



James Muldoen

COURSE OF STUDY
IN
PRINCETON COLLEGE.

A REPORT BY THE PRESIDENT TO THE BOARD
OF TRUSTEES OF THE COLLEGE OF NEW
JERSEY, NOVEMBER 8, 1877.

GENTLEMEN : In obedience to the instructions which you have given me, I now submit an account of the studies pursued in the College. In most respects it is the same with that of the best American Colleges, but it has certain specialties—I believe them to be excellencies—which it is desirable to bring under the notice of the Alumni and of the educated public. These will show that, much as Princeton has advanced of late years in respect of its buildings and museums, it has improved quite as much in its method of instruction,—it being indebted for both to its generous benefactors.

Its Academic and Scientific Departments. It is not the intention of the Patrons of the College to provide instruction, as is done in some universities, in all professional departments. Many parents will feel it to be to an advantage

to be able to send their sons to a place, removed from the temptations of great cities, where they associate with those who are pursuing the like refining studies with themselves and where the spirit of the place is academic.

THE ACADEMIC DEPARTMENT.

The Entrance Examination. The Board and the Faculty have been gradually raising the entrance requirements, which are much the same as in the higher colleges of America. Care must be taken, however, not to advance too rapidly and so as to exclude deserving students, who whether intended for the gospel ministry or other professions, have a fair elementary knowledge of Greek, Latin, Mathematics and English, but who, as not having been under a high class professional teacher, are not fully masters of all the technicalities taught in our more expensive schools. Every one who has considered the subject knows, that the great educational want of America at this present time is not elementary schools or colleges, but a set of upper schools to enable boys to rise from the one to the other. Not having in our principal feeding States, New Jersey, Pennsylvania, New York and Maryland, such Academies and High Schools as they have in New England, we labor under disadvantages in Princeton. Our aim is to raise as high as possible the requirements for admission without driving away deserving young men.

Candidates for admission to the Freshman Class are examined in the following books and subjects: ENGLISH.—English Grammar; Orthography; Punctuation; Short and Simple English Composition; Geography, Ancient and Modern. LATIN.—Latin Grammar including Prosody; Cæsar (five books of the Commentaries;) Sallust (Catiline or Jugurtha;) Virgil (six books of Æneid;) Cicero's Select Orations (six;) Arnold's Latin Prose Composition (twelve chapters.) GREEK.—Greek Grammar including Prosody; Goodwin's Greek Reader,

111 pages, (or Xenophon, three books of the Anabasis;) Homer (the first two books of the Iliad, except the catalogue of ships;) Arnold's Greek Prose (thirty exercises, with special reference to writing with the accents.) MATHEMATICS.—Arithmetic (including the Metric System;) Algebra (through Quadratic Equations of one unknown quantity.) Geometry (first book of Euclid.)

Some of the highest educationists in this country argue, that young men should not, in ordinary circumstances, enter college till about the age of eighteen. Graduating at twenty-two, and commonly having three years of professional study afterwards, this would make our Alumni twenty-five before entering on their life-work. The question arises, Can fathers and their sons afford to give all this time to preparatory education. I am convinced that at good schools, pupils might be prepared to enter College about the age of sixteen, at which age, young men may be expediently raised from a lower institution to a higher.

II. *Division of Labor in Instruction.* It is essential to efficient instruction in the younger classes that they be taught in small divisions of twenty or thirty and thus secure that each student be called up frequently—if possible daily; and that they be taught by experienced professors and not merely by young tutors. Your Board has, I think wisely, been pursuing this policy. We have two professors and a tutor in Greek; two professors and a tutor in Latin; two professors and a tutor in Mathematics, all of them men of erudition and skilful teachers. Every member of the Freshman Class is under professors as well as tutors, and in the Sophomore and higher classes all the instruction is given by professors. This multiplication of high class teachers in the same department is one of the peculiarities of our college, and we are enabled to carry it out by the endowments furnished by our friends. Each of the teachers has his separate field which he cultivates. One teacher may give special attention to syntax and grammar, another to philology; one to the

translation of Latin or Greek into English, another to translation of a foreign tongue into English. If one professor takes a dialogue of Plato, another has allotted to him a Greek Play. We thus secure all the advantages of division of labor and of thorough instruction in specific branches. We thus try to combine the accurate Tutorial system of Oxford, Cambridge and Dublin with the livelier Class and Lecture system of Germany and Scotland.

III. *Choice of Studies.* Since 1869 a selection of studies has been allowed within stringent limits. It is the avowed intention of the Board and Faculty to retain a high or rather a deep position for the old branches, such as Classics, Mathematics, Mental and Physical Science. Two years study of Classics and Mathematics is required of all, and encouragements are held out by Elective Courses to the continuance of the study of these for the whole four years. For the first two years all take the same course, which consists of Latin, Greek, Mathematics, English, and the elements of French in the Freshman year; and the first four of these branches, with German and elementary Physiology and Natural History in the Sophomore year. At the close of the second Year there is a rigid Biennial Examination in the studies pursued for the first two years. Those who pass this are supposed to have a fair knowledge of the fundamental branches, and are now at liberty to make a selection of studies.

In the Junior Year the student enters on fresh subjects, and often feels as if a new world were opened to him. He is now introduced to Mental Science, to Psychology, Logic, Metaphysics, and also History and Natural Theology; while in Physical Science he has Mechanics, Physics and Physical Geography (or Geology). There is here a fine mixture of Mental and Material Sciences adapted to the varied faculties of the mind, fitted to enlarge it, and to keep it from being narrow and one-sided. The student, while he has new fields thrown open to him, has still to pursue certain of his old

studies. He has to elect two out of four subjects, viz: Mathematics, Greek, Latin, French and German, going on to advanced departments of these studies. He has still to take English, but in the higher form of English Literature. Instruction is given to the Junior Class by means of Lectures, Text Books and Recitations. In this way the students are brought into constant contact with their professors, each of whom has his defined subject.

In the Senior Year there are certain studies REQUIRED, all of them of a fundamental character, viz :

Astronomy,	Political Economy,
Physics,	English Literature, with Essays and
Geology (or Physical Geography),	Speeches,
Chemistry,	Science and Religion.
Ethics,	

There are also a large number and variety of ELECTIVE studies, in all eleven, viz :

Latin and Science of Language,	History,
Greek,	Mathematics,
German and French Language and	Physics,
Literature,	Chemistry—Applied and Organic,
History of Philosophy,	Astronomy (Practical),
Political Science and International	Museum Work.
Law,	

Of these every student must take four. To each of these Elective Branches, one hour a week of instruction is allotted throughout the whole collegiate year of nine months.

The College is thus seeking to avoid two opposite extremes. On the one hand it does not give a power of selection till the students are prepared to make it knowingly; and on the other hand it prevents a narrowness and a one-sidedness of mind and training, by requiring all to have a competent knowledge of certain fundamental branches of a liberal education. I believe that a debasing materialism is greatly promoted in the present day by many educa-

tional institutions encouraging physical, to the utter neglect of mental and moral science; and that an exclusiveness and angularity have been imparted to many minds by their being led to cultivate science without literature or literature without science. But as new subjects required by the advance of knowledge; had to be introduced into the college curriculum, and as every student could not take the whole of these without his mind being overburdened, it became necessary to allow a selection on the part of the student. It was farther felt to be of importance to make provision for gratifying the difference of taste and talent among young men, and for fitting them, to some extent, for the professions they are to follow. Thus, those intending to go on to theology, might be expected to take a special interest in philosophy; while those proposing to study medicine, might feel it for their good to carry on to a greater length, certain natural sciences; and those going forward to the bar might betake themselves to political science; and those preparing to teach, might pursue higher courses of language. A certain amount of mathematics should be required of all, to make them know the nature of intuitive and demonstrative truth, to train the reasoning faculties and impart concentration of thought; but the study would be distasteful to many if enforced the whole four years. All should have instruction in Classics to open to them the ancient world, and set before them the most perfect specimens of literary taste; but not a few would feel it irksome to have the dead languages continued during the whole collegiate course. A new life and a great stimulus are often communicated to the student when he finds himself able, in his Junior and Senior years, to devote himself to a study for which he has a special predilection, or which may help him on in the profession which he means to follow.

In all departments the work of the term and the work of the year, is wound up by an examination, in which each student is graded.

IV. *Grouping of Studies.*—The branches taught in the College might be conveniently arranged under three general heads. Provision is made for giving varied instruction under each.

I. LITERATURE.	II. SCIENCE.	III. PHILOSOPHY.
Latin Language,	Geometry,	Psychology,
Roman Literature,	Analytic Mathematics,	Logic,
Greek Language,	Mechanics,	Metaphysics,
Greek Literature,	Botany,	Ethics,
French Language,	Zoology,	History of Philosophy,
French Literature,	Mineralogy,	Political Economy,
German Language,	Physical Geography,	Political Science,
German Literature,	Geology,	International Law,
Sanscrit,	Museum Work,	History,
Science of Language,	Chemistry,	Natural Religion,
Rhetoric and Composition.	Physics,	Christian Evidences.
English Language and Literature.	Astronomy,	Science and Religion.
	Laboratory Work.	

It is proposed next year to have courses on Anglo-Saxon and Early English.

Some have proposed that each of these groups should constitute a tripos like that found in Oxford and Cambridge, and that the student should choose one out of the three. The objection is, that it would nurture specialists without a general or comprehensive culture. In Princeton the students are required to master so much of each of these, but may give particular attention to one branch.

In Literature greater attention is paid than in most Colleges to Continental Languages and Literature, and to the English Language and Literature. There are two instructors in each of these departments. The student is required to give a limited amount of time to English every year in his course. Very special attention is paid to English composition. The students have to give in Essays, which are carefully corrected and criticised, each term during the whole four years of their course, and are thus stimulated to read out of the library and to acquire the power of expressing

themselves clearly and accurately. The members of the three lower classes engage in elocutionary exercises, before their respective Classes, under the direction of the professors of Rhetoric and Elocution; and the members of the Senior Class deliver orations before the whole College on Saturday forenoons in the first and second terms. Mr. Lynde has provided an endowment of \$5,000 to encourage the power of extempore debate—a new thing in American Colleges. Essay writing and debating are stimulated and carried out effectively by the discussions and written compositions required in the two old and distinguished literary societies, and in the new scientific society, each of which meets once a week. In all the language classes the instruction has always a bearing on the rising science of Linguistics.

In Science the aim is not only to give knowledge, but call forth the observational, the experimental, and also the inductive and rational capacities. There is a growing feeling that these cannot be trained by mere lectures. So in Biology and Geology we have Museum Work, and in Physics, Chemistry, and Astronomy, Laboratory and Observatory exercises.

In Philosophy the College is usually regarded as strong. The President and two professors lecture on and discuss, scientifically and historically and in their bearing on religion, a wide and varied range of high topics, speculative and practical, in mental and social science. One professor lectures fully on ethics and political science—the latter of great moment in a country where every man is a politician. Another lectures on History and the varied relations of Science and Religion. The President has three classes of Mental Science, one of Psychology for the Juniors, one on the History of Philosophy for the Seniors, and a third to Post-graduates on living philosophical questions. Some of the classical professors powerfully aid this department by unfolding the nature of the Greek and Roman philosophy, as they read such writers as Plato and Cicero.

V. *Prizes and Fellowships.* For the undergraduates \$2,000 a year are devoted to Prizes meant to encourage study and scholarship.

The Stinnecke Scholarship competed for once in three years for the best classical scholar entering the Sophomore Class, \$500 a year, tenable during the College course.

Freshman First Honor Prize to the one standing the highest, \$200.

The Miss Stinnecke Scholarship to Junior standing highest, \$200.

The Stinnecke Prizes to three highest in Sophomore Class, \$70, \$40 and \$30.

The Dickinson Prize for a Dissertation, \$60.

The Class of 1859 Prize for a Literary Essay, interest of \$2,000.

The Class of 1861 Prize for Mathematics in Sophomore Class, \$80.

For Examination and Essay on Science and Religion, \$100.

The George Potts Bible Prizes, interest of \$1,000.

The Junior Orator Medals, four of \$20 each.

The John Maclean Prize for Oratory, \$100.

The Lynde Prize Debate, interest of \$5,000 in Prizes.

Princeton has been taking the lead among American Colleges in encouraging advanced learning by means of Fellowships. This system has not yet been thoroughly organized, but it is expected to be so very soon. We have at present

1. The Chancellor Green Mental Science Fellowship, endowed by the widow of the late Chancellor Green.

2. The Marquand Classical Fellowship.

3. J. S. K. Mathematical Fellowship.

4. The Class of 1860 Experimental Fellowship.

5. The Boudinot Historical Fellowship.

6. The Boudinot Modern Language Fellowship.

These Fellowships are obtained by competition, open to any member of the Graduating Class at the close of his

Senior Year. For each of the first three, \$600 is provided. The fourth has lapsed for the present. For each of the other two, there is \$250 a year. The student gaining any one of the Fellowships, must pursue studies in the department for which the Fellowship is provided, for one year, under the superintendence of the professors in the department, and will be required to live in Princeton or appear in Princeton from time to time as may be appointed, or if he study at a foreign university, to furnish systematic reports of what he is doing. For the last seven years the College has had Fellows eagerly pursuing the very highest studies in special branches of philosophy, philology and science, both in Princeton, and at the German or English universities.

Within the last few weeks, a gentleman who lately graduated, has promised to provide Fellowships for those recent graduates who have distinguished themselves in College, and who will pursue high studies in Mental and Social Science, and write elaborate essays on these subjects. It is hoped that some other friends will make a like provision in the departments of Science and Language.

VI. *Post-Graduate Instruction.* In the last few years there have been a few Graduates receiving instruction from individual professors. The Board of Trustees has now sanctioned Post-Graduate Courses. They have been started this year experimentally, and the trial has been successful beyond all expectation.

The aim of every college should be to secure a fair amount of scholarship from every student. No college can make all its students great scholars. But there is a certain proportion, say one in ten, or one in five, who as having the taste and the talent may be made so. This is to be done by Post-Graduate Courses. We have at present no fewer than 42 graduates, mostly from the College of New Jersey, but a number from other universities in America and Great Britain, attending classes in our College, chiefly in philosophy and physics.

With our increased staff of professors we should now be able to institute three Post-Graduate Schools. I. One of PHILOSOPHY, Ancient and Modern. II. One of PHILOLOGY, Indo-European and Shemitic. III. One of SCIENCE, Mathematical, Experimental and Biological. In Philosophy, the students of the Theological Seminary are at liberty to attend the lectures in the College. Mr. McCurdy of the Seminary has been giving instruction in Sanscrit to College graduates and students. Proposals have been made to give appropriate degrees to those pursuing Post-Graduate studies of a high order.

By these Post-Graduate courses and by Fellowships we hope to produce scholars to rival those of the European colleges.

VII. *Biblical Instruction.* Princeton claims to be regarded as a religious college. It is not officially connected with any denomination, but may be considered as in a general way under the patronage of the Presbyterian Church. Nothing sectarian is taught, and there is no interference with the religious convictions of the students. Prayers are offered morning and evening in the College Chapel, and the attendance of all required. On Sabbath, Divine service is held in the Chapel at 11 A. M., conducted by clerical members of the Faculty and others called in by the President. Permission to worship with other religious denominations is obtained by presenting a written request from the parent or guardian. A meeting for prayer attended by all is held at 5 P. M., on the Sabbath. Prayer meetings of Classes are held twice a week, and of the College three times a week. Instruction in the Bible is given to every student:

To the Seniors in O. T. History and Doctrine (the Epistle to the Romans) by the President.

To the Juniors in the O. T. Prophets and the Book of Acts, by Prof. Murray.

To the Sophomores in John's Gospel in Greek by Prof. Orris.

To the Freshmen in the Poetical Books of the O. T. and the Parables of our Lord by Prof. Hunt.

THE SCIENTIFIC DEPARTMENT.

The School of Science was instituted in 1873, and received generous endowments from the late Mr. John C. Green, of New York, and from his Trustees since his decease. Mr. Green, and the Board in accepting his gifts, understood that the grand design of the School was to impart scientific instruction of a high order, along with literary culture. So it has been arranged that along with the science the pupils have lectures from certain professors in the Academic Department, so as to rear and send forth into the world a body of educated gentlemen likely to spread a refining influence. In both the Freshman and Sophomore years, they have to take English (embracing Rhetoric, Essays, Elocutionary exercises) and French and German; and in the Junior and Senior years, English Literature and Modern Languages and Literature; and in order to keep their training from becoming exclusively physical or materialistic, they have Psychology or Logic in the Junior year, and Ethics and Political Economy in Senior year. Throughout their whole course they attend prayers daily and public worship on the Sabbath, and receive religious instruction once a week: the Seniors from the President, the Juniors from Prof. Murray, and the Sophomores and Freshmen from Prof. Macloskie. The School has thus a character of its own. In this way the new Scientific Department is quite in the spirit, and after the manner, of the old Academic, both fulfilling the same end—the cultivation of the mind.

But while the main end of the institution is to impart scientific knowledge with literary refinement, it was expected that out of the general training there would grow professional training of a practical character. For the first two years all the students pursue much the same course. But to a limited extent in the early years, and to a large extent

in the Junior and Senior years, the pupils may devote themselves to the studies for which they have a predilection, or which may fit them for the professions which they are to follow.

To secure that candidates for admission are able to follow the course, they are examined in ENGLISH, Orthography, Punctuation, English Grammar, simple English Composition, Geography; MATHEMATICS, Arithmetic entire, including the Metric system; Algebra, through Quadratics of one known quantity; Geometry, first book of Euclid or its equivalent.

FRESHMAN YEAR.

Mathematics,	English (Rhetoric, Essays and Elocution,)
Mineralogy.	
Botany,	Modern Languages (French and German.)
Drawing.	

SOPHOMORE YEAR.

Mathematics,	Physiology,
Inorganic Chemistry,	English (Rhetoric, Essays, Elocution,)
Mineralogy.	French and German (Oral and Written Exercises.)
Botany,	

JUNIOR YEAR.

Mathematics (Differential and Integral Calculus,)	Physical Geography,
Mechanics,	English Literature,
Physics,	Modern Languages,
Chemistry,	Logic or Psychology.

SENIOR YEAR.

Astronomy,	Geology,
Physics (with Laboratory Practice.)	Drawing,
Chemistry, (Organic and Applied,)	English Language and Literature.
Biology,	German and
Mineralogy,	Political Economy.

Students pursuing this course receive the Degree of Bachelor of Science (B. S.)

At the beginning of the Junior Year students desiring to devote to certain branches more time than is allotted to

them in the general course indicated above, may elect one of four courses providing special instruction : (1) Mathematics and Mechanics; (2) Biology and Geology; (3) Chemistry and Mineralogy; (4) Select courses in Physics. Students pursuing such elective courses will remain candidates for the Degree of B. S.

Provision is made to give instruction to Special Students and Post-graduates. The Degree of Master of Science (M. S.) may be had by pursuing higher studies and writing dissertations. (See Catalogue.)

The Board has lately instituted in connection with the School of Science two Special Departments.

CIVIL ENGINEERING.

The studies pursued in this department embrace such general subjects as Mathematics, Astronomy, Physics, Chemistry, General and Analytical, Mineralogy, English (Rhetoric and Essays, English Language and Literature,) French, German, Logic or Psychology and special professional studies such as

Topographical Drawing,	Mechanics, (Rational, Physical and
Stereotomy,	Applied),
Geodesy,	Constructions.

Those completing this course receive the Degree of Civil Engineer (C. E.) (For details see Catalogue.)

ARCHITECTURE.

For the first two years the students pursue the course of instruction provided for the Freshman and Sophomore Classes in the Scientific or Academic Departments, but have also Drawing and Lectures on Architecture.

JUNIOR YEAR.

Physics, Mathematics, Physical Geography, Mechanics, English and Modern Languages; and in Architecture.

Orders,	Construction with Models,
Styles,	History of Modern Architecture and
Plans and Sections.	Art.

SENIOR YEAR.

Geology,	Physics,
English and Modern Languages,	Strength of Materials.

Specially. Programmes in Architecture and Compositions; Lectures on *Æsthetics* and Art; and on Architecture; Office Practice, details, specifications, estimates, contracts, use of surveying instruments, qualities and cost of building material, laying out of work. Those completing this course receive the Degree of Bachelor of Architecture (B. Arch.). (For details see Programme, to be had on application to Prof. Lindsey.)

It is proper to add, that for the various departments of science there are provided instruments of the most improved character in chemistry, physics and astronomy; and good collections; zoological, botanical, mineralogical, archaeological and geological, in the two museums. The library, which is open daily for consultation and for giving out of books, is now well provided with works for students in all departments (additions are being made this year to the extent of \$25,000,) and is extensively used by the members of the College.

I have thus laid before you, as clearly as I can, within a brief compass, the plan of instruction pursued within the College with the view of training the minds of youth committed to its care, and fitting them for the work of life. I verily believe that it carries out fully the views, religious and secular, of the founders of the College, and the intentions of the benefactors who, in our day, are, by their munificent gifts, enabling it to run alongside of the best colleges in this land and in other lands.

JAMES McCOSH,
President of Princeton College.

RESOLUTION OF BOARD OF TRUSTEES OF COLLEGE OF
NEW JERSEY :

“ That a paper entitled ‘ Course of Study in Princeton College,’ prepared by the President of the College, together with a copy of the Annual Catalogue of the College for the current year, be sent to every Alumnus of the Institution whose address can be obtained.”