

Princeton University

J. MARK BALDWIN,  
PRINCETON, NEW JERSEY,  
U. S. A.

JUNIOR AND SENIOR ELECTIVES

AND

GRADUATE COURSES

IN

PRINCETON COLLEGE.

1893-1894.

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The Princeton Press.

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The following account of the Junior and Senior Electives and Graduate courses in the Academic Department is intended to supplement the statements given in the Catalogue. The Weekly Schedules, the Elective Exclusions and the Regulations for Honors which were in force during the last year may be found by reference to pp. 58-73 of the last Catalogue.

BY ORDER OF THE FACULTY.

May 1, 1893.

**The course numbers are in general the same as those in the Catalogue.**

## DEPARTMENT OF PHILOSOPHY.

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### I. Mental Philosophy.

PROFESSORS ORMOND, BALDWIN AND HIBBEN.

5. Advanced Logic. Senior Elective ; first term [2]. Professor Hibben. Lectures on the Theory of Probability; and on Symbolic Logic. The former subject is a discussion of the basis of all probable reasoning; its relation to induction; methods of calculation; applications to Insurance, Betting, Gambling, Evidence, Errors of Observation, etc.; and the relation of Probability to the Theistic Question and kindred speculations. Symbolic Logic is a generalization of the results of common Logic and their extension by means of a logical calculus so as to comprehend all the possible relations of various terms.

6. Advanced Logic. A course on Induction; and the Theory of Logic. Senior Elective; second term [2]. Professors Ormond and Hibben.

The exercises on Induction are founded on Mill's text-book. They are supplemented by discussions and references to other authorities on induction, such as Whewell, Bain and Jevons. The aim of this course is to unfold as completely as possible the elements of inductive theory.

The second part treats of the development of the theory of logic in both its inductive and deductive branches, including an analysis of logical forms, and an exposition of the theory of method.

7 I. History of Ancient Philosophy. Greek and Roman Philosophy to close of Pagan Schools. Given 1893-94, alternating with 7 II. Junior and Senior Elective; first term [2]. Professor Ormond. *Zeller*: Outlines of Greek Philosophy, in connection with lectures.

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8 I. History of Mediaeval Philosophy, embracing the patristic and scholastic periods and closing with Francis Bacon. Given 1893-94, alternating with 8 II. Junior and Senior Elective; second term [2]. Professor Ormond. Lectures, with references to *Ueberweg* or *Erdmann*.

7 II. History of Modern Philosophy. Philosophy from Descartes to Kant. Given 1894-95, alternating with 7 I. Junior and Senior Elective; first term [2]. Professor Ormond. Reference: *Fulkenberg*.

8 II. History of Modern Philosophy. Philosophy since Kant. Given 1894-95, alternating with 8 I. Junior and Senior Elective; second term [2]. Professor Ormond. Reference: *Fulkenberg*.

Courses 7 I and 8 I are given in lectures with references to Zeller's outlines and other manuals. Their aim is to follow the main historic lines of philosophical thought from the beginning of Greek speculation to the present, showing the connection of the speculative movements with the general history of the times. Taken in connection with Courses 7 II and 8 II they form a continuous course of historical philosophy running through two years.

10. (Greek 10) The Protagoras of Plato, and lectures on the Platonic philosophy. Junior and Senior Elective; second term [2] Professor Orris.

11. (Greek 13) Aristotle, the Nichomachean Ethics, with prolegomena and dictations. Senior Elective; first term [2]. Professor Orris.

13. Metaphysics and Theory of Knowledge. Lectures. Senior Elective; first term [2]. Professor Ormond. *McCosh*: First and Fundamental Truths.

The aim of this course is constructive. Proceeding upon the special data furnished by Psychology, the historical study of Philosophy and the critique of logical principles, a rational answer is sought to the fundamental problems of philosophy. The constructive work is accompanied with a criticism of modern theories of knowledge.

14. Outlines of Philosophy. A course in Encyclopedia of Philosophy. Senior Elective; second term [2]. Professor Ormond. Lectures, with reference to *Stuckenberg*: Introduction to the Study of Philosophy and *Ladd*: Introduction to Philosophy.

This course aims to complete the constructive work of the department by giving in brief outline the leading ideas in the various depart-

ments of Philosophy as well as the relations of Philosophy to other disciplines.

15. Physiological Psychology. Lectures and laboratory work on the anatomy and physiology of the nervous system in their bearing upon the problems of psychology. Senior Elective; first term [2]. Professor Scott. *Ladd*: Physiological Psychology.

17, 18. Graduate course. Subject not decided; both terms [1]. Professor Ormond. Lectures.

19, 20 (Greek 15, 16) Plato; analyses of his dialogues, lectures on his philosophy, reading of the *Phædo* and parts of the *Republic*. Graduate course; both terms [1]. Professor Orris.

The general scope of the above courses may be briefly indicated: The elements of Logic in Sophomore year are supplemented by a number of courses open to the upper classmen and graduates, in which the advanced departments of the science are taken up and pursued in the light of contemporary discussion. The general required course in Psychology follows in Junior year and aims to familiarize the student with the most general and accepted results of psychological inquiry. It is followed by the advanced electives in Physiological and Experimental Psychology and the practical laboratory work associated with them.

The courses in the History of Philosophy are so arranged as to give the student, who pursues them systematically, a connected view of the development of European thought as well as a clear conception of the leading problems and the conditions of their origin. While the four courses are very closely related, they are so arranged as to allow the student to begin his historical study with any one of them without serious embarrassment.

The course in Metaphysics, and the Outlines of Philosophy which follows it in the second term, are designed to supplement the historical study with a line of constructive inquiry. These subjects run parallel with the Senior required course in Ethics and the Senior Electives in the Department of Moral Philosophy. Courses 10, 11, 19 and 20 afford the student of Greek Philosophy an opportunity to read in the original language selected portions from the writings of Plato and Aristotle. The undergraduate work is supplemented by graduate courses and opportunities for advanced study as indicated in the Catalogue.

Professor Baldwin's courses in Experimental Psychology will be announced hereafter.

## II. Moral Philosophy.

### THE PRESIDENT AND PROFESSOR SHIELDS.

4. Harmony of Science and Religion. With a view to the scientific evidences of Christianity, and the purification and completion of philosophy: Senior Elective; second term [2]. Professor Shields. Lectures by the Professor, and extemporaneous essays by the student.

The first part of the undergraduate course will include the logic applicable to the problems of religion, especially the problems of natural religion, such as the being of a God, a future life, divine government and human probation; also, the scientific evidences of revealed religion afforded by its harmony with astronomy, geology and anthropology. The second part will include the history of the relations of science and revealed religion, the existing philosophical parties as to those relations and the practical effects of their theories in the sciences, philosophy and in civilization; also, the logical rules for harmonizing science and revealed religion, and the issuing ultimate system of pure and perfect knowledge.

5, 6. Theism. Senior Elective, both terms [2]. The President.

9. Theoretical Ethics. Graduate Course; first term [1]. The President.

10. Science and Religion. The history and the logic of the sciences with reference to emerging problems of religion. Graduate Course; second term [2]. Professor Shields. Lectures.

The historical part of the graduate course will embrace the definition and classification of the special sciences; surveys of their rational and revealed contents, the hypotheses and dogmas which are now found in astronomy, geology, anthropology, and in psychology, sociology and comparative theology (the science of religions); and a similar survey of the contents of metaphysic science, the theories of knowledge, of being and of revelation which are now prevalent in the different schools of philosophy.

The logical part of the course will include the rules or canons of reasoning applicable to the reconciliation of hypotheses and dogmas in the different sciences, and a study of the religious problems now emerging especially in the sciences of astronomy, geology and anthropology, together with an argument for the growing harmony of religion and

science in psychology, sociology and theology, and ultimately in philosophy as the science of the sciences.

11, 12. (Latin 13, 14). Lucretius, *De Rerum Natura*, and Cicero, *De Natura Deorum*. Senior Elective; both terms [2]. Professor Packard.

### III. Pedagogics.

PROFESSOR WEST.

2. Pedagogics. Lectures and text book exercises on the history of education. Thesis on an educational classic. Senior Elective and Graduate course; second term [2]. Professor West.

The special design of this course is to acquaint intending teachers in schools and colleges with the most important facts in the general history of education and with so much of the theory as naturally emerges from the history. Accordingly a survey is made of the unfolding of educational ideas and institutions in ancient, mediæval and modern times,—the principal attention being given to the secondary and university education. Compayre's *History of Pedagogy* is used as a text-book and supplemented by lectures.

In addition each member of the class is required to read some educational classic and prepare a thesis of about three thousand words upon it. Among the subjects last year were Alcuin, Montaigne, Rousseau's *Emile*, Herbert Spencer's *Education*.

### IV. History and Political Science.

PROFESSOR SLOANE AND MR. DENNIS.

*History* :—

5 I. a. Ancient Oriental History. b. Institutions of Greece and Rome. Lectures and discussions. Given 1893-94, alternating with 5 II. Junior and Senior Elective; first term [2]. Professor Sloane.

6 I. a. Mediæval History. b. European History to the end of the seventeenth century. Lectures and discussions. Given 1893-94, alternating with 6 II. Junior and Senior Elective; second term [2]. Professor Sloane.

5 II. Constitutional and Political History of England since 1688. Given 1894-95, alternating with 5 I. Junior and Senior Elective; first term [2]. Professor Sloane.

6 II. American Political History. Given 1894-95, alternating with 6 I. Junior and Senior Elective; second term [2]. Professor Sloane.

*a.* The Science of History. Six lectures. Junior and Senior Optional; second term [1]. Professor Sloane.

7 I. Comparative Politics. The origin and theory of the state. Given 1893-94, alternating with 7 II. Senior Elective; first term [2]. Professor Sloane.

7 II. The History of Political Theories. Given 1894-95, alternating with 7 I. Senior Elective; first term [2]. Professor Sloane.

8. Parliamentary and Congressional Government. Graduate course; second term [2]. Professor Sloane. *Bryce*: The American Commonwealth.

10. Historical Seminary. Open to Graduates and Senior Honor-men; second term [2]. Professor Sloane.

The natural succession of historical courses is 3, 5 I, 6 I, 5 II, 6 II, 7 I, 7 II, 8, 10. At the same time each course is measurably independent of the rest and the order 5 I, 6 I, 5 II, 6 II, can without detriment be reversed to 5 II, 6 II, 5 I, 6 I. The aim of the department, as at present organized, is to give in the first five courses a complete outline of the social and political development of the entire family of highly civilized nations, and, as far as we know, the relation to them of the other peoples, non-historic and prehistoric. The next two survey the systems and the field of the science of government and the last two are intended to illustrate the methods of such original research as is possible where the archives and libraries of Europe are not accessible. Narrative history is taught only so far as is necessary to illustrate the action and reaction on each other of such events as belong to general and scientific history.

## V. Jurisprudence and Political Economy.

PROFESSORS WILSON AND DANIELS.

3 I. Outlines of Jurisprudence: an exposition of Jurisprudence as an organic whole, exhibiting the nature of its subject-matter, its



relationship to cognate branches of study, the inter-relationship of its several parts to each other, and their proper function and aim. Lectures and collateral reading. Junior and Senior Elective; first term [2], alternating with 3 II. Given 1893-94. Professor Wilson. *Holland*: Elements of Jurisprudence.

The object of this course is to afford a general view of the subject-matter of law in such a way that it may serve as an introduction to the professional study of the law and yet not be in any sense technical. It is an academic, not a law course. It is intended to be a means to general culture and wide views of institutions, no less than a means of drill in the exact determination of legal principles.

4 I. International Public Law. Text-book, lectures and collateral reading. Junior and Senior Elective; second term [2], alternating with 4 II. Given 1893-94. Professor Wilson. *Hall*: A Treatise on International Law, 3rd edition, 1890.

In this course the class is expected to get the modern principles of International Law from the text book. The lectures are devoted to the history of International Law. They are meant to cover such topics as the following: The nature and scope of International Law; the circumstances and forces of its genesis; its formal development in the work of the great writers by whom it was formulated; great international conventions, and the principles established by them; the influence of the internal structure of a State upon questions of International Law; and the unsettled questions of International Law. The object of the course as a whole is to show, not only what principles of International Law have been accepted, but also why they have been accepted and how they were generated.

3 II. General Public Law. Junior and Senior Elective; first term [2], alternating with 3 I. Given 1894-95. Professor Wilson.

4 II. Comparative Constitutional Law. Junior and Senior Elective; second term [2], alternating with 4 I. Given 1894-95. Professor Wilson.

5. History of Law: in general, and as exhibited in the growth of typical national systems. Lectures and collateral reading. Senior Elective; first term [2]. Professor Wilson.

In this course an attempt will be made to give a general sketch of the history of law, by means of such a comparative study of the origins

of law among the Aryan races and of the best known national systems of law as may serve to bring out the features which are common to the growth of law everywhere. With this end in view, as careful an examination as possible will be entered into of the prehistoric beginnings of law; Roman and English legal development will be compared in some detail; the chief features of the diffusion of Roman Law in Europe during the Middle Ages, and of the emergence of the modern German and French legal systems will be broadly outlined; and the common characteristics of all modern legal systems will be pointed out.

The general purpose of the course will be to indicate the essential character and natural sources of law: its place and function in the history of political society.

Students are advised to consult with Professor Wilson before taking course 5.

6. Administration. Lectures and collateral reading. Senior Elective; second term [2]. Professor Wilson.

This is a course of lectures on the structure of government and the principles of its action on its administrative side. It does not enter very much into the detail of administrative action. Its object is, rather, to display the nature of government as it may be seen when government is looked at from its administrative side: the relations which the State must bear to all social action and to all individual endeavor.

It covers such topics as the following: The nature, scope, and method of administrative study; the tasks of the State; the idea of the State and of its functions; the theory of the divisions of powers among the three departments of government; the actual divisions of powers; character, sources, and forms of administrative law; relationship of administrative acts to the laws; relation of administrative action to the rights of individuals.

7, 8. (Latin 17, 18.) Roman Law. Reading, lectures, and recitations. Senior Elective, open to graduate students; both terms [2]. Professor Westcott. *Justinian: Institutes*. *Morey: Outlines of Roman Law*, or *Sohn: Institutes of Roman Law*.

9. Public Finance. This course consists mainly in the study of the development of financial systems, in the analysis of governmental receipts, including the subject of governmental monopolies, in the

delineation of the problems of taxation, expenditure and public credit. The course is conducted by recitation and lecture. *Bastable's Public Finance* is used as a text, and collateral authorities are recommended from time to time. Senior Elective; first term [2]. Professor Daniels.

10. History of Political Economy. The concurrent development of economic life and philosophy is presented by the reading of essential and illustrative portions of such standard authors as Adam Smith, Ricardo, Mill, Cairns and Jevons. Lectures are given to supplement the readings, and recitations will be based on *Ingram's History of Political Economy*. Senior Elective; second term [2]. Professor Daniels.

11, 12 (Latin 21, 22.) Sources of Early Roman Law. Graduate course; both terms [1]. Professor Westcott. *Bruns: Fontes Juris Romani Antiqui*.

## VI. Archæology and the History of Art.

PROFESSORS PRIME, MARQUAND AND FROTHINGHAM.

PUBLIC LECTURES: Provision will be made for a short course of public lectures by the professors of the department.

1. Ancient Art, a general course on the art of ancient Egypt, Assyria, Phœnicia, Greece and Rome. Junior and Senior Elective; first term [2]. Professor Marquand. *Reber: History of Ancient Art*.

2. Mediæval Art, a general course on early Christian, Byzantine, Romanesque and Gothic art, including architecture, sculpture and painting, from the Catacombs to the Renaissance. Junior and Senior Elective; second term [2]. Professor Frothingham. *Reber: History of Mediæval Art*.

The following Senior courses, being of a more specialized character, are open only to those who have taken at least one of Courses 1 and 2.

3. Renaissance Architecture and Sculpture. This course will treat of the architecture and sculpture of the Renaissance period in Italy, France, Germany and England. Senior Elective and Graduate Course; first term [2]. Professor Marquand. Lectures.

4. Renaissance Painting. A special course in the history of painting, chiefly in Italy and the Netherlands, during the Renaissance period.

Senior Elective and Graduate Course ; second term [2]. Professor Marquand. Lectures.

5. Romanesque Art. Detailed study of the architecture, sculpture and the arts of design in Europe during the period from 1000-1150 A. D. Senior Elective and Graduate Course ; first term [2]. Professor Frothingham. Lectures.

6. Gothic Art. Detailed study of Gothic art in Europe ; the cathedrals, town halls, glass paintings, illuminated manuscripts, tapestries, marble and metal sculptures of the period between 1150 and 1500 A. D. The course will treat also of the place of art in civilization. Senior Elective and Graduate Course ; second term [2]. Professor Frothingham.

Courses in Greek Architecture, Greek Sculpture, Greek Industrial Arts, Greek Mythology in Art, also in Christian Architecture, the subjects and symbols of Christian Art, Artistic Ideals, and Medieval Industrial Art have been given and may be expected in future years.

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## DEPARTMENT OF LANGUAGE AND LITERATURE.

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### VII. Greek.

PROFESSORS CAMERON, ORRIS AND WINANS.

9 I. Thucydides : selections. The Sicilian Expedition, with a series of lectures on Thucydides and his works. Given 1893-94, alternating with 9 II. Junior and Senior Elective ; first term [2]. Professor Winans.

9 II. Aristophanes : two comedies. Lectures on the development and history of Attic comedy and on Aristophanes and his works. Given 1894-95, alternating with 9 I. Junior and Senior Elective ; first term [2]. Professor Winans.

In the Thucydides course (1893-94) two books of the history will be read. Text recommended, *Lamberton* : Thucydides, VI-VII. The lectures will give a synopsis of the whole work, a survey of the history

of Greek affairs from the Persian wars to the end of the Peloponnesian war, with discussion of chief events, estimates of leaders, etc.; also discussion of Thucydides's style, the characteristic features of his history, and the like.

This course gives opportunity for study of Greek history and Greek political institutions.

10. (Ment. Phil. 10). Plato: Protagoras, with lectures on the Platonic philosophy; or, Aeschylus: Prometheus Vincetus or Agamemnon, with lectures on the Attic Drama. Junior and Senior Elective; second term [2]. Professor Orris.

11, 12. Sophocles, the *Edipus Tyrannus* and the *Antigone*. Criticism of each play, the plot, the significance of the tragedy. Description of the Greek theatre. Lectures on the physical geography of Greece as affecting the character and language of the people; the origin of the Greek alphabet; the characteristics of the Greek language; rise and character of Greek literature; epic poetry; lyric poetry; history; tragedy; comedy; oratory; philosophy; Greek antiquities; manners and customs; remains of cities and buildings. Senior Elective; both terms [2]. Professor Cameron.

13. (Ment. Phil. 11). Aristotle: The *Nicomachean Ethics*, with prolegomena and dictations. Senior Elective; first term [2]. Professor Orris.

14. Homer's *Odyssey* (1893-94); or Greek lyric poets (1894-95), in alternate years. Lectures. Senior Elective; second term [2]. Professor Winans.

In the Homer course (1893-94) twelve books of the *Odyssey* are read in the class-room, and the remainder is summarized by lectures. The rise of Greek poetry, origin of the Homeric poems, history of Homeric criticism, present state of the Homeric question, features of Homeric society, qualities of the poems, translations of Homer, are some of the topics discussed in the lectures. The chief aim is toward an adequate appreciation of the poem as a whole from a literary standpoint.

15, 16. (Ment. Phil. 19, 20). Plato: *Phaedo* and the *Republic*, with lectures on the Platonic philosophy. Graduate course; both terms [1]. Professor Orris.

## SCHOOL AT ATHENS.

This College, in connection with others, assisted in establishing and contributes to the support of the American School of Classical Studies at Athens. This school affords facilities for archaeological and classical investigation and study in Greece, and approved graduates of this college are entitled to all its advantages free of tuition. Professor Sloane represents Princeton in its Managing Committee.

## VIII. Latin.

## PROFESSORS PACKARD, WEST AND WESTCOTT.

9. Juvenal's Satires, and selected Letters of Pliny; lectures upon the moral and religious teachings and aspect of the Earlier Empire. Optional collateral reading, Seneca's *Epistolae ad Lucilium*. Junior and Senior Elective; first term [2]. Professor Packard. Any accepted edition or text.

10. Seneca's *Epistolae ad Lucilium* continued for optional sight-reading, with added work and thesis on selected portions of Seneca's other writings. Restricted Elective; second term [2]. Professor Packard. *Teubner text*.

13. (Moral Phil. 11.) Lucretius: *De Rerum Natura*, together with Cicero: *De Natura Deorum*, Book I.; lectures illustrative of the subject. Senior Elective, from Groups I., II.; first term [2]. Professor Packard. *Harper's texts*.

14. (Moral Phil. 12.) Cicero: *De Natura Deorum*, Books II., III., with selected readings from *De Divinatione*, and *De Fato*; lectures. Senior Elective; second term [2]. Professor Packard. *Harper's texts*.

19, 20. Selections from Tertullian, Lactantius and Augustine. Graduate course; both terms [1]. Professor Packard.

The connecting bond of courses 9, 10, 13, 14, 19, 20, is the complete view thus obtained, by means of the authors read and the collateral lectures given, of the last utterances of purely pagan thought at Rome upon ethical and religious subjects, and of the practical results in the life of the Earlier Empire. Courses 19, 20 complete the survey by selections from the three most characteristic and influential Early Latin Fathers.

12. Plautus: *Mostellaria*, *Amphitruo*, *Rudens*. Junior Elective; second term [2]. Professor West.

The introduction to Roman comedy and early Latin already made in the reading of Terence in the required Sophomore course has its sequel in the more extensive acquaintance gained by the reading of Plautus.

The plays selected for the next academic year are the *Mostellaria* and *Amphitruo*. To these the *Rudens* will probably be added. Besides the preparation of assigned portions for recitation, there will be frequent practice in sight-reading.

The editions used will be Morris's *Mostellaria*, Palmer's *Amphitruo* and Sonnenschein's *Rudens*.

For collateral reading Sellar's *Poets of the Roman Republic* is recommended. Opportunity will also be given to such as desire a more extended reading in Plautus and the earlier poets to read with the instructor privately.

15. Roman Oratory: Cicero: *Brutus*, and Quintilian: *Institutio Oratoria*. Senior Elective; first term [2]. Professor West.

The first part of this course consists of a study of the history of the republican oratory as seen in the sketch drawn by the chief of Roman orators in his dialogue *Brutus*. The second part deals with the criticism of ancient literature (embracing the Greek and Roman poetry, oratory, history and philosophy) with reference to its value for an orator, as sketched by the chief teacher of oratory at Rome in the tenth book of his *Institutio Oratoria*. Taken together the two furnish a general survey of ancient oratory, both Greek and Roman, and give some acquaintance with methods and spirit of the literary criticism of the classical writers as applied to their own literature.

Kellogg's edition of the *Brutus* and Krüger's or Peterson's of the tenth book of Quintilian are the text-books used.

16. Early Latin Poetry. Lectures and recitations. Senior Elective; second term [2]. Professor West. *Merry*: Selected Fragments of Roman Poetry. *Sellar*: The Roman Poets of the Republic.

17. (Jur. and Pol. Ec. 7) Senior Elective; first term [2]. Professor Westcott. Lectures alternating with recitations. I. The History of the Roman jurisprudence is traced through four periods:

1st, from the foundation of the city to the earliest codification.

- 2nd, the praetorian period of the later republic.  
 3rd, the period of the great jurists under the early empire.  
 4th, from Diocletian to Justinian.

II. The content of the law is studied in its main departments, chiefly under the heads of personal status, property, inheritance, obligations and procedure. The text-books are Morey's *Outlines of Roman Law*, published by Putnams, N. Y., 1891; Sohm's *Institutes of Roman Law*, Clarendon Press, 1892.

A good deal of collateral reading is necessary to make the course really profitable. The best preparation for the course is a thorough acquaintance with Roman political history.

18. (Jur. and Pol. Ec. 8) Senior Elective; second term [2]. Professor Westcott.

Students who have taken course 17 may continue the subject by reading the *Institutes of Justinian* in the original (Holland's text, Clarendon Press). About one-fourth is usually omitted. Students are recommended to prepare for the exercises with the aid of one of the standard commentaries on the *Institutes*, *e. g.*, Sandars's, Abdy and Walker's, Ortolan's. The topics are those indicated in 17, II.

21, 22. (Jur. and Pol. Ec. 11, 12.) Graduate course; both terms [1]; optional for Seniors taking 17, 18. Professor Westcott.

Reading of Bruns' *Fontes Juris Romani Antiqui: i. e.*, the text of laws of various periods, as preserved in original documents or in quotations by authors; legal forms, and extracts from various authors bearing upon matters of legal nature. The course includes not merely interpretation of the texts, but elucidation of historical and legal questions involved therein, and necessitates considerable parallel reading.

While useful to any advanced students in Latin, it is especially intended for those who have taken or are taking courses 17 and 18.

## IX. Sanskrit.

PROFESSOR WINANS.

1, 2. Beginners' course. Grammar; exercises; easy reading, such as Nala, or the Sāvitrī episode from the Mahābhārata; Hitopadeṣa, etc. Comparison of forms. Senior Elective and Graduate course; both



terms [2]. Professor Winans. *Perry*: Primer, or *Geiger*: Elementarbuch; *Lawman*: Reader; *Whitney*: Grammar.

3, 4. A second year's course in Sanskrit may be given with more extended reading, and with special attention to comparative grammar. Professor Winans.

## X. Hebrew.

MR. MARTIN.

1, 2. Elementary course. Hebrew. Grammar and exercises, and reading easy portions of Old Testament. Senior Elective, open to Graduates; both terms [4]. Mr. Martin. *Green*: Hebrew Grammar.

## XI. English.

THE DEAN AND PROFESSOR HUNT.

5. English Literature, historical survey from Chaucer to Pope, lectures on representative poets. Junior Elective; first term [2]. Professor Hunt. *Hunt*: English Prose and Prose Writers. *Kitchin*: Spenser's Faerie Queene. *Macmillan*: Milton's Paradise Lost.

6. English Literature. (1) Rise of English Drama. English Dramatists before and after Shakespeare. (2) Writers from Pope to Wordsworth. Junior Elective; second term [2]. The Dean.

7. First English. Junior and Senior Elective; first term [2]. Professor Hunt. *Sweet*: Anglo-Saxon Reader.

8. Middle English. Junior and Senior Elective; second term [2]. Professor Hunt. *Morris and Skeat*: Specimens of Early English. *Morris*: Chaucer (Prologue). *Skeat*: Piers Plowman. The object of the Electives in First and Middle English is to give a good grammatical knowledge of the language in pre-Elizabethan days; to enable the student to read with facility the prose and simpler poetry of the tenth century; to give a comprehensive knowledge of Chaucerian English, with the related English of the fourteenth century, and, thus, to lay the basis for the scientific study of Modern English Philology, as it has developed since the age of Shakespeare.

9. English Literature. (1) Lectures on Writers of the Victorian Period. Carlyle, Tennyson, Browning, Thackeray, etc. (2) Lectures

on American Writers, illustrating the growth of literature. Senior Elective; first term [2]. The Dean.

10. English Literature. Shakespeare. The Earlier Plays. Also Hamlet, Macbeth, the Tempest, Measure for Measure, King John. Senior Elective; second term [2]. The Dean.

Course 9 connects immediately with courses 5 or 6, giving a general view of English literature from Chaucer to Wordsworth. Course 10 completes the whole by a lengthened study of its greatest author.

11. Old English. Lectures, historical and philological; Graduate course; first term [2]. Professor Hunt. *Harrison and Sharp*: Beowulf. *Hunt*: Caedmon (Exodus and Daniel).

12. Gothic. Graduate course; second term [2]. Professor Hunt. *Skeat*: Gospel of St. Mark in Gothic.

The Graduate course in Old English takes up the more difficult poetry of the period, as found in Beowulf and Cynewulf; develops its linguistic history, and discusses the more advanced questions of grammar, text and literary quality, while the course in Gothic is given as a comparative study in root-forms.

## XII. Oratory and Aesthetic Criticism.

PROFESSOR PERRY.

1. Poetry and the Drama. Introduced by lectures upon the province of aesthetic criticism, and the relation of oratory to poetry and the other arts. Lyric, narrative and dramatic poetry will be studied as forms of expression, with especial reference to the metres of English lyric poetry, and to the technic of the drama. First term [2]. Professor Perry.

2. Fiction. Introduced by lectures upon the relation of fiction to poetry and the drama. An analysis will be made of character-delineation and plot as exhibited in representative novels, followed by a comparative study of the schools of modern fiction. (Supplementary reading, preparation of papers upon special topics, and original work in the construction of plots, will be expected from students electing these courses.) Second term [2]. Professor Perry.

It is not yet decided to which class these courses will be open.

## XIV. German.

MR. MILDNER AND MR. HOWARD.

5. Syntactic rules practised by translations from English into German and conversion of poetry into prose. *Reading*: Schiller: Jungfrau von Orleans. Goethe: Sesenheim. Collateral reading of easy modern fiction. Memorizing of poetry (ballads). Junior Elective; first term [2]. Mr. Howard.

6. Syntactic exercises continued. *Reading*: Lessing: Critical Writings. Goethe: Götz von Berlichingen. Collateral reading. Memorizing. Junior Elective; second term [2]. Mr. Howard.

7. History of German Literature up to Luther. Lessing: Laccoon (selected passages). Schiller: Wallenstein. Goethe: Faust. Collateral reading. Senior Elective; first term [2]. Mr. Mildner.

8. History of German Literature from Luther. Goethe: Faust. Collateral reading. Senior Elective; second term [2]. Mr. Mildner.

9, 10. Middle High German. Grammar. Nibelungen, Walter von der Vogelweide, etc. Lectures. Senior Elective and Graduate course, open only to those who satisfy the instructors of their proficiency in modern grammar; both terms [2]. Mr. Mildner or Mr. Howard.

## XV. French.

PROFESSOR HARPER AND DR. LEWIS.

5 I. French Literature. Lectures on mediæval and renaissance periods and 17th century drama. Course for 1893-94, alternating with 5 II. Junior and Senior Elective; first term [2]. Professor Harper. *Voltaire*: Siècle de Louis XIV. *Corneille*: Cid.

6 I. French Literature. Lectures on principal authors of 17th century. Course for 1893-94, alternating with 6 II. Junior and Senior Elective; second term [2]. Professor Harper. *Molière*: Misanthrope. *Duc de St. Simon*: Mémoires.

5 II. French Literature. Lectures on principal authors of the 18th century. Collateral reading. Course for 1894-95, alternating with 5 I. Junior and Senior Elective; first term [2]. Professor Harper. *Beaumarchais*: Le Barbier de Séville. *Musset*: Fantasio and On ne badine pas avec l'Amour. *Hugo*: Hernani.

6 II, French Literature. Lectures on 19th century authors. Collateral reading. Course for 1894-95, alternating with 6 I. Junior and Senior Elective; second term [2]. Professor Harper. *Augier*: Comedies. *Balzac*: Short Stories.

7. Mediæval French Literature. Lectures, themes and collateral reading. The chronicles of *Villehardouin*, *Joinville*, and *Froissart*. Graduate course; first term [2]. Professor Harper.

8. Mediæval French Literature. Lectures, themes and collateral reading. The development of lyric poetry. *Charles D'Orléans*, *Villon*. Graduate course; second term [2]. Professor Harper.

9, 10. French Literature of the Renaissance. Lectures, themes and collateral reading. *Commines*, *Marot*, *Rabelais*, *Ronsard*, *Montaigne*, *Amyot*. Graduate course; both terms [2]. Professor Harper.

Texts mentioned in 5 and 6 are liable to change. The chief object of the Junior and Senior courses is purely literary; yet a student who intends to study medicine or any technical profession will not find them unsuited to his needs. A considerable amount of outside reading is required, but no specific grammatical work, as those courses are designed only for those who can read ordinary French at sight, and wish to obtain a direct acquaintance with the literature. The texts read in 1893-94 (5 I and 6 I) are selected with a view of making the student familiar with the great classics of the 17th century, and with life in the reign of Louis XIV. Some preliminary knowledge of French history is desirable for those intending to take courses 5 I and 6 I.

Of the Graduate courses, 7, 8, 9 and 10, the last two will be given either alternately with 7 and 8 or simultaneously, according to the demand, and the time of the professor.

11, 12. Old French Readings. Senior Elective; both terms [2]. Dr. Lewis.

This course is intended to give the student a good reading knowledge of Old French, as well as to acquaint him with the literature of the period. *Gaston Paris*: "Extraits de la Chanson de Roland" is first read, then *Suchier*: "Aucassin et Nicolette," *Warnke*: "Die Lais der Marie de France," *Koschwitz*: "Karls Reise" and *Foerster*: *Cligès*. At the end of one year's work in this subject, the student will be sufficiently well acquainted with the Old French language to pursue intelligently the course in Old French Philology.

13, 14. Old French Philology. Graduate course; both terms [2]. Dr. Lewis.

Lectures on Old French etymology and morphology form the basis of this course, but, with the help especially of *Schwan*: "Grammatik des Altfranzösischen" and *Suchier*: "Le français et le provençal," the student is led into investigations of his own, bearing directly on this subject.

15. Physiological Phonetics. Graduate course; first term [2]. Dr. Lewis. This course consists entirely of lectures, at first on General Physiological Phonetics, and later on French Phonetics. The books required for intelligently following these lectures are *Sweet*: "A Primer of Phonetics," *Beyer*: "Französische Phonetik" and *Passy*: "Le français parlé."

16. French Dialects. Graduate course; second term [2]. Dr. Lewis. The lectures of the second term, on this subject, form the beginning of a course on the principal French dialects, especially of the North and East, where literature has flourished the most. The term's work is devoted to the Franco-Norman and Anglo-Norman dialects, and proves of use to students who intend examining the old Norman laws. The lectures deal, at first, with such old Norman texts as the "Chanson de Roland," the Lais of "Marie de France," the "Makka-bæer" and others, and then consider the modern patois of Normandy and the Channel Islands.

## XVI. Italian.

PROFESSOR HARPER.

1. Elementary Italian. Junior and Senior Elective; first term [2]. Grammar: *Grandgent*. Modern short stories.

2. Dante: Inferno. Junior and Senior Elective; second term [2].

3. Dante: Purgatorio. Senior Elective; first term [2].

4. Dante: Paradiso. Senior Elective; second term [2].

5, 6. Dante and his age. Lectures, themes and collateral reading. On Dante's predecessors and contemporaries, and his Italian works other than the *Divina Commedia*. Graduate course; both terms [2]. Professor Harper.

The work in course 1 is merely preparatory, and it has been found that one term of grammar is sufficient to enable a student to read Dante, which is the chief object of the entire course. The study of the Divina Commedia is made illustrative of 13th century life and learning. Students desiring to undertake it would do well to read Lowell's or Church's essay on Dante.

## XVII. Spanish.

DR. LEWIS.

1, 2. Modern Spanish. Junior and Senior Elective; both terms [2]. Dr. Lewis. Some brief Spanish grammar is at first studied, to be followed by *Knapf*: "Modern Spanish Readings." Then are read various modern plays such as *Larra*: "Partir à tiempo." *Larra*: "Tu amor ó la muerte" and *Breton de los Herreros*: "La Independencia."

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## DEPARTMENT OF MATHEMATICS AND NATURAL SCIENCE.

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## XVIII. Mathematics.

PROFESSORS DUFFIELD, FINE AND THOMPSON.

It is recommended that those intending to elect mathematical courses in Junior and Senior years confer with the instructors in those courses before making their choice.

9, 10. Differential and Integral Calculus. Junior and Senior Elective; both terms [2]. Professor Fine. Lectures. *Greenhill*: Differential and Integral Calculus.

11, 12. Higher Plane Curves. Junior and Senior Elective; both terms [2]. Professor Thompson. *Salmon*: Higher Plane Curves; *Salmon*: Lessons on Higher Algebra.

14. (Physics 6). Analytical Mechanics. Junior and Senior Elective; second term [2]. Professor Magie.

15, 16. Analytic Geometry of Three Dimensions. Graduate course this year; both terms [2]. Professor Thompson. Lectures. *C. Smith*: Solid Geometry.

17, 18. Theory of Functions, elementary course. Senior Elective and Graduate course; both terms [2]. Professor Thompson. Lectures. *Harnack*: Differential and Integral Calculus. *Thomae*: Elementare Theorie der Analytischen Functionen.

19, 20. Differential Equations, general course, embracing the elements of the theory of linear equations and of Lie's transformation theory. Senior Elective; both terms [2]. Professor Fine. Lectures. *Forsyth*: Differential Equations. (Given as a graduate course only in 1893-94.)

21, 22. Theory of numbers and Higher Algebra, including theory of substitutions and the arithmetical theory of the algebraic equation. Graduate course; both terms [2]. Professor Fine. Lectures. *Dirichlet-Dedekind*: Zahlentheorie.

23, 24. Higher Metrical Geometry. Graduate course; both terms [2]. Professor Fine. *Darboux*: Leçons sur la Theorie des Surfaces.

## XIX. Astronomy.

PROFESSORS YOUNG AND REED.

1. Elementary Astronomy, chiefly descriptive. The leading facts and principles of the science; taught by lectures, with recitations upon selected portions of the text-book. Junior Elective; first term [2]. Professor Young. *Young*: General Astronomy.

3. General Astronomy. Extended course. Astronomical instruments and methods of observation. The determination of the principal astronomical constants, such as the dimensions and figure of the earth, the solar parallax, and the distance of the fixed stars; the theory and calculation of eclipses; the theory of undisturbed orbital motion; spectroscopic astronomy, and solar physics. Senior Elective; first term [2]. Professor Young. *Young*: General Astronomy. Lectures and recitations.

5, 6. Practical Astronomy. Determination of time, latitude, azimuth, and the positions of planets and comets. Spectroscopic observation of the sun. Senior Elective; both terms [2]. Mr. Reed. *Campbell*: Practical Astronomy. *Chauvenet*: Practical Astronomy.

7, 8. Theoretical Astronomy. Theoretical Astronomy and the calculation of orbits. Graduate course; both terms [1]. Professor Young and Mr. Reed. *Watson*: Theoretical Astronomy. *Oppolzer*: Bahnbestimmung. *Klinkerfues*: Theoretische Astronomie.

9, 10. Practical Astronomy. The same as courses 5, 6, but with additions. Open to graduates who did not take it in Senior year; both terms [2]. Mr. Reed. *Campbell*: Practical Astronomy. *Chauvenet*: Practical Astronomy.

## XX. Physics.

PROFESSORS BRACKETT AND MAGIE AND MR. ———

4 I. Theory of Heat. A study of the fundamental properties of heat, so far as they can be considered without the higher mathematics, especial attention being given to thermodynamics and kinetic theories of matter. In thermodynamics, a few lectures are given on the application of the elementary calculus to the subject. Given 1893-94, alternating with 4 II. Junior and Senior Elective; second term [2]. Professor Magie. *Maxwell*: Theory of Heat.

6. Analytical Mechanics. (Math. 14). This course is designed both for those who intend to specialize in pure mathematics and for those who are interested in physics. To the former class it gives an opportunity to apply the formal mathematics which they have been studying, and to the latter class it provides a foundation for all their subsequent theoretical work. It is as elementary a course as the nature of the subject permits, and may be taken by any one who has taken the elective in calculus in the first term of the Junior year (Math. 9). The subjects treated are the motions of a particle and of extended bodies, the theory of potential, deformations and elasticity, the equilibrium and motion of fluids. Junior and Senior Elective; second term [2]. Professor Magie. The text-book is not yet chosen.

7, 8. Practical Physics. This is a course of practical laboratory work in physical measurements and is not an experimental study of



general physics. One hour a week is occupied with recitations and lectures on the theories which are connected with the methods of measurement studied, and the student is required each term to perform a specified number of practical exercises from those which may be assigned to the class. This will ordinarily require two or three hours each week in the laboratory. The laboratory is open for work at times which are arranged after the opening of the term.

In 7, the subjects studied are principally Molecular Physics and Heat, in 8, Magnetism and Electricity. The following are among the exercises usually assigned; determination of gravity by Borda's and Kater's pendulums, use of the balance, with studies of specific gravities, determination of elasticity coefficients, measurements of specific heats, of latent heats, and of thermal conductivity, measurements of the earth's magnetic field, determination of galvanometer constants, measurements of electromotive force with the absolute and quadrant electrometers and with galvanometers, various methods for measuring resistance and current. Senior Elective; both terms [2]. Mr. ———. *Stewart and Gee*: Elementary Practical Physics, Vols. I and II,

9. Theory of Electricity. A study of the simpler parts of the analytical treatment of the subject. It presupposes that the student has taken Math. 9, 10. Senior Elective; first term [2]. Professor Magie. *Emtage*: Electricity and Magnetism.

4 11. Theory of Light. A rapid survey of the theory, with experimental illustrations. Many experiments which cannot be shown to a large class are exhibited to this small elective. Given 1894-95, alternating with 4 1. Junior and Senior Elective; second term [2]. Professor Magie. *Preston*: Theory of Light.

A knowledge of elementary calculus is advantageous for this course, but it is not essential.

11, 12. Laboratory Practice; advanced measurements and special investigations. Graduate course; both terms. Professor Magie and Mr. ———. (The physical laboratory is open throughout the week to graduate students.)

13, 14. Mathematical Physics; dynamics, heat, light, electricity and magnetism. Graduate course, (given on application); both terms [2]. Professor Magie and Mr. ———

The graduate work is very much at the student's option. He is given every opportunity that the laboratory affords, and is aided in any theoretical work he may desire to take up. Especial efforts are made to develop in him the spirit of independent study, and to prepare him for advanced teaching and investigation.

### XXI. Chemistry.

PROFESSORS CORNWALL AND McCAY AND MR. NEHER.

3. Theoretical and Organic Chemistry. Junior Elective; first term [2]. Professor McCay.

The object of this course is to make the student familiar with the more theoretical portions of the science. The relations between the old and new chemistries, the present system of atomic weights, Mendeléeff's principle of the natural classification of the elements and the facts relating to thermo-chemistry will be discussed as far as the time will allow.

A part of the time will be devoted to a study of the compounds of carbon; organic and organized bodies, compound radicals, isomerism, structures of compounds, fatty series, carbohydrates and aromatic series. *Tilden*: Introduction to the Study of Chemical Philosophy (?). *Remsen*: Organic Chemistry.

5. Laboratory Chemistry: lectures, recitations and laboratory work; on qualitative analysis of simple salts; experimental chemistry; sugar, milk, fats, drinking water, poisons and more important organic compounds. Senior Elective; first term [2]. Students in this course attend lectures by Professor Cornwall, and work in the laboratory under the supervision of Mr. Neher. The course is intended to be largely introductory to graduate courses, and, as will be seen by the brief outline above given, covers, in an elementary way, much ground. It has been found especially of benefit to students intending to study medicine, but the work is of such a nature as to afford, in connection with a course in General Chemistry, a thorough understanding of theoretical chemistry, while affording the student an opportunity for introductory practice in chemical analysis.

This course, open 1892-93 to both Juniors and Seniors, will not be given at all in the year following (1893-94). After that year it will

again be restricted to the Senior Class, and students desiring to take it must take Chemistry 3, during their Junior year.

## XXII. Physical Geography.

PROFESSOR LIBBEY.

2. Physical Geography proper. Senior Elective ; second term [2]. Professor Libbey. The course presupposes a knowledge of Physics and Geology, as well as elementary Physical Geography. The first portion, that treating of the morphology of the continents, follows out the line of Dynamical Geology, with especial reference to the theories concerning the internal condition of the earth, the formation of the continents and their relief laws. Then the causes of the surface changes which have modified the shapes and outer forms of the uplifted continents are discussed topically. This part of the course takes up such phenomena as mountain formation, erosion, glacial action, volcanic activity, geysers and earthquakes, in separate lectures, during which only the prominent examples are cited, and are amply illustrated by a series of lantern lectures covering every important part of the globe.

The second part of the course treats of the oceans, their extent, composition, density, the currents and the theories concerning their causes, and the manner in which they influence climate.

The third portion takes up the subject of climate in its broadest sense. The temperature zones of the earth are described, the general circulation of the atmosphere, the theory of the winds and of storms discussed, and the general theories of Meteorology are taken up and explained.

This course, aside from being one of general interest in a liberal education, should be of interest to those anticipating a course in medicine, since the climatic treatment of many diseases is assuming some importance.

4. The relation of Physical Geography to the history of mankind. Professor Libbey.

This is a graduate course, open only to those who have taken Geology and Physical Geography. It discusses the relation of geographic forms to the development of man, after having given the distribution of the various races and having described their characteristics.

**XXIII. Geology.**

PROFESSOR SCOTT.

2. Elementary Geology. An outline study of the subject, which is intended both as an introduction to the more advanced courses and also for those who desire a general acquaintance with the science, though not intending to pursue it farther. Junior Elective; (open only to those not electing 3 or 4;) second term [2]. Professor Scott. *Geikie*: Class-Book of Geology.

3 I, 4 I. Physical Geology. This is an advanced course in dynamical and structural geology, and includes the study of the rock-forming minerals and rocks, the forces which tend to modify the earth's surface, the study of rock-masses and structure, stratigraphy and geological surveying and map-making. In the spring months practical work in the field and in the laboratory with maps and models supplements the lectures. This course alternates with 3 II, 4 II. Given 1893-94. Junior and Senior Elective; both terms. [2] Professor Scott. *Green*: Geology for Students.

3, II 4 II. Historical Geology. Advanced course, including the detailed study of the formations, their stratigraphy and palæontology, the history and growth of the continents and the study of fossils as means of determining the formation. Junior and Senior Elective; both terms. Given 1893-94, alternating with 3 I, 4 I. Professor Scott. *Dana*: Manual of Geology.

While each of these courses is intended to be complete in itself, the two taken in successive years will enable the student to obtain a survey of the whole science on both its physical and biological sides. The course in historical geology may also be combined with that in palæontology (XXI, 13, 14), either simultaneously or successively; the latter dealing with fossils from the biological, and more particularly the morphological point of view, while the former makes use of them as means of determining geological age. This course includes both laboratory and field work.

**XXIV. Biology.**PROFESSORS MACLOSKIE, SCOTT AND LIBBEY, DR. RANKIN,  
MR. MCCLURE AND MR. GRAHAM.

Elementary Biology is a required study for the lower classes, and includes lectures and recitations on the general methods and results of

research, and on the principles of Biological Philosophy as part of a liberal education. For students who desire to continue the study, elective courses are provided during the Junior and Senior years, which are devoted to laboratory work, in dissecting, examining, drawing and describing the anatomy of vegetable and animal forms, representing different groups; in the study of comparative osteology and embryology, and of microscopic technique, including the staining, hardening, section-cutting, mounting and interpretation of tissues. These elective courses furnish a practical introduction to biological research for intending teachers and specialists, and are recommended to students who propose to go to surgery or medicine. Each course requires two exercises per week, of two hours each; the laboratory work being preceded by short explanatory lectures.

5. General Biology. Lectures and dissections, with microscopic work; plants and invertebrate animals. Junior Elective; first term [2]. Professor Macloskie and Dr. Rankin. *Bower*: Practical Botany. *Marshall and Hurst*: Practical Zoology.

6. General Biology. Lectures and dissections of vertebrates. Junior Elective; second term [2]. Mr. McClure and Mr. Graham. *Marshall and Hurst*: Practical Zoology. *Haddon*: Embryology.

8. Normal Histology. Junior and Senior Elective; second term [2]. Professor Libbey.

Only the normal tissues are discussed, and ample opportunity is given for their study, by means of a large series of ready-cut sections, which are given to the students, who stain and mount them for themselves. A practical working knowledge of the tissues of the body is obtained, and the students are required to be able to recognize the various forms at sight. It is usual for the members of each class to prepare from 75 to 100 mounted specimens which they retain for future use.

The course is of especial interest to intending medical students, as the certificates of the laboratory are received as an equivalent in most of the medical colleges of the country.

10. Practical Histology. Senior Elective; (open only to those who have taken 8 in the Junior year), second term [2]. Professor Libbey. The possibility of taking this course is conditioned upon the students having satisfactorily completed the course in Normal

Histology. It consists of a series of demonstrations of the methods involved in histological work, such as hardening, injection, section-cutting, etc. The students are expected to perform these operations for themselves, and obtain specimens which they must use in the preparation of a thesis.

The two courses are placed in such an order that they may be taken in succession, the first in Junior year and the second in Senior year. When thus taken they possess peculiar advantages for the medical student, as he is given the opportunity of mastering these methods of study while he has an abundance of time to do so with satisfaction to himself.

11. Advanced Biology. Cryptogams and special groups of invertebrates. Senior Elective; first term [2]. Professor Macloskie and Dr. Rankin. *Bover*: Practical Botany. *Brooks*: Handbook of Invertebrate Anatomy. Or as an alternative course for 1893-94. Human Physiology. *Foster*: Textbook of Physiology.

12. Advanced Biology. Embryology, practical work and lectures. Senior Elective; second term [2]. Mr. McClure and Mr. Graham. *Foster and Balfour*: Elements of Embryology. *Haddon*: Embryology.

a. Optional course, Osteology. Professor Macloskie, *Flower*: Osteology of the Mammalia.

13, 14 Palæontology, the morphology of extinct vertebrate types and the evolution of existing forms as revealed by the study of the fossil series. Further, the laws and factors of evolution and the problems of geographical distribution are examined from the same point of view. The course includes lectures and laboratory study of fossil forms with a parallel course in anatomical demonstrations and dissections of recent forms. Senior Elective and Graduate course; both terms [2]. Professor Scott and Mr. McClure. *Huxley*: Anatomy of Vertebrates. For graduate students the collections of the museum offer abundant material for research.

Students entering for *Special honors in Biology* must have attained a rank equivalent to second group in 2 and 4, or qualify themselves by a special examination for this rank, and pursue 5-14 inclusive under the usual regulations of Special Honor work. In place of the separate theses in the Senior courses, the student may select a thesis from one of

the courses, which must show a higher standard of work. To fill the six hours' elective work Seniors must elect Chemistry 5, or Physics 7.

In course 6 a fee of \$4.50 is charged for the use of the laboratory instruments, reagents and material, subject to drawback. In course 8 a fee of \$10 is charged, and in course 10 \$5.

