistry	*Class* 1.	Dudley, Harold Ward
		Webster, Herbert William
	Class 2.	Carter, Frederick Edward
	Class 3.	Hurst, Frank
		Thornton, Edwin
		Whitaker, Herbert
Botany	*Class* 2.	Westerman, Mabel
Geology	*Class* 2.	Parsons, Ernest
	Class 3.	Haigh, John Henry
Civil Engineering	*Class* 1.	Omar, Abdel Mageed
Mechanical Engineering	*Class* 1.	Addison, Herbert
		Mawson, John Halliwell
Electrical Engineering	*Class* 1.	Bannister, Albert
	Class 2.	Greenwood, Edward
		Joseph Bernal
Mining	*Class* 2.	Gilchrist, David

Ordinary B.Sc. Final Examination

Appleyard, Ada Evelyn
Armin, Edwin Bates,
Arnold, Joseph Sykes
Beckwith, Kathleen Mary
Bendrey, Hilda
Coope, Hilda
Crawshaw, Nellie
Crosby, Berkley Cecil
Cundall, Leonard Bertram
Dixon, James Harvey
Fort, Morris
Groocock, Helena
Holroyd, Eleanor Mary
Margetts, Percy Alexander
Marsh, Frank Salton
Mitchell, John Arnold
Mountain, Frank
Paniker, Manakath Allampatath Ramunni
Roberts, Augustus Alphonso
Wilby, Arthur Edwin
Woodmansey, Arnold

Ordinary B.Sc. Intermediate Examination

September, 1908

Charlesworth, John Kaye
Cockburn, Edward Colin
Crabtree, John Alfred
Davison, Irene Edith
Dawson, John Barkas
Earle, Frank Maynard
King, William Norman
Nichol, Agnes
Pollard, Reginald Sidney
Read, Balfour
Wimpenny, May

June, 1909

Airey, Cecil Philip
Aldersley, Arthur Howard
Bennett, Percy
Bentley, Edith
Blackburn, Clarice Lawton
Bright, Alfred
Carr, William
Chapman, Sarah Elizabeth
Crowther, Stephen
Curtis, Horace
Davison, Florence Mary
Glick, Nathan Bernard
Hole, Herbert Wray
Holroyd, Thomas Arthur
Hoppenstadt, Isaac
Jackson, Percy Gladstone
Kendall, Percy Fry
Lawson, Edward Ingleson
Lishman, Arthur Vincent
McMillan, Mary McWhirter
Makinson, Nora Isabel
Midgley, Mortimer
Mulcahy, Ellen
North, Neville Marriott
Pearson, William
Raistrick, Harold
Rakison, Maurice
Sherwin, Walter
Simpson, Thomas Cooper
Stillwell, Samuel Thomas Cryer
Taylor, Arthur
Umbleby, Harold
Vaughan, John David
Whiteley, Ada
Wilson, Ernest Percival
Wilson, John Harry
Wright, Charles

Diplomas

Civil Engineering - Hsu, Hoon Yu

Mechanical Engineering - Tsing, Ming-Poh

Electrical Engineering - Baldwin, Ewart Vernon
Humphreys, Percy Harry Illingworth
Peam, Ferdinand
Pedley, Francis Leonard
Sheard, Percy

Leather - Bose, Surendra Nath
Ellis, Leonard Eric Kensett
Paniker, Manakath Allampatath Ramunni
Sen, Atul Chandra
Seymour-Jones, Arnold

Dyeing - Sen, Rajendra Nath

Textile Industries - Cockcroft, Ernest Edward
Chattapadhaya, Nolini Mohan

Faculty of Medicine

Final M.B. and Ch.B. Examination

December, 1908

Part I

Hessel, William Thomas
Riley, Arthur
Sharpe, Cladius Galen Kaye
Taylor, Alan Everley

Part II

Vallow, Harold

July, 1909

Part I

Brown, Charles Suffield
Brown, John Perrin
Fisher, John Barugh
Hart, Walter Sidney
Ingham, Harold Norman
Keswick, John Barton Thompson
Raper, Henry Stanley
Slocombe, Bernard Atkinson
Stockdale, George Vincent
Twist, Norman Stuart

Part II

Flint, Horace Lance (*Second Class Honours*)
Hepworth, Sydney Milverton
Shaw, William
Smith, Reginald Eccles (*Second Class Honours*)
Thoseby, John Norman Lonsdale (*First Class Honours*)

Second M.B. and Ch.B. Examination

March, 1909

Part I

Bastable, Arthur Langford
Caplan, Harry
Dunbar, Leslie
Little, Cuthbert Joseph Harwood
Macvie, George Ernest
Mitton, Norman Vernon
Nunneley, Francis William
Robinson, William
Sinson, Julius Barnet
Walker, John Perry
Walker, Thomas Lockwood
Wigglesworth, Frank
Wood, Bertram William Francis

Part II

Ingham, Harold Norman
Richardson, Cyril Brian

July, 1909

Part I

Elliott, Thomas

Part II

Angel, Harry
Blackburn, John Holliday
Ferguson, John
Kirk, George William Lister
Kitson, Frederick Hubert
Mellis, George Pickard
Metcalfe, John Clifford
Peto, Morton
Pickles, John Jagger
Samuel, Samuel
Shackleton, Herbert Park
Symons, Hubert Wallace

First M.B. and Ch.B. Examination

September, 1908

Part II

Peto, Morton

Shackleton, Herbert Park

March, 1909

Part I

Gosney, Charles Marsh
Knowles, Harry Rylands
Peto, Morton
Shackleton, Herbert Park
Sinson, Harry Abram
Symons, Hubert Wallace
Taylor, Herman Louis
Ward, Clifford
Wilkinson, John
Wright, John

June, 1909

Part II

Butler, Leonard Henry
Gosney, Charles Marsh
Knowles, Harry Rylands
Sinson, Harry Abram
Taylor, Herman Louis
Wilkinson, John
Wright, John

Diploma in Public Health

December, 1908.

Hime, Henry Charles Rupert

July, 1909

Carnes, William

Diploma in Dental Surgery (L.D.S.)

Preliminary Examination in Science.

March, 1909.

Shoesmith, Harold Percy

Final Examination.

July, 1909

Part I

Bentley, Harold Rawbert
Salt, Charles Frederick

Part II

Salt, Charles Frederick
Wilson, Francis Cecil

REGISTERED STUDENTS

Session 1908-9.

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

(*m*)—*Signifies also in attendance in the Faculty of Medicine.*

Abbott, Ann Maria
Abbott, Clifford Hewson
Abbott, Constance Maude
Abd, Hamid el Abd el
Abiko, Shinyo
Ackroyd, William
Addison, Herbert
Addyman, Oscar James
Agar, John Edwin
Ainsworth, Albert
Airey, Cecil Philip
Aitken, James Hogarth
Albrecht, Cyril Valentine
Aldersley, Arthur Howard
Alderson, May
Alguersuari, Joseph
Allott, Effie Gwen
Andersen, Hanse
Anderson, Arthur Ernest Paley
Anderson, Harold
Anson, Harris Hartas
Appleyard, Ada Evelyn
Appleyard, Alfred
Ark, Harry
Armin, Edwin Bates
Armitage, Sydney
Armitage, William Arthur
Armstrong, Percy Towns
Armstrong, Philip McCutcheon
Arnold, Edith
Arnold, Joseph Sykes
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Atkin, William Rearden, *Brown Scholar*
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Bagenal, Philip Hope Edward
Bailey, Annie Rosa, B.Sc.
Bainbridge, James Scott
Baker, Agnes Gertrude
Baker, Wilfrid
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Bannister, Thomas Donovan Wood
Barker, Harry Whitaker
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Barrett, Norman Kenyon
Barringer, Ronald
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Batchelor, Edith, *Charles Wheatley Scholar*
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Bean, Benjamin Donald Hewitt
Bean, Bevis Heppel
Bean, William Harold
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Bearder, Jonathan Edgar
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Beckwith, Kathleen Mary
Bedford, Thomas Jessop
Beech, Fred
Beevers, Sidney
Bell, Alfred Glaize
Bell, James Arnold
Bendrey, Hilda
Bennett, Claude Denman
Bennett, Percy
Bentley, Edith
Berry, Thomas Ernest
Bertrand, Auguste Henry
Best, Winifred Jane
Bevan, Albert Edward
Billam, Bertram

Birtles, Arthur
Blackburn, Clarice Lawton
Blackburn, George
Blair, Ethel Mary (Mrs.)
Blakeley, Lilian
Bland, Robert Neilson
Blockey, John Reginald, B.Sc., *University Scholar*
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Bonar, James Dow
Bond, James Ryding
Bose, Ripendra Nath
Bose, Surendra Nath
Bowen, Harold Walter
Boyle, Charles William
Boyle, Douglas Jackson
Boyle, Henry Kirk
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Bradley, William
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Branford, George Richard
àBrassard, Herbert Frederick Richard Oswald
Brayshaw, Florence
Brekke, Lorentz Oliver
Briggs, Constance Marie
Briggs, John James
Briggs, Margery Haining
Bright, Alfred
Broadbelt, Ralph
Broadley, Mary Anne
Brodie, Morris, *L.C.C. Scholar*
Brook, Elsie
Brooke, Sarah
Brown, George Gilbert
Brown, Ralph Noel
Brown, Thomas
Buck, Joseph (*m*)
Bucknall, Charles John
Butler, Charles
Butler, Gloxinia
Butler, Leonard Henry (*m*)
Butterworth, Albert Edward

Cade, Harry Mills
Caldwell, Sarah Jane
Callender, George Dougal
Calvert, John Cyril
Calvert, William Edward
Carmouche, Harold
Carmouche, Victor James
Carr, William
Carter, Frederick Edward
Carter, John Wilfred, *William Summers Scholar*
Casanovas, Enrique
Casson, George
Castello-Sosa, Alfonso
Cawthron, Edwin
Chadwick, Richard Henry (*m*)
Chalker, Henry Cecil
Chalmers, Thomas Marriott
Chapman, Amy Thiza
Chapman, Sarah Elizabeth
Charlesworth, John Kaye
Charlton, Henry Buckley
Chattapadhaya, Nolini Mohan
Chow, Pingchang
Claridge, Majorie Muriel, *Emsley Scholar*
Clarke, Charles Dougan
Clarke, Francis Eagle
Clayton, Frank
Clayton, Helena
Clayton, Joseph
Clegg, Arthur
Cockburn, Edward Colin
Colbert, Thomas Henry
Coldbeck, Malcolm Stanley
Conan, Alan Joseph
Cooke, Sarah Grace
Cookson, Fred Watson
Coope, Hilda
Cooper, William Claude
Coppock, Laura
Cornegliano, Albert
Corson, Douglas Fraser
Coulthard, Ernest
Couper, George Augustus
Cousen, Mabel
Cox, Herbert
Crabtree, John Alfred
Cradock, Norman
Cramp, Amy Winifred
Craven, Daniel Hinchliff
Crawford, Philip Austin
Crawshaw, Nellie
Cridland, Dorothy
Critchley, Robert Samuel
Croft, Alice Mary
Croft, Thomas Lister

Crofts, Guy Prescott Shipley
Cromie, Eily Kathleen
Crosby, Berkley Cecil
Crosby, John (*m*)
Crossland, Elsie
Crowther, Stephen
Croysdale, James
Cundall, Leonard Bertram
Cunningham, David
Curtis, Horace

Daiches, Salom
Daly, Augustine Joseph
Darling, Percy
Davies, William Percival
Davison, Florence Mary
Davison, Irene Edith
Dawes, Ivy Emily, *Edward Baines Scholar*
Dawson, John Barkas
Dawson, Thomas Henry
Dawson, Thomas Rayner
Day, Horace Cardwell
Dean, Arthur Ernest, *Salt Scholar*
Dearden, Gladys May
Dearnley, Charles, *William Summers Scholar*
Denham, Edwin
Desbenoit, Lucien
Devoise, George Jacques
Dimond, Sidney George
Dixon, Frank Metcalfe
Dixon James Harvey
Dobson, Joseph George
Dobson, Joseph Stanley
Dockray, Alfred
Dolan, Stephen Ormond (*m*)
Doody, Ellie
Drake, Harry
Drake, William Allison (*m*)
Dransfield, Henry Ewart Stanley
Duang, Nai
Dubrulle, Auger
Duchesne, Henry
Dudley, Harold Ward, *Akroyd Scholar*
Duffin, Joseph Francis
Dugdale, Norris
Dunne, James Joseph

Eadie, Thomas Tait, *Clothworkers' Textile Scholar*
Earle, Frank Maynard
Easton, William Henry
Ebert, Georg, Ph.D.
Edmonds, Daphne Morse
Edson, George Ewart
Edwards, Edward
Edwards, Laura
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Ellis, Francis Sleightholme
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Ellis, Percival Clement
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English, Guy Whytehead
Evans, Meredith Dwye
Evers, William

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Fielden, Harold
Findlay, William Gillanders
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Fisher, Arthur Samuel
Fisher, Auberon Herbert
Fletcher, John
Foad, Mohammed
Foggitt, Ida
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Forrest, John
Fort, Morris
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Gascoigne, Frank
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Gaunt, John
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Gendall, Philip Parsons Watkins
Gerard, Inglis Joseph, *Craven Scholar*

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Gillies, John Cruickshanks
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Girbardt, Paul
Gittleson, John
Glaisby, Lacy Norman
Glick, Nathan Bernard
Goddard, Ethel Mary, B.Sc.
Golding, Mary Muriel, B.A.
Gotoh, Siki
Gould, Percy
Gozney, Charles Marsh (*m*)
Graham, Hugh Colborne
Gray, Isabel
Greaves, Frederick Charles
Greaves, Frederick William Marshall, M.B. Ch.B. (*m*)
Greaves, Reginald Harry
Greaves, Samuel Sowray (*m*)
Green, Charles Reginald
Green, Harry Stanley
Green, Winifred
Greenberg, David
Greenwood, Edward Joseph Bernal
Gregory, Eric Oxspring
Gregson, Annie
Grieg, Catherine
Grimston, John William
Groocock, Helena
Groves, Winnifred Halliday
Grundy, Geoffrey Stewart
Grundy, Mary Jane
Guy, Ernest, *Edward Baines Scholar*

Haigh, Annie
Haigh, Guy Rhodes
Haigh, John Henry
Hale, Agnes
Haley, Leonard
Halford, John Charles
Halford, Naomi Bertha
Hall, William
Halliday, Wilfred Joseph
Hand, Harry Aram
Hannam, Arthur Maurice
Hardcastle, Kate
Harding, Charles Thompson
Hardisty, Elsie
Hardisty, Victoria Lavinia
Hargraves, Annie Elizabeth
Hargreaves, Arthur
Hargreaves, James Harold
Harling, Thomas
Harrison, John Rowland
Harrison, William
Hartley, James Henry
Hartnell, Cuthbert
Harvey, Harry
Hazard, John de Vaus
Heap, Harold Chandler
Heaton, Herbert
Hegemann, Joe
Henderson, Matthew
Heugham, Cecil John
Hewerdine, Harry
Hewson, Frank Richard Hick
Hickey, Jeremiah Alfonso
Hicks, John Sykes
Hickson, Bernard
Hill, Isabel, M.B. Ch.B. (*m*)
Hill, James
Hill, James Harry
Hinchliffe, Charles
Hinckley, Philip
Hine, Noel Austin Wade
Hirst, John Crosland, B.A.
Hirst, John Willie
Hobson, Elsie Irene, B.A.
Hobson, Julia, *William Summers Scholar*
Hobson, Kathleen
Hogan, Kathleen, B.A., *John Rutson Scholar*
Hogan, Therese Joseph
Hohlfeld, Carl August
Holden, Hervey Leonard
Hole, Herbert Wray
Hollom, Edith Gertrude
Holroyd, Eleanor Mary
Holroyd, Thomas Arthur
Hopkins, Edith Winifred
Hopkins, Eric Arthur
Hoppenstadt, Isaac
Horn, Fred
Horne, Harold Forster (*m*)
Horne, Mary Osyth
Horsfall, John Donald
Hosking, John
Hossain, Moazzom
Houldsworth, Hubert Stanley

Howarth, Ralph
Hoyle, Harold
Hoyle, John Edmund
Hsu, Hoon Yu
Hudson, Harry
Huggins, Mary
Hughes, Frederick Cleaton
Hunter, Reginald Watt
Hurst, Frank, *Akroyd Scholar*
Hwang, Tsong Fah
Hyde, Francis Austin

Ife, Eleanor Mary (Mrs.)
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Ingleby, Edward Cecil
Inman, Ernest Jesse (Rev.)
Ishizaka, Masaye
Ismail, Mohammed

Jackson, Frederick Keith
Jackson, Herbert
Jackson, Percy Gladstone
Jaques, Minnie
Jemison, Charles
Johnson, Charles Lester
Johnson, Dorothy
Johnstone, John Cunliffe
Joy, Wilfred

Kametaka, Tokuthei
Kaufmann, Hans
Kay, Stanley Burnett
Kaye, Sidney Herbert
Kelly, John
Kench, Henry
Kendall, Percy Fry
Kennedy, Daniel Bruce
Kennedy, Douglas Stewart
Kenny, Elizabeth
Kent, Leigh Udall, B.A.
Kenworthy, Tom Ramsden (*m*)
Keswick, Joseph Daniel Leonard
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King, Harry Trevor
King, William Norman, *Leighton Scholar*
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Kirby, Oswald Farquhar
Kirk, Kathleen Hylda
Kirk, William
Kirtland, Dorothy Mary
Kitchen, Percy Inman
Kitson, Fanny Edith
Knowles, Geoffrey
Knowles, Henry Rylands (*m*), *Medical Scholar*
Kremer, Helene

Laird, Marjorie Jean
Lauenstein, Harold Heinrich
Lavington, Mabel Jessie
Lawson, Edward Ingleson
Leach, James
Leach, Wlliiam
Lee, Catherine
Lee, Craven
Lee, Elsie, *Brown Scholar*
Lee, Harry
Leetham, Reginald
Leslie, May Sybil, B.Sc., *University Scholar*
Leslie, Olive
Lingard, Jonas Hartley
Lishman, Arthur Vincent
Livingston, Janet Agnew
Llewellyn, Arthur Samuel
Lloyd, Llewelyn
Lo, Ting Yu
Lockwood, Herbert Sinclair (*m*)
Lodge, George Arthur
Lohmann, Friedrich Wilhelm
Longbottom, Nellie
Longstaff, Stella Marguerite
Lonsdale, James Herbert
Lupton, Elizabeth Marion

Mackay, Donald Paley
Major, Irene Carlotta
Makinson, Nora Isabel
Mallinson, Dorothy, B.A.
Mann, Clarissa, *Leighton Scholar*
Manson, Barnet
Margetts, Percy Alexander
Marriott, John Harland
Marriott, William Mason
Marsh, Frank Salton, *Leighton Scholar*
Marshall, Annie Priscilla Backhouse
Marshall, Francis, B.Sc., *Akroyd Scholar*
Marshall, Harold
Martin, George Christopher

Martin, Ismae Knox
Martin, James Osborne
Martin, Thomas Haigh
Mason, George Samuel
Matthews, Basil Wilfred
Maud, Ida Marion, B.A.
Mawson, Bertha
Mawson, Frank
Mawson, Harold Woodhead (*m*)
Mawson, John Halliwell
McErvel, Fred
McFarlane, Archibald
McGill, Harold
McLean, Patrick
McMillan, Mary McWhirter
Medhurst, Norman Hastings (*m*)
Meirielles, Joas Magalhaes de Azevedo
Mellors, Clarissa Florence Horsley
Middleton, Sarah Elizabeth
Midgley, Mortimer
Millar, George
Miller, Florence Clark
Miller, Henry Claude
Miller, Solomon
Miller, William
Milligan, Cecil Cooper
Milne, James Wilson
Milner, James
Minnear, Garth Ewart
Mitchell, John Arnold
Monahan, Alexander James, B.A.
Moody, Sydney
Moon, Walter
Morgan, Cecil Henry
Morgan, Richard Felix
Morley, Herbert
Morrell, Frank
Morrell, George Norman Maurice
Morrogh, Dominick
Morton, Gordon
Mountain, Frank
Mulcahy, Angela
Mulcahy, Ellen
Müllett-Ward, Annie
Murphy, Grace Louisa
Murphy, Phyllis Dorothy
Murray, Thomas William
Myers, Allan Langton
Myers, Gladys May
Myers, Marion

Navalkar, Dinanath Sunderras
Naylor, Harry
Newton, Harry
Newton, Wilfrid
Nichol, Agnes
Nicholson, Ethel, B.A.
Noack, Georg Adolf
Nodding, George William
Norman, Percy Gordon
Normanton, Fred Garside
Normington, May, B.Sc.
North, Fanny Caroline, M.A.
North, Neville Marriott
Nuttall, Harry

Omar, Abd-el-Fattah-Hamdy
Omar, Abd-el Mageed
Ostrehan, Arthur Clement Henry
Overbury, Kate Ellen

Paniker, Manakath Allampatath Ramunni
Parke, Edward
Parker, Harold (*m*)
Parkin, Henry
Parkinson, Alfred Howard, M.B. B.S. (*m*)
Parr, Thomas Alfred
Parry, Ethel, M.Sc.
Parsons, Ernest
Partridge, John Kenneth
Patchett, Hugh
Pattinson, Frank Hedley
Pawson, Harry
Peacock, Katherine Maud
Peacock, Oswald Raper
Pearson, Robert Tute
Pearson, William (Bradford)
Pearson, William, *Akroyd Scholar* (Liversedge)
Pedley, Francis Leonard
Peel, Albert
Perham, Ethel Kate
Perkins, Sarah Elizabeth, B.A.
Peters, Gerhard Gustav Oskar
Peters, John Cecil
Petitpré, Paul Marcel
Peto, Morton (*m*)
Pfenninger, Paul, *Clothworkers' Textile Scholar*
Phillips, Dorothy

Phillips, Samuel
Pickard, Veronica
Pickering, Harry
Pickett, Bertram Arthur
Pickles, Frank
Pickles, Herbert
Pighills, Harold Norman
Pilling, James Arthur
Pobjoy, Harold Norman
Pollard, Mabel
Pollard, Reginald Sidney
Poppleton, Bernard Eyre
Poppleton, Guy
Potter, Hilda
Pounder, Benjamin William
Powis, Frank, *Leighton Scholar*
Pownall, John Samuel
Presdee, Charles Edward
Preston, Alice Mary
Preston, Richard Amyas
Priestley, Edmund
Purdon, Arthur Oscar

Quartermann, John Richard

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Race, Ida Cunninghame
Radcliffe, Norman Brooke
Raistrick, Harold
Rakisson, Maurice
Ramsden, Arthur
Ramsden, Arthur Lloyd
Randall, Buxton William De Winton
Rashid, Mohammed Abdur
Rawling, Francis George, *Akroyd Scholar*
Read, Balfour
Reakes, Gilbert Spofforth
Redfearn, Florence Mary, *Charles Wheatley Scholar*
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Rennie, William Heron Maxwell
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Rhodes, John Wilfrid
Rhymes, Herbert
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Richardson, Mark Alexander
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Ridley, William Owen
Riley, Frank, B.Sc., *University Scholar*
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Roberts, Warren Longtoft (*m*)
Roberts, William Howard
Roberts, William Norman
Robinson, Francis Edward
Robinson, Henry Clifford (*m*)
Robinson, Leonard Mould
Rodwell, John Arthur
Roebuck, Henry
Roskilly, William Wilcock
Rowe, Annie Jane
Rowe, Frederick Maurice
Ruane, Michael Alexander

Salvin, Elizabeth
Sanderson, Tom
Savin, Constantine
Schofield, Vernon
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Scott, Alice Townley
Scott, Francis Gerald
Scriven, Charles
Scruton, Kate Ellen, B.A.
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Sen, Kartick Chandra
Sen, Rajendra Nath
Senior, George
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Simpson, James Marsden
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Southwell, Jubal
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Spruce, Gladys
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Standing, David Fox (*m*)
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Stead, George William
Stevenson, Henry
Stevenson, Hugh
Stillwell, Samuel Thomas Cryer
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Stradling, Ethel Milnes
Stringer, Cuthbert Henry
Strong, Robert, B.Litt.
Strothard, Hubert Turner
Stroud, John Reginald Clifford
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Summerscales, Winifred
Sunderland, Annie
Surr, Kathleen Mary
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Sutcliffe, John Algernon Lacy
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Sykes, Ben
Sykes, Bernal
Sykes, Frank(*m*)

Tasker, Robert Bertram (*m*)
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Taylor, Beatrice
Taylor, Bertha
Taylor, Ernest (Leeds)
Taylor, Ernest (Normanton)
Taylor, Herman Louis (*m*)
Taylor, William Alexander
Teng, Pang De
Thistlethwaite, Leslie
Thompson, Charles Frederick
Thomson, George
Thornton, Edwin
Thornton, Ernest Thompson
Thornton, Harold
Thorp, Hilda, B.A.
Tillott, Harry
Tingle, Robert Lacy Aubrey
Tomlinson, John Lansdowne
Tonkinson, Edward Bailey
Topping, John Newall
Tsing, Fang Ying
Tsing, Min-Poh
Tucker, Alfred
Tunnicliffe, Lilian May
Twohig, John Patrick

Umpleby, Harold

Varley, Annie
Varley, Gilbert, *Akroyd Scholar*
Vaughan, John David
Viccajee, Sohrab Framjee

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Walker, Douglas
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Walker, James
Walker, Robert Francis
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Wallace, Dorothy Kate
Wallbank, Frederic Milligan
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Walmsley, Minnie
Walton, John William Clifford
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Ward, Herbert Wainwright
Watson, George William (*m*)
Watson, James Pykett
Watson, William Ernest
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Webster, Herbert William, B.Sc., *Leighton Scholar*
Webster, Mallinson
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West, Evangeline
West, Robert Cecil
Westerman, Mabel

Weston, Charles Guy
Whalley, Lewis
Wheatley, Annie
Wheatley, Arthur Nevin
Wheatley, Norman Herbert
Wheatley, Robert
Whitaker, Herbert, B.Sc.
White, Leslie Gordon (*m*)
Whitehouse, Hilda Ann
Whiteley, Ada
Whiteoak, Minnie Margaret
Whitfield, John Leslie
Whittingham, Robert Cecil
Whitwam, Harold Ernest
Wicksteed, Lucy Rosamund
Wicksteed, Mary Ciceley
Widdowson, John Ambler
Wigglesworth, William Henry
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Wilkinson, Eric Fitzwater, *Emsley Scholar*
Wilkinson, Hedley Vickers
Wilkinson, John (*m*)
Williams, Edith
Williamson, Julian Humphrey Kendall
Willott, Ernest Spencer
Wilmer, Douglas Horsford
Wilson, Ernest Percival
Wilson, George Victor
Wilson, James Blackburn, *Clothworkers' Textile Scholar*
Wilson John Harry
Wilson, Joseph
Wilson, Muriel Margaret
Wilson, William Alexander
Wilson, William Joseph
Wimpenny, May
Winterbottom, George Harold
Witty, John Robert
Wong, Ka Luen
Wood, (Mrs.) Alice Elizabeth
Wood, Charles
Wood, Charles Bertram
Wood, Frankland Victor
Wood, George (Hull)
Wood, George (Liversedge) *Brown Scholar*
Wood, Henry Stanley
Wood, Hubert
Wood, James Herbert
Wood, Lawrence Henry
Wood, Louis Albert, *Leighton Scholar*
Woodhead, Arthur Edmund, B.Sc. *Clothworkers' Dyeing Scholar*
Woodhead, Gertrude Ramsden
Woodhead, Henry
Woodman, Herbert Ernest
Woodmansey, Arnold
Woodward, Arthur
Worsnop, Edgar
Wortz, Frederick Robert
Wright, Bertha Helen
Wright, Charles
Wright, John (*m*)
Wright, Walter Vivian
Wrigley, Florence Mary

Zelensky, Lily Aurelia, B.Sc.
Zortman, Israel Hyman, B.Sc., Ph.D.

Faculty of Medicine

(*s*)—*Signifies also in attendance in the Faculty of Science.*

Allott, Wordsworth Leach, M.R.C.S. (Eng.) L.R.C.P., L.R.C.S.) Edin.
Angel, Harry
Arbuckle, Donald, M.B. Ch.B. (Glasgow)
Ashmore, Patricius Wallace, M.B., Ch.B. (Vict,)

Barrett, Walter Ernest, L.R.C.P., L.R.C.S. (Edin.)
Bastable, Arthur Langford
Battle, Harold Edward
Bentley, Harold Rawbert
Bernstein, Isaac Barnett
Blackburn, John Holliday
Bradshaw, Lionel Wilson, L.R.C.P., L.R.C.S. (Edin.)
Braithwaite, Edward Wrigley
Brown, Charles Suffield
Brown, Herbert Horan
Brown, John Perrin

Buck, Joseph, M.D., Durham, L.R.C.P., L.R.C.S. (Edin.) (*s*)
Butler, Leonard Henry (*s*)
Butler, William Harold

Caplan, Harry
Carnes, William, M.R.C.S., L.R.C.P.
Carter, William Edgar
Cattley, Robert, B.Sc., M.B.
Chadwick, Richard Henry (*s*)
Clarke, Thomas
Coplans, Eliezer
Crosby, John (*s*)
Cross, George Harold
Crowther, William Edmund, B.Sc.

Dobson, Donald Frederick
Dolan, Stephen Ormond (*s*)
Drake, William Allison (*s*)
Dunbar, Leslie
Dwyer, Maurice

Elliott, Thomas
Ellis, Edward Douglas

Farrer, Robert Noel
Fearnley, Harold, M.B., Ch.B. (Leeds)
Ferguson, John
Fisher,[2] John Barugh
Flint, Horace Lance
Foord, James Maurice
Fox, Joseph Tregellis, M.R.C.S. (Eng.), L.S.A.

Garland, Geoffrey
Gough, Alfred, M.B., Ch.B. (Leeds)
Gozney, Charles Marsh (*s*)
Greaves, Frederick William Marshall, M.B., Ch.B. (Vict.), M.B., Ch.B. (Leeds) (*s*)
Greaves, Samuel Sowray (*s*)
Green, Stanley Willoughby

Hansell, Alan Waites
Hart, Walter Sidney
Harvey, Reginald Simpson
Harvey, William Fryer
Hepworth, Sydney Milverton
Hessel, William Thomas
Hill, Isabel, M.B., Ch.B. (Edin.) (*s*)
Hill, Philip Keith
Hodgson, Gordon Alexander
Hooton, William Henry
Horne, Harold Forster (*s*)
Howden, Ernest

Ibbotson, Henry Roscoe
Ingham, Harold Norman

Kenworthy, Tom Ramsden (*s*)
Keswick, John Barton Thompson
Kirk[1], George William Lister
Kitson, Frederick Hubert
Knowles, Charles Haley
Knowles[1], Henry Rylands (*s*)

Lamb, Harold Victor
Land, John Murgatroyd
Littler, Cuthbert Joseph Harwood
Lockwood, Herbert Sinclair (*s*)

MacNidder, James, M.D. (Edin.)
Macvie, George Ernest
Mason, John Harold, M.B. Ch. B. (Vict.)
Mason, William Fidler
Mawson, Harold Woodhead (*s*)
McKay, George Simpson
Medhurst, Norman Hastings (*s*)
Mellis, George Pickard
Metcalfe[2], John Clifford
Mitton, Norman Vernon
Musson, John Percy

Newhouse, Edgar
Nunneley, Francis William

Oakley, Philip Douglas
Ogilvy, Charles Stuart

Parker, Harold (*s*)
Parkinson, Alfred Howard, M,B., B.S. (Lond.) (*s*)
Perlman, Archie
Peto, Morton (*s*)
Pickles, John Jagger
Pickles[2], William Norman
Piercy, Bernard Charles

1 Medical Scholar. 2 Infirmary Scholar.

Pinder, John
Pope, Herbert Barrett
Prendergast, John Arnoux

Raper, Henry Stanley, M.Sc.
Reed, John Arthur, M.B., Ch.B. (Vict.), M.B., Ch.B. (Leeds)
Reinhardt, Cecil Goodwin
Richardson, Alfred, M.B., B.S. (Lond.)
Richardson, Cyril Brian
Richardson, Gerald Sidney
Riley, Arthur
Roberts, Warren Longtoft (*s*)
Robinson, Henry Clifford (*s*)
Robinson, William
Rushton, Irvine

Salt, Charles Frederick
Samuel, Samuel
Scargill, Henry Edwin
Shackleton, Herbert Park
Sharpe, Claudius Galen Kaye
Shaw, William
Shoesmith, Harold Percy (*s*)
Sinson[2], Harry Abram (*s*)
Sinson[2], Julius Barnet
Slocombe, Bernard Atkinson
Smith, Charles Nixon, M.B., Ch.B. (Leeds) (*s*)
Smith, Reginald Eccles
Standing, David Fox (*s*)
Stanger, Harry
Stewart, Helen Gertrude, M.D, (Birm.)
Stockdale, George Vincent
Sykes, Frank (s)
Symons, Hubert Wallace

Tasker, Robert Bertram (*s*)
Taylor, Alan Everley
Taylor, Herman Louis (*s*)
Taylor, John Edgar
Taylor, Richard Waring, L.S.A.
Thomas, John William
Thomson, Mary, L. R. C. P., L.R.C.S. (Edin.)
Thoseby, [1] John Norman Lonsdale
Todd, Edgar William
Topham, Harold
Turner, Arthur Henry
Twist, Norman Stuart

Vickers, Benjamin Randall

Waddington, Charles Grimshaw
Walker, John Perry
Walker, Thomas Lockwood
Walton, Henry Beckles Galt
Ward, Clifford
Ward, Rowland
Watson, Francis Clark
Watson, George William (*s*)
Watson, William
White, Leslie Gordon (*s*)
Wigglesworth, Frank
Wilkinson, John (*s*)
Wilks, Harry
Willans, Esmond Tetley
Wilson, Francis Cecil
Wood, Bertram William Francis
Wright, John (*s*)

[1] Medical Scholar. [2] Infirmary Scholar.

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 :—

	1907-8.	1908-9.
Registered Students :		
In Faculty of Medicine (including students who were also in attendance in the Faculty of Science)	131	156
In Faculties of Arts (including Commerce and Law), Science and Technology (including students also in attendance in the Faculty of Medicine)	781	808
	912	964
Less deducted for students who attended in both the Faculties of Medicine and Science ...	11	32
Total number of Registered students	901	932
Occasional Students :		
In Faculties of Arts, Science, and Technology	6	64
Evening Students :		
In Faculties of Arts, Science, and Technology (excluding those who only attended short courses of lectures)	208	233
	1,115	1,229

ENTRANCE SCHOLARSHIPS

The papers set for Entrance Scholarships will be found in the Matriculation Calendar.

DEGREE EXAMINATIONS

The Examination papers set at Degree Examinations are issued annually in volume form in September, and may be be obtained from the Registrar by application, price 1s., or by post to any address in the United Kingdom, price 1s. 4d.

UNIVERSITY SOCIETIES, 1909-10

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 and Tennis Clubs, and undertakes the management of the Gymnasium, the Fives Court, 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, and other entertainments.

The governing body of the Union consist of a President, three Vice-Presidents, a representative of the Staff, the Hon. Treasurer, and a Committee of twenty-three students elected annually.

The subscription to the Union is 10s. 6d. annually. It is payable to the Registrar 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 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.

Further information may be obtained from the Hon. Secretary of the Union.

President— *Vice-Presidents*—A. G. Lupton, Esq., Pro-Chancellor; Sir Nathan Bodington, M.A., Litt. D., LL.D., Vice-Chancellor; A. S. Grünbaum, M.D., Dean of the Faculty of Medicine. *Chairman of Committee*—A. H. C. Ellis. *Hon. Secretary*—C. Hartnell. *Hon. Treasurer*—Professor Connal. *Staff Representative*—Mr. Gilliespie. *Committee*—H. Duchesne, E. A. Hopkins, H. Curtis, J. A. Hickey, A. Appleyard, P. Hinckley, A. E. Woodhead, G. W. Stainsby, F. M. Rowe, F. A. Hyde, J. S. Bainbridge.

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 M. Wilson. *Hon. Secretary*—Miss G. Butler. *Union Representative*—Miss I. Gray. *Committee*—Miss H. Bendrey, Miss D. Kirtland, Miss E. Perham, Miss E. Walker, Miss D. Wallace.

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. *President and Chairman*—Professor Garstang. *Vice-President*—Mr. A. Seymour-Jones. *Secretaries*—Mr. H. Heaton, and a lady to be elected next session. *Committee*—Messrs. A. Clarke, W. Worsnop, B. Hickson. Ladies to be elected next session.

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 4s.

President—Professor Vaughan. *Vice-Presidents*—Miss A. M. Croft, Mr. P. H. Speight. *Treasurer*—Miss Robertson. *Secretaries*—Miss M. M. Wilson, Mr. F. A. Hyde. *Committee*—Misses G. Butler, D. Phillips, Messrs. Bucknall, Fairley, E. Guy.

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.

President—Professor Macgregor. *Vice-Presidents*—Miss Cooke, Professor Grant. *Secretaries*—Miss Walker, C. D. Clark. *Committee*—The above, and Misses Caudwell and Dearden, Messrs. Pilling and Pobjoy.

The Scientific Society. The object of this Society is to develop and maintain interest in the progress of Science by affording opportunities of intercourse between students of the University. 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. The subscription for Ordinary members is 4s.; for Life members, £1 1s. During the third term excursions are made to neighbouring chemical works, dyehouses, &c.

President—Professor Smithells. *Vice-Presidents*—Messrs. S. A. Shorter, M. A. R. Paniker. *Hon. Treasurer*—Mr. F. Hurst. *Hon. Secretary*—Mr. H. W. Dudley. *Committee*—Miss H. Bendrey, Messrs. D. J. Law, S. F. Viccajee, A. Appleyard.

Natural History Society.—All members of the University, past or present, interested in any branch of Natural History are eligible for membership. Papers on any subject connected with Botany, Geology or Zoology will be given and discussed, and objects of interest will be exhibited. The meetings will be held in the three departments alternately at 7.30 p.m. on the first Friday in each month. One of the main aims of the Society is to effect a closer bond between past and present students. Excursions will be arranged during the summer term. The subscription is provisionally fixed at 1s. per annum.

President—Prof. Kendall. *Vice-Presidents*—Prof. Garstang, Prof. Blackman. *Hon. Secs.*—Miss E. F. Walker, Mr. Ll. Lloyd. *Committee*—(Present students) Messrs. J. R. Bond, H. Duchesne, P. F. Kendall, ; (past students) Miss M. Westerman, and Messrs. E. E. Unwin and G. V. Wilson.

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 likely to be, engaged in educational work. Professor Adams, of the London University, and the Rev. Father Woodlock are amongst those who have kindly promised to give lectures during the current session. The annual subsciption is 2/-.

President—Professor Welton. *Vice-President*—Miss Robertson. *Hon. Secretary*—E. A. Hopkins. *Committee*—Miss F. M. Turner, Miss H. Coope, Miss K. Hogan, Miss Longstaff, Miss M. E. Illingworth, Messrs. W. P. Welpton, B. C. Crosby, L. Fearnley, P. Gould, G. Morton, W. Smart.

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.

President—Professor Goodman. *Hon. Secretary*—Mr. C. Hartnell. *Hon. Treasurer*—Mr. Wilson Gardner. *Committee*—Messrs. C. Butler, H. C. Day, G. W. English, J. Gerard, G. K. Walker (representing day students); C. F. Abell, T. Firth (representing evening students; H. McLaren, W. B. Odgers, S. J. Rayner (representing past students); A. Towler (representing associate members).

The Textile Society. The objects for which the Society is established are:

(*a*) To provide meetings for the discussion of all textile subjects; (*b*) to stimulate interest among students, manufacturers, and others in all questions relating to textile industries, whether of a scientific, mechanical, or an artistic character; (*c*) to provide textile journals for the use of members. The subscription of Members is 5s., Day students 3s. 6d., Evening students 1s. a year. Honorary and Life members one payment of £3 3s. Honorary members must be gentlemen who have distinguished themselves in the advancement of textile industries. Former and present students of the University, and gentlemen connected with textile trades generally, may be elected Life members.

Hon Secretary—Thomas Hollis. *Hon. Treasurer*—J. W. Nixon.

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.

President—Professor Seton. *Vice-Presidents*—Messrs. Ruston and J. A. Hickey. *Hon. Treasurer*—Dr. Crowther. *Hon. Secretary*—Mr. J. R. Bond. *Committee*—Messrs. J. B. Garnett, J. S. Pownall, W. A. Scoby, J. Siddall, J. Simpson, W. E. Watson.

The Christian Union (Men's Branch). Affiliated to the Student Christian Movement of Great Britain and Ireland. *Staff-President*—To be elected. *Student President*—Mr. J. B. Daykin. *Secretary*—Mr. T. R. Dawson. *Treasurer*—Mr. H. Whitaker. *Missionary Study Secretary*—Mr. R. N. Bland. *Committee*—The above, and Messrs. F. A. Hyde, W. G. Findlay, H. W. Dudley, C. Smith, C. Taylor, L. W. Shout.

The Christian Union (Women's Branch). Affiliated to the Student Christian Movement of Great Britain and Ireland. *President*—Miss M. G. Findlay. *Student-President*—Miss E. F. Walker. *Secretary*—Miss E. K. Perham. *Treasurer*—Miss D. Kirtland. *Bible Circle Secretary*—Miss G. Butler. *Missionary Study Secretary*—Miss G. Spruce. *Prayer Meeting Secretary*—Miss E. Stradling. *Social Study Secretary*—Miss A. Cramp. *S. V. M. U. Secretary*—Miss M. Claridge. *Magazine Secretary*—Miss C. Sheldon.

Midday Services for University Students in Emmanuel Church. *Committee*—The Vice-Chancellor, Rev. J. F. Phillips, Prof. Macgregor, Dr. Moorman, Miss Cooke, Mr. Ure, Mr. Duncan, Miss Perham, Miss Butler, Miss Foggitt, Messrs. Siddall, Bland, Findlay, Hyde, H. Ellis.

The University Lads' and Young Men's Club. The object of the club is to provide evening recreation for working lads who have left school. The club-rooms in 14, All Saints' Street, 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 will be glad to furnish a copy of the annual report, and to supply additional information.

Hon. Secretary and Treasurer—Professor Cohen. *Committee*—The Vice-Chancellor, Professors Connal, Goodman, Grant, Hellier, and Smithells ; F. H. Brown, E. Kitson Clark, R. N. Hartley, Dr. Moorman, T. H. Taylor, J. J. Wood.

Officers Training Corps. *Commanding Officer*—E. Kitson Clark. *First Lieutenant*—J. F. Gaskell. *Second Lieutenant*—W. H. Brown.

The object of the Corps is to furnish men in their University career with opportunities to pass through the preliminary course necessary for an officer in a Territorial Army, or to obtain remission of portions of examination for the regular service. No member of the Corps is compelled to go further than complete his training at the University. The minimum course, which may be extended, is two years. A portion of Woodhouse Lodge has been granted by the University for Headquarters.

Societies in School of Medicine

The Students' Representative Council.[1] 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 Tuesdays during the first and second terms 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 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 at the Headquarters, 48, St. James' Street, at 8 p.m. any week-day, excepting Saturdays.

[1] The Officers for 1909-10 are not elected in time for insertion in the Calendar.

The following units are stationed in Leeds :—

1st West Riding Field Ambulance.
2nd ,, ,, ,, ,,
No. 2 Northern General Hospital Nucleus.
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, 10s. ; annual, 1s. 6d.

President—Miss Robertson. *Treasurer*—Miss F. M. Turner. *Secretaries*—Miss F. M. Turner and Mrs. Chapman. *Committee 1908-9*—Miss L. Allen, Miss C. Brown, Miss A. Crawshaw, Miss M. Hepworth, Miss K. Hogan, Miss F. Porritt. The Committee for 1909-10 will be elected at the November meeting.

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, 1s.

President—Professor Welton. *Vice-Presidents*—The Vice-Chancellor, Professors Connal, Kendall, Roberts, Rogers, Smithells, Stroud, Dr. Moorman, Dr. Dwerryhouse, Messrs. C. M. Gillespie, W. H. Davis, A. Greenwood, J. A. Lumbe, A. W. Priestley, A. J. Walker, W. P. Welpton, H. Hartley, H.M.I., J. Whaley, J. H. R. Appleyard, S. Feather. *Secretaries*—F. W. Turner, W. P. Welpton. *Treasurer*—W. P. Welpton. *Committee*—A. J. Walker, H. E. Rayner, W. S. Walbank, C. E. Moss, W. Ramshaw, A. Charlesworth, E. J. Edwards, H. Thompson, F. Horn, F. R. Townsend, J. W. Moulden, W. F. Fearnley, F. Hepworth, A. Hinchley.

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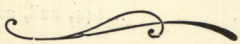

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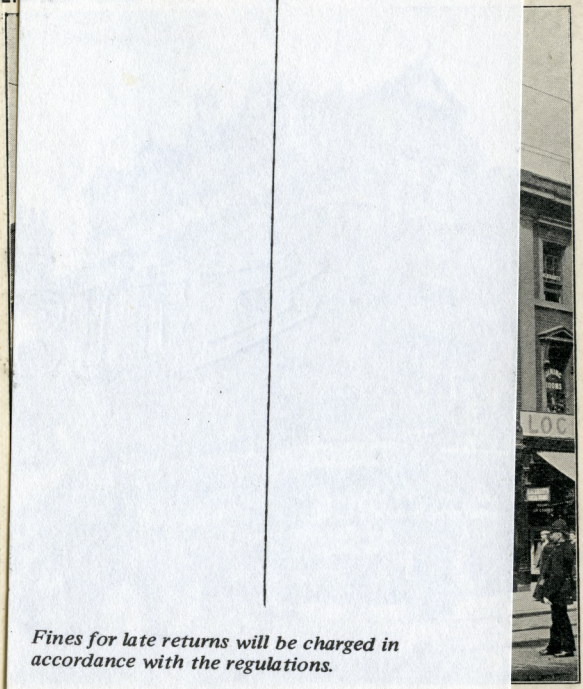

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