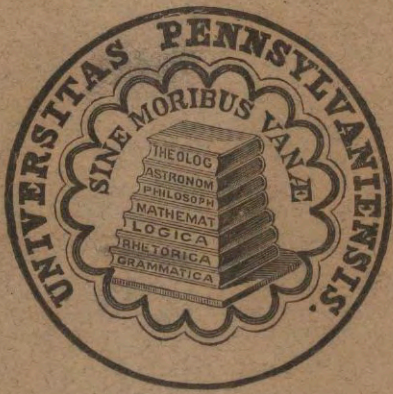


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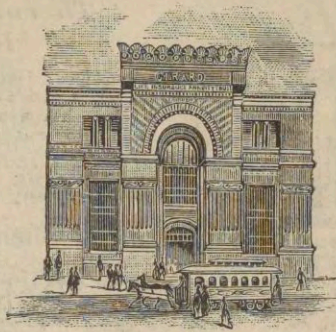
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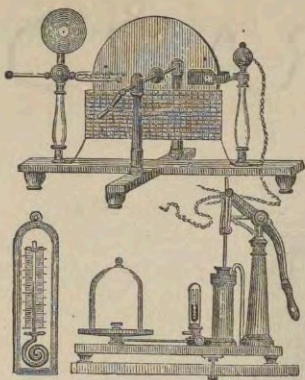
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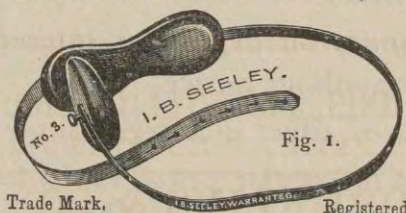
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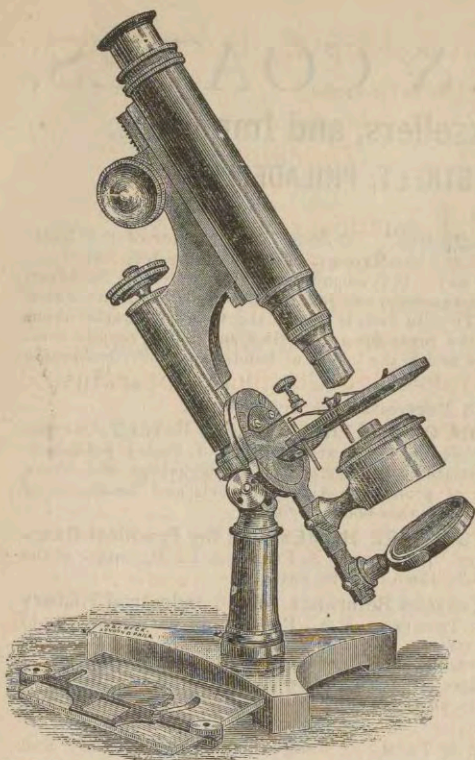
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CONTENTS

Trustees	2
Officers of Instruction and Government	3
General Statement	8
General Information in regard to the Collegiate Departments	10
Department of Arts	16
The Towne Scientific School	24
The Wharton School of Finance and Economy	40
Department of Music	45
Department of Medicine	46
Auxiliary Department of Medicine	77
Department of Dentistry	83
Department of Law	95
Department of Philosophy	105
Academic Degrees, Honors, Prizes, etc., 1881-2	108

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DEPARTMENT OF MUSIC.—Bachelor of Music (Mus.Bac.)

DENTAL DEPARTMENT.—Doctor of Dental Surgery (D.D.S.).

POST-GRADUATE DEGREES.—Master of Arts (A.M.), to graduates in Arts of three years' standing; Civil Engineer (C.E.), Mechanical Engineer (M.E.), Mining Engineer (E.M.), Architect (Arch't), to graduates in Science of three years' standing; Bachelor of Science (B.S.), in Sciences Auxiliary to Medicine, by the Auxiliary Faculty of Medicine; Doctor of Philosophy (Ph.D.), by the Faculty of Philosophy.

LIBRARIES.

The LIBRARY contains the following special collections: (1) The WETHERILL LIBRARY OF WORKS ON CHEMICAL SCIENCE; (2) the COLWELL LIBRARY OF WORKS ON SOCIAL SCIENCE, the most complete in the world in its own department; (3) the CAREY LIBRARY, comprising the library of the late Henry C. Carey, and especially rich in the department of statistics; (4) the ALLEN LIBRARIES OF CLASSICAL LITERATURE, BIBLIOGRAPHY, SHAKSPERE, AND MILITARY SCIENCE; (5) the ROGERS LIBRARY OF CIVIL ENGINEERING; (6) the STILLÉ MEDICAL LIBRARY in the Medical Department.

Besides these there is a large collection of works on History, Science, and General Literature, some of them the gifts of the friends of the University during the last century (BENJAMIN FRANKLIN, DR. RICHARD PETERS, LOUIS XVI.). The income of the TOBIAS WAGNER LIBRARY FUND is expended in the purchase of books in the department of History. The STILLÉ MEDICAL LIBRARY, including over four thousand volumes, is appropriately arranged in the Medical Hall. The LIBRARIES OF THE LITERARY AND SCIENTIFIC SOCIETIES are of considerable value.

GENERAL INFORMATION IN REGARD TO THE
COLLEGIATE DEPARTMENTS.

CALENDAR.

1882.			
September	15.	College Year begins.	10 A. M.
November	30.	Thanksgiving Day.	(Holiday.)
December	22.	Christmas Recess begins.	
1883.			
CHRISTMAS RECESS.			
January	2.	Christmas Recess ends.	10 A. M.
"	31.	Annual Examinations, First Session, end.	
"	31.	First Term ends.	
February	1.	Second Term begins.	10 A. M.
"	22.	Washington's Birthday Celebration.	
March	21.	Easter Recess begins.	
EASTER RECESS.			
March	27.	Easter Recess ends.	10 A. M.
May	14.	Senior Examinations end.	
"	15.	Announcement of Results.	10 A. M.
June	13.	Annual Examinations, Third Session, end.	
"	14.	Announcement of Results.	10 A. M.
"	15.	Commencement Day.	
"	16 to 22.	Examinations for Admission.	
SUMMER VACATION.			
Sept.	8 to 14.	Fall Examinations for Admission.	

COLLEGE TERMS AND VACATIONS—TUITION FEES.

The College Year in the Department of Arts, the Towne Scientific School, and the Wharton School of Finance and Economy, is divided into two Terms; the *first* beginning on the 15th of September, and ending on the 31st of January; the *second* beginning on the 1st of February, and ending on the 15th of June (Commencement Day).

The Annual Tuition Fee is one hundred and fifty dollars, payable to the Treasurer of the University in two instalments, on October 1st and February 1st. The Graduation Fee is twenty dollars. A separate charge of fifteen dollars per term is made to the chemical and geological students of the Junior and Senior Classes in the Towne Scientific School, for chemicals and gas, and a like charge of ten dollars per term to students of the Sub-Junior Class. Students are required to have their own apparatus.

Examinations are held by the Faculties of these Departments, partly in the month of January, and partly, for the Senior Class, in May, and, for the lower classes, at the close of the college-year in

June. At the end of each term, students who attain distinction are classed in order of merit.

Students shown by their term-average to be deficient in any of their studies, may be conditionally attached to their class, until they prove on re-examination that said deficiency has been fully made up. In case of persistent neglect of study, great irregularity of attendance, or evident inability to keep up with the class from any cause, the student may be dropped from the rolls.

INSTRUCTION OPEN TO THE PUBLIC.

Persons of both sexes are admitted without examination to the following courses of lectures given in these Departments, viz.:—

On German Literature, by Professor SEIDENSTICKER.

On the Older English Classics, by Professor McELROY. (Two Courses:—I. *Chaucer and Spenser*, September to January; II. *Shakspeare*, February to May.)

On National Economy, on the History of the Civil Law, and on Communism, by Professor THOMPSON.

On Physics and Astronomical Physics, by Professor BARKER.

On Inorganic and Organic Chemistry, by Professor SADTLER.

On Classical Archæology, by Mr. LEIGHTON HOSKINS.

They are also admitted to the Classes in Analytical Chemistry, including practical work in the laboratory, under Professor GENTH.

The lectures begin, as a rule, about February 1st. The fee for each course is five dollars; for the instruction in Analytical Chemistry, seventy-five dollars a term.

Application may be made to the Dean or the Secretary of any of the Faculties; from whom, also, further information respecting this instruction may be obtained.

SPECIAL COURSES.

Special Courses are granted by the Faculties in these departments, as follows:—

I. In the Department of Arts, a Partial Course, consisting of such studies given in the full course as the student may elect and the Faculty may sanction. (See p. 18.)

II. In the Towne Scientific School, a Special Course in any one of the six Professional Courses given in the last three years. (See p. 27.)

III. In the Wharton School, either a Partial Course of such studies as the Faculty may permit the student to take, or a Special Course in any subject taught in the school. (See p. 42.)

SOCIETIES.

The PHILOMATHEAN (Literary) SOCIETY, founded in 1813, holds meetings weekly during the college-year, in its rooms at the University. Undergraduates in all three collegiate departments are eligible to membership. The order of exercises includes orations, essays, and a debate, besides the usual general business, which affords excellent practice in the principles of parliamentary law. A large and valuable library is owned by the Society, and is open to the use of members.

The SCIENTIFIC SOCIETY holds weekly meetings at its rooms in the University throughout the college-year. All undergraduates of the University are eligible to membership. Scientific essays are read, discussions are held, and a general comparison of observations and experiments is had. Besides a considerable scientific library, large collections of minerals, fossils, ornithological specimens, and other objects of scientific interest, are owned by the Society. A course of lectures, under the management of the Society, is delivered annually in the University Chapel.

SCHOLARSHIPS.

I. Under a contract with the City of Philadelphia, Fifty Free Scholarships have been established in the University of Pennsylvania for the benefit of pupils from the Public Schools of the city. The candidates for these scholarships are sent up by the Board of Public Education to the annual examinations for admission, in the month of June. They are examined at the same hours and on the same subjects as other candidates, but not necessarily on the same papers. The scholarships are bestowed upon those of their number (not exceeding the number of existing vacancies) who reach the highest grade in their examination, provided that grade be at least sixty-five out of a possible hundred.

II. A limited number of Free Scholarships will be granted at the beginning of each college-year to deserving and indigent students in these departments, under the following regulations:—

Each candidate must present written testimonials to the Dean of the Faculty, at or before the entrance-examinations in June or

September. He must pass these examinations, or (in the case of those who are already in the classes) the annual examinations, with credit. He will then be recommended for admission to the proper committee of the Board of Trustees. The scholarships are granted for one year only, renewable by the decision of the committee, on the recommendation of the Dean.

III. The Wharton School is open without fee to those students from the Public Schools who have gained the Prize Scholarships, after they have passed through the Freshman and Sophomore classes. Scholarships of Class II., also, held by students in the Department of Arts or the Towne Scientific School who elect the course in the Wharton School, may be renewed from year to year in this School in the same way as in the other Departments.

IV. The income of THE BLOOMFIELD MOORE FUND is appropriated to enable women (not exceeding six in number in any one year) who are teaching, or who propose to teach, to receive, without cost, instruction in one or more of the subjects named above as open to the public.

PRIZES.

I. A stated annual appropriation is made by the Board of Trustees to enable the Faculties to offer *prizes* for superiority in the performance of voluntary exercises in most cases over and above the ordinary course. The subjects are proposed by the several Professors early in the year; the award is made by the Faculties and reported to the Board before the month of June; and the names of those who have received prizes are published at the Annual Commencement.

The prizes offered for the present year, under this regulation, are—

1. In the DEPARTMENT OF INTELLECTUAL AND MORAL PHILOSOPHY, a prize of the value of twenty dollars for the best Essay by a member of the Junior Class. Subject: "*The Doctrine of Cause and Effect.*"

2. In the DEPARTMENT OF THE GREEK LANGUAGE AND LITERATURE, a prize of twenty dollars for the best examination upon the *Oration of Aeschines contra Ctesiphontem*, to be read with the Professor by members of the Junior Class.

3. A prize of the value of ten dollars for the best examination by a member of the Freshman Class upon Greek Prose Compo-

sition with the Accents. The examination will be upon the latter part of *Arnold's Greek Prose Composition*, from the Relative to the end of the book.

4. In the DEPARTMENT OF MATHEMATICS, a first and a second prize of the value of fifteen and ten dollars, respectively, for the best examination on the *Lectures on Quaternions* given to the Voluntary Junior Class.

5. In the DEPARTMENT OF HISTORY AND ENGLISH LITERATURE, a prize of the value of thirty dollars for the best English Essay by a member of the Senior Class. Subject: "*Bancroft*."

6. A prize of the value of twenty dollars for the best English Essay by a member of the Junior Class. Subject: "*Gustavus Adolphus*."

7. A prize of fifteen dollars for the best *Declamation* by a member of the Sophomore Class.

II. To encourage the training in Greek and Latin Prose Composition in the Preparatory Schools, a first and a second prize have been established by the Faculty, under authority of the Board of Trustees, of the value of fifteen and ten dollars, respectively, to be awarded annually to the Freshmen who, upon entering College, shall pass the best special examinations in the *Elements of Latin Prose Composition*, provided the examinations reach a satisfactory standard of excellence. The examination will take place on or about the first day of October. In 1883, it will be upon the first fifty-five exercises in Part I. of *Arnold's Latin Prose Composition*. Certificates will be presented to *all* competitors whose examinations reach a satisfactory standard.

Two prizes of the same amounts will be awarded annually for *Greek Prose Composition*. The examination in the year 1883 will be upon the whole of *Jones's Greek Exercises*, with the Accents.

III. A prize of twenty dollars has been established by the Board of Trustees, to be awarded to such member of the Scientific Classes as shall, "*by his improvement in Drawing, and his general good conduct and application,*" be entitled to such honorary distinction.

IV. The "HENRY REED PRIZE," founded by the Alumni of the University in memory of Professor Henry Reed, is annually awarded for the best *English Essay* by a member of the Senior Class (Department of Arts). It entitles the successful candidate to one

year's interest on a certificate of loan issued by the City of Philadelphia in the sum of six hundred dollars and to an accompanying Diploma of Merit. The essays must be handed to the Vice-Provost, for transmission to the Board of Trustees, by the first day of May. The subject for the present year is: "*The Causes and Tendencies of the Growing Obscurity in Recent Poetry.*"

V. The SOCIETY OF THE ALUMNI have founded the following prizes:—

1. A prize to be annually awarded to that member of the graduating class who shall present the best *Latin Essay*. It entitles the successful candidate to one year's interest on a certificate of loan issued by the City of Philadelphia in the sum of nine hundred dollars. The essays must be handed to the Vice-Provost, for transmission to a Committee of Examiners appointed by the Society, by the first day of May.

2. A prize is annually awarded to a member of the Junior Class for the best *Original Declamation*. It entitles the successful candidate to one year's interest on certificates of loan issued by the City of Philadelphia in the sum of three hundred dollars.

VI. Through the liberality of Mr. HENRY LA BARRE JAYNE, of the class of 1879, a prize is offered annually for the best English Composition by a member of the Freshman Class. It entitles the successful competitor to one year's interest on the sum of two hundred dollars. The subject for the present year is: "*Proprietary Government in the American Colonies.*"

VII. "THE JOSEPH WARNER YARDLEY MEMORIAL PRIZE," founded by the Class of 1877, in the Department of Social Science, in memory of their classmate, will be annually awarded to that member of the Senior Class who shall prepare the best thesis upon such subject as the Professor of that Department shall each year designate, and will entitle the successful candidate to one year's interest upon the sum of five hundred dollars, and also to an accompanying Diploma of Merit. The subject for the present year is: "*The Nationalization of Land.*"

VIII. A prize is offered in the DEPARTMENT OF CIVIL ENGINEERING, by D. VAN NOSTRAND, Esq., to the member of the Junior Class (Section of Civil Engineering) who attains *the highest general average of scholarship*. It consists of certain technical works.

DEPARTMENT OF ARTS.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST OF THE UNIVERSITY, and *ex-officio*
President of the Faculty
- REV. CHARLES P. KRAUTH, D.D., LL.D.,* VICE-PROVOST, *ex-officio* Dean of
the Faculty, and Professor of Intellectual and Moral Philosophy.
- FRANCIS A. JACKSON, A.M., Professor of the Latin Language and Literature.
- E. OTIS KENDALL, LL.D., Professor of Mathematics.
- OSWALD SEIDENSTICKER, PH. D., Professor of the German Language and
Literature.
- JOHN G. R. McELROY, A.M., Professor of Rhetoric and the English Language.
- REV. ROBERT E. THOMPSON, A.M., Professor of Social Science.
- FREDERICK A. GENTH, PH. D., Professor of Chemistry.
- GEORGE F. BARKER, M.D., Professor of Physics.
- SAMUEL P. SADTLER, PH. D., Assistant Professor of Chemistry.
- REV. FREDERICK A. MUHLENBERG, D.D., Professor of the Greek Language
and Literature.
- OTIS HOWARD KENDALL, A.M., Assistant Professor of Mathematics.
——— John Welsh Centennial Professor of History and English Literature.

INSTRUCTORS, ETC.

- MORTON W. EASTON, PH. D., Instructor in French and in Elocution.
- W. EGBERT MITCHELL, A.M., Instructor in History.
- CARL OTTO HERING, B.S., Assistant in Physics.

FRANCIS A. JACKSON, *Secretary*.

AIMS OF THE DEPARTMENT—TERMS OF ADMISSION.

The DEPARTMENT OF ARTS is designed to give that comprehensive and liberal culture, and to secure that mental training and discipline, which, until recent years, were the sole aims of the best known American colleges. The methods by which these objects are sought have been enlarged by the adoption of a carefully arranged elective system, by the introduction of new subjects of study (notably the modern languages), and by giving greater prominence to certain old ones. The students are divided into four classes, Senior, Junior, Sophomore, and Freshman.

To be admitted into the Freshman Class, a student must pass a satisfactory examination on the following subjects and authors:—

GEOGRAPHY.—Ancient and Modern Geography. (Mitchell's *New Ancient Geography* and *Ancient Atlas* are recommended.)

* Deceased.

- ENGLISH.—Grammar, Composition and Etymology (*Greek and Latin roots*).
Abbott's *How to Parse* indicates the amount required in Grammar, and Sargent's *Manual* the amount in Etymology. A composition, one (foolscap) page long, will be required on a theme to be set at the time of the examination.
- GREEK.—Greek Grammar. Arnold's Greek Prose Composition (*to the end of Exercise 24*). Xenophon (*Four Books of the Anabasis*). Homer (*First Three Books of the Iliad*).
- LATIN.—Latin Grammar. Caesar (*Three Books of the Gallic War*). Virgil (*Six Books of the Æneid*). Cicero (*Five Orations, including the Four against Catiline*). Arnold's Latin Prose Composition (*to the end of Exercise 20*).
- MATHEMATICS.—Arithmetic (*including the Decimal System of Weights and Measures*). Algebra (*through Simple Equations*).

Two examinations of candidates for admission will be held during the present year. Candidates must be punctual in their attendance at the hours named.

The first of these examinations will be held as follows:—

- ON SATURDAY, JUNE 16, from 9 to 10½.—A written examination in *Arithmetic* (especially—*The Simple Rules, Vulgar and Decimal Fractions, The Decimal System of Weights and Measures, and The Extraction of the Square and Cube Root*).
From 10¾ to 1¼.—A written examination in *Algebra—To Quadratic Equations including Proportion, Progression, Surds, Imaginary Quantities, and The Binomial Theorem*.
- ON MONDAY, JUNE 18, from 9 to 11.—A written examination in *Latin Grammar*.
From 11¼ to 1.—A written examination upon *six books of Virgil's Æneid, and upon the Structure and Scanning of Hexameter Verse*.
- ON TUESDAY, JUNE 19, from 9 to 11.—A written examination in *English Grammar, Composition, and Etymology*.
From 11¼ to 12¼.—A written examination in *Ancient and Modern Geography*.
From 12½ to 2½.—A written examination upon ARNOLD'S LATIN PROSE COMPOSITION, *to the end of Exercise 20*.
- ON WEDNESDAY, JUNE 20, from 9 to 11.—A written examination in *Greek Grammar and ARNOLD'S GREEK PROSE COMPOSITION*.
From 11¼ to 1¼.—A written examination upon the *first four books of Xenophon's Anabasis and the first three books of the Iliad*. (*Candidates will be required to scan the Homeric verse*.)
- ON THURSDAY, JUNE 21, beginning at 9 o'clock.—An oral examination upon *five of Cicero's Orations, including those against Catiline*.
- ON FRIDAY, JUNE 22, at 11 o'clock.—ANNOUNCEMENT OF RESULTS.

Applicants for admission to the SOPHOMORE CLASS, who pass the above examinations satisfactorily, will be examined as follows upon the subjects studied by the Freshman Class:—

- ON THURSDAY, JUNE 22, beginning at 11½ o'clock—Oral or written examinations on the following subjects and authors:
- IN GREEK.—Upon *Xenophon's Hellenics* (II. 4, IV. 2, 3, 4, VI. 4, §§ 1-37, and VII. 5), and the *Persæ* or the *Prometheus of Æschylus*. *The whole of Arnold's Greek Prose Composition*.
- IN LATIN.—Upon *Livy (Selections from the Twenty-first and Twenty-second Books)*; and *Horace (Selections from the Satires)*.
- IN MATHEMATICS.—On *Newcomb's Algebra and Chauvenet's Geometry*.

IN HISTORY.—Upon *Freeman's General Sketch of History*.

IN ENGLISH.—Upon *Abbott's How to Write Clearly* and *McElroy's System of Punctuation*.

IN FRENCH.—Upon *Keetel's Collegiate Course, First Part*, and *Analytical Reader, First Part*, or *Télémaque, Three Books*.

ON THURSDAY, JUNE 22, at 3 o'clock.—ANNOUNCEMENT OF RESULTS.

Applicants for admission to the JUNIOR or SENIOR CLASS, who pass the above examinations satisfactorily, will have special appointments made for their examination upon the studies of the *Sophomore and Junior Years*.

The second examination will be held:—

From MONDAY, Sept. 10th, to SATURDAY, Sept. 15th, upon the same subjects as those named for the examination in June.

COURSE OF INSTRUCTION FOR THE DEGREE OF BACHELOR OF ARTS.

All candidates for the degree of Bachelor of Arts, pursue the same studies during the Freshman and Sophomore years. During the remaining two years of the course,—

1. All the members of the class are *required* to study Intellectual and Moral Philosophy, Mathematical Astronomy, English Literature and General History, the elements of Social and Political Science, General Mechanics, Physics, Chemistry, and English Composition and Oratory.

Each member of the class at the beginning of his Junior year must elect either—

GREEK or GERMAN;

LATIN or FRENCH;

PURE MATHEMATICS or advanced studies in HISTORY and
ENGLISH LITERATURE.

These elections are binding for both years.

A student may pursue the full course, or he may take any portion of that course which the Faculty may sanction: but admission to a *partial course* is to be considered an exceptional arrangement, made by the Faculty, to be granted and withdrawn, when and as it may be deemed expedient. At the termination of such a partial course, satisfactorily pursued, a certificate of proficiency will be awarded.

The degree of Master of Arts will be conferred on the Alumni of the University, Bachelors of Arts of three years' standing, who give

evidence that they have pursued liberal studies since their graduation, and present a satisfactory Thesis to the Faculty of Arts. This must be sent to the Dean of the Faculty by the first Friday in April.

For further information respecting this Department, see pages 8 to 15. Letters of inquiry may be addressed to the Dean of the Faculty.

FRESHMAN CLASS.

- GREEK.—Xenophon's *Hellenics*. Æschylus. Arnold's Greek Prose Composition, completed.
- LATIN.—Selections from Livy and Horace's Satires.
- MATHEMATICS.—Newcomb's *Algebra*, Chauvenet's *Geometry*.
- HISTORY.—Freeman's *General Sketch of History*.
- ENGLISH.—Abbott's *How to Write Clearly*. McElroy's *System of Punctuation*.
- FRENCH.—Keetel's *Collegiate Course and Analytical Reader*, or *Télémaque*.

SOPHOMORE CLASS.

- GREEK.—Thucydides (*Sicilian Expedition*). Euripides or Aristophanes. Greek Composition.
- LATIN.—Tacitus (*Agricola, Germania, or Annals*). Cicero (*De Senectute or De Officiis*). Horace (*Selected Odes*).
- MATHEMATICS.—Chauvenet's *Plane and Spherical Trigonometry*, with applications. Bowser's *Analytical Geometry*.
- ENGLISH.—Elements of Rhetoric (Lectures).¹ Compositions and Declamations. Halde- man's *Outlines of Etymology*. Lounsbury's *English Language*.
- GERMAN.—Whitney's *German Grammar*. Woodbury's *Elementary Reader*.
- CHEMISTRY.—Inorganic and Organic Chemistry (*Experimental Lectures, with Examinations*).

JUNIOR CLASS.

- PHILOSOPHY (*Required*).—Intellectual Philosophy. Lectures introductory to Philosophy. Hamilton's *Philosophy*. Moral Philosophy. Whewell's *Elements* (Lectures). Atwater's *Logic*.
- GREEK (*Elective with German*).—Sophocles. Lysias or Isocrates. Theocritus.
- LATIN (*Elective with French*).—Selections from Juvenal. Cicero (*De Officiis, De Finibus, or De Amicitia*). Horace (*Epistles*). Reading at Sight.
- PURE MATHEMATICS (*Elective with History and English*).—*Differential Calculus*.
- PHYSICS (*Required*).—Mechanics, Sound, Heat, Light, Electricity.
- CHEMISTRY (*Required*).—Inorganic and Organic Chemistry, completed (*Experimental Lectures with Examinations*).
- ENGLISH (*Required*).—Compositions and Declamations.
- ENGLISH (*Elective with Pure Mathematics*). Shakspeare (*Love's Labour's Lost, The Merchant of Venice, Macbeth*).
- HISTORY (*Elective with Pure Mathematics*).—Smith's *Student's Gibbon*. Green's *Short History of the English People*. Lectures on the History of the Civil Law.
- GERMAN (*Elective with Greek*).—Whitney's *German Grammar*. Schiller's *Maria Stuart*. Lessing's *Nathan der Weise*. Eichendorff's *Aus dem Leben eines Taugenichts*.
- FRENCH (*Elective with Latin*).—Corneille and Racine.

SENIOR CLASS.

- PHILOSOPHY (*Required*).—Intellectual Philosophy—Lectures: Systems from Bacon to the present day. Berkeley's *Principles, annotated*. Evidences of Natural and Revealed Religion. Butler's *Analogy*.
- GREEK (*Elective with German*).—Demosthenes *de Coronâ*. Plato (*Apology* and *Crito*, or *Phædo*).
- LATIN (*Elective with French*).—Cicero (*Tusculanæ*), or Lucretius (*Selections*). Horace (*Ars Poetica*). Reading at Sight.
- PURE MATHEMATICS (*Elective with English*).—Integral Calculus.
- ASTRONOMY.—Newcomb's Astronomy.
- HISTORY (*Required*).—Mediæval and Modern History (*Lectures*).
- ENGLISH (*Required*).—Compositions and Original Declamations.
- ENGLISH (*Elective with Pure Mathematics*).—Chaucer (*The Canterbury Tales*). Spenser (*Selections*). Taine's *History of English Literature*.
- SOCIAL SCIENCE (*Required*).—International Law (*Lectures*). Thompson's *Elements of Political Economy*.
- GERMAN (*Elective with Greek*).—Goethe's *Faust*. Translations into German. History of German Literature.
- FRENCH (*Elective with Latin*).—Boileau. Molière. Brachet's *Historical Grammar*. History of French Literature and Language.

UNDERGRADUATES. 1882-3.

DEPARTMENT OF ARTS.

SENIOR SOPHISTERS.

William Adger,	Philadelphia,	Pennsylvania.
Cyrus Adler,	do.	do.
Charles Young Audenried,	do.	do.
Charles Oscar Beasley,	do.	do.
Logan McKnight Bullitt,	do.	do.
Edward Potts Cheyney,	do.	do.
William Howard Falkner,	Germantown,	do.
Edmund Morris Fergusson,	Philadelphia,	do.
Edward Grier Fullerton,	do.	do.
William Daniel Gross, Jr.	do.	do.
James Powers Hawkes,	do.	do.
James Arthur Heaton,	do.	do.
Arthur Washington Hess,	do.	do.
George Lodge,	Claymont,	Delaware.
Charles Hinkle Marple,	Bridgeport,	Pennsylvania.
Cornelius Davis Mecutchen,	Philadelphia,	do.
Elliston Joseph Morris,	Germantown,	do.
John Robert Moses,	Camden,	New Jersey.

Samuel Theophilus Neuber,	Philadelphia,	Pennsylvania.
Howard Wurts Page	do.	do.
Louis Rodman Page,	do.	do.
Emil Roth,	do.	do.
Paul Judd Sartain,	do.	do.
George Edward Schlegelmilch,	do.	do.
Herman Schmitt,	do.	do.
Joseph Sherlock,	do.	do.
Francis Edward Smiley,	do.	do.
Alpheus Waldo Stevenson,	do.	do.
Joseph Whitaker Thompson,	Phoenixville,	do.

Seniors, 29.

JUNIOR SOPHISTERS.

John Stokes Adams,	Lexington,	Kentucky.
Caldwell Keppele Biddle,	Philadelphia,	Pennsylvania.
Marcus Ingraham Brock,	do.	do.
Thomas Cooke,	do.	do.
John Pusey Croasdale,	do.	do.
Morris Dallett,	do.	do.
William Henry Dillingham,	West Chester,	do.
John August William Haas,	Philadelphia,	do.
Butler Kenner Harding,	do.	do.
Charles Hoffman,	do.	do.
James Woodside MacBride,	do.	do.
John Vaughan Merrick, Jr.,	Roxborough,	do.
Thomas Lynch Montgomery,	Philadelphia,	do.
John Mullen,	do.	do.
Benjamin Brannan Reath, Jr.,	do.	do.
Laurence Butler Ridgely,	do.	do.
Waters Dewees Roberts,	Riverton,	New Jersey.
Francis Rudderow,	Oaks, Montg. Co.	Pennsylvania.
James Irvine Scott,	Philadelphia,	do.
Lewis Lawrence Smith,	Media,	do.
James Dallas Steele,	Philadelphia,	do.
Ardemus Stewart,	Abington,	do.
Landreth Worthington Thompson,	Philadelphia,	do.
John Barton Townsend,	Overbrook,	do.
Alexander Waddell,	Philadelphia,	do.
Benjamin Harvey Welch,	do.	do.
George Emlen West,	do.	do.
Milton Cooper Work,	do.	do.

Juniors, 28.

SOPHOMORES.

Harrison White Biddle,	Philadelphia,	Pennsylvania.
Samuel Laurence Bodine,	do.	do.
George Rosengarten Bower,	Riverton,	New Jersey.
William Brockie, Jr.	Germantown,	Pennsylvania.

James Fry Bullitt,	Philadelphia,	Pennsylvania.
Miers Busch, Jr.,	do.	do.
Mark Wilks Collet,	Germantown,	do.
Howard Lowe Cresswell,	Philadelphia,	do.
Valentine Sherman Doebler,	do.	do.
Naudain Duer,	do.	do.
Randolph Faries,	do.	do.
Leonard Finletter,	do.	do.
Edward Pinckney Greene,	do.	do.
William Spence Harvey,	do.	do.
William Linton Landreth,	do.	do.
Robert Grier Le Conte,	do.	do.
Charles Lester Leonard,	do.	do.
Herman T. Lukens,	do.	do.
William Emott Maison,	do.	do.
Edward de Veau Morrell,	do.	do.
Francis Benjamin Muhlenberg,	do.	do.
George Gelbach Emanuel Neuber,	do.	do.
William Woodbridge Noble,	Germantown,	do.
Joseph Allison Scott,	Philadelphia,	do.
Henry Sheaffer,	Pottsville,	do.
George Ard Shoemaker,	Philadelphia,	do.
Arthur Donaldson Smith,	Andalusia,	do.
Henry Austie Smith,	Philadelphia,	do.
David Porter Stoeber,	do.	do.
Samuel Welsh, 3rd,	Germantown,	do.
John Rhea Barton Willing,	Philadelphia,	do.
Gustave Winelander,	do.	do.
Lewis Wynne Wister,	Germantown,	do.
Edward Yarnall,	Overbrook,	do.

Sophomores, 34.

FRESHMEN.

David Sands Brown Chew,	Germantown,	Pennsylvania.
George Christian Eisenhardt,	Philadelphia,	do.
William West Frazier, 3rd,	do.	do.
William Thompson Graham,	do.	do.
James Biddle Halsey,	do.	do.
Crawford Dawes Hening,	do.	do.
William Robert White Hentz,	do.	do.
Robert Murray Hogg,	do.	do.
George Quintard Horwitz,	do.	do.
John Chester Hyde, Jr.,	Bristol,	do.
Edward Miller Jefferys,	Philadelphia,	do.
Samuel Stryker Kneass,	do.	do.
Irvin Poley Knipe,	Norristown,	do.
Christopher Magee, Jr.,	Pittsburg,	do.
Albert William Manifold,	Philadelphia,	do.
William Smith Nelson,	Fowlerville,	New York.
John Hooker Packard, Jr.,	Philadelphia,	Pennsylvania.

William Campbell Posey,	Philadelphia,	Pennsylvania.
Robert William Rogers,	do.	do.
Jacob Martin Rommell, Jr.,	do.	do.
Edward Jaquett Sellers,	do.	do.
Walter Moore Shaw,	Norristown,	do.
Frederick Thibault,	Philadelphia,	do.
Howard James Truman,	do.	do.
Thomas Holmes Walker,	do.	do.
George Wismer Wilgus,	Hatborough,	do.
Charles Baeder Williams,	Philadelphia,	do.
Charles Elmer Woodruff,	Camden,	New Jersey.
Samuel Megargee Wright,	Philadelphia,	Pennsylvania.
		Freshmen, 29.

PARTIAL STUDENTS.

Edward Beecher Finck,	Philadelphia,	Pennsylvania.
Louis J. Cunningham Kimmell,	do.	do.
Henry Rankin Poore,	do.	do.
Frank Lambader, Jr.,	do.	do.
John Carnahan Milligan,	do.	do.
Redmond Conyngham,	Lancaster,	do.
Charles Howard Hagert,	Philadelphia,	do.
Grant Lee Knight,	do.	do.
Andrew Wheeler, Jr.,	do.	do.
Otis Mills Coxe,	do.	do.
James Burnet Crane,	Rome,	Italy.
Edwin Pound Gardner,	Canandaigua,	New York.
Charles Alexander Oliver,	Philadelphia,	Pennsylvania.
George Petry,	do.	do.
Edmund Austin Stewardson,	Chestnut Hill,	do.
Henry Wurst,	Philadelphia,	do.
		Partial Students, 16.

DEPARTMENT OF ARTS.

Seniors	29
Juniors	28
Sophomores	34
Freshmen	29
	<hr/>
Total	120
Partial Students	16
	<hr/>

Total Matriculates in the Department of Arts 136

THE TOWNE SCIENTIFIC SCHOOL.

FACULTY.

- WILLIAM-PEPPER, M.D., LL.D., PROVOST OF THE UNIVERSITY, and *ex-officio* President of the Faculty.
- REV. CHARLES P. KRAUTH, D.D., LL.D.,* VICE-PROVOST, and Professor of Intellectual and Moral Philosophy.
- E. OTIS KENDALL, LL.D., DEAN OF THE FACULTY, and Professor of Mathematics.
- J. PETER LESLEY, LL.D.,† Professor of Geology and Mining.
- OSWALD SEIDENSTICKER, PH.D., Professor of the German Language and Literature, and Instructor in Latin.
- JOHN G. R. McELROY, A.M., Professor of Rhetoric and the English Language.
- REV. ROBERT E. THOMPSON, A.M., Professor of Social Science.
- F. A. GENTH, PH.D., Professor of Chemistry and Mineralogy.
- GEORGE F. BARKER, M.D., Professor of Physics.
- LEWIS M. HAUPT, C.E., Professor of Civil Engineering.
- THOMAS W. RICHARDS, A.M., Professor of Drawing and Architecture.
- GEORGE A. KCENIG, PH.D., Assistant Professor of Chemistry, Instructing in Metallurgy, Technical Chemistry, and Mineralogy. (Acting Professor of Geology and Mining.)
- SAMUEL P. SADTLER, PH.D., Assistant Professor of Chemistry, Instructing in General and Organic Chemistry.
- JOSEPH T. ROTHROCK, M.D., B.S., Professor of Botany.
- WILLIAM D. MARKS, PH.B., C.E., Whitney Professor of Dynamical Engineering.
- OTIS H. KENDALL, A.M., Assistant Professor of Mathematics.
- ANDREW J. PARKER, M.D., PH.D., Professor of Comparative Anatomy and Zoölogy.
- HENRY W. SPANGLER, Assistant Engineer U. S. N., Assistant Professor of Dynamical Engineering, and Instructor in Marine Engineering and Naval Architecture.
- John Welsh Centennial Professor of History and English Literature.

INSTRUCTORS AND ASSISTANTS.

- MORTON W. EASTON, Ph.D., Instructor in French and Elocution.
- EDWIN S. CRAWLEY, B.S., Instructor in Civil Engineering.
- W. EGBERT MITCHELL, A.M., Instructor in History.
- FREDERICK A. GENTH, JR., M.S., Assistant in Analytical Chemistry.
- CARL OTTO HERING, B.S., Assistant in Physics.
- WINCHESTER DICKERSON, B.S., Assistant in Geology and Mining Engineering.
- JOHN G. R. McELROY, *Secretary*.

AIMS OF THE TOWNE SCIENTIFIC SCHOOL.

The design of the instruction in this School is to give a thorough technical and professional training in the following subjects: viz., CHEMISTRY, with its manifold applications to the industrial arts;

* Deceased.

† Absent on leave.

METALLURGY and ASSAYING; MINERALOGY and GEOLOGY; CIVIL, DYNAMICAL (OR MECHANICAL) and MINING ENGINEERING; MECHANICAL DRAWING and ARCHITECTURE; and STUDIES PREPARATORY TO THE STUDY OF MEDICINE.

In order that this professional training shall be complete and systematic, and rest upon a broad basis, so that the student at its close may not be a mere *specialist*, but a man of liberal education as well, the course is comprehensive, extending through five years.* The students are divided into five classes—Senior, Junior, Sub-Junior, Sophomore, and Freshman. The first two years are devoted, not merely to a thorough training in the preparatory and elementary Mathematics, Chemistry, and the methods of scientific research in general, but (for a considerable portion of the time) to instruction in History, English Composition, and Rhetoric, as well as to the Modern Languages and to Mechanical and Free Hand Drawing. At the close of these two years, the student is presumed to be prepared for studies of a strictly professional or technical character, and he then selects one of six parallel courses, in which instruction is given in this Department. (See pp. 26, 27.) During the last three years his work is confined mainly to the studies of one or another of these courses, in accordance with the plans he may have formed in regard to his future profession.

TERMS OF ADMISSION, EXAMINATIONS, AND DEGREES.

Candidates for admission to the Freshman Class must pass an examination in the following subjects:—

GEOGRAPHY.—Ancient and Modern Geography. (*Mitchell's New Ancient Geography and Ancient Atlas* are recommended.)

ENGLISH.—Grammar, Composition, and Etymology (*Greek and Latin roots*). *Abbott's How to Parse* indicates the amount required in Grammar, and *Sargent's Manual* the amount in Etymology. A composition, one (foolscap) page long, will be required on a theme to be set at the time of the examination.

MATHEMATICS.—Arithmetic (*including the Decimal System of Weights and Measures*), Algebra (*through Quadratic Equations*). Geometry (*the first four books of Chauvenet or Wentworth*).

* The four years' curriculum heretofore in force has been found too short for the work required of undergraduates in this Faculty, and it has accordingly been lengthened to five years. The statements in the Catalogue have been adapted to the new arrangement; but the Seniors and the Juniors are still pursuing the four years' course, whose requirements will be found in the Catalogue of 1879-80.

Two examinations of candidates for admission will be held during the present year. Candidates must be punctual in their attendance at the hour named.

First,

ON SATURDAY, JUNE 16, from 9 to 10½.—A written examination in *Arithmetic (Elementary Rules, Compound Numbers, Vulgar and Decimal Fractions, Proportion, Percentage, the Extraction of the Square and Cube Roots, and the Decimal System of Weights and Measures)*.

From 10¾ to 1¼.—A written examination in *Algebra (to the end of Quadratic Equations, including Proportion, Progression, Surds, Imaginary Quantities, and the Binomial Theorem)*.

ON MONDAY, JUNE 18, from 9 to 11.—A written examination in *the first four books of Chauvenet's or Wentworth's Geometry*.

ON TUESDAY, JUNE 19, from 9 to 11.—A written examination in *English Grammar, Composition and Etymology*.

From 11¼ to 12¼.—A written examination in *Ancient and Modern Geography*.

ON WEDNESDAY, JUNE 20, at 11 o'clock.—ANNOUNCEMENT OF RESULTS.

Applicants for admission to the SOPHOMORE CLASS who pass the above examinations satisfactorily, will be examined *orally or in writing* on the following subjects studied by the Freshman Class:—

ON WEDNESDAY, JUNE 20, from 11 to 2.

IN MATHEMATICS.—On *the whole of Newcomb's Algebra, Chauvenet's Geometry, and Chauvenet's Plane Trigonometry*.

IN HISTORY.—Upon *Freeman's General Sketch of History*.

IN ENGLISH.—Upon *Abbott's How to Write Clearly, and McElroy's System of Punctuation*.

IN FRENCH.—On *Keetel's Collegiate Course, First Part, and Analytical Reader, First Part*.

IN GERMAN.—On *German Grammar*.

IN DRAWING.—On *Geometrical and Isometrical Drawing and Shading in India Ink*.

The results of these examinations will be made known on Wednesday, June 20th, at 3 o'clock.

Candidates for the Senior, Junior, or Sub-Junior Class, if they pass the above examinations satisfactorily, will have special appointments made for their examinations on the studies of the Sophomore, Sub-Junior, and Junior years.

Second,

ON WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY, September 12th, 13th, 14th, and 15th, upon the same subjects as those named for the examination in June.

PROFESSIONAL COURSES.

The professional courses from which a student may select, are at present—

- I. A COURSE IN ANALYTICAL AND APPLIED CHEMISTRY AND MINERALOGY.
- II. A COURSE IN GEOLOGY AND MINING.

III. A COURSE IN CIVIL ENGINEERING.

IV. A COURSE IN MECHANICAL ENGINEERING.

V. A COURSE IN DRAWING AND ARCHITECTURE.

VI. A COURSE PREPARATORY TO THE STUDY OF MEDICINE.

On the completion of any one of these professional courses, in addition to the studies pursued by the whole class during the five years of the curriculum, and on the presentation of a satisfactory thesis, the student is graduated BACHELOR OF SCIENCE.

Special students, not candidates for a Degree, may be received into any of the professional courses, when the Professor in charge of that course is satisfied of their competency to profit by his instruction. They take all the studies that the Professor thinks necessary to the completeness of the course, together with such others as the Faculty may require. At the end of the course, upon passing the examinations required, and presenting a satisfactory thesis, they will receive a Certificate of Proficiency. Application should be made to the Professor in charge of the department in which the student wishes to study, and definite arrangements may be made with him,—subject, however, to the approval of the Faculty.

COURSE, METHODS, AND MEANS OF STUDY.

Instruction is made as practical as possible. It is given by lectures and recitations, and by daily exercise in the Laboratories and the Drawing and Model Rooms. These are open to the students all day, work being required of the higher classes in the afternoon as well as in the morning hours.

In the Department of CHEMISTRY, the Sophomores have a course of fully illustrated Lectures, covering the whole ground of Inorganic Chemistry. In the Sub-Junior year, their work in the Analytical Laboratories begins, while they also attend Lectures on Mineralogy and Metallurgy. In the Junior and Senior years, Qualitative and Quantitative Analysis and the making of Chemical Preparations are combined with Lectures on Organic Chemistry, and practical work on Metallurgical and Technical subjects.

Students in GEOLOGY and MINING ENGINEERING are trained with special reference to the management of mines. The practical study of rocks and minerals in the Laboratory and Museum, as well as in the field; the training in the construction and management of ore-concentrating machinery; the illustrative discussion of

difficult problems in the development of mines, such as the rectification of faults in the veins and strata; the drainage and ventilation of mines;—these and similar questions are considered the most essential features of the course. Importance is attached rather to the economical occurrence and distribution of ores throughout the United States, than to the discussion of theories and hypothetical opinions.

Students in CIVIL ENGINEERING are instructed by recitations, lectures, and practical work, so as to develop to the best advantage the qualities required of the practical engineer. The afternoons and Saturdays are devoted to drawing and practical work in the shop, or to surveying or visiting public or private works, manufactories, etc.

The *Course in Drawing* includes the projection of maps; various methods of representing Topography; conventional signs; problems in shades, shadows and perspective; details of framing; composition; general drawings for constructions in wood, stone, and iron; special designs; working drawings for modelling; plotting; and drawing of profiles and cross sections.

In *visiting shops and manufactories*, students are required to collect all the practical information possible, and to embody it in a written report, noting particularly any new or special features for economizing time or materials, improved methods of assembling parts, etc., as well as the general plant, apparatus, and facilities for receiving and shipping materials.

The *field practice* embraces the various problems in chain surveying, the measurement of areas, and the computation of results; line surveys and location, cross sections and levels for estimating quantities, hydrography, topography with the plane-table, and the solution of such geodetic problems as relate to the orientation of maps.

Students of DYNAMICAL ENGINEERING are required to give particular attention to the kinematics of mechanism, to the conditions under which work and power act, and the means of regulating and transmitting the same; to the problems of hydraulics or hydraulic motors, and to the mechanical theory of heat with its applications to the steam engine, etc., as will appear from the detailed course of study given elsewhere.

Special attention is given to the execution of drawings, first from designs and models, and afterwards from calculations; and also to

the methods of casting and working in iron, and of making and using machine tools.

The recent appointment to this department of an Instructor in Marine Engineering and Naval Architecture provides for instruction in these subjects.

Weekly visits of inspection will be made during two years of the course to blast-furnaces, foundries, machine-shops, and iron and steel rolling-mills.

The instruction in PHYSICS extends over three complete years. In the Sub-Junior year the subjects treated are Elementary Mechanics, Sound, Heat, Light, and Electricity, the exercises consisting of lectures, illustrated by experiments, with recitations. In the Junior year, special instruction is given in advanced physics. The Senior class receives practical instruction in the Physical Laboratory throughout the year. The education of the eye and hand which is thus given, secures familiarity with apparatus and the knowledge of methods of precise measurement.

The COURSE PREPARATORY TO THE STUDY OF MEDICINE includes not only Biology, but cognate studies specially adapted to train the powers of observation and reflection. Special students are admitted to the regular classes of the School; but, in addition to these regular classes, a special class in Analytical and Microscopic Botany is held on Saturdays, for teachers and others who cannot attend on other days.

The Rogers Engineering Library is composed of standard works on the various subdivisions of the profession, treating of drawing, mathematics, astronomy, physics, surveying and explorations, technical works on roads, strength and properties of materials, railroads, tunnels, canals, water supply, drainage, architecture, mechanics, navigation, harbor improvements, and park and landscape engineering; together with a valuable collection of Reports of American, English, and French Engineering Societies, periodicals, Coast Survey and hydrographic charts, maps, diagrams, and drawings.

For further information respecting the Towne Scientific School, see pages 8-15. Letters of inquiry may be addressed to Professor E. O. KENDALL, Dean of the Faculty, or to Professor J. G. R. McELROY, its Secretary, at the University.

COURSE OF STUDY.

FRESHMAN YEAR.

- HISTORY.—Freeman's *General Sketch of History*.
 ENGLISH.—Abbott's *How to Write Clearly*, and McElroy's *System of Punctuation*.
 FRENCH.—Keetel's *Collegiate Course and Analytical Reader*.
 MATHEMATICS.—Newcomb's *Algebra*. Chauvenet's *Geometry*. Chauvenet's *Plane Trigonometry*.
 DRAWING.—Geometrical and Isometrical Drawing (Minifie), and Drawing from the Flat. Free Hand Sketching. Use of the Scale and Protractor. Shading in India Ink. Graphical representations from Geometry.
 GERMAN.—Fisher's edition of *Ahn's Method*. *Elementary German Reader*.

SOPHOMORE YEAR.

- ENGLISH.—Elements of Rhetoric (Lectures). Haldeman's *Outlines of Etymology*. Lounsbury's *English Language*. Compositions and Declamations.
 GERMAN.—Hodges' *Course of Scientific German*. *Guide to German Conversation*. Translations into German.
 FRENCH.—Bócher's *French Plays*.
 MATHEMATICS.—Chauvenet's *Spherical Trigonometry*. Bowser's *Analytical Geometry*.
 DRAWING.—Linear Perspective. Geometric and Isometric Drawing. Projection of Shadows. Architectural Detail and Ornament. Gothic Tracery. Shading in India Ink. Free Hand Drawing.
 CHEMISTRY.—Inorganic Chemistry (Experimental Lectures).

SUB-JUNIOR YEAR.

STUDIES PURSUED BY THE WHOLE CLASS.

- CHEMISTRY.—Exercises in Analytical Chemistry and recitations in Analytical and General Chemistry.
 PHYSICAL SCIENCE.—Elementary Mechanics, Sound, Heat, Light, and Electricity.
 MINERALOGY.—Crystallography and General Description of Minerals.
 MATHEMATICS.—Descriptive Geometry.
 GERMAN.—Schiller's *Maria Stuart*. Lessing's *Nathan der Weise*.
 FRENCH.—Racine or Corneille. Molière.
 ENGLISH.—Chaucer (*The Canterbury Tales*). Spenser (*Selections*). Shakspeare (*Love's Labour's Lost, The Merchant of Venice, Macbeth*). Compositions and Declamations.

1. *Studies pursued by the Chemical Section.*

- MINERALOGY.—Special description of species, and practical exercises in determining minerals by their physical properties.

2. *Studies pursued by the Geological and Mining Section.*

- MINERALOGY.—Same as 1st section.

BOTANY.—Structure of Woods.

3. *Studies pursued by the Civil Engineering Section.*

- ENGINEERING.—Railroad Location. Graphical Statics.
 MATHEMATICS.—Differential Calculus.
 DRAWING.—Topographical Charts. Problems in map projections. Perspective. Details of frames, joints, etc.
 ARCHITECTURE.—Classical Architecture.

SURVEYING.—Field Practice; including Chain Surveying, Use of Compass, Transit and Plane Table in measuring lines and areas, Traversing and Location of Roads, Drains, etc., on Topographical Charts. Recitations from Gillespie's *Land and Higher Surveying*, and *Earthwork Formula*.

4. *Studies pursued by the Dynamical Engineering Section.*

MATHEMATICS.—Differential Calculus.

STATICS.—The application of the principles of Statics to Rigid Bodies. The Elasticity and Strength of Materials. Forms of uniform strength. Theory of framed structures. Stability of structures. Theory of the arch. Strains in parts of mechanism. The Equilibrium and Pressure of fluids, as water, air, steam, etc. The equilibrium of fluids with other bodies; stability of vessels; determinations of specific gravity; use of Hydrometers, Manometers, Gauges, etc. The Equilibrium of Funicular Structures.

SURVEYING.—Same as 3d Section.

DRAWING.—Copies of bolts and nuts; riveting; gudgeons, pivots, axles, shafts, couplings, pillow-blocks; shaft-hangers, pulleys, sheaves, and gear wheels; connecting rods and cranks, working beams, crossheads, pipe-connections, valves, steam cylinders, pistons, stuffing-boxes, glands, etc. etc.

5. *Studies pursued by the Architectural Section.*

ARCHITECTURE.—Classical Architecture and Mediæval Ornament. Shading in India ink. Sketching.

MATHEMATICS.—Differential Calculus.

BOTANY.—Same as 6th Section.

ENGINEERING.—Graphical Statics.

6. *Studies in the Course Preparatory to Medical Studies.*

CHEMISTRY.—Practical work in the Laboratory.

MINERALOGY.—Same as 1st Section.

BOTANY.—Use of Microscope. Outlines of Vegetable Anatomy.

ZOOLOGY.—General Morphology, Histology, and Invertebrate Zoölogy.

LATIN.—Grammar.

JUNIOR YEAR.

STUDIES PURSUED BY THE WHOLE CLASS.

PHYSICAL SCIENCE.—Special Advanced Physics.

PHILOSOPHY.—Atwater's *Logic*. Intellectual and Moral Philosophy.

ENGLISH.—Compositions and Declamations.

DESCRIPTIVE AND DETERMINATIVE MINERALOGY.

ELEMENTS OF GEOLOGY.

METALLURGY.—Theory of Metallurgical Processes. Construction of Furnaces. Dressing and Mechanical Treatment of Ores.

1. *Studies pursued by the Chemical Section.*

Organic Chemistry.—Lectures. Making of organic chemical preparations. Organic Analysis.

Qualitative Analysis by the blowpipe, in connection with reactions in the humid way for the rapid determination of Minerals and Ores.

Introduction to Metallurgy.—Theory of Metallurgical Processes; theory and construction of furnaces and other metallurgical apparatus. Dressing of ores considered theoretically and practically.

Assaying of ores and fuels, with special application of volumetric analysis.

Demonstration of the principal metallurgical processes by furnace practice.

Instruction in the practical production of chemical salts, preparations, and simple substances in their greatest perfection and purity; and also according to the principles which govern their manufacture on a large scale.

Qualitative Analysis of more complex substances, with practice in determining the color and condition of products and in the determination of minerals.

Qualitative Analysis and detection of the rarer elements and organic constituents of bodies. Introduction to Quantitative Analysis. Use of the spectroscope in qualitative determinations.

2. Studies pursued by the Geological and Mining Section.

LITHOLOGY AND PALÆONTOLOGY.—Examination and determination of Rocks and of Fossil Organic forms.

MINING ENGINEERING.—Methods used in searching for and developing deposits of valuable Minerals. Sinking of Shafts. Drifting and Stopeing.

DRAWING AND MODELLING.

DYNAMICAL ENGINEERING.—Statics and Dynamics of rigid bodies. Determination of centres of gravity; moments of flexure, rupture, etc. Practical exercises in constructing and drawing machines.

SURVEYING.—Same as Section 3. At the beginning of summer vacation a complete mine survey will be executed in the coal regions.

ANALYTICAL CHEMISTRY, METALLURGICAL PRACTICE AND ASSAYING.—The same as the Chemical Section.

Field excursions into the neighboring mineral districts for the demonstration of practical Geology.

3. Studies pursued by the Civil Engineering Section.

MATHEMATICS.—Differential and Integral Calculus.

DRAWING.—Topography in ink and colors; Studies in Contours; Platting field notes; Spherical Projections, Shades, Shadows, and Perspective.

ARCHITECTURE.—Ornament. History of Architecture. Decorations and Shading.

ENGINEERING.—Mechanics of Engineering, embracing the Statics of Rigid Bodies, Determination of the Centres of Gravity, Moments of Flexure, Rupture, Resistance, Torsion, Analysis of Bridge and Roof Trusses, Strength and Properties of Materials, etc.

4. Studies pursued by Dynamical Engineering Section.

MATHEMATICS.—Differential and Integral Calculus.

KINEMATICS.—Laws of motion. Elementary combinations of Pure Mechanism. Pulleys and belts. Trains of gearings and forms of teeth of wheels. Parallel motions. Link and valve motions, with a consideration of the various forms of valves, illustrated by working models.

DRAWING.—From the model and original design.

CONSTRUCTION AND PRACTICAL APPLICATIONS.—Weekly visits of inspection will be made to blast-furnaces, foundries, iron and steel rolling-mills, ship yards, steam and hydraulic forges, etc.

5. Studies pursued by the Section in Drawing and Architecture.

MATHEMATICS.—Differential and Integral Calculus.

DRAWING AND ARCHITECTURE.—The Study of Executed Works and of Buildings in Progress. History of Architecture, illustrated by views of structures of all ages. Ornament. Shading in India Ink. Sketching.

ENGINEERING.—Same as Section 3.

BOTANY.—Same as Section 6.

6. *Studies in the Course Preparatory to Medical Studies.*

CHEMISTRY.—Laboratory Practice in Qualitative Analysis. Organic Chemistry (Lectures and practical analysis).

BOTANY.—Systematic Botany and Special Morphology.

ZOOLOGY.—Invertebrate Zoölogy and Embryology.

LATIN.—Cæsar (*De Bello Gallico*).

SENIOR CLASS.

STUDIES PURSUED BY THE WHOLE CLASS.

ENGLISH.—Compositions. Declamations.

HISTORY.—Mediæval History (Lectures).

SOCIAL SCIENCE.—International Law. Thompson's *Elements of Political Economy*.

ASTRONOMY.—Newcomb's *Astronomy*.

PHYSICAL SCIENCE.—Practical Physics (Instruction in the Physical Laboratory).

GEOLOGY.—Structural Geology of North America with reference to that of Europe, and with the principal minerals and fossils, distribution of metals and fuels. History of Geology.

1. *Studies pursued by the Chemical Section.*

Lectures on the Applications of Organic Chemistry in the Useful Arts.

Quantitative Gravimetric Analysis of the simple and complex salts and minerals. Volumetric Analysis and preparation of normal solutions. Gas Analysis. Manufacture, graduation, and use of eudiometers.

Determination of the constituents of cast-iron and steel. Practice in Agricultural Chemistry, and Analysis of Manures.

Determination of small amounts of impurities (adulteration and poison in food and drink). Analysis of water of mineral springs. Practice in production of Chemical preparations. Quantitative Blowpipe Analysis.

Special Metallurgy—Gold, Silver, Lead, Copper, Zinc, Cobalt, Nickel, etc. Metallurgy of Iron and Steel treated with special attention. Metallurgical practice. Construction of plans for metallurgical works, with estimates of cost.

Practical determination of minerals by their physical properties.

2. *Studies pursued by the Geological and Mining Section.*

GEOLOGY.—The Ore and Coal deposits of the United States in their topographical and structural relations.

MINING ENGINEERING.—Ventilation and Drainage of Mines. Description and construction of Mining Machinery.

DYNAMICAL ENGINEERING.—Motors and Principles of Mechanism.

SURVEYING.—The survey made during the previous vacation will be mapped.

METALLURGY, ANALYTICAL AND DIDACTIC CHEMISTRY.—Same as Section 1.

PRACTICE IN LITHOLOGICAL DETERMINATION by means of microscopic sections and microchemical tests.

CONSTRUCTION AND APPLICATION OF GEOLOGICAL SECTIONS relating to problems of mining.

3. *Studies pursued by the Civil Engineering Section.*

ENGINEERING.—Nomenclature of and Constructions in Masonry, Timber, Iron, and Steel, as applied to Lighthouses, Bridges and Roofs, Depots, and other engineering structures. Strains in Girders and similar structures. Equilibrium of Arches and Retaining Walls. Tunnelling and Earthworks, with the required plant and organization. Sea-coast and Harbor improvements. Canal and River improvements. Transportation. Hydraulics. Preparation of estimates and contracts. Reports on Tours of Inspection. Thesis, etc.

- DRAWING.**—Details of Engineering Works, Composition, Plans, Sections, Elevations; Profiles and Cross-sections. Working drawings. Platting field-notes and computations from data.
- SURVEYING.**—Field practice. Reconnaissance, Use of Prismatic Compass, Level, Solar Transit, Repeating Theodolites, and Heliotropes. Sketching; Preliminary Surveys for and Locations of Roads, Railroads, or Canals; Hydrography; Laying Out of Parks; Use of Sextant, etc.
- GEODESY.**—Measurement of Bases, Triangulation, Determination of Meridian, Latitude, Longitude, Time, and Azimuth.
- VISITS OF INSPECTION** to public and private works, with reports thereon.
- ARCHITECTURE.**—Shading, Decoration. History of Architecture (continued).
- METALLURGY.**—Technical Chemistry and Metallurgy.
- MODELLING.**—Construction of trusses for bridges and roofs, girders, etc. Conducting experiments on strength of beams and trusses. Problems in stone-cutting. Tunnels.

4. Studies pursued by the Dynamical Engineering Section.

- THE ANALYSIS and SYNTHESIS of MECHANISM.**—Machine Tools and their principles. Lectures on forging, riveting, pattern making, and moulding.
- DYNAMICS.**—Lectures on the conditions under which work and power act, and the means of regulating and transmitting the same. The Efflux of Fluids. The Flow of Fluids through pipes. The Impulse and Resistance of Fluids. Theory of Oscillation of Fluids. Lines of least resistance. Hydraulic Motors. Turbine, overshot, breast, and undershot water-wheels.
- THERMODYNAMICS.**—Values of Fuels. Strength, safety, and evaporative power of boilers. Steam and its properties. The Mechanical Theory of Heat. Stationary, locomotive, and marine Steam Engine. Lectures on the proper proportions of the various parts of the Steam Engine.
- LECTURES ON, AND USE OF, INSTRUMENTS.**—Steam Engine Indicator. Planimeter. Dynamometer. Odontograph. Slide Rules. Arithmometers. Trammel and Testing Machines. Peaucellier's Compound Compass.
- CONSTRUCTION and PRACTICAL APPLICATIONS.**—Weekly visits of inspection will be made to blast-furnaces, foundries, machine-shops, iron and steel rolling-mills, ship-yards, steam and hydraulic forges, etc. etc.
- DRAWING.**—Original designs. Designs and calculations for special machines. Detailed working drawings with specifications.
- METALLURGY.**—Chemical Technology and Metallurgy.

5. Studies pursued by the Section in Architecture and Drawing.

- ENGINEERING.**—Calculation of the strength of roofs and bridges. Foundations, retaining walls, arches. Same as Section 3.
- ARCHITECTURE.**—Elements of design and principles of composition. Ornament of all styles. Sketching and measurement of works executed and in progress, building materials and processes. Specifications. Contracts.
- DRAWING.**—Plans, Elevations, and Sections of original designs. Exercises with perspective views. Water-color. History of Architecture (continued). Sketching.
- BOTANY.**—Same as Section 6.

6. Studies in the Course preparatory to Medical Studies.

- CHEMISTRY.**—Laboratory Practice in Quantitative Analysis. Lectures on Applied Organic Chemistry. Physiological and Toxicological Chemistry.
- BOTANY.**—Medical and Vegetable Adulterations.
- ZOOLOGY.**—Vertebrate Zoölogy and Animal Mechanics.
- PHYSIOLOGY.**—Elementary Physiology. Application of Physics.

MATRICULATES, 1882-3.

TOWNE SCIENTIFIC SCHOOL.

The numbers prefixed to the names of students in the upper classes designate the special courses that they are pursuing.

SENIORS.

3. Dorsey Ash,	Philadelphia,	Pennsylvania.
6. George Fales Baker,	do.	do.
2. Charles Michael Baumann, Jr.,	do.	do.
6. Charles Walts Burr,	do.	do.
3. Sanford Keyser Campbell,	do.	do.
2. Robert Culin Canby,	do.	do.
4. Samuel Norris Craven,	do.	do.
4. Richard Wistar Davids,	Overbrook,	do.
5. Frank Miles Day,	Philadelphia,	do.
4. Charles Hay Doeblcr,	do.	do.
2. Lincoln Grant Eakins,	do.	do.
2. Edward Henry Earnshaw,	Riverton,	New Jersey.
3. Amasa Ely,	Philadelphia,	Pennsylvania.
2. William Magee Field,	do.	do.
4. William Marshall Hinkle,	do.	do.
6. Isaac Leopold,	do.	do.
4. Edwin Beale Sadtler,	Allentown,	do.
3. Hiram Abiff Schofield,	Elwyn,	do.
4. William Jones Serrill,	Darby,	do.
		Seniors, 19.

JUNIORS.

3. Milo Dimmick Baldy,	Philadelphia,	Pennsylvania.
3. Llewellyn Barry,	do.	do.
1. William Milliken Bodine,	do.	do.
2. Clarence Raymond Claghorn,	do.	do.
3. Frank Cooper,	Mount Airy,	do.
4. Charles Ellis Ellicott,	Philadelphia,	do.
3. Edward Shippen Watson Farnum,	Germantown,	do.
5. James Barr Ferree,	Philadelphia,	do.
2. Frank Lynwood Garrison,	do.	do.
4. George Ross Green,	do.	do.
3. Charles Francis Gummey, Jr.,	Germantown,	do.
3. Napoleon Bonaparte Heller,	Philadelphia,	do.
4. Wilford Lawrence Hoopes,	do.	do.
2. Clemens Jones,	do.	do.

4. William Forrest Paul,	Philadelphia,	Pennsylvania.
2. William Irvin Seltzer,	do.	do.
2. George Sergeant, Jr.,	Germantown,	do.
3. Emlyn Lamar Stewardson,	Chestnut Hill,	do.
2. Samuel Slee Taite,	Philadelphia,	do.
3. William Joseph Thompson,	Westminster,	Maryland.
1. Samuel Smyth Van Pelt,	Philadelphia,	Pennsylvania.

Juniors, 21.

SUB-JUNIORS.

1. James Lindsay Burton,	Philadelphia,	Pennsylvania.
3. Jay Dickerson,	do.	do.
2. Alexander Johnstone Gray,	do.	do.
3. Llywellyn Howard Jenks,	do.	do.
2. Lucien Vernon Leach,	do.	do.
3. Charles Elder Lindsay,	do.	do.
2. Frederick Gad Myhlertz,	do.	do.
3. William Merriman Price,	do.	do.
2. William Evan Russell,	do.	do.
4. Charles Hopkins Small,	York,	do.

Sub-Juniors, 10.

SOPHOMORES.

Enoch Jones Acker,	Schuylkill P. O.,	Pennsylvania.
Charles Henry Anspach,	Philadelphia,	do.
Percy Ash,	do.	do.
William Henry Bower,	Riverton,	New Jersey.
Samuel Williamson Cheyney,	Philadelphia,	Pennsylvania.
Allen Brooks Cuthbert,	Beverly,	New Jersey.
John Stephens Durham,	Philadelphia,	Pennsylvania.
Norman Ellison,	do.	do.
George Kingsbury Fischer,	do.	do.
Howard Godey,	do.	do.
Rockwell Hall,	Woodbury,	New Jersey.
Stephen Harris,	Germantown,	Pennsylvania.
John Lincoln Harvey,	Ridley Park,	do.
Edwin Newberry Hawkins,	Philadelphia,	do.
William Whitney Heberton,	do.	do.
Hermann Siegfried Hering,	do.	do.
Herman Herzog, Jr.,	do.	do.
Edward Ilsley,	Germantown,	do.
Thomas Hill Brinton Jacobs,	Exton,	do.
James Collins Jones,	Philadelphia,	do.
Jerome Thomas Kelly,	do.	do.
Wilbur Paddock Klapp,	do.	do.
Wilmer Francis Lubbe,	Conshohocken,	do.
David Lincoln Luke,	Rockland,	Delaware.
John Gibson McCall,	Philadelphia,	Pennsylvania.
Marshall Rogers Pugh,	Doylestown,	do.

Lino Francesco Rondinella,	Philadelphia,	Pennsylvania.
William Sharpe,	do.	do.
William Ignatius Shields,	do.	do.
Henry Szlapka,	Phoenixville,	do.
Samuel McMurray Smith,	Philadelphia,	do.
Morris Sutphen Solomon,	do.	do.
Francis Thibault,	do.	do.
Paul Thompson,	Beverly,	New Jersey.
Frederick G. Thorn, Jr.,	Philadelphia,	Pennsylvania.
Herbert Coleman Whitaker,	Camden,	New Jersey.
William Schmoële Wolfe,	Philadelphia,	Pennsylvania.

Sophomores, 37.

FRESHMEN.

Edgar Augustus Alcott,	Mount Holly,	New Jersey.
Walter Girvin Allison,	Philadelphia,	Pennsylvania.
Thomas Passmore Berens,	do.	do.
William Augustus Bigler,	do.	do.
Edward Brooke,	Birdsboro',	do.
Amos Peaslee Brown, Jr.,	Germantown,	do.
James Newman Carter,	Philadelphia,	do.
Harry Arthur Darnall,	do.	do.
Isaac Roberts Davis,	Branchtown,	do.
Abram Trimble Eastwick,	Wissahickon,	do.
William Appleton Ferree,	Philadelphia,	do.
Thomas Sydenham Reed Flickwir,	do.	do.
Frederick Morton Fox,	do.	do.
William Salter Freeman,	Beverly,	New Jersey.
Theodore Gould, Jr.,	Philadelphia,	Pennsylvania.
Thomas Graham Grier,	do.	do.
Morris Hacker, Jr.,	do.	do.
Joseph Martin Harlan,	do.	do.
Enon Major Harris, Jr.,	do.	do.
William Lincoln Harris,	Marblehead,	Massachusetts.
Linn Hartranft,	Philadelphia,	Pennsylvania.
Charles Herman Haupt,	do.	do.
Gerald Holsman,	do.	do.
Joseph Edward Horn,	do.	do.
Francis Emlen Hoskins,	Elmira,	New York.
Joseph David Israel,	Philadelphia,	Pennsylvania.
James Harmer Knight,	do.	do.
Gustavus Adolphus Edward Kohler,	do.	do.
Leon Kraft,	do.	do.
John Greble Leech,	do.	do.
William Wallace Leech,	do.	do.
Walter Raleigh Livingston,	do.	do.
Jacob Lychenheim,	do.	do.
Marshall Sprogell Lynch,	do.	do.
Richard McCall,	West Chester,	do.
James William McGaw,	Philadelphia,	do.
Percy McGeorge,	do.	do.

Joseph Brown Mansur,	Indianapolis,	Indiana.
Charles Price Mercer,	Philadelphia,	Pennsylvania.
Henry Jackson Mullen,	do.	do.
George Francis Neal,	do.	do.
John Grubb Parke,	do.	do.
Henry Lippincott Patterson,	do.	do.
Edward Arnott Pearson,	do.	do.
Louis Edmond Péquignot,	do.	do.
Robert Evans Peterson, 3d,	Wayne,	do.
Julius Bujac Price, Jr.,	Philadelphia,	do.
William Green Ridgway,	do.	do.
Abraham Bunn Ross,	Germantown,	do.
Lewis Rutter,	Philadelphia,	do.
Jacob Sailer, Jr.,	do.	do.
William Albert Stadelman,	Overbrook,	do.
Wyndham Harvey Stokes,	Gordonsville,	Virginia.
Harry Randolph Stoops,	Philadelphia,	Pennsylvania.
Sydney Thayer,	Merion,	do.
Earl Thomson,	Camden,	New Jersey.
Richard Albert Tilghman, Jr.,	Philadelphia,	Pennsylvania.
Henry Davis Todd, Jr.,	Annapolis,	Maryland.
David Edward Tracy,	Conshohocken,	Pennsylvania.
Victor Francisco Valdes,	Fox Chase,	do.
Barclay Harding Warburton,	Philadelphia,	do.
Charles Edward Warburton, Jr.,*	do.	do.
Alfred Weeks, Jr.,	do.	do.
William Daniel Weikel,	Merchantville,	New Jersey.
John Weiszgerber,	Philadelphia,	Pennsylvania.
John Dunlap Williamson,	do.	do.
Charles Willcox,	do.	do.
Edmund Wright, Jr.,	do.	do.
John Williamson Ziegler,	do.	do.

Freshmen, 69.

SPECIAL STUDENTS.

1. Richard Downing Baker,	Philadelphia,	Pennsylvania.
6. Thomas Ridgway Barker,	Philadelphia,	Pennsylvania.
2. Anthony Fischer,	Washington,	Dist. Columbia.
3. William George Gossling,	Frankford,	Pennsylvania.
3. Harry Bernheim Hirsh,	Philadelphia,	do.
3. George Andrew Luccareni,	do.	do.
6. William Cromwell McPetridge,	do.	do.
6. Jesse Groom Shoemaker,	do.	do.
3. Jacob Henry Stadelman,	Overbrook,	do.
1. James Todd,	Pittsburg,	do.
1. Edward Walden, Jr.,	Spring Hill,	do.
4. William Henry Weston,	Philadelphia,	do.
4. Thomas Drake Whitaker,	Olney,	do.

* Deceased.

6. John West Benton,	Ogdensburg,	New York.
3. Max Biernbaum,	Philadelphia,	Pennsylvania.
2. Gilbert Forney Brown,	do.	do.
1. Lewis Cheeseman,	Huntington,	West Virginia.
6. John Henry Davies,	Cleveland,	Ohio.
1. Edwin Greble Dreer,	Philadelphia,	Pennsylvania.
5. William Miller Ellicott, 3d,	do.	do.
1. George Deazley Firmin,	Norristown,	do.
1. Harry Stuart Fleming,	Philadelphia,	do.
3. George Russell Ide,	Frankford,	do.
3. Frank Davis Jones,	Philadelphia,	do.
1. Henry Frank Kellner,	do.	do.
2. Charles Turbit Massey,	do.	do.
3. Albert Emerick Miller,	do.	do.
1. Alfred Hurst Read,	Norristown,	do.
6. Henry Augustus Schell, Jr.,	Gallatin,	Tennessee.
1. Craig Ritchie Arnold,	Philadelphia,	Pennsylvania.
1. William Peter Baltz,	do.	do.
1. David Owen Brooke,	Norristown,	do.
2. Edward Sinclair Campbell, Jr.,	Philadelphia,	do.
5. George Lochman Croll, A. B.,	Middletown,	do.
3. Eugene Haenchen de Kieffer,	Philadelphia,	do.
3. Benjamin Franklin,	do.	do.
3. Henry Beardsley Hazard,	do.	do.
3. William Henry Keller,	do.	do.
1. Harry Spencer Lucas,	do.	do.
3. David Rinehart Mehaffey,	Marietta,	do.
3. John Manuel Nobre,	Philadelphia,	do.
4. Arthur Thornton Shinn.	do.	do.
2. Samuel Lieberkuhn Shober, Jr.,	do.	do.
1. Frederick Winslow Taylor,	Germantown,	do.
3. John Whitaker,	Frankford,	do.

Special Students, 45.

TOWNE SCIENTIFIC SCHOOL.

Seniors	19
Juniors	21
Sub-Juniors	10
Sophomores	37
Freshmen	69
Special Students	45

Total Matriculates, Towne Scientific School, 201

THE WHARTON SCHOOL OF FINANCE AND ECONOMY.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST OF THE UNIVERSITY, and *ex-officio*
President of the Faculty.
- REV. CHARLES P. KRAUTH, D.D., LL.D.,* VICE-PROVOST, and Professor of
Intellectual and Moral Philosophy.
- REV. ROBERT E. THOMPSON, A.M., DEAN OF THE FACULTY, and Professor of
Social Science.
- E. OTIS KENDALL, LL.D., Professor of Mathematics.
- OSWALD SEIDENSTICKER, PH.D., Professor of the German Language and Lit-
erature, and Instructor in Latin.
- JOHN G. R. McELROY, A.M., Professor of Rhetoric and the English Language.
- GEORGE F. BARKER, M.D., Professor of Physics.
- THOMAS W. RICHARDS, A.M., Professor of Drawing.
- GEORGE A. KOENIG, PH.D., Assistant Professor of Chemistry, instructing in Geol-
ogy, Mineralogy, and Metallurgy.
- SAMUEL P. SADTLER, PH.D., Assistant Professor of Chemistry, instructing in
Organic Chemistry and its Applications to Manufactures.
- John Welsh Centennial Professor of History and English Literature.
- Professor of Elementary, Mercantile, and International Law.

INSTRUCTORS.

- MORTON W. EASTON, PH.D., Instructor in French and Elocution.
- WILLIAM D. MARKS, PH.B., C.E., Instructor in Mercantile Practice.
- JOHN G. R. McELROY, *Secretary*.

AIMS OF THE WHARTON SCHOOL.

The design of the instruction in this School (founded by Joseph Wharton, Esq., in 1881), is to give a thorough general and professional training to young men who are looking forward to business pursuits, and to fit them for the understanding of those scientific and economic problems which they may expect to meet in business life, besides imparting to them that discipline in business habits and that moral training which are the foundation of genuine success.

It is believed that such a school has become necessary, (1) because young men no longer receive in large business houses that instruction in the various branches of mercantile procedure which was formerly imparted; and (2) because the problems now encountered in business life are too complex for any solution that could be fur-

* Deceased.

nished, without a close acquaintance with the principles of economic science.

Heretofore, students of this class have been obliged to content themselves with the general culture imparted in the Faculty of Arts, and to enter upon business life with the understanding that they are to pick up the knowledge of its methods as opportunity offers. But, with every increase in the complexity of business, there is less opportunity of learning in this way; and a young man may spend years in a counting-room without having acquired the knowledge requisite for the proper management of his own estate, or for the discharge of a trust, or for taking his place as partner in a firm.

The association of this school with the University of Pennsylvania, marks the purpose to connect with the special training in economic and mercantile science that general culture which is as necessary to the business man as to every other useful member of society.

The students of the school are divided into three classes—Sub-Junior, Junior, and Senior.

On the completion of the three years' course of study, and on the presentation of a satisfactory thesis, the degree of Bachelor of Science, with special mention of the course pursued, will be conferred by the University.

TERMS OF ADMISSION.

Candidates for admission as full students of the Sub-Junior year must pass examinations in all the subjects specified in the following list, under the head A, and either those which are specified under the head B, or those under the head C:—

- A. Arithmetic. Newcomb's *Algebra*. Chauvenet's *Geometry*. Chauvenet's *Plane and Spherical Trigonometry*. Bowser's *Analytical Geometry*. Ancient and Modern Geography. Freeman's *General Sketch of History*. English Grammar and Composition. Haldeman's *Outlines of Etymology*. Abbott's *How to Write Clearly*. McElroy's *System of Punctuation*. The Elements of Rhetoric. Lounsbury's *English Language*. Keetel's *Collegiate Course in French and Analytical Reader*. Inorganic and Organic Chemistry.
- B. Horace's *Satires and Odes*. Livy. Virgil's *Æneid*. Cicero's *Orations against Catiline*. Tacitus's *Agricola, Germania or Annals*. Cicero's *De Officiis or De Senectute*. Arnold's *Latin Prose Composition*. Arnold's *Greek Prose Composition*. Xenophon's *Anabasis* (four books). Homer's *Iliad* (three books). Xenophon's *Hellenics*. Æschylus, Aristophanes, or Euripides (two plays). Thucydides (the Sicilian Expedition). Whitney's *German Grammar*. Whitney's or Woodbury's *German Reader*.
- C. Schmitz's *German Grammar*. Storm's *Immensee*. Hodge's *Course of Scientific German*. Böcher's *French Plays*. Descriptive Geometry. Mechanics. Analytical Chemistry (Qualitative). Drawing (Geometrical and Isometrical. From the Flat. Free Hand Sketching. Linear Perspective. Projection of Shadows. Architectural Drawing).

In exceptional cases, proficiency in subjects equivalent to those required may be accepted by the Faculty.

Candidates who have passed through the Freshman and Sophomore Classes in either the Department of Arts or the Towne Scientific School, will be admitted as full students without examination. Other applicants for admission will report to the Dean on the sixteenth day of June, at 9 o'clock A. M. Those who desire to enter as full students will pass on that and the following days the examinations for admission, beginning with those for the Freshman Class of either of the Departments named above. (See pp. 17-18, or p. 26.)

Special students, not candidates for a degree, will be admitted to the studies of this school without being required to pass the examinations for admission exacted of full students, provided the Faculty is satisfied that they possess the elements of a good English education, and are able to profit by the course of instruction. They must pursue all the studies that the Faculty may require of them.

Persons who are desirous of prosecuting any special study in any department of this school, can make arrangements for that purpose with the Professor in charge of that department, subject to the approval of the Faculty.

COURSE, METHODS, AND MEANS OF STUDY.

Instruction is given by recitations and lectures and through original research under the direction of the Professors.

A portion of the studies are of a general nature, covering those branches of literature, history, language, and physical science which are requisite to a liberal education. The rest are specially adapted to the purposes of the School.

The University possesses what is believed to be the largest and most complete library of works on economic science that is to be found in any educational institution of the world. The foundation was laid by the great collection of the late Stephen Colwell, comprising between seven and eight thousand volumes, and including nearly every important book in this science in the English, French, and Italian languages, besides many in German. This has been supplemented (1) by the gift from Mr. McCalmont, of London, of a collection of some three thousand English pamphlets, covering the period from the close of the seventeenth century till our own

time, and bound in chronological order; (2) by the bequest of the library of the late Henry C. Carey, including many works and pamphlets which appeared since Mr. Colwell's death, and especially rich in statistical literature, European governmental reports, and the like.

Further information respecting this School will be found on pp. 8-15. Letters of inquiry may be addressed either to the Rev. Professor R. E. THOMPSON, Dean of the Faculty, or to Professor JOHN G. R. McELROY, its Secretary, at the University.

COURSE OF STUDY.

SUB-JUNIOR YEAR.

SOCIAL SCIENCE.—E. Peshine Smith's *Political Economy*. Thompson's *Elements of Political Economy*. Johnson's *History of American Politics*.

MERCANTILE PRACTICE.—Oral instruction in business procedure, in the management of trusts, and in the routine of banking.

ENGLISH.—Chaucer (*The Canterbury Tales*). Spenser (*Selections*). Shakspeare (*Love's Labour's Lost*. *The Merchant of Venice*. *Macbeth*). Compositions and Declamations.

GERMAN.—Lessing's *Nathan der Weise*. Schiller's *Maria Stuart*.

FRENCH.—Racine or Corneille.

PHYSICS.—Mechanics, Sound, Heat, Light, and Electricity.

MINERALOGY.—General description of Minerals and Crystallography.

LATIN (Elective with Drawing). Smith's *Principia Latina*, Part I. Cæsar (*De Bello Gallico*).

DRAWING.—(Elective with Latin). Free Hand Drawing, and Drawing from the Flat.

JUNIOR YEAR.

SOCIAL SCIENCE.—History and Functions of Money. International Balance of Trade. Theory and Practice of Banking. The Credit System. Monetary Crises and Panics. The Stock and Bond Market.

Municipal, State, and National Taxation. The Management of Revenue. Sinking Funds. Methods of Taxation, and their Moral and Social Influence. (Direct and Indirect Taxes, Land Taxes, Taxes on Corporations, Internal Revenue Taxes, and Duties on Imports.) The Relation of Wars and Military Systems, through Taxation, to National Industry. The Handling of Public Debts.

Industry, Commerce, and Transportation. The National Necessity for a Balance of the Great Industries. National Self-Defence in the Development of the Industries.

Wage Questions. The Relations of Capital and Labor. Strikes and Lock Outs. Harmony and Discord.

MENTAL AND MORAL SCIENCE.—Atwater's *Logic*. Whewell's *Elements of Morality*.

ENGLISH.—Compositions and Declamations.

GEOLOGY.—Elements of Geology. Descriptive and Determinative Mineralogy. Metallurgy.

CHEMISTRY.—Lectures on Organic Chemistry.

LATIN.—Cæsar (*continued*).

GERMAN.—Goethe's *Faust*. History of German Literature.

FRENCH.—Molière.

DEPARTMENT OF MUSIC.

HUGH A. CLARKE, Professor of the Science of Music.

Term opens first Monday in October.

The qualifications required to enter this department are—

1. A knowledge of the rudiments of music, and,
2. The ability to play on some instrument—preferably the piano or organ.

The course extends over two years. Each year is divided into three terms. The first year is devoted to Harmony, the second to Counterpoint and Composition.

Persons of both sexes are admitted. The fees are ten dollars (\$10) for each term, payable in advance.

Students who take the whole course will receive a diploma (or certificate) to that effect, if in the judgment of the Professor their acquirements entitle them to it.

At any subsequent time, they may receive the degree of Bachelor of Music (Mus. Bac.), on the following conditions:—

1. They must undergo an examination in Harmony, Counterpoint, and Composition, by three examiners appointed by the Professor, subject to the approval of the Provost; the examination to be oral or written, or both, at the option of the examiners.
2. They must submit to the examiners an original composition in the form of a cantata for solos and chorus, with accompaniment of at least a quintette of string instruments.
3. This composition must be of such length as to require at least twenty minutes for its performance; it must contain a four-part fugue; and the accompaniment must be independent, except in the fugue.
4. The composition must be accompanied by a written statement that it is the student's own unaided effort.

STUDENTS IN MUSIC.

OF THE SECOND YEAR.

Helen A. Clarke, Philadelphia.	Kate E. Smaltz, Philadelphia.
Marie Jefferys, do.	Annie V. Spooner, do.
Adèle Mitchell, do.	

OF THE FIRST YEAR.

Albert E. Brown, Philadelphia.	Ida Wood, Philadelphia.
Samuel J. Diton, do.	Sarah E. Wright, do.
Margaret R. Smith, do.	

DEPARTMENT OF MEDICINE.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., Provost of the University and *ex-officio* President of the Faculty.
- JOSEPH LEIDY, M.D., LL.D., Professor of Anatomy.
- HENRY H. SMITH, M.D., Emeritus Professor of Surgery.
- RICHARD A. F. PENROSE, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children.
- ALFRED STILLÉ, M.D., LL.D., Professor of Theory and Practice of Medicine, and of Clinical Medicine.
- D. HAYES AGNEW, M.D., LL.D., John Rhea Barton Professor of Surgery, and of Clinical Surgery.
- WILLIAM PEPPER, M.D., LL.D., Professor of Clinical Medicine.
- WILLIAM GOODELL, M.D., Professor of Clinical Gynæcology.
- JAMES TYSON, M.D., Professor of General Pathology and Morbid Anatomy, and Secretary of the Faculty.
- HORATIO C. WOOD, M.D., Professor of Materia Medica, Pharmacy, and General Therapeutics.
- THEODORE G. WORMLEY, M.D., LL.D., Professor of Chemistry and Toxicology.
- JOHN ASHHURST, JR., M.D., Professor of Clinical Surgery.
- HARRISON ALLEN, M.D., Professor of Physiology.

DEMONSTRATORS AND LECTURERS.

- CHARLES T. HUNTER, M.D., Demonstrator of Anatomy.
- ROLAND G. CURTIN, M.D., Lecturer on Physical Diagnosis.
- CHARLES K. MILLS, M.D., Lecturer on Mental Diseases and Electro-Therapeutics.
- J. HENRY C. SIMES, M.D., Demonstrator of Pathological Histology.
- ADOLPH W. MILLER, M.D., Lecturer on Materia Medica and Pharmacy.
- JOSEPH G. RICHARDSON, M.D., Demonstrator of Normal Histology.
- ROBERT MEADE SMITH, M.D., Demonstrator of Experimental Physiology.
- JOHN MARSHALL, M.D., NAT. SC. D., Demonstrator of Practical Chemistry.
- BENJAMIN F. BAER, M.D., Demonstrator of Clinical Gynæcology.
- ELLIOTT RICHARDSON, M.D., Lecturer on Clinical and Operative Obstetrics.
- EDWARD T. BRUEN, M.D., Demonstrator of Clinical Medicine.
- J. WILLIAM WHITE, M.D., Demonstrator of Surgery, and Lecturer on Venereal Diseases.
- HARRY R. WHARTON, M.D., Demonstrator of Clinical Surgery.
- JOHN B. DEAVER, M.D., Demonstrator of Osteology and Syndesmolgy.
- HENRY F. FORMAD, M.D., Demonstrator of Morbid Anatomy, Assistant Demonstrator of Pathological Histology, and Lecturer on Experimental Pathology.
- EDWARD T. REICHERT, M.D., Demonstrator of Experimental Therapeutics.
- GEORGE A. PIERSOL, M.D., } Assistant Demonstrators of Normal Histology.
- WILLIAM M. GRAY, M.D., }

JOHN B. DEAVER, M.D.,
 RICHARD H. HARTE, M.D.,
 THOMAS R. NEILSON, M.D.,
 EDMUND W. HOLMES, M.D.,
 WM. BARTON HOPKINS, M.D.,
 HARRY R. WHARTON, M.D.,
 RICHARD H. HARTE, M.D.,
 ALBERT L. A. TOBOLDT, M.D.,
 WILLIAM A. EDWARDS, M.D.,
 JUDSON DALAND, M.D.,
 FRANCIS X. DERCUM, M.D.,
 ARCHER N. RANDOLPH, M.D.,
 WASHINGTON H. BAKER, M.D.,
 HENRY F. FORMAD, M.D.,

Assistant Demonstrators of Anatomy.
 Assistant Demonstrators of Surgery.
 Assistant Demonstrator of Practical Pharmacy.
 Assistant Demonstrators of Clinical Medicine.
 Assistant Demonstrators of Physiology.
 Assistant to the Professor of Obstetrics.
 Librarian of the Stillé Medical Library.

The following-named graduates of the school conduct the admission examinations in the several cities in which they reside:—

Dr. C. H. MASTIN, Mobile, Ala.	Dr. — — —, San Francisco, Cal.
Dr. P. V. SCHENCK, St. Louis, Mo.	Dr. C. GILMAN SMITH, Chicago, Ill.
Dr. JOS. M. TOWLER, Columbia, Tenn.	Dr. C. H. BOARDMAN, St. Paul, Minn.
Dr. EUGENE A. GRISSOM, Raleigh, N. C.	Dr. H. C. DIMOND, Detroit, Mich.
Dr. C. D. FISHBURN, Cincinnati, Ohio.	Dr. W. S. ELKIN, Atlanta, Ga.
Dr. E. C. BULLARD, Boston, Mass.	Dr. J. W. WHITEBECK, Rochester, N. Y.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

HOSPITAL STAFF.

ALFRED STILLÉ, M.D., Professor of the Theory and Practice of Medicine, and of Clinical Medicine.	} <i>Ex-officio.</i>
D. HAYES AGNEW, M.D., John Rhea Barton Professor of Surgery.	
RICHARD A. F. PENROSE, M.D., Professor of Obstetrics and of the Dis- eases of Women and Children.	
WILLIAM PEPPER, M.D., Professor of Clinical Medicine.	
D. HAYES AGNEW, M.D., Professor of Clinical Surgery.	
WILLIAM GOODELL, M.D., Professor of Clinical Gynæcology.	
JAMES TYSON, M.D., Professor of General Pathology and Morbid Anatomy.	
JOHN ASHHURST, JR., M.D., Professor of Clinical Surgery.	
WILLIAM F. NORRIS, M.D., Clinical Professor of Diseases of the Eye.	
GEORGE STRAWBRIDGE, M.D., Clinical Professor of Diseases of the Ear.	
HORATIO C. WOOD, M.D., Clinical Professor of Nervous Diseases.	
LOUIS A. DUHRING, M.D., Clinical Professor of Skin Diseases.	
BENJ. F. HAMELL, M.D., Superintendent of the Hospital.	
CHARLES W. DULLES, M.D., Surgical Registrar.	
WILLIAM E. HUGHES, M.D., Medical Registrar.	
HENRY F. FORMAD, M.D., Curator.	
GEORGE W. JOHNSTON, M.D., Resident Physician.	
JOHN E. SHEPPARD, M.D., Resident Physician.	
B. B. FERGUSON, Apothecary.	

DISPENSARY SERVICE.

- CHARLES T. HUNTER, M.D., Chief of the Surgical Dispensary.
 CHARLES K. MILLS, M.D., Chief of the Dispensary for Nervous Diseases.
 SAMUEL D. RISLEY, M.D., Chief of the Dispensary for Diseases of the Eye.
 ARTHUR VAN HARLINGEN, M.D., Chief of the Dispensary for Skin Diseases.
 WALTER M. L. ZIEGLER, M.D., Chief of the Dispensary for Diseases of the Ear.
 BENJAMIN F. BAER, M.D., Chief of the Dispensary for Diseases of Women.
 DE FOREST WILLARD, M.D., Chief of Orthopædic Dispensary.
 J. WILLIAM WHITE, M.D., Chief of the Dispensary for Venereal Diseases.
 JOHN H. MUSSER, M.D., Chief of the Medical Dispensary.
 LOUIS STARR, M.D., Chief of the Dispensary for Diseases of Children.
 LEWIS H. KIRK, M.D., } Assistant Physicians in the Medical Dispensary.
 WILLIAM E. HUGHES, M.D., }
 HOLLINGSWORTH NEILL, M.D., }
 WM. BARTON HOPKINS, M.D., } Assistant Surgeons in the Surgical Dispensary.
 J. HENRY C. SIMES, M.D., }
 RICHARD H. HARTE, M.D., }
 WM. L. TAYLOR, M.D., } Assistant Physicians in the Dispensary for Diseases of
 WILLIAM A. DAVIS, M.D., } Women.
 CARL SEILER, M.D., Assistant Physician in the Medical Dispensary in Charge of
 Throat Department.
 JAMES WALLACE, M.D., } Assistant Physicians in the Dispensary for Dis-
 B. ALEXANDER RANDALL, M.D., } eases of the Eye.
 G. E. DE SCHWEINITZ, M.D., }
 ROBERT B. GLASGOW, M.D., } Assistant Physicians in the Dispensary for Nervous
 JAMES HENDRIE LLOYD, M.D., } Diseases.
 ROBERT H. HAMILL, M.D., Assistant Physician in the Dispensary for Diseases of the
 Ear.
 J. MADISON TAYLOR, M.D., Assistant to Physician in the Dispensary for Venereal Dis-
 eases.

All communications should be addressed to

JAMES TYSON, M.D.,

Secretary of the Faculty of Medicine,

WM. H. SALVADOR, *Clerk.*

P. O. Box 2838, Philadelphia, Penna.

DEPARTMENT OF MEDICINE.

CALENDAR, 1883-4.

1883.	
Monday, April	2. Final and Term Examinations begin.
Friday, "	13. Annual Commencement.
Saturday, "	14. Examination for Resident Physicians, University Hospital.
Monday, "	23. Spring Session opens.
Monday, September	10. Preliminary Course opens.
Wednesday, "	26. Competitive Examination for Scholarships held.
Thursday, "	27. Examination for Admissions to Advanced Standing, and Re-examination of Undergraduates.
Monday, October	1. Winter Session opens.
Monday, December	24. Christmas recess begins.
1884.	
Monday, April	14. Annual and Term Examinations begin.

THE Department of Medicine was founded in 1765, by Drs. WILLIAM SHIPPEN, JOHN MORGAN, ADAM KUHN, BENJAMIN RUSH, and THOMAS BOND. From its establishment to the present time, its reputation has been maintained by worthy successors of those eminent men, among whom may be mentioned BARTON, WISTAR, CHAPMAN, PHYSICK, DEWEES, HORNER, HARE, GIBSON, JACKSON, GEORGE B. WOOD, HODGE, JAMES B. ROGERS, CARSON, the elder PEPPER, FRANCIS GURNEY SMITH, and JOHN NEILL. Through their labors, the circle of the school's influence has constantly been growing wider, and at the present time the number of its graduates exceeds TEN THOUSAND.

A preliminary examination is now required of all candidates who have not received a collegiate degree, or passed the matriculation examination of a recognized college, or who do not present a certificate covering the required subjects from a recognized normal or high school, or from a duly organized county medical society having instituted a preliminary examination, such as is referred to in the action of the Medical Society of the State of Pennsylvania at Pittsburg in 1878. The candidate for admission will be required: *First*, to write a brief essay, not exceeding a page of foolscap, which will serve as a test of his qualifications in orthography and grammar;

second, to undergo an examination in the elementary principles of Physics, in the subjects considered in Part I. of Fownes's *Chemistry*. Students to whom it is inconvenient to appear before the opening of the winter session, can arrange with the Secretary for examination after the opening of the session. Students may also be examined at any time during the spring or fall session previous to the opening of the winter session.*

The attention of those who design to study medicine is particularly called to the special advantages of the Course Preparatory to Medicine in the Towne Scientific School of the University. Students taking this course will be exempted from a preliminary examination. It is not necessary that a student taking this course shall be a full student in the collegiate department; but, if he possess the requisite qualifications, he may be admitted as a special student for this preparatory course alone.

During the first and second years much of the student's time is occupied with practical work in the various laboratories, of Chemistry, Pharmacy, Osteology, Histology, and Pathological Histology, and in Dissection; but throughout the second and third years he is required to attend the general medical and surgical clinics at the University and Philadelphia Hospitals, while special clinical facilities are provided for the third year. In this year each student receives bedside instruction in Clinical Medicine and Surgery, in Physical Diagnosis, and in Gynæcology. Opportunities are afforded for the practical study of diseases of the eye, ear, throat, and skin, and for acquiring proficiency in the use of the various instruments employed in their treatment. For this purpose, the third-year class is divided into sections of convenient size, each of which receives direct personal instruction in the various practical subjects above mentioned. In the fourth year, recently organized to go into operation with the session of 1883-4, and upon which attendance is voluntary, the instruction is almost purely practical in character.

The laboratory instruction in Chemistry, Pharmacy, Osteology, and Normal and Pathological Histology, which is further described

* Examinations for admission will be held annually hereafter during the first week in September in the cities of Boston, Mass., Rochester, N. Y., Raleigh, N. C., Columbia, Tenn., Atlanta, Ga., Mobile, Ala., Cincinnati, O., Chicago, Ill., Detroit, Mich., St. Louis, Mo., St. Paul, Minn., San Francisco, Cal. This provision is made solely for the convenience of the student. He can, of course, be examined in Philadelphia if preferred.

in the subsequent sections of the announcement devoted to these subjects, forms a part of the regular course, and does not involve extra expense. It is co-ordinated with the didactic teaching in such a manner as to illustrate the subjects taught in the lectures.

Opportunities are given to advanced students to make original researches in the pharmaceutical, chemical, physiological, and pathological laboratories, also in that of experimental therapeutics.

By prolonging the period of medical study the authorities of the University have been able to so arrange the course as to allow of the constant introduction of new matter as the student advances, and at the same time to secure at least as much repetition of the more essential subjects, as in the former system of teaching. It will be seen that a prominent feature of the present curriculum is systematic laboratory work in the fundamental medical sciences, as well as the personal teaching of each student in practical subjects of the greatest importance—such as physical diagnosis, clinical medicine, clinical surgery, and clinical gynæcology. Students of the Medical Department of the University are now trained, not only in the theory of medicine, but are also taught to perform chemical, pharmaceutical, and microscopical manipulations, to diagnose and treat medical and surgical diseases, and to recognize their post-mortem appearances. Exclusively didactic teaching has been universally abandoned in every branch of scientific and technical education, save the medical. Therefore, in establishing the present method, the Trustees and the Medical Faculty of the University felt that they were only adopting one which, in other departments of science, had produced the most valuable fruits. The result shows that, sooner or later, medical teaching in this country must be conformed to the system which has long been recognized as the only suitable one in the great medical centres of Europe.

This anticipation, which was formed several years ago, has been more than justified by the results. The effect of the change on the composition of the classes and on their proficiency, has been most gratifying. A much larger proportion of students than under the former system has given evidence of a good previous education, either in colleges or in reputable academies. The attention of the classes to study has been marked by increased seriousness and zeal; the annual examinations have steadily improved; the examinations for graduation have shown a higher average degree of merit than

ever before; and a much larger proportion of inaugural theses than formerly has given evidence of scientific knowledge as well as literary culture. The Medical Faculty feel, therefore, that their advance towards a more perfect system has been sustained both by enlightened professional opinion, and by its practical results. They are also convinced that the further contemplated improvements, if judiciously made, will receive, not only the approbation of all right-minded men, but the active co-operation and support of the medical profession.

In addition to the spring course of lectures and the lectures of the Auxiliary Faculty of Medicine, the Faculty have also inaugurated a VOLUNTARY FOURTH YEAR and A COURSE FOR GRADUATES, which will be found described on pages 53 and 60. There are no subjects connected with the fundamental departments of medicine, or with its several subdivisions determined by usage, that are not thoroughly taught in one or other of these courses. While several of the subjects taught by the Auxiliary Faculty must ultimately fall into the official curriculum, the greater number will remain *extra limites*, as they do now in the most important medical schools of Europe. Meanwhile, it is strongly urged upon all students of the University, and especially those of the second and third years, to continue their studies during the spring and summer, and, where possible, to pursue the studies of the fourth year, for attendance on which a suitable certificate will be given in addition to the diploma.

Before the opening of the next winter session the new wing in the University Hospital, for the accommodation of cases of chronic diseases, especially of the heart and lungs, will be occupied, so that unusually good opportunities will be afforded for the study of these important affections. This wing has been erected by the liberality of Mr. Henry C. Gibson; and the beds, 100 in number, will be endowed by friends of the University. The Peter Hahn Ward, endowed by the late Dr. George B. Wood, has been opened recently for the admission of patients.

Students of one department of the University may attend, without additional charge, the lectures and recitations in any other department during hours otherwise unoccupied, provided it is with the consent of the Dean of such department.

CURRICULUM. (Session 1883-4, 28 weeks, from October 1st to April 12th.)

	Total hours per week.
FIRST YEAR.	
Anatomy—3 lectures per week, 10 hours practical anatomy	13
Histology—2 hours laboratory instruction per week	2
Materia Medica and Pharmacy—1 lecture per week, 2 hours laboratory	3
General Chemistry, including Chemical Physics—2 lectures per week, 5 hours laboratory	7
Physiology—3 lectures per week, 3 hours laboratory	6
General Pathology—1 lecture per week	1
General Clinics, Medical and Surgical	4
Final examinations at the end of the Course: General Chemistry, Materia Medica and Pharmacy.	

SECOND YEAR.	
Anatomy—3 lectures per week, 10 hours evening dissection	13
Topographical Anatomy—2 lectures per week	2
Medical Chemistry—1 lecture per week, 4 hours laboratory	5
Physiology—3 lectures per week	3
General Pathology and Morbid Anatomy—2 lectures per week, 1½ hours labo- ratory	3½
Therapeutics—2 lectures per week	2
Theory and Practice of Medicine—3 lectures per week	3
Surgery—3 lectures per week	3
Obstetrics—2 lectures per week	2
General Clinics, Medical and Surgical	8
Special Clinics (Nervous Diseases, Diseases of the Skin, Eye, Ear, Diseases of Women and Children)	5
Final examinations at the end of the Course: Anatomy, Medical Chemistry, and Physiology.	

THIRD YEAR.	
General Pathology and Morbid Anatomy—2 lectures per week	2
Demonstrations in Morbid Anatomy—1 hour per week	1
Therapeutics—2 lectures per week	2
Theory and Practice of Medicine—3 lectures per week	3
Surgery—3 lectures per week	3
Obstetrics—2 lectures per week	2
Operative Surgery, Minor Surgery, and Bandaging—1 lecture per week, 2 hours practice	3
Diseases of Women and Children—1 lecture per week	1
*Gynæcology—1 lecture per week, 1 hour bedside teaching	2
*Bedside Instruction in Practical Medicine (including Physical Diagnosis)	1
*Bedside Instruction in Practical Surgery	1
Clinical Conference	1
General Clinics, Medical and Surgical	8
Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children)	5
Final examinations at the end of the Course: General Pathology and Morbid Anat- omy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children.	

FOURTH YEAR (VOLUNTARY).	
Clinical Medicine and Physical Diagnosis, including Laryngology—1 hour clini- cal lecture, 1 hour practical instruction, 1 hour clinical conference	4
Clinical Surgery—2 hours clinical lecture, 1 hour practical instruction	3
Operative Surgery and Venereal Diseases—1 hour practical instruction, alternate weeks	½

* For these courses the class will be divided into sections, so that each student may receive direct personal instruction.

Nervous and Mental Diseases and Electro-Therapeutics—1 hour clinical lecture	1
Gynæcology—1 hour didactic lecture, 1 hour clinical lecture, 1 hour practical instruction	3
Dermatology—1 hour didactic lecture, 1 hour clinical lecture, 1 hour practical instruction	3
Ophthalmology—1 hour didactic lecture, 1 hour clinical lecture, 1 hour practical instruction	3
Otology—1 hour didactic lecture (alternate weeks), 1 hour clinical lecture, 1 hour practical instruction	2½
Clinical and Operative Obstetrics—1 hour practical instruction, alternate weeks	½

Final examinations for degree at the end of the course: Clinical Medicine, including Laryngology, Clinical Surgery, and Operative Surgery, Gynæcology, Clinical and Operative Obstetrics, Dermatology, Ophthalmology, and Otology.

Upon students of the University who pursue a four years' course, and who pass a satisfactory examination, a suitable certificate will be conferred in addition to the degree. The degree of Doctor of Medicine will also be conferred on graduates of other medical schools in good standing who take the third year of the three years' curriculum, and to those attending the fourth year, together with the didactic lectures throughout the Course on Morbid Anatomy, Therapeutics, Practice of Medicine and Surgery, Obstetrics and Gynæcology, and pass a satisfactory examination.

(For post-graduate courses, see p. 60.)

TEXT-BOOKS.

TEXT-BOOKS.

Chemistry: Fownes's Chemistry; Muter's Analytical Chemistry.
Materia Medica: H. C. Wood.
Anatomy: Leidy; Gray; Schaeffer's Practical Histology for laboratory work.
Physiology: Kirke.
General Pathology: Wagner; Tyson's Cell Doctrine, pp. 127-152.

COLLATERAL READING.

Wurts's Elements of Modern Chemistry; Attfield's Chemistry.
Wood & Bache's Dispensatory.
Quain; Wilson; Allen; Stricker's Histology.
Carpenter; Foster.

SECOND AND THIRD YEARS.

Medical Chemistry: Greene; Tyson's Practical Examination of Urine; Marshall & Smith's Chemical Analysis of Urine.

Anatomy: Leidy; Gray.

Physiology: Foster.

General Pathology and Morbid Anatomy: Cornil and Ranvier, translated by Shakespeare and Simes; Wagner.

Therapeutics: H. C. Wood.

Practice of Medicine: Flint or Roberts; Fenwick's Medical Diagnosis.

Surgery: Agnew; Ashhurst.

Obstetrics: Playfair's Midwifery.

Gynæcology: Goodell's Lessons in Gynæcology.

Wormley's Micro-Chemistry of Poisons.

Quain; Allen; Wilson; Stricker's Histology.
Carpenter.

Rindfleisch's Pathological Histology; Orth's Diagnosis in Pathological Anatomy; Formad's Manual of Microscopic Diagnosis, illustrated by I. W. Blackburn.
Wood & Bache's Dispensatory.

Reynolds's System; Bruen, Physical Diagnosis; Stillé's Therapeutics; Stillé & Maisch's Dispensatory; Duhring on Diseases of the Skin.

Smith's Principles and Practice of Surgery; Erichsen; Billroth's Surgical Pathology.

Hodge's Obstetrics; West on Diseases of Women; West on Diseases of Children; Meigs and Pepper on Diseases of Children.

Hodge on Diseases Peculiar to Women; Thomas on Diseases of Women; Emmet's Practice of Gynæcology.

ORDER OF LECTURES, DAILY, Session 1882-3, First Term.—FIRST YEAR.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9 A. M.	General Chemistry.	General Chemistry.		General Chemistry.		
10 A. M.	Normal Histology, Laboratory. One section 2 h'rs.	Chemical Laboratory, two hours.	Philadelphia Hospital, Medical and Surgical Clinics.		Chemical Laboratory, three hours.	Philadelphia Hospital, Medical and Surgical Clinics.
11 A. M.	Others Pract. Anatomy.			General Pathology.		
12 M.	Materia Medica.	Normal Histology, Laboratory. One section 2 h'rs.	Normal Histology, Laboratory. One section 2 h'rs.	Normal Histology, Laboratory. One section 2 h'rs.	Normal Histology, Laboratory. One section 2 h'rs.	Practical Biology, Laboratory. One section 2 h'rs.
1 P. M.	Anatomy.	Others Pract. Anatomy.	Others attend Clinics. U. H.	Others Pract. Anatomy.	Others Pract. Anatomy.	Others attend Clinics.
3½ P. M.		Anatomy.		Anatomy.	Anatomy.	
4½ P. M.	Physiology.		Physiology.		Physiology.	
7½ to 10 P. M.	Practical Anatomy.	Pharmacy, Laboratory.	Practical Anatomy.	Pharmacy, Laboratory.	Practical Anatomy.	

SECOND YEAR.

8 A. M.			Medical Chemistry, Laboratory, two hours.			Medical Chemistry, Laboratory, two hours.
9 A. M.					Medical Chemistry.	
10 A. M.	Practice.	Practice.	Philadelphia Hosp., Med. and Surgical Clinics.	Practice.		Philadelphia Hosp., Med. and Surgical Clinics.
11 A. M.	Morbid Anatomy.	Topographical Anatomy.		Topographical Anatomy.	Morbid Anatomy.	
12 M.	Surgery.		Pathol. Histology, Laboratory. One section 2 h'rs.	Surgery.	Surgery.	Pathol. Histology, Laboratory. One section 2 h'rs.
1 P. M.	Anatomy.	Pathol. Histology, Laboratory. One section 1 hour. Others attend Clinic on Skin Diseases, U. H.	Others attend Gynecological and General Surgical Clinic, U. H.	Pathol. Histology, Laboratory. One section 1 hour. Others attend Clinic on Diseases of Eye, U. H.	Pathol. Histology, Laboratory. One section 1 hour. Others attend Clinic on Nervous Diseases, U. H.	Others attend Gen. Med. and Surgical Clinic, U. H.
3½ P. M.	Obstetrics.	Anatomy.	Obstetrics.	Anatomy.	Anatomy.	Obstetrics.
4½ P. M.	Physiology.		Physiology.	Therapeutics.	Physiology.	Therapeutics.
7½ to 10 P. M.	Dissection.	Dissection.	Dissection.	Dissection.	Dissection.	

THIRD YEAR.

10 A. M.	Practice.	Practice.	Philadelphia Hosp., Med. and Surgical Clinics.	Practice.		Philadelphia Hosp., Med. and Surgical Clinics.
11 A. M.	Morbid Anatomy.	Demonstrations in Morb. Anat., 2 Secs.		Clinical conference.	Morbid Anatomy.	
12 M.	Surgery.	Demonstrations in Morb. Anat., 2 Secs.	Gynecological Clinic, U. H.	Surgery.	Surgery.	Medical Clinic, U. H.
1 P. M.	Clinic, Diseases of the Ear, U. H. Ward Classes, U. H.	Clinic, Diseases of the Skin, U. H. Ward Classes, U. H.	Surgical Clinic, U. H.	Clinic, Diseases of the Eye, U. H. Ward Classes, U. H.	Clinic on Nervous Diseases, U. H. Ward Classes, U. H.	Surgical Clinic, U. H.
3½ P. M.	Obstetrics.	Diseases of Women and Children	Obstetrics.	Didactic Gynecology, U. H.	Didactic Dermatology, from Oct. 27.	Obstetrics.
4½ P. M.	Practice in Minor and Operative Surgery and Bandaging.	Didactic Ophthalmology, from Oct. 24.	Didactic Ophthalmology, from Oct. 25.	Therapeutics.	Practice in Minor and Operative Surgery and Bandaging.	Therapeutics.
8 P. M.			Lecture on Minor and Operative Surgery and Bandaging.			

U. H. University Hospital.

For the study of Histology and of Pathological Histology the class is divided into sections, one of which is occupied at a time; those of the first-year students not thus engaged work in the osseological laboratory or dissect, while those of the second year attend Clinics.

For Ward Class instruction the third-year class is divided in sections. See special roster.

ROSTER OF BEDSIDE INSTRUCTION AND SPECIAL CLINICS FOR
STUDENTS OF THE THIRD YEAR, SESSION 1882-3.

For attendance upon these Courses, the Third Year Class is divided into four sections, A, B, C, and D, which attend as follows:—

From Tuesday, Oct. 3d, until Friday, Nov. 10th, inclusive.

	Monday.	Tuesday.	Thursday.	Friday.
Prof. Pepper	A	B	—	C
“ Goodell	B	—	D	A
“ Ashhurst	C	D	B	—
Special Clinics	D	A & C	A & C	B & D

From Monday, Nov. 13th, to Friday, Dec. 22d, inclusive.

Prof. Pepper	B	C	D	—
“ Goodell	C	—	A	D
“ Ashhurst	D	A	—	B
Special Clinics	A	B & D	B & C	A & C

From Tuesday, Jan. 2d, to Friday, Feb. 9th, inclusive.

Prof. Pepper	C	A	—	D
“ Goodell	D	—	B	C
“ Ashhurst	A	B	C	—
Special Clinics	B	C & D	A & D	A & B

From Monday, Feb. 12th, to Friday, March 23d, inclusive.

Prof. Pepper	B	D	A	—
“ Goodell	A	—	C	B
“ Ashhurst	D	C	—	A
Special Clinics	C	A & B	B & D	C & D

The instruction is given at the University Hospital at 10 o'clock. Prof. Pepper meets the sections of the Third Class in the Main Ward, second floor; Prof. Goodell in the Lower Lecture Room; and Prof. Ashhurst in the Front Ward, first floor. The Special Clinics are held in the upper Lecture-Room, except on Mondays, when Prof. Ashhurst meets his section in the Upper Lecture-Room, and Prof. Strawbridge holds his Clinic in the Front Ward, first floor.

This arrangement enables each section to attend, during an equal portion of the term, the clinical lectures on special subjects as follows:—

1 P. M.	Monday.	Tuesday.	Thursday.	Friday.
Prof. STRAWBRIDGE.	Otology.	Prof. DUHRING. Dermatology.	Prof. NORRIS. Ophthalmology.	Prof. WOOD. Nervous Diseases.

The entire Third Year Class attends the General Medical, Surgical, and Gynecological Clinics, held on Wednesdays and Saturdays, from 12 to 2 o'clock, in the Upper Lecture-Room; also the Autopsies and Demonstrations in Morbid Anatomy by Prof. Tyson at 11 o'clock on Tuesdays, and the Clinical Conferences of Prof. Pepper at 11 o'clock on Thursdays.

RULES AND REQUIREMENTS FOR ADMISSION AND
GRADUATION.

I. The candidate for admission is required to pass the preliminary examination described on page 49. (See also foot-note to p. 50.) Students may report to the Secretary for examination at any time after the second Monday in September.

II. Students who have attended one course in a regular* medical school are admitted as students of the second course in the University of Pennsylvania, after having passed a satisfactory examination in General Chemistry and Materia Medica and Pharmacy. Students who have attended two courses in a regular medical school are admitted as students of the third course in this institution, after having satisfactorily passed an examination in General and Medical Chemistry, Materia Medica and Pharmacy, Anatomy, and Physiology.†

Graduates of other regular medical schools in good standing are admitted as students of the third course without an examination.

Graduates of Colleges of Pharmacy and Dental Colleges in good standing are admitted to the second course without an examination.

III. The candidate for the Degree of Doctor of Medicine must have attained the age of twenty-one years, and be of good moral character. He must have applied himself to the study of medicine for three years, and have attended at least his last course of instruction in this school; have prepared a satisfactory thesis,‡ and have passed the required examinations.

IV. When a candidate applies to the Secretary of the Faculty for examination, he must give satisfactory evidence that the above rules have been complied with.

V. When the candidate receives notice of having successfully passed his final examination, he will enter his name on the register for the purpose of being reported to the Board of Trustees as qualified for the degree.

VI. Candidates who have passed their examination, and in other respects complied with the regulations, are reported by the Secretary of the Faculty to the Provost of the University, who communicates such report to the Board of Trustees, in order that, if approved by them, their mandamus may be issued for conferring the degree.

* Homoeopathic and Eclectic schools are not recognized as being in this category.

† These examinations for admission to advanced standing in the next year will be held on Thursday, September 27, 1883, at 12 M. The re-examination of those who have failed in their term examinations will be held on the same day.

‡ The thesis must be in the candidate's own handwriting, and should be written on thesis paper, the alternate pages being left blank. It is recommended that the candidate prepare his essay before the commencement of the last course of lectures. It must also be bound, and becomes after presentation the property of the Stillé Medical Library.

A thesis may be published by the candidate if he desires it, the permission of the Professor by whom he was examined thereon having been first obtained; but no alteration shall be made in such thesis without the consent of the said Professor.

VII. The Degree will not be conferred upon a candidate who absents himself from the Public Commencement, except by special permission of the Medical Faculty.

ARRANGEMENT OF SESSION.

The *Winter Session*, 1883-84, upon which alone attendance is obligatory, begins on Monday, the first day of October, and ends on the 12th day of April ensuing.

The *Preliminary Session* begins on the second Monday (10th), in September, and ends on the Saturday preceding the day of opening of the Winter Session.

The *Spring Session*, 1883, begins on the third Monday in April, and ends about the middle of June.

EXPENSES.

WINTER TERM.

FIRST YEAR.

Matriculation Fee	\$5 00
For general ticket, admitting to all the lectures and laboratory work assigned to this year, including dissection	150 00
Dissecting material	\$1 a part.

SECOND YEAR.

For general ticket, admitting to all the lectures and laboratory work assigned to this year, including dissection	\$150 00
Dissecting material	\$1 a part.

THIRD YEAR.

For general ticket, admitting to all the lectures and practical work assigned to this year, including operating and bandaging (no graduation fee)	\$150 00
Fee for the full third year course to graduates of other schools, including privilege of applying for graduation (no graduation fee)	150 00
Material for operating	\$1 a part.

FOURTH YEAR (VOLUNTARY).

For general ticket, including all the practical courses of this year (no graduation fee)	\$150 00
To graduates of other schools, with the privilege of attending the didactic courses of the third year, and applying for graduation (no graduation fee)	200 00

SPRING SESSION.

Matriculation fee (paid once only)	\$5 00
To old matriculates, a registration fee of	5 00
To new matriculates, in addition to the matriculation fee	35 00
(\$30 of which will be credited on account of the fee for the ensuing Winter Term.)	

FEES FOR SPECIAL COURSES.

(Gentlemen taking special or partial courses, if not graduates of the school, are required to pay the matriculation fee, in addition to the fees named below.)

Fee for the full third Course, including bandaging and operating, to graduates of this school	\$75 00
Fee for a single Course of Lectures, except Materia Medica	20 00
Fee for Course on Materia Medica, and on Bandaging and Operating, each	10 00
Fee for Practical Course in the Chemical Laboratory	25 00
Fee for the Course in Practical Gynæcology of the third year	25 00
Fee for any one of the remaining practical Courses of the third year	15 00

Graduates of the school are admitted to the LECTURES free of charge; but the above fees are charged to all for the practical courses.

At the beginning of the first course, students will be required to make a deposit of five dollars with the Professor of Chemistry, to cover "breakage" in the chemical laboratories. Any balance remaining will be returned.

All fees are payable in advance to the Secretary of the Faculty, who will issue a general ticket of admission to all the lectures and practical instruction.

No promissory notes will be received, or reductions made. The only free scholarships granted will be under the regulations named below.

Board can be obtained in Philadelphia for \$4 per week and upwards.

SCHOLARSHIPS.

There will be held at the Medical Hall, on Wednesday, September 21, 1883, at twelve o'clock, a competitive examination of candidates to fill six free scholarships created by the Board of Trustees. The candidates will be required—

First. To furnish satisfactory evidence that they are without means to defray the expenses of a medical education.

Second. To write a brief autobiography, not exceeding a page of foolscap, which will serve as a test of their qualifications in orthography and grammar.

Third. To pass a written examination in Latin prose translation (first three books of Cæsar); and a written examination in Physics.

Candidates who propose to present themselves for examination will send their names, accompanied by the necessary certificate required by the first condition, to the Secretary of the Faculty of Medicine, before Sept. 15th, and appear without further notice at the hour and place above named.

SPRING COURSE OF INSTRUCTION—1883.

In order still further to extend the opportunities for thorough preparation, and to provide facilities for research and experiment to advanced students and graduates, the various laboratories in connection with the University are open during the spring and early

summer, and the post-graduate courses described below are continued.

The clinics and lectures are continued at the Hospital, and instruction will be given upon the following subjects:—CHEMISTRY; MATERIA MEDICA; PHARMACY; HISTOLOGY; PHYSIOLOGY; REGIONAL ANATOMY; MORBID ANATOMY; PHYSICAL DIAGNOSIS; VENEREAL DISEASES; PRACTICAL and CLINICAL OBSTETRICS; MENTAL DISEASES, and ELECTRICAL THERAPEUTICS; EXPERIMENTAL PATHOLOGY; CLINICAL MEDICINE; CLINICAL SURGERY; CLINICAL GYNÆCOLOGY; DISEASES OF THE NERVOUS SYSTEM; DISEASES OF THE EYE; DISEASES OF THE EAR; and DISEASES OF THE SKIN.

POST-GRADUATE INSTRUCTION—1883.

The post-graduate instruction in connection with this University for the year 1883 is divided into three terms, as follows:—

- (1) From January 2d to March 1st, inclusive.
- (2) From April 9th to June 9th, inclusive.
- (3) From October 29th to December 24th, inclusive.

The following subjects are taught:—

CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS, by Prof. Pepper and Dr. Bruen.
 RENAL DISEASES, WITH PRACTICAL EXAMINATION OF URINE, by Prof. Tyson and Dr. Formad.
 NERVOUS DISEASES AND ELECTRO-THERAPEUTICS, by Prof. Wood and Dr. Mills.
 CLINICAL SURGERY, by Prof. Ashhurst and Dr. Wharton.
 OPHTHALMOLOGY, by Prof. Norris and Dr. Risley.
 DERMATOLOGY, by Prof. Duhring.
 OTOTOLOGY, by Prof. Strawbridge.
 GYNÆCOLOGY, by Prof. Goodell and Dr. Baer.
 OPERATIVE AND GENITO-URINARY SURGERY, WITH VENEREAL DISEASES, by Dr. White.
 CLINICAL AND OPERATIVE OBSTETRICS, by Dr. Elliot Richardson.
 LARYNGOLOGY, by Dr. Seiler.
 DISEASES OF CHILDREN, by Dr. Starr and Dr. Keating.

The teaching consists in bedside and dispensary lessons, in the practical examination of patients, and the use of instruments of precision in the diagnosis and treatment of disease, to classes composed of graduates only. There are two classes of graduates to whom these courses are adapted: first, recent graduates, and second, those who have been for some years engaged in practice at a distance from medical centres. To the latter, the review afforded by such practical courses has been found peculiarly ad-

vantageous. From one to three hours weekly are devoted to these objects in each of the branches named. In clinical medicine one hour weekly will be devoted to a clinical conference.

In addition, the classes are permitted to attend the general and special clinics of the University, and such didactic lectures as do not occur in the hours devoted to post-graduate instruction.

FEES (INVARIABLY IN ADVANCE).

To non-matriculants of the University, a matriculation fee of	\$5
For full post-graduate course for eight weeks	150
“ any seven of post-graduate courses for eight weeks	100
“ “ three “ “ “ “	60
“ “ seven “ “ sixteen weeks	150
“ “ three “ “ “ “	100
For a course of eight weeks in Clinical Medicine and Physical Diagnosis, Ophthalmology and Gynecology, each	25
For a course of eight weeks in Clinical Surgery	10
For a course of eight weeks in Dermatology, and in Operative Surgery and Venereal Diseases, each	20
For any one of the remaining courses	15
For full post-graduate course for sixteen weeks	200

In addition to the above combined courses, the following are also given:—

PRACTICAL PHYSIOLOGY, by Dr. ROBERT MEADE SMITH. Systematic Instruction in Experimental Physiology and Experimental Therapeutics, and the superintendence of Original Investigations. Fee, including material, \$25.

MEDICAL CHEMISTRY, by Professor WORMLEY and Dr. MARSHALL. Including Toxicological and Medico-Legal Studies, Investigation of Blood-Stains, and Physiological Chemistry. Fee \$50.

HISTOLOGY AND PATHOLOGY, by Dr. H. F. FORMAD. Two courses: I. Normal and Pathological Histology, including Microscopic Technology; the opportunity of witnessing and making Post-mortem Examinations. Winter and spring months. II. Experimental Histology and Experimental Pathology. Fee for each course, including material, \$15.

PRELIMINARY LECTURES—1883.

This Session, beginning the second Monday in September, and continuing until the commencement of the Winter Term, although not obligatory upon students, is strongly recommended to those who can attend it. It includes lectures, didactic and clinical, by members of the Faculty, together with selected lectures on the more important subjects taught by the Lecturers in the Spring Session.

No fee is charged for this session.

FACILITIES FOR INSTRUCTION, Etc.

The instruction in the Medical Department is conducted in the MEDICAL HALL, LABORATORY BUILDING, and the HOSPITAL OF THE UNIVERSITY.

HALL OF THE MEDICAL DEPARTMENT.

The Medical Hall contains the Wistar and Horner Museum, the Histological, Osteological, Pathological, and Pharmaceutical Laboratories, and the Stillé Medical Library.

THE WISTAR AND HORNER MUSEUM, which was founded nearly one hundred years ago, and has been annually augmented, is unequalled in the United States for the number and variety of its specimens of the normal and the morbid anatomy of every part of the human body. It also contains a large number of preparations in comparative anatomy, and an extensive collection of models, which are used in illustrating the several courses of lectures delivered in the Medical Department. The ticket of matriculation in this Department entitles the holder to admission to the Museum, which is open on Wednesday and Saturday of each week, from 9 A. M. to 12 M., throughout the session. The spacious hall occupied by the Museum is thoroughly lighted.

THE CABINET OF MORBID ANATOMY, collected by the late Dr. George B. Wood, and generously given by him to the University, contains an extensive series of wet preparations, drawings, and models in wax and other materials, which, together, form a collection unrivalled in extent and value, for illustrating diseases of the internal organs and of the skin.

Through the interest felt for the School by the late distinguished Professor of Obstetrics, Dr. Hugh L. Hodge, its means of Instruction have been enriched by the gift of his valuable Cabinet, adapted for illustrating that special branch.

Through a like liberality of Dr. Henry H. Smith, Emeritus Professor of Surgery, and of the late Dr. John Neill, Emeritus Professor of Clinical Surgery, the University has received an extensive and valuable gift of morbid specimens, models, and drawings.

The spacious and elegant apartments devoted to these collections are well adapted to their display, and render them accessible for examination.

THE HISTOLOGICAL LABORATORY is under the supervision of the Professor of Anatomy, and the direct guidance of the Demonstrators of Histology. Every member of the first year class is required to make himself familiar with the technology of the microscope and Normal Histology, and is furnished with a microscope for the purpose.

THE OSTEO-SYNDESMOLOGICAL LABORATORY is under the supervision of the Professor of Anatomy and the Demonstrator of Osteology and Syndesmology. The first year student is required, in this Laboratory, furnished with ample material for the purpose, to make himself familiar with the skeleton and the articulations, before commencing with dissection of the *cadaver*.

PHYSIOLOGICAL LABORATORY.—The Physiological Laboratory is under the personal supervision of the Professor of Physiology and the Demonstrator. It is furnished with a kymographion, electrical, and other apparatus. An elementary practical course in Physiology, designed especially for those matriculates who are without preliminary training in Biology, is continued throughout the session. Matriculates desiring this course are furnished with microscopes and material for observation, free of charge. Every facility is afforded advanced students and graduates pursuing special studies in Practical Physiology. The Laboratory is open during the entire year, except July and August.

PATHOLOGICAL LABORATORY.—This Laboratory, under the direction of the Professor of General Pathology and Morbid Anatomy, and the Demonstrators of Pathological Histology, was opened in 1874, and has already attracted, from remote sections of the country, physicians and students who desire special preparation in microscopic technology and normal and pathological histology. It is suitably furnished with microscopes, and all appliances requisite for practical study of these subjects, and for making original researches.

PHARMACEUTICAL LABORATORY.—The Pharmaceutical Laboratory is in charge of the Professor of Materia Medica and Pharmacy, and the Demonstrators of Pharmacy. It is furnished with suitable tables and all necessary apparatus. In it the student learns not only the various pharmaceutical processes, but also that familiarity with drugs which can only be acquired by handling them.

LABORATORY OF EXPERIMENTAL THERAPEUTICS.—This Laboratory, under the direction of the Professor of Materia Medica and Therapeutics, is furnished with a kymographion, electrical apparatus, calorimeter, and other instruments necessary for the study of the physiological action of medicines.

THE STILLÉ MEDICAL LIBRARY.—This Library, which was founded by Prof. Alfred Stillé for the purpose of promoting a spirit of scientific

research and literary culture, now contains over four thousand volumes. During the Winter and Spring Courses it is accessible to advanced students and graduates of the Medical Department under appropriate regulations.

THE LABORATORY BUILDING.

This building, recently constructed, is forty-six feet, six inches wide, and one hundred and fifty-one feet, six inches long, with a projection in the centre of the front on Spruce Street of three feet, and in the rear of fourteen feet, and corresponds architecturally with the other buildings of the University.

The first story is arranged for the Operating Room or Infirmary of the Dental Department, having the necessary waiting rooms, etc., carefully adapted to the requirements of this department. The entrance is from the centre on Spruce Street.

The second and third stories are fitted up as chemical laboratories, the second being the laboratory of General Chemistry, and the third that of Medical Chemistry. Each story is capable of affording accommodations for two hundred and sixteen students; so that, even if the total University class should reach six hundred, each student of chemistry could be furnished with his own table and apparatus. In addition to the main room, on each story, there are four balance rooms, divided from these large apartments by glass partitions.

The fourth story is entirely occupied by the Dissecting Room.

The entrance for the second, third, and fourth stories is from the rear and nearly opposite the south entrance door of the Medical Department. An elevator is arranged at this place for all the stories.

CHEMICAL LABORATORIES.—I. The Working Laboratory for Practical Chemistry, under the supervision of the Professor of Chemistry and the Demonstrator, with competent assistants. Students of the First Year devote five hours each week to the study of General Chemistry. The course includes chemical manipulations and the detailed study of the chemical reactions of the principal metals, acids, and their combinations; with the general principles of Qualitative Analysis, especially as they relate to the detection and separation of metals and compounds of interest to the physician. Each student is provided with a separate table and apparatus, and

is required to exhibit by formulæ, on paper, all reactions involved in his tests.

2. Students of the Second Year devote four hours per week to practical work in the laboratory. The course embraces an introduction to the general principles of Quantitative Analysis and the principles of Volumetric Analysis, with the practical examination of urine and animal fluids, and the recognition and recovery of poisons from the animal body and complex mixtures.

DISSECTING ROOM.—In constructing the new Dissecting Room of the University, care was taken to provide everything that experience suggested as being necessary or desirable. The room is at the top of the Laboratory Building, and bounded by its extreme dimensions. It is therefore one hundred and fifty-nine feet in length, by ninety-two feet in width. It is lighted by windows in the four sides, and by skylights in the ceiling. By this means, too, the most perfect ventilation is secured. There are gas burners over every table for work by night. Every table has a *stone* top, which cannot absorb the discharges and can be kept perfectly clean. There are numerous washstands and private closets for the use of each student. *Cleanliness* is rigidly enforced. The preservation of the cadaver has been so successfully accomplished as almost to do away with the dangers of dissecting wounds. Dissection is legalized in Pennsylvania.

The Room is open throughout the year (except in July and August), under the superintendence of the Professor of Anatomy and the Demonstrators.

PRACTICAL SURGERY.—The application of bandages and dressings, surgical operations on the cadaver are a part of the practical instructions to students of the Third Year, under the supervision of the Professors and Demonstrators of Surgery. Instruments, splints, and bandages are supplied free of cost.

THE HOSPITAL OF THE UNIVERSITY.

The University Hospital is an elegant and commodious edifice, constructed according to the best established principles of hospital architecture, and provided with all the appliances pertaining to such institutions of the first class. It is adjacent to the new Medical Hall, and forms an integral portion of the Medical Department.

There were treated in its various departments, during 1881, 6963 cases, representing almost all of the known medical, surgical, and gynæcological affections. Owing to its being situated within a very short distance of the great railroad depots, the Hospital is especially rich in cases of severe injury, and its acute surgery is almost unrivalled. Attendance on the Clinical Lectures delivered in its amphitheatres and its wards is a part of the daily duty of the students, and ample opportunities are afforded to the more advanced among them to gain a personal and practical acquaintance with Clinical Medicine, Surgery, Gynæcology, and the Specialties. These subjects are taught by the several Clinical Professors.

The resident physicians of the University Hospital are every year selected by competitive examination from among the graduating class of the University.*

OTHER HOSPITALS AND HOSPITAL CLINICS.

In addition to the official clinical lectures and bedside instruction delivered at the University Hospital, and the other diversified means of acquiring practical knowledge and skill which that Institution affords, medical students have the opportunity of attending clinical lectures in other Hospitals, as well as private classes formed for the special study of disease.

The PHILADELPHIA HOSPITAL, contiguous to the grounds of the University, contains one thousand beds; in it are delivered twice a week Clinical Lectures on Medicine, Surgery, and the Diseases of Women and Children. Lectures on Clinical Medicine and Surgery are also delivered twice a week during the greater part of the year by the Medical Staff of the PENNSYLVANIA HOSPITAL. Instruction in Clinical Surgery is also given at the CHILDREN'S HOSPITAL. To all these institutions students are admitted without charge, except at the Pennsylvania Hospital, where a small fee is now charged.

During the spring and summer *private* classes are also formed for Clinical Instruction, for which a moderate fee is required.

Appointments of RESIDENT PHYSICIANS, amounting to twenty-five or more, are made annually in the different Hospitals of the city. With one or two exceptions these positions are now filled by *competitive examination of candidates*.

* The competitive examination of candidates for the positions of Resident Physicians at the University Hospital is held at the Hospital at 12 M. on the day succeeding Commencement.

From the preceding summary it is evident that a prolonged residence in the city must be of the utmost value to the student, by enabling him to pursue a systematic course of study and to become practically familiar with the scientific methods of investigating disease, and with the principles and results of its treatment.

STILLÉ MEDICAL SOCIETY AND H. C. WOOD MEDICAL SOCIETY.

These Societies are composed of Second and Third year students. Their meetings are held once a week during the winter session for the reading and discussion of papers referring to the theory and practice of medicine.

PRIZES.

TWO PRIZES of One Hundred Dollars each will be awarded to the members of the Graduating Class of 1882-83 for the best Essays upon Medical subjects, provided such Essays are of sufficient merit to be worthy of publication.

One of these prizes has been instituted by the SOCIETY OF THE ALUMNI of the Medical Department of the University; the other has been authorized by a friend of the University.

A PRIZE of THIRTY DOLLARS will be awarded by the Demonstrator of Anatomy, Dr. C. T. HUNTER, to that member of the Graduating Class who shall present the best record of the anomalies found in the anatomical rooms.

A PRIZE of TWENTY DOLLARS will also be awarded by the Demonstrator for the best *vascular preparation*, which preparation will be placed in the Wistar and Horner Museum, with the name of the preparer attached.

MORBID ANATOMY PRIZE.—A prize of a Zentmayer's Histological Microscope will be awarded by the Professor of General Pathology and Morbid Anatomy, for the best thesis on any subject connected with Pathology, or Morbid Anatomy, illustrated by a set of not less than twelve microscopical preparations. The Essay must be presented as competing for the prize.

The names of those to whom the prizes are awarded are announced at the Annual Commencement of the Medical Department.

MATRICULATES, 1882-3.

MEDICAL DEPARTMENT.

STUDENTS OF THE THIRD YEAR.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Backus, Ogden	Rochester,	N. Y.	Azel Backus.
Barber, A. Walker	Doylestown,	Pa.	F. Swartzlander.
Bellerjean, Daniel V.	Trenton,	N. J.	W. W. L. Phillips.
Berens, Conrad, M.A. (Yale)	Philadelphia,	Pa.	B. Berens, Jr.
Bidwell, Edwin H., Ph.G.	Vineland,	N. J.	E. C. Bidwell.
Bliss, Arthur Ames, A.B. (Princeton)	Philadelphia,	Pa.	University of Pa.
Bliss, H. Dwight, B.S. (Univ. of Rochester)	Rochester,	N. Y.	John W. Whitbeck.
Bowman, Jacob Z.	Chambersburg,	Pa.	S. G. Lane.
Brooks, Frederick M.	Fairfax Station,	Va.	B. M. Collins.
Brooks, Joseph W.	Philadelphia,	Pa.	A. Harshberger.
Burger, Anthony J., B.S. (Notre Dame, Ind.)	Reading,	Pa.	T. J. Ellinger.
Carothers, J. Weller	Milton,	Pa.	C. H. Dougal.
Carr, William H.	St. Clair,	Pa.	A. P. Carr.
Charlton, William S.	Philadelphia,	Pa.	University of Pa.
Cheston, Radcliffe	West River,	Md.	D. Murray Cheston.
Chrystie, Walter	High Bridge,	N. J.	University of Pa.
Clemens, Brentano	Easton,	Pa.	University of Pa.
Codding, Charles L.	Towanda,	Pa.	C. K. Ladd.
Collins, Thomas S., Ph.G.	Woodbury,	N. J.	D. D. Richardson.
Cooper, J. Cardeen	Camden,	Del.	Ezekiel T. Cooper.
Costa, Leopoldo M. da, A.B. (Nat. Lyceum, Lisbon)	São Paulo,	Brazil, S.A.	University of Pa.
Cox, Charles N.	Philadelphia,	Pa.	H. Kratz.
Crane, H. Bedell, Ph.G.	Newton,	N. J.	University of Pa.
Crawford, Joel	Reams,	Va.	Jno. J. Crawford.
Culpeper, William A.	Barbadoes,	W. I.	University of Pa.
Cuebas, Manuel J. de las A. B. (Coll. of Santiago)	Santiago,	Cuba, W.I.	University of Pa.
Custer, David D.	Fairview Village,	Pa.	Geo. K. Meschter.
Dibrell, Edwin R., M.D.	Van Buren,	Ark.	Ark. State University.
Ecroyd, Henry, Jr.	Muncy,	Pa.	Wm. M. Rankin.
Eschbach, H. Clay, A.B. (Franklin and Marshall)	Limestoneville,	Pa.	George Johnson.
Field, Benjamin Rush	Easton,	Pa.	C. C. Field.
Fronfield, J. Harvey	West Chester,	Pa.	Isaac Massey.
Garden, Henry M.	Philadelphia,	Pa.	University of Pa.
Gibson, Maris	Guthrieville,	Pa.	University of Pa.
Gloninger, Andrew B., A.B. (Franklin and Marshall)	Lebanon,	Pa.	Wm. M. Guilford.
Grier, Edgar B.	Birmingham,	Pa.	John Fay.
Gumaer, Adelbert George, B. S. (Univ. of Mich.)	Alabama,	N. Y.	University of Mich.
Hamersly, William H., B.S.	Catasauqua,	Pa.	M. E. Hornbeck.
Hamilton, Isaac Beeson, A.B. (Wash. and Jefferson)	Washington,	Pa.	University of Pa.
Harris, Harry C.	Lansdowne,	Pa.	E. W. Holmes.
Hartmann, John J., M.D.	Philadelphia,	Pa.	Jefferson Med. College.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Hawes, Earl P., D.D.S.	Providence,	R. I.	University of Pa.
Haworth, Elwood B.	Philadelphia,	Pa.	J. W. Mecasky and W. E. Ashton.
Hedges, Ellis W., A.B. (Prince- ton)	Chester,	N. J.	S. E. Hedges.
Heebner, Thomas F.	Port Carbon,	Pa.	G. W. Brown and T. J. Birch.
Hickman, Harbeson, Jr.	Lewes,	Del.	Hiram Burton.
Himinez, Roberto	Costa Rica,	C. Amer.	University of Pa.
Hirst, Barton Cooke	Philadelphia,	Pa.	University of Pa.
Hoffman, Joseph E., A.B. (Lafayette)	Danville,	Pa.	Jas. D. Strawbridge.
Hopkinson, Oliver, Jr., A.B. (Univ. of Pa.)	Philadelphia,	Pa.	J. M. Keating.
Ingram, James H.	Vineland,	N. J.	University of Pa.
Johnson, Frederick C.	Wilkes-Barre,	Pa.	University of Pa.
Johnson, Richard G.	Amsterdam,	N. Y.	Robb and Stover.
Johnson, William N., A.B. (Univ. of Pa.)	Germantown,	Pa.	A. S. Roberts.
Jordan, J. Murray, B.S. (Princeton)	Philadelphia,	Pa.	R. G. Curtin.
Junkin, George, Jr., A.B. (Univ. of Pa.)	Philadelphia,	Pa.	Wm. W. Keen.
Keys, T. Frank, Ph.G.	Philadelphia,	Pa.	Wm. G. Porter.
Krecker, William H., A.M. (Central High School)	Philadelphia,	Pa.	Louis W. Hildenbrand
Lowrie, William L.	Warrior's Mark,	Pa.	University of Pa.
McIntire, Frank H.	Boston,	Mass.	University of Pa.
MacIntosh, William	Philadelphia,	Pa.	Wm. Gardener and A. W. Miller.
Maher, Andrew J.	Williamstown,	Pa.	P. Clarence McGill.
Martin, Edward, A.M. (Swarthmore)	Philadelphia,	Pa.	University of Pa.
Mateer, Horace N., A.M. (Princeton)	Mechanicsburg,	Pa.	University of Pa.
Matson, Eugene G., Ph.B.	Brookville,	Pa.	C. M. & W. F. Matson.
Mazarredo Federico de, A.B. (Institute of Havana)	Cienfuegos,	Cuba, W. I.	Ramon de Mazarredo.
Mercur, William H.	Towanda,	Pa.	C. K. Ladd.
Mewhinney, James C.	Barren Hill,	Pa.	B. R. Peltz.
Millsbaugh, Jesse F., A.B. (Univ. of Michigan)	Battle Creek,	Mich.	J. M. C. Adams.
Mitchell, James, A.B. (Franklin and Marshall)	Lancaster,	Pa.	D. F. Woods.
Mitchell, John K.	Philadelphia,	Pa.	Wm. W. Keen.
Montgomery, Guy Rochester	Rochester,	N. Y.	W. S. Ely.
Neal, James B., A.B., PhB. (Yale)	Bloomsburg,	Pa.	Jas. D. Strawbridge.
Norton, Albert E.	Philadelphia,	Pa.	University of Pa.
Novosselsky, Constantine, A.M. (Univ. of St. Petersburg)	St. Petersburg,	Russia.	Henry E. Dwight.
O'Brien, Thomas C.	Conshohocken,	Pa.	Hiram Corson.
Patterson, Thomas J.	Pittsburg,	Pa.	Thos. J. Gallaher.
Pershing, Howell Terry, M.S. (Lafayette)	Pottsville,	Pa.	A. H. Halberstadt and O. F. Harvey.
Pettit, Louis Clark, Ph.G.	New Lisbon,	Ohio.	University of Pa.
Prætorius, Gilbert G.	Wilkes Barre,	Pa.	University of Pa.
Preston, George Junkin, A.B. (Wash. and Lee Univ.)	Lexington,	Va.	University of Va.
Pyle, Joseph P., Ph.B. (Del. College)	New Castle,	Del.	John J. Black.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Raht, William E.	Chattanooga,	Tenn.	D. G. Curtis.
Randall, Edward, Jr.	Galveston,	Texas.	Edw. Randall.
Rankin, James R.	Muncy,	Pa.	Wm. M. Rankin.
Read, Harry C.	Philadelphia,	Pa.	R. G. Curtin.
Rehfuss, Emil G., Ph.G.	Philadelphia,	Pa.	Geo. W. Vogler.
Reimann, Louis P., Ph.G.	Buffalo,	N. Y.	James B. Walker.
Reynolds, Conrad S.	Rising Sun,	Md.	L. R. Kirk.
Rishel, George P., A.B. (Pa. State College)	Bellefonte,	Pa.	T. R. Hays.
Ruhl, John H.	Middletown,	Pa.	University of Pa.
Schloss, Aaron	Columbus,	Ind.	Jno. B. Grove.
Seibert, James L.	Newport,	Pa.	H. O. Orris.
Seiss, Ralph W.	Philadelphia,	Pa.	University of Pa.
Smedley, Harry L., D.D.S., Ph.G.	Media,	Pa.	University of Pa.
Smith, Frank F., A.B. (Dart- mouth)	Battle Creek,	Mich.	J. H. Kellog.
Stewart, Walter S.	Snow Shoe,	Pa.	M. Stewart.
Stokes, Joseph, A.B. (Univ. of Pa.)	Moorestown,	N. J.	N. Newlin Stokes.
Stricker, Paul	Leipzig,	Germany.	N. A. Randolph and H. F. Formad.
Summerell, E. Mitchell, A.B. (Davidson College, N. C.)	Salisbury,	N. C.	J. J. Summerell.
Summers, S. Lewis	Philadelphia,	Pa.	M. A. Wood.
Taylor, Fred. A., A.B. (Univ. of Rochester)	Rochester,	N. Y.	E. M. Moore.
Terrill, George M., Ph.G.	Salem,	Va.	Geo. P. Terrill.
Tremblay, Ascencio O. du	Santiago,	Cuba, W. I.	John Reynolds.
Trotter, Spencer	Philadelphia,	Pa.	Geo. R. Morehouse.
Urquhart, D. Colin	Philadelphia,	Pa.	H. E. Goodman.
Voorhees, Nathaniel W., Jr., A. B. (Rutgers College)	Clinton,	N. J.	University of Pa.
Walsh, Edward F.	Pittston,	Pa.	R. H. Gibbons.
Walter, William W.	Leavenworth,	Kansas.	S. F. Neely.
Wentz, David Heist, A.B.	Fitzwatertown,	Pa.	University of Pa.
West, George R., B.S. (Emory and Henry)	Rome,	Geo.	R. Battey.
Whitney, George F.	Pottsville,	Pa.	University of Pa.
Wilkinson, George P.	Keokuk,	Iowa.	T. B. Reed.
Wilson, Matthew J., Ph.G.	Philadelphia,	Pa.	F. X. Dercum.
Young, George M.	Indiana,	Pa.	A. F. Purington.
Young, James K.	Trenton,	N. J.	Wm. G. Porter and Dav. Warman.

116

STUDENTS OF THE SECOND YEAR.

Abbott, William L., A.B. (Univ. of Pa.)	Philadelphia,	Pa.	R. A. F. Penrose.
Bachman, Archibald C.	Easton,	Pa.	A. C. Transue.
Baldy, John M.	Danville,	Pa.	J. D. Strawbridge.
Bartleson, Harry C.	Clifton Heights,	Pa.	S. P. Bartleson.
Barr, Martin W.	Middleton,	Del.	W. H. Barr.
Batchelor, William A., A.M. (Marietta Coll., O.)	Elgin,	Ill.	University of Pa.
Batt, Wilmer R.	Phoenixville,	Pa.	John B. Deaver.
Bergey, David H.	Skippack,	Pa.	Sam'l Wolfe.
Bodamer, George A.	Philadelphia,	Pa.	H. F. Formad.
Bowen, William H.	New York,	N. Y.	A. G. Walls and R. G. Curtin.
Bradford, John Marion, Ph.G.	Philadelphia,	Pa.	John Ashhurst, Jr.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Bradford, Thomas B.	Dover,	Del.	E. T. Bruen.
Breneman, Park P.	Strasburg,	Pa.	J. H. Musser.
Brinkman, Morris W., B.A.	Philadelphia,	Pa.	Jno. B. Deaver.
Bucher, John C.	Lebanon,	Pa.	I. R. Bucher.
Cantwell, Frank V.	Trenton,	N. J.	T. H. Mackenzie.
Carothers, Edward J.	San Antonio,	Texas.	University of Pa.
Carson, Thomas H.	Fallowfield,	Pa.	J. G. Scott.
Cassel, George L.	Marietta,	Pa.	H. M. Alexander and J. H. Grove.
Collmar, Charles	Easton,	Pa.	University of Pa.
Curran, James M.	Cross Roads,	Pa.	Thomas M. Curran.
Daggett, William Gibbons, A.B. (Yale)	New Haven,	Conn.	University of Pa.
Delpeuch, William J., A.B. (Princeton)	Sheshequin,	Pa.	S. M. Woodburn.
Diven, Samuel L., A.M. (Dickinson College)	Harrisburg,	Pa.	S. B. Kieffer.
Dock, George	Harrisburg,	Pa.	C. A. Rhaça.
Douglas, Henry S., A.B. (Univ. of Vt.)	Kansas City,	Mo.	L. M. Bingham.
Duplan, Ernesto	Minatitlan,	Mexico.	H. F. Formad.
Evans, Elmer E.	Lititz,	Pa.	P. J. Roebuck.
Evans, Evan W.	Easton,	Pa.	C. C. Field.
Evans, Franklin J.	Chester,	Pa.	J. L. Forwood.
Farquhar, Charles T. N.	Bentlyville,	Pa.	Q. C. Farquhar.
Fithian, Frank, A.B. (Centre College, Ky.)	Paris,	Ky.	Jos. Fithian.
Florence, Egbert	Mooroopna,	Australia.	Fitzgerald and Ran- dolph.
Fussell, M. Howard	Radnor,	Pa.	John G. Thomas.
Gaul, C. Reese	Reading,	Pa.	University of Pa.
Gauntt, Franklin J.	Burlington,	N. J.	Franklin Gauntt.
Gery, Ambrose M.	Seisholtzville,	Pa.	J. A. Roth.
Glover, Samuel P.	Hartleton,	Pa.	M. L. Mench.
Greenewalt, John C.	Fayetteville,	Pa.	S. G. Lane.
Hamaker, Winters D., A.B. (Wash. and Jefferson)	Schellsburg,	Pa.	University of Pa.
Hare, Hobart Amory	Philadelphia,	Pa.	D. Hayes Agnew.
Hirsh, Charles E.	Staunton,	Va.	University of Pa.
Hodgdon, Alexander L.	Philadelphia,	Pa.	H. C. Wood.
Hoobaugh, John U., A.B. (Franklin and Marshall)	Green Park,	Pa.	S. B. Kieffer.
Howell, William G., Jr.	Philadelphia,	Pa.	J. B. Weston.
Hunter, N. Perry, A.B. (Cor- nell)	Jasper,	N. Y.	B. G. Wilder.
Jack, Louis, Jr.	Media,	Pa.	University of Pa.
Jenkins, Stephen R.	Charlottetown,	P. E. I.	John T. Jenkins.
Jennings, John E.	Harrisburg,	Pa.	Thomas J. Dunott.
Jones, Irvin C.	Philadelphia,	Pa.	J. Wm. White.
Joy, J. Addison, A.B. (Am- herst)	East Hampton,	Mass.	W. M. Trow.
Judge, John P., A.M. (Mt. St. Mary's Coll.)	Philadelphia,	Pa.	University of Pa.
Junco, Leoncio del, A.M.	Matanzas,	Cuba.	University of Pa.
Leaman, William G.	Bleak House,	Pa.	University of Pa.
Lemos, Odorico G. de	Para,	Brazil, S.A.	University of Pa.
Little, George	Pottsville,	Pa.	J. T. Carpenter.
Luce, John E.	Red Wing,	Minn.	University of Pa.
Lynd, Robert S.	Philadelphia,	Pa.	University of Pa.
Marvel, Philip	Dover,	Del.	E. W. Cooper.
Mastin, Claude H., Jr.	Mobile,	Ala.	C. H. Mastin.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Millington, Benjamin F.	St. Clair,	Pa.	A. P. Carr.
Montgomery, P. Brough	Chambersburg,	Pa.	John Montgomery.
Moore, William A.	Rochester,	N. Y.	E. H. Howard.
Morrow, Charles H.	Gloucester,	Mass.	University of Pa.
Mosteller, William H.	Kimberton,	Pa.	John B. Deaver.
Moyer, Alfred C.	Allentown,	Pa.	Orlando Fegley.
McAlister, Alexander, Ph.G.	Camden,	N. J.	University of Pa.
McBride, Thomas B.	Philadelphia,	Pa.	University of Pa.
Newton, George W.	Marlboro'	Mass.	C. G. Carleton.
Novaes, Francisco de P.	São Paulo,	Brazil, S.A.	University of Pa.
Orr, William P.	Lewes,	Del.	University of Pa.
Penrose, Charles B., A.B. (Harvard)	Philadelphia,	Pa.	R. A. F. Penrose.
Peters, Howard Vance, A.B.	Philadelphia,	Pa.	J. K. Knorr.
Pierce, William R.	Amsterdam,	N. Y.	Robb and Stover.
Powell, William M.	Philadelphia,	Pa.	University of Pa.
Power, David P., A.B. (Wash. and Jefferson)	McKeesport,	Pa.	W. F. Knox.
Prendergast, James F.	Binghamton,	N. Y.	G. and D. S. Burr.
Prettyman, John S., Jr.	Milford,	Del.	J. S. Prettyman.
Raughley, William C.	Dover,	Del.	A. H. Bishop.
Renz, Gustav A., Ph.G.	St. Paul,	Minn.	W. A. Burns.
Richardson, Rodney H., Ph.B. (Delaware College)	Lewes,	Del.	David Hall.
Robb, Hunter	Burlington,	N. J.	J. Howard Pugh.
Robinson, Oliver D.	Georgetown,	Del.	University of Pa.
Robison, Milton A.	Williamsport,	Pa.	Alvin G. Hill.
Roderer, John F.	Philadelphia,	Pa.	Wm. R. Cruice.
Ropp, John B.	Delaware,	Ohio.	University of Pa.
Scott, John B., A.B. (Wesleyan Coll., Conn.)	Philadelphia,	Pa.	H. C. Wood.
Semple, William O., Ph.B. (Lafayette)	Easton,	Pa.	Traill Green.
Shaver, William D.	Plymouth,	Pa.	University of Pa.
Sherraden, William H.	Council Bluffs,	Iowa.	University of Pa.
Simpson, Maxwell G., M.A. (Lafayette College)	Parkesburg,	Pa.	University of Pa.
Skinner, Harry	Philadelphia,	Pa.	University of Pa.
Steer, Edgar H.	Waterford,	Va.	Jas. B. Walker.
Stout, Charles P., Ph.G.	Florence,	N. J.	Charles H. Thomas.
Sykes, Henry	Fredericton,	N. B.	University of Pa.
Temple, William H., Jr.	White Plains,	Va.	University of Pa.
Tovar, Luis F.	Bogota, U.S. of	Colombia.	University of Pa.
Trumbull, John Heyward, Ph.B. (Yale)	Talcahuano,	Chili, S.A.	University of Pa.
Van Horn, Alfred F.	Catasauqua,	Pa.	M. E. Hornbuck.
Van Loon, William F., Ph.B. (Wesleyan Univ.)	Wilkes-Barre,	Pa.	University of Pa.
Wallis, J. Edward, Ph.G.	Philadelphia,	Pa.	J. M. Wallis.
Weida, Jerome B.	Long Swamp,	Pa.	J. F. and P. W. Wertz.
Whitney, Harry Leroy	Plymouth,	Pa.	University of Pa.
Williams, Charles N.	Wellsboro',	Pa.	C. W. Webb.
Wilson, Cunningham	Birmingham,	Ala.	J. W. Sears.
Wilson, Harry D.	Trenton,	N. J.	H. D. Brock.
Winner, William G.	Newberry,	Pa.	University of Pa.
Woodnutt, Clement A.	Philadelphia,	Pa.	University of Pa.
Wood, Stephen Carroll	New York,	N. Y.	University of Pa.
Zuill, William L., D.V.S.	Philadelphia,	Pa.	Munroe Bond.

STUDENTS OF THE FIRST YEAR.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Albright, Titus	Hilltown,	Pa.	Harvey Kratz.
Alexander, Reid	Dudley,	Ill.	M. Rowe.
Allyn, Herman B., A.B. (Univ. of Pa.)	Philadelphia,	Pa.	University of Pa.
Atlee, John L., A.B. (Franklin and Marshall)	Lancaster,	Pa.	John L. Atlee.
Bailey, Henry T.	Tremont,	Pa.	Wm. G. Knittle.
Bakewell, Benjamin C.	Pittsburg,	Pa.	C. B. King.
Ball, Lewis Heisler, Ph.B. (Delaware College)	Stanton,	Del.	S. Chandler.
Bartholomew, Calvin E.	Lehighon,	Pa.	N. B. Reber.
Beckly, Joseph R.	Lebanon,	Pa.	Samuel Weiss.
Birney, David Bell, A.B. (Univ. of Pa.)	Philadelphia,	Pa.	University of Pa.
Boom, Harry Herbert	Philadelphia,	Pa.	University of Pa.
Bower, Thomas Charles	Philadelphia,	Pa.	Morris Fussell.
Boyd, Robert H., A.B. (Lafayette)	Belvidere,	N. J.	University of Pa.
Brader, William B.	White Haven,	Pa.	University of Pa.
Bratton, Howard, A.B. (Princeton)	Elkton,	Md.	H. H. Mitchell.
Bulett, Wilbur W.	Constitution,	Pa.	Thomas M. Curran.
Burt, Alfred F., A.B. (Princeton)	Philadelphia,	Pa.	University of Pa.
Butler, William J.	Pittston,	Pa.	W. G. Weaver.
Cameron, Markley C.	Pittsburg,	Pa.	H. H. Clark.
Carson, Alfred D., Ph.D. (Lyceum of Valparaiso)	Valparaiso,	Chili, S.A.	University of Pa.
Clark, George A.	Green Village,	Pa.	David Maclay.
Coburn, Clinton C.	Germantown,	Ky.	E. C. Dimmitt.
Cochrane, William R., Ph.B. (Western Univ.)	Philadelphia,	Pa.	University of Pa.
Conover, Ellsworth Elmer	Clinton,	N. J.	John F. Grandin.
Cooke, Dudley T., A.B. (Central High School)	Philadelphia,	Pa.	University of Pa.
Cummings, Michael W.	Moxahala,	Ohio.	J. E. O'Brien.
Day, F. Hawley	Wilmington,	Del.	Wm. G. Nowell.
Deaver, Harry Clay	Buck,	Pa.	J. M. & J. B. Deaver.
Depue, Barclay H.	Harmony,	N. J.	James D. De Witt.
Dingee, Charles	Newportville,	Pa.	Richard Dingee.
Edsall, Frank H.	Hamburg,	N. J.	University of Pa.
Elmer, Matthew K., A.B. (Princeton)	Bridgeton,	N. J.	University of Pa.
Evans, William	Darling,	Pa.	University of Pa.
Farquhar, Charles	Olney,	Md.	University of Pa.
Freas, Henry M., A.B. (Pa. College)	Barren Hill,	Pa.	Charles Baum.
Gallagher, W. Moorehouse	Holidaysburg,	Pa.	D. S. Hays.
Geissel, Albert E.	Philadelphia,	Pa.	University of Pa.
Goodell, William C.	Philadelphia,	Pa.	H. R. Wharton.
Griffith, Elijah	Pittston,	Pa.	A. A. Barton.
Grimm, Nathan P.	West Chester,	Pa.	Isaac Massey.
Guiteras, Gregorio M., A.M. (La Salle College)	Matanzas,	Cuba.	John Guiteras.
Henderson, William B.	Lewistown,	Pa.	J. L. Henderson.
Herman, George C.	Maxatawny,	Pa.	A. C. S. Herman.
Herr, William M.	Lancaster,	Pa.	W. F. Muhlenberg.
Hines, Peter	Ashley,	Pa.	R. T. Hylton.
Hite, J. Edward	Kansas,	Ill.	H. D. Bixby.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Huston, William O., A.B. (Westminster Coll.)	West Fairfield,	Pa.	University of Pa.
Jelovitz, Meier L.	Philadelphia,	Pa.	L. W. Steinback.
Johnson, William H.	Hartford,	Conn.	Robert J. Hess.
Jones, Fremont C.	Ebensburg,	Pa.	Griffith & Zimmerman.
Jones, Oliver B.	Philadelphia,	Pa.	George Yeoman.
Kelley, John A.	Pittston,	Pa.	W. L. Hartman.
Kenney, Edward Luther, A.B. (Lafayette)	Griggsville,	Ill.	L. J. Harvey.
King, Thomas D., A.B. (Princeton)	Springfield,	Ohio.	Alex. Dunlap.
Kittredge, Frank E.	Nashua,	N. H.	University of Pa.
Kreps, John J.	Clear Spring,	Md.	Abram Shank.
Lane, Samuel Louis	New Castle,	Del.	J. J. Black.
Learned, William T., A.B. (Brown Univ.)	Fall River,	Mass.	University of Pa.
Lincoln, Mark H.	Laurelton,	Pa.	M. L. Mench.
Lott, William C., A.B. (Brown Univ.)	Bridgeton,	N. J.	University of Pa.
Marcy, John W.	Camden,	N. J.	Alex. Marcy.
Mason, Julius A.	Ft. Huachacua,	Arizona.	E. D. Payne.
Mengel, Matt S.	Reading,	Pa.	University of Pa.
Merkel, Horace E.	Minersville,	Pa.	John T. Carpenter.
Miller, Asher D.	Manor Station,	Pa.	J. N. Leyda.
Miller, George B. McClellan	Philadelphia,	Pa.	J. M. Anders.
Morton, Thomas S. K.	Philadelphia,	Pa.	D. Hayes Agnew.
Musser, F. Reber	Muncy,	Pa.	Cornell University.
McClees, William D.	Columbia,	N. C.	University of Pa.
Nichols, William V.	Chester,	N. J.	University of Pa.
Novaes, Emygdio Dias	Rio de Janeiro,	Brazil, S.A.	University of Pa.
Packard, Frederick A., B.A. (Univ. of Pa.)	Philadelphia,	Pa.	John H. Packard.
Pike, Charles P.	Philadelphia,	Pa.	University of Pa.
Porter, William E.	Brackton,	Mass.	E. A. Chase.
Potts, Charles S., A.B. (Central High School)	Philadelphia,	Pa.	University of Pa.
Pritchard, Frederick, A.B.	New Lisbon,	Ohio.	University of Pa.
Reap, George B.	Pittston,	Pa.	R. H. Gibbons.
Rhoads, Edward G.	Wilmington,	Del.	University of Pa.
Rickert, Charles M.	Gratz,	Pa.	University of Pa.
Riera, John H.	Philadelphia,	Pa.	University of Pa.
Ring, G. Oram, A.B. (Central High School)	Philadelphia,	Pa.	University of Pa.
Riva, Ferdinand E., A.B. (Institute of Havana)	New Brunswick,	N. J.	C. M. Slack.
Roberts, Thomas S.	Minneapolis,	Minn.	University of Pa.
Robeson, William F., B.S. (Dickinson Seminary)	Lewistown,	Pa.	University of Pa.
Rowe, Charles	Dudley,	Ill.	M. Rowe.
Rowe, Ross B., A.B. (Princeton)	Strasburg,	Pa.	University of Pa.
Schnabel, Edwin D., M.E.	Hecktown,	Pa.	Richard H. Beck.
Scott, Henry	Fall River,	Mass.	J. B. Chagnon.
Scull, William B.	Philadelphia,	Pa.	University of Pa.
Shaw, Frank L.	Blackwood,	N. J.	D. D. Richardson.
Shaw, Joseph B.	Trenton,	N. J.	H. W. Coleman.
Shober, John Bidford, A.B.	Philadelphia,	Pa.	University of Pa.
Shoemaker, Harvey	Philadelphia,	Pa.	University of Pa.
Small, Edward H., A.B. (Princeton)	Mercer,	Pa.	M. M. Magoffin.
Stephens, Frank M.	Bentleysville,	Pa.	J. Y. Scott.

NAME.	POST OFFICE.	STATE.	PRECEPTOR.
Stetler, Howard S., A.B. (Univ. of Pa.)	Philadelphia,	Pa.	John G. Stetler.
Stone, Ralph Lane	Norristown,	Pa.	John C. Spear.
Strouse, Frederick M.	St. Paul,	Minn.	H. Hoegh.
Struble, William McD.	Trenton,	N. J.	Charles B. Leavitt.
Swaney, Herbert N.	Meadville,	Pa.	John S. Eagleson.
Taubel, Louis Edward, A.B. (Ursinus Coll., Pa.)	Philadelphia,	Pa.	Joseph Hearn.
Taylor, George B.	Towanda,	Pa.	C. K. Ladd.
Taylor, George Y., A.B. (Princeton)	Burlington,	N. J.	University of Pa.
Taylor, John F.	Brownsville,	Pa.	University of Pa.
Tull, M. Graham, A.B. (Lafayette)	Philadelphia,	Pa.	University of Pa.
Van Pelt, William T.	Philadelphia,	Pa.	Jos. K. T. Van Pelt.
Wallace, Charles H.	New Castle,	Del.	John J. Black.
Weaver, Daniel B., A.B. (Yale)	Strasburg,	Pa.	John H. Musser.
White, William C.	Springfield,	Mass.	W. H. White.
Whitehead, John	Trenton,	N. J.	H. W. Coleman.
Whittin, James L.	Philadelphia,	Pa.	University of Pa.
Wilson, Charles H.	Philadelphia,	Pa.	Louis Starr.
Wilson, Edwin Frazer, A.B. (Kenyon College)	Mt. Vernon,	Ohio.	J. C. Gordon.
Woodruff, Robert A.	Lewistown,	Pa.	University of Pa.
Ziegler, S. Lewis, A.B. (Univ. at Lewisburg, Pa.)	Lewisburg,	Pa.	P. S. Carpenter.

115

STUDENTS ON THE OLD PLAN (SECOND YEAR).

Mecum, George	Salem,	N. J.	University of Pa.
Warren, Harry B.	West Chester,	Pa.	John L. Warren.

SPECIAL STUDENTS.

Bailey, Edgar C.	Macon,	Ga.	University of Pa.
Coates, C. Crawford	Philadelphia,	Pa.	University of Pa.
Cock, George B.	Yardleyville,	Pa.	C. A. Groff.
Young, James M.	Easton,	Pa.	University of Pa.
Perry, Hext M., M.D.	Philadelphia,	Pa.	Jefferson Med. Coll.
Pfouts, Gilbert B.	Wilkes-Barre,	Pa.	James Tyson.
Remsen, Robert G., Jr., M.D.	New York,	N. Y.	John Marshall.
Supple, William D.	Philadelphia,	Pa.	University of Pa.

POST-GRADUATE STUDENTS.

Bagg, John S., M.D.	W. Springfield,	Mass.	University of Pa.
Camp, Herbert M., M.D.	Painesville,	Ohio.	University of Pa.
Chandler, James H., M.D.	Barbadoes,	W. I.	University of Pa.
Cox, Charles J., M.D.	Pubnico,	N. Scotia,	University of Pa.
Davidson, Augustus R., M.D.	Buffalo,	N. Y.	University of Buffalo.
Dowlin, Clifton, M.D.	Downingtown,	Pa.	University of Pa.
Gates, William S., A.B., M.D.	Chicago,	Ill.	Chicago Med. College.
Gray, Mason W., B.S., M.D.	Pontiac,	Mich.	University of Mich.
Griffith, W. P. Crozer, M.D.	Philadelphia,	Pa.	University of Pa.
Kempf, Edward J., M.D.	Ferdinand,	Ind.	Univ. of Louisville.
Klump, John A., D.D.S., M.D.	Harrington,	Del.	University of Pa.
Price, Anselm D., M.D.	Harrodsburg,	Ky.	Univ. of Louisville.
Ray, Frederick H., M.D.	Saratoga Springs,	N. Y.	Albany Med. College.
Tallmadge, Andrew T., M.D.	Keeseville,	N. Y.	L. I. Coll. Hospital.
Whistler, Samuel M., M.D.	Wilson,	Kansas.	University of Pa.
Wuchter, George H., M.D.	Akron,	Ohio.	University of Pa.

TOTAL.

Students of the third year	116
Students of the second year	110
Students of the first year	115
Students on the old plan	2
Special Students	8
Post-graduate Students	16
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	367

The total number of new matriculates the present session, including those admitted to advanced standing, is 147.

SUMMARY.

Alabama	2	Michigan	3
Arizona	1	Minnesota	4
Arkansas	1	Missouri	1
Australia	1	New Brunswick	1
Barbadoes	2	New Hampshire	1
Brazil	4	New Jersey	31
Chili	2	New York	17
Connecticut	2	North Carolina	2
Costa Rica	1	Nova Scotia	1
Cuba	5	Ohio	8
Delaware	17	Pennsylvania	214
Georgia	2	Prince Edward Island	1
Germany	1	Rhode Island	1
Illinois	6	Russia	1
Indiana	2	Tennessee	1
Iowa	2	Texas	1
Kansas	2	U. S. of Colombia	2
Kentucky	2	Virginia	7
Maryland	5		
Massachusetts	9	Total	<hr/> 367
Mexico	1		

AUXILIARY DEPARTMENT OF MEDICINE.

FACULTY.

WILLIAM PEPPER, A.M., M.D., PROVOST OF THE UNIVERSITY, and *ex-officio*
President of the Faculty.

JOHN J. REESE, A.M., M.D., Professor of Medical Jurisprudence and Toxicology.

SAMUEL B. HOWELL, M.D., Professor of Mineralogy and Geology.

JOSEPH T. ROTHROCK, B.S., M.D., Professor of Botany.

JOSEPH G. RICHARDSON, M.D., Professor of Hygiene.

ANDREW J. PARKER, M.D., Ph.D., Professor of Comparative Anatomy and
Zoölogy.

SAMUEL B. HOWELL, M.D., *Dean*.

The AUXILIARY FACULTY OF MEDICINE was constituted a distinct Department by the Board of Trustees in the year 1865, for the purpose of supplementing the ordinary winter course of medical instruction by lectures given during the spring months on certain collateral branches of science.

This Department, although not incorporated with that of Medicine proper, gives instruction upon various subjects, whose study is strongly recommended by the Trustees as essential to the thorough education of the physician. On this account the lectures of the Auxiliary Department of Medicine are made free to all matriculates and graduates of the Medical Department of the University. To others, a fee of ten dollars is charged for each professor's ticket, or thirty-five dollars for the whole course.

The lectures are open to all students under the above regulations; but the nature of the subjects taught is such, that for their proper understanding, the student should have previously attended at least two sessions of the usual winter lectures. In fact, this course may be regarded as essentially a *post-graduate course*. Hence, the Faculty earnestly recommend that at least one of its sessions should be attended, if possible, after graduation in medicine.

The course of instruction, although strictly collateral to medicine, is largely scientific in its character; and the Trustees of the University have, therefore, decided to confer the degree of Bachelor of Science (B. S.) upon those graduates in medicine of the University, or of other recognized schools, who shall have attended two full courses of lectures in the Auxiliary Department of Medicine, and have passed a satisfactory examination before the Fac-

ulty, and presented an original thesis on some one of the subjects taught.

Graduates of Medicine who have matriculated in the Auxiliary Department of Medicine before June, 1880, on complying with the then existing conditions, will receive the degree of Doctor of Philosophy.*

The Faculty desire it to be understood that their examination-standard for a degree is necessarily a high one: to lower it, would only render a degree worthless to the recipient, and a discredit to the University. As a further stimulus to the student, the "Alumni Association of the Auxiliary Department of Medicine" have lately founded an annual prize—the "George B. Wood prize"—to be bestowed on that candidate who shall pass the best examination, and who shall present the best original thesis on an experimental subject which shall be satisfactory to the Faculty.

Wishing to promote original investigation, R. & J. Beck, opticians, through their manager, W. H. Walmsley, offer for competition at the coming session one of their new "Ideal" microscopes, complete, of the value of seventy-five dollars, to the author of the best and most practical paper illustrative of any Department of Natural History, preference being given to Human Anatomy and Botany, worked out by the aid of the microscope, and to be accompanied by prepared objects or drawings of the subject-matter.

When a candidate applies to the Dean for examination, he must exhibit his medical diploma and the tickets of this Faculty, to show that the regulations have been complied with.

A thesis may be published by the candidate, if he desires it, on obtaining the permission of the Faculty.

The thesis must be presented to the Dean on or before the 15th of May.

The candidate shall pay the graduation fee of ten dollars, on the presentation of his thesis.

A degree will not be conferred upon a candidate who absents himself from the public commencement, except by special permission of the Faculty.

The session for 1883 will commence on Monday, March 5th, and continue until the early part of June. Three lectures a week will be given by each professor.

* Minutes of the Board of Trustees.

These lectures are also open to those who are not engaged in the study of medicine; and they afford an excellent opportunity to teachers and others, who may be desirous of acquiring a knowledge of the subjects taught. Tickets may be obtained from the Dean, either for the whole course of lectures, or for those on a single branch.

The following is a brief summary of the different branches taught by the Faculty:—

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

PROF. JOHN J. REESE, M.D.

In this department the following topics will be included, embracing especially those subjects of legal medicine on which the physician may be called upon to give evidence in a court of justice:—

Signs of Death; Personal Identity (*identification of the living and the dead*); Feigned Diseases; Violent Deaths (*homicidal and suicidal*) from (a) *wounds*; (b) *hanging*; (c) *strangling*; (d) *suffocation*; (e) *drowning*; (f) *heat*; (g) *cold*; (h) *starvation*; (i) *lightning*; (k) *poisoning*.
 Infanticide and Criminal Abortion; Signs of Pregnancy and of Delivery; Legitimacy; Rape; Survivorship.
 The Jurisprudence of Insanity (*civil and criminal responsibility; feigned insanity; rights of the insane; plea of insanity as a bar to judicial punishment*).
 The Legal Rights and Liabilities of Physicians; Medical Experts—their rights and compensation.
 Life Insurance in its medico-legal relations.

The lectures on Toxicology will embrace a thorough examination of all the points connected with *poisoning*, with special reference to *testing*; and also the modes of procedure in order to determine the presence of poisons in cases of homicide and suicide.

MINERALOGY AND GEOLOGY.

PROF. SAMUEL B. HOWELL, M.D.

In this department the following subjects will be included:—

Lectures on Descriptive Mineralogy. Practical determination of minerals by their physical properties. Qualitative analysis by the blowpipe, in connection with reactions in the humid way, for the rapid determination of minerals, ores, soils, and mineral waters. Use of the spectroscope in qualitative determinations.
 Under Geology will be embraced: The Chemistry of Geology—Lithological Geology—condition, structure, and arrangement of Rock Masses.
 General outline of Historical Geology. Dynamical Geology—Mineral Springs. Geographical Distribution of Disease Realms. Probable remote causes of Malaria. Soils in relation to Malaria—Climatology. Influence of Climate on Man.

The instruction of this chair requires two years to complete the course.

In connection with the lectures, a practical course of Mineralogical and Geological Chemistry is carried on during the session;

tables and apparatus for original investigation and study being supplied to the members of the practical classes.

BOTANY.

PROF. JOSEPH T. ROTHROCK, M.D., B.S.

In the botanical course, two objects are kept in view: first, to teach vegetable physiology thoroughly; second, to make (so far as the time allows) practical botanists, who can recognize the plants of the regions in which they may reside.

The course of instruction, it is to be understood, extends over two sessions; hence students cannot be considered as entitled to an examination unless they have actually attended two courses of lectures on botany in this Department.

The examinations will not only be based upon the lectures delivered, but upon the practical work done by the class.

The practical classes in Analytical Botany are in addition to the regular lectures.

HYGIENE.

PROF. JOSEPH G. RICHARDSON, M.D.

In this course full consideration will be given to all the conditions necessary to individual and public health, including the study of the causation of epidemic and other diseases, with a view to their prevention.

Sanitary Science, and especially Preventive Medicine, has advanced with such enormous strides during the past few years, that it has been found necessary to devote alternate years to instruction in regard to Public and Personal Hygiene respectively. After a few lectures upon Etiology, and upon General and Special Prophylaxis, the remainder of the course for 1883 will, therefore, be devoted to the subject of Public Hygiene.

COMPARATIVE ANATOMY AND ZOÖLOGY.

PROF. ANDREW J. PARKER, M.D., PH.D.

The lectures on Comparative Anatomy will embrace:—

1. An outline of the classes of animals.
2. A succinct account of their anatomy and embryology.
3. Explanation of "varieties" of human anatomy, and the proper method of studying malformations.
4. A description of human parasites.
5. An account of the more important sources of those articles of the materia medica which are derived from the animal kingdom.

In connection with the lectures a practical course of laboratory work will be instituted in which the students will dissect types of each of the principal classes of animals. It is also the desire to encourage graduates and students to make original researches in

comparative anatomy and embryology. It is proposed, in connection with the course of lectures, to organize a class for practical work during the summer. Some place will be secured on the Atlantic coast, and a practical laboratory established in which those students who desire it can work under the direct superintendence of the Professor of Comparative Anatomy and efficient assistants.

The Museum of the Auxiliary Department of Medicine embraces a collection of minerals, containing three thousand specimens, systematically arranged; a collection of rocks, fossils, and casts, arranged according to their geological succession; a valuable philosophical apparatus; a growing collection of specimens of Comparative Anatomy and Zoölogy; chemical preparations and apparatus, illustrative of Toxicology; diagrams, etc. These collections are arranged in the rooms of the Faculty.

The principal text-books used are:—

Taylor's Medical Jurisprudence (American edition by Reese), and *Reese's Manual of Toxicology*.

Dana's System of Mineralogy.

Elderhorst's Manual of Qualitative Blowpipe Analysis.

Dana's Manual of Geology.

Ganot's Éléments de Physique, translated by E. Atkinson, Ph.D., F.C.S.

Gray's Text-book of Botany.

Gray's Manual of Botany.

Works of reference:—

Wharton and Stillé's Medical Jurisprudence.

Wormley's Micro-Chemistry of Poisons.

Sach's Text-book of Botany.

Le Maout and Decaisne's General System of Botany, Descriptive and Analytical.

Cook and Berkeley on Fungi.

Parké's or Wilson's Manual of Hygiene.

Buck's Hygiene and Public Health.

Parry, or Chambers on Diet.

Mivart's Elements of Anatomy.

Nicholson's Manual of Zoölogy.

Gegenbaur's Elements of Comparative Anatomy.

Baljour's Comparative Embryology.

SAMUEL B. HOWELL, M.D., Dean,
1513 Green Street.

HOURS { 9 to 10 A. M.
6 to 7 P. M.

MATRICULATES, 1882.

NAME.	RESIDENCE.	STATE.
Abbott, William L.	Philadelphia,	Pennsylvania.
Baldy, John M.	Danville,	Pennsylvania.
Batchelor, William A.	Elgin,	Illinois.
Batt, Wilmer R.	Phoenixville,	Pennsylvania.
Bliss, H. Dwight	Rochester,	New York.
Bodamer, George A.	Philadelphia,	Pennsylvania.
Breneman, Park P.	Strasburg,	Pennsylvania.

NAME.	RESIDENCE.	STATE.
Brinkman, Morris W.	Philadelphia,	Pennsylvania.
Carson, Alfred D.	Valparaiso,	Chili.
Cassel, George L.	Marietta,	Pennsylvania.
Chrystie, Walter	High Bridge,	New Jersey.
Collins, Thomas S.	Woodbury,	New Jersey.
Culpeper, William A.	Barbadoes,	West Indies.
Darey, J. Herbert	Montreal,	Canada.
Dock, George	Harrisburg,	Pennsylvania.
Dolley, Charles S.	Rochester,	New York.
Duplan, Ernesto	Minatitlan,	Mexico.
Elder, Frank H. (M.D.)	Philadelphia,	Pennsylvania.
Evans, Franklin J.	Chester,	Pennsylvania.
Frees, J. R. (M.D.)	Mercer,	New Jersey.
Fussel, M. Howard	Radnor,	Pennsylvania.
Gaul, C. Reese	Reading,	Pennsylvania.
Gloninger, Andrew B.	Lebanon,	Pennsylvania.
Haehnlén, W. Frank	Philadelphia,	Pennsylvania.
Howell, William G., Jr.	Philadelphia,	Pennsylvania.
Hughes, Martha P.	Salt Lake City,	Utah.
Ickes, W. J.	Sandy Hill,	Pennsylvania.
Irvin, C. Jones	Philadelphia,	Pennsylvania.
Judge, John P.	Philadelphia,	Pennsylvania.
Matson, Eugene G.	Brookville,	Pennsylvania.
Mercur, William H.	Towanda,	Pennsylvania.
Montgomery, P. Brough	Chambersburg,	Pennsylvania.
Morse, G. Byron, Jr.	Philadelphia,	Pennsylvania.
Norton, Albert E.	Philadelphia,	Pennsylvania.
Orsell, Jacob F.	Philadelphia,	Pennsylvania.
Peters, H. Vance	Philadelphia,	Pennsylvania.
Pratt, C. Manville	Towanda,	Pennsylvania.
Raab, Ernest P.	Belleville,	Illinois.
Randall, Edward	Galveston,	Texas.
Randolph, N. Archer	Philadelphia,	Pennsylvania.
Richardson, David D (M.D.)	Philadelphia,	Pennsylvania.
Robb, Hunter	Burlington,	New Jersey.
Robinson, James A.	Taunton,	Massachusetts.
Rudge, J. Cezar	San Paulo,	Brazil.
Scott, John B.	Philadelphia,	Pennsylvania.
Seiss, Ralph W.	Philadelphia,	Pennsylvania.
Sheibley, J. P. (M.D.)	Landesburg,	Pennsylvania.
Shell, J. Kinzer (M.D.)	Philadelphia,	Pennsylvania.
Stamm, Edward P. (M.D.)	Philadelphia,	Pennsylvania.
Tremblay, Asencio O. du	Santiago,	Cuba.
Trumbull, J. Heyward	Talcahuano,	Chili.
Voorhees, Nathaniel W., Jr.	Clinton,	New Jersey.
Wells, George M.	Philadelphia,	Pennsylvania.
Wilson, Arthur M.	Philadelphia,	Pennsylvania.
Winner, William G.	Newberry,	Pennsylvania.
Woodnutt, Clement A.	Philadelphia,	Pennsylvania.
Young, James K.	Trenton,	New Jersey.
		Total, 57.

DEPARTMENT OF DENTISTRY.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., Provost of the University, and *ex-officio* President of the Faculty.
 CHARLES J. ESSIG, M.D., D.D.S., Professor of Mechanical Dentistry and Metallurgy.
 EDWIN T. DARBY, M.D., D.D.S., Professor of Operative Dentistry, and Dental Histology.
 JAMES TRUMAN, D.D.S., Professor of Dental Pathology, Therapeutics, and Materia Medica.
 JOSEPH LEIDY, M.D., LL.D., Professor of Anatomy.
 HARRISON ALLEN, M.D., Professor of Physiology.
 THEODORE G. WORMLEY, M.D., LL.D., Professor of Chemistry.
 MARSHALL H. WEBB, D.D.S.* Lecturer on Operative Dentistry.
 ROBERT HUEY, D.D.S., Lecturer on Operative Dentistry.

CLINICAL INSTRUCTORS.

- | | |
|-------------------------|-----------------------|
| DR. C. S. BECK, | DR. E. H. NEALL, |
| DR. LOUIS JACK, | DR. H. C. REGISTER, |
| DR. GEO. W. KLUMP, | DR. R. H. SHOEMAKER, |
| DR. GEORGE B. McDONALD, | DR. J. A. WARDELL, |
| DR. W. R. MILLARD, | DR. J. A. WOODWARD, |
| DR. R. R. UNDERWOOD, | DR. H. C. LONGNECKER. |

DEMONSTRATORS.

- WM. DIEHL, D.D.S., Demonstrator of Operative Dentistry.
 WM. LEWIS CAVE, D.D.S., Demonstrator of Mechanical Dentistry.
 STEPHEN L. WIGGINS, D.D.S., Assistant Demonstrator of Operative Dentistry.
 J. HARRISON CAMPBELL, D.D.S., Assistant Demonstrator of Mechanical Dentistry.
 J. JUDSON EDWARDS, D.D.S., Assistant Demonstrator of Mechanical Dentistry.
 CHARLES T. HUNTER, M.D., Demonstrator of Anatomy.
 JOHN MARSHALL, M.D., NAT.Sc.D., Demonstrator of Practical Chemistry.

CALENDAR.

1883.

- | | | |
|-----------|-----|---|
| April | 16. | Spring Session opens. |
| September | 10. | Preliminary Course opens. |
| " | 27. | Examination for admission to advanced standing, and re-examination of undergraduates. |
| October | 1. | Winter Session opens. |

1884.

- | | | |
|-------|-----|----------------------|
| April | 14. | Examinations begin. |
| May | 1. | Annual Commencement. |

* Deceased.

QUALIFICATIONS FOR GRADUATION.

The candidate must be twenty-one years of age. He must have studied under a private preceptor at least two years, including his course of instruction at the College. Attendance on two full courses of lectures, at the *Regular or Winter Session*, in this institution, will be required, but satisfactory evidence of having attended one full course in any respectable dental or medical school will be considered equivalent to the first course of lectures in this College.

The candidate is required to dissect at least two parts; he must also prepare a thesis upon some subject connected with the theory or practice of dentistry. He must treat thoroughly some patient requiring all the usual dental operations, and bring such patient before the Professor of Operative Dentistry. He must also take up at least one artificial case, and after it is completed, bring his patient before the Professor of Mechanical Dentistry at least 30 days before the close of the term. He must also prepare a specimen case, to be deposited in the College collection, and present the same to the Professor of Mechanical Dentistry and Metallurgy before the 1st of February. The operations must be performed, and the work on the artificial case done, at the College building. At the end of the session he must undergo an examination by the Faculty; when, if found qualified, he will be recommended to the Board of Trustees, and, if approved by them, will receive the Degree of Doctor of Dental Surgery.

GRADUATION IN MEDICINE.

Dental students wishing to take the degree in Medicine also, *can do so* in three years from the beginning of their studies; *but candidates must notify the Secretary of the Department of Medicine of such intention before the beginning of the second course of lectures.* They must then add to their studies of the second year, which they would take as students of dentistry, Medical Chemistry, Topographical Anatomy, General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, and Obstetrics, with clinics, medical and surgical. At the end of this year they are examined in Medical Chemistry, Anatomy, Physiology, and Pharmacy, together with the dental branches proper; and then, qualified, they receive the degree of D.D.S., and pass on to the third year in medicine.

To such graduates the spring course is open for practice at the chair, or in the dental laboratory, free of additional charge.

In the third year they take the studies of the third year medical students as laid down in the Medical Curriculum, and at the end of the year pass an examination in Therapeutics, General Pathology and Morbid Anatomy, Theory and Practice of Medicine, Surgery, and Obstetrics.

TEXT-BOOKS AND WORKS OF REFERENCE.

- On Operative Dentistry and Dental Histology*: Harris' Principles and Practice; Tomes' Dental Surgery; Taft's Operative Dentistry; Tomes' Dental Anatomy.
On Mechanical Dentistry and Metallurgy: Richardson's Mechanical Dentistry; Wildman's Instructions in Vulcanite Work; Kingsley's Oral Deformities; Essig's Dental Metallurgy.
On Anatomy: Leidy's Elementary Treatise on Human Anatomy; Gray's Anatomy; Stricker's Manual of Histology.
Dental Follide: Legros and Magitot, translated by M. S. Dean.
On Chemistry: Fownes' or Wurtz's Chemistry; Wormley's Micro-Chemistry of Poisons; Muter's Analytical Chemistry.
On Physiology: Foster's Physiology, with Frey's Compendium of Histology; Tyson's Cell Doctrine; Carpenter's Physiology, by Smith.
On Materia Medica: H. C. Wood's Therapeutics; Geo. B. Wood's Therapeutics; Wood and Bache's Dispensary.
On Surgery: Agnew's Surgery; Ashhurst's Surgery; Billroth's Surgical Pathology.

STUDIES OF THE FIRST YEAR.

ORDER OF CLINICS AND LECTURES—Session of 1883-84. Beginning Monday, October 1st.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9 A. M.	WORMLEY. General Chemistry.	WORMLEY. General Chemistry.	Mechanical Clinic.	WORMLEY. General Chemistry.		
10 A. M.	Mechanical Clinic.			Mechanical Clinic.		
11 A. M.		Chemical Laboratory.			Chemical Laboratory.	
12 M.			University Hospital Clinics.			TRUMAN. Dental Pathology, Therapeutics, and Materia Medica.
1 P. M.	LEIDY. Anatomy.					
1½ P. M.		Operative Clinic.		Operative Clinic.	Operative Clinic.	
2 P. M.	Operative Clinic.		Operative Clinic.			Operative Clinic.
3½ P. M.		LEIDY. Anatomy.		LEIDY. Anatomy.	LEIDY. Anatomy.	
4½ P. M.	ALLEN. Physiology.		ALLEN. Physiology.		ALLEN. Physiology.	
5½ P. M.	ESSIG. Mechanical Dentistry.	DARBY. Operative Dentistry.	ESSIG. Mechanical Dentistry.	DARBY. Operative Dentistry.	ESSIG. Metallurgy.	DARBY. Operative Dentistry.

Students of one department may attend the lectures in any other department, during hours otherwise unoccupied, without additional charge.

STUDIES OF THE SECOND YEAR.

ORDER OF CLINICS AND LECTURES—Session of 1883-84. Beginning Monday, October 1st.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9 A. M.	Mechanical Clinic.	Mechanical Clinic.	Mechanical Clinic.	Mechanical Clinic or Operative Clinic.	Mechanical Clinic or Operative Clinic.	
10 A. M.						
12 M.			University Hospital Clinics.			TRUMAN. Dental Pathology, Therapeutics, and Materia Medica.
1 P. M.	LEIDY. Anatomy.					
1½ P. M.		Operative Clinic.		Operative Clinic.	Operative Clinic.	
2 P. M.	Operative Clinic.		Operative Clinic.			Operative Clinic.
3½ P. M.		LEIDY. Anatomy.		LEIDY. Anatomy.	LEIDY. Anatomy.	
4½ P. M.	ALLEN. Physiology.		ALLEN. Physiology.		ALLEN. Physiology.	
5½ P. M.	ESSIG. Mechanical Dentistry.	DARBY. Operative Dentistry.	ESSIG. Mechanical Dentistry.	DARBY. Operative Dentistry.	ESSIG. Metallurgy.	DARBY. Operative Dentistry.

The curriculum of the first year, established by the University of Pennsylvania, is identical for Medical and Dental students so far as Anatomy, Chemistry, Physiology, and Materia Medica are concerned.

ARRANGEMENT OF SESSIONS.

In order to extend further the opportunities for thorough preparation, and to provide facilities for practical instruction in the infirmary, there will be a Spring and a Fall as well as a Winter Session. Students who contemplate attending are informed that, by this arrangement, they will not be required to secure a preceptor during their stay in the city; the Faculty deeming the attendance during the spring and summer months as equivalent in value to private instruction; *such attendance, however, is not to be considered in any way a substitute for the Regular or Winter Course of Lectures.*

During the Spring and Fall Sessions there will be one or more lectures a day. These lectures are upon important practical subjects, or on matters collateral with what is taught from the several chairs.

SPRING SESSION.

THE SPRING COURSE OF LECTURES will commence on the third Monday in April, and continue until the middle of June.

The student will matriculate, and pay a fee of fifty dollars for this session; *but this amount will be deducted from the fee for the following Regular or Winter Session.*

LECTURES IN THE SPRING COURSE.

Mechanical Dentistry and Metallurgy	Prof. ESSIG.
Operative Dentistry, Dental Histology, and Pathology	Prof. DARBY.
Physiology	Prof. ALLEN.
Chemistry	Prof. WORMLEY.
Histology	
Regional Anatomy	Dr. CHAS. T. HUNTER.
Materia Medica and Pharmacy	Dr. ADOLPH W. MILLER.

Students of the Dental Department have access to all the other medical lectures in the Spring Course free of additional charge.

FALL SESSION.

THE FALL or PRELIMINARY COURSE will commence on the second Monday in September, will continue until the first day of October, and will be free of charge to those who enter for the Winter or Regular Session.

THE REGULAR OR WINTER SESSION.

In order to facilitate work in the practical departments, and to employ fully the students' time, the regular winter sessions are so arranged that the first course student is required to devote the morning hours equally between *dental and chemical laboratory* work. At the end of the first session he is examined in chemistry and materia medica, and, if qualified, is passed into the second class.

The second year student, having passed in those two branches, is not required during his second course to attend the lectures upon them. He has, thus, the entire forenoon of each day for practical dental work.

The Faculty desires to offer every opportunity for the acquirement of practice in operative and mechanical dentistry; and, hence, since many large operations in the mouth require the morning light, and more time in their performance than an afternoon affords, permission will be given to the second course student to devote the morning hours to this object when required.

It is believed that this plan of *grading the course*, and of affording the first year student an opportunity of coming forward for examination in the branches of chemistry and materia medica, will not only prove an economical arrangement of his time, but will really facilitate his labors in the acquirement of knowledge in the remaining branches.

PLAN OF FINAL EXAMINATIONS.

The first course student will, at the end of the term, be required to pass a *final* examination in chemistry and materia medica, and if successful, he enters the second year class. If, however, he is not qualified, a *second examination* is afforded him at the beginning of his next regular course (October 1st).

The final examination of the second course student will be in anatomy, physiology, operative dentistry, mechanical dentistry and metallurgy.

Matriculates who have attended one full term in another dental or medical school of good standing, will be admitted as students of the graduating class.

The session will commence on Monday, October first, and continue until the first of April ensuing. The course is so arranged that twenty lectures will be delivered each week on the various branches taught in the Department.

EXPENSES.

FIRST YEAR.

Matriculation (paid but once)	\$5 00
General ticket, admitting to all the lectures and clinical and laboratory work assigned to the first year dental students	100 00
	<hr/>
	\$105 00

SECOND YEAR.

General ticket, admitting to all the lectures and clinical work assigned to the second year dental students	\$100 00
Dissecting ticket (required)	10 00
Graduation	30 00
	<hr/>
	\$140 00
Total fees for the two courses in dentistry, including graduation	\$245 00

Expenses incurred by the second-year dental students who take the additional studies of the second course of medicine:

Matriculation in Medical Department	\$5 00
Tuition for joint medical and dental studies, second year	190 00
For third-year medical course (no diploma fee)	150 00

Third-year medical students who have graduated in the department of Dentistry are entitled to the use of the Operative Clinics and the Dental Laboratory free of charge.

BOARD FOR STUDENTS.

Board can be obtained at from four to six dollars per week, according to location and accommodations. In locations near the College, students generally pay about five dollars per week. This amount includes fire and light.

INFIRMARY AND LABORATORY.

The Infirmary and Laboratory are open during the several sessions of the College, and ample opportunities will be afforded the student for the prosecution of the practical part of his studies under the guidance and supervision of competent demonstrators. During the Fall Course and the Regular or Winter Session, a Clinical Lecture will be given and operations performed by one of the Professors every Saturday.

THE STILLÉ MEDICAL LIBRARY.

This Library, which was founded by Professor Alfred Stillé for the purpose of promoting a spirit of scientific research and literary culture, now contains upwards of four thousand volumes. During the Winter and Spring Courses it is accessible to students and graduates of the Dental and Medical Departments under appropriate regulations.

MUSEUM AND CABINETS.

The WISTAR AND HORNER MUSEUM, which was founded nearly ONE HUNDRED YEARS ago, and has been annually augmented, is unequalled in the United States for the number and variety of its specimens of the normal and the morbid anatomy of every part of the human body. It also contains a large number of preparations in comparative anatomy, a rich collection of specimens relating to the subject of Dentistry, such as the different stages of dentition, abnormal conditions of the teeth, mandibles of the lower animals, etc., illustrative of odontology, and an extensive collection of artistic models, which are used in illustrating the several courses of lectures. The ticket of matriculation in this Department entitles the holder to admission to the Museum, which is open on Wednesday and Saturday of each week, from 9 A. M. to 12 M., throughout the session.

OUTLINE OF THE COURSE.

OPERATIVE DENTISTRY, AND DENTAL HISTOLOGY.

The lectures of this department will embrace the comparative anatomy of the teeth, the functions and microscopical peculiarities of the dental organs, the development of teeth, and their component tissues. It will also include a full description of the materials and instruments used in operative dentistry, and will comprise a thorough elucidation of all the operations required of the dental

practitioner, such as filling, extracting, regulating, etc. etc. The incumbent of this chair will devote a certain portion of the course to the consideration of dental pathology, the pathological relations of the teeth to the other parts of the system, together with a minute description of all special diseases that have any relation to dental surgery, or are of interest to the dentist. He will also demonstrate in the clinic the theories taught.

MECHANICAL DENTISTRY AND METALLURGY.

The instruction from this chair will embrace—the proper fitting up of a dental laboratory; the use of tools; melting, refining, alloying, and working of the noble metals, and combinations or alloys of the base metals used by the dentist; the chemical and physical properties of materials pertaining to ceramic dentistry, their preparation, and the most approved formulæ for compounding bodies and enamels for the manufacture of BLOCK TEETH and CONTINUOUS GUM WORK; the history and properties of all substances used in making artificial dentures; and the entire range of manipulation of the different materials used as bases for dental substitutes, from the impression to the completion and proper adjustment of the case to the mouth. Also the mechanical treatment of cleft palate, including the several methods of constructing obturators for such cases, whether congenital or acquired. The lectures in this department also include every approved mechanical means of correcting irregularities of the teeth. The lectures will be amply illustrated by specimens, models, and diagrams, and the practical application will be given in the laboratory, under the supervision of accomplished mechanical dentists. Special attention will be directed to the higher branches, consisting of plate work, the continuous gum process, and carving teeth.

In the laboratory are all the conveniences for the preparation of the metals, manufacture of teeth, single and block, mounting, etc. Every process known in the profession, which has any value to the mechanical dentist, is fully taught. The student is required to go through all the necessary manipulations connected with the insertion of artificial teeth—from taking the impression of the mouth to the entire construction of the denture, and its proper adjustment in the mouth of the patient. Every student is required to furnish his own bench tools for metal and rubber work, and will be provided with a place in which they can be locked when not in use.

Under the instruction of a skilful manipulator in CONTINUOUS GUM WORK, the student will be enabled to acquire a thorough knowledge of this important method.

CHEMISTRY.

The lectures in this department embrace the study of chemical physics and principles of chemical philosophy, together with a detailed consideration of the principal elementary substances and their compounds, and the consideration of the fundamental principles of organic chemistry, including the classification of organic compounds, and the special study of typical members of the different classes. Special attention is also given to the laws relating to chemical affinity, and the conditions under which they are modified, especially as they relate to the preparation of mixtures and prescriptions.

The course in *practical chemistry* in the working laboratory includes exercises in chemical manipulation, and the study of the chemical properties and reactions of the principal metals, acids, and their combinations; with the general principles of qualitative analysis, especially as they relate to the detection and separation of the metals and compounds of interest to practitioners in all branches of medicine. Each student is provided with a separate table and apparatus, and is required to personally practise all the usual chemical manipulations under the direction of demonstrators, precisely as he does his practical work in mechanical and operative dentistry, and also to exhibit by formulæ, on paper, all reactions involved in his tests.

GENERAL, SPECIAL, AND TOPOGRAPHICAL ANATOMY.

Human anatomy is taught in its relations with all the departments of medicine, including dentistry. The lectures are illustrated from fresh dissections of the human body, and a rich museum of anatomical specimens, large and well-executed models, and drawings.

PHYSIOLOGY.

The course on this subject will include lectures and demonstrations on the entire human physiology, and on physiological chemistry. The study of the physiology of each organ is also preceded by a full consideration of its histology. The course is amply illustrated by appropriate diagrams, chemico-physiological experiments, and vivisections.

DENTAL PATHOLOGY, THERAPEUTICS, AND MATERIA MEDICA.

The lectures on dental pathology include such portions of general pathology as have a bearing upon the special subjects taught.

Dentition, and its possible pathological results, will receive careful attention, followed by a detailed consideration of all the diseases to which the teeth and surrounding parts are liable, the character—normal and abnormal—of the oral secretions and the direct and remote relations which the pathological conditions of the mouth sustain to other portions of the system. The treatment required under each head will be explained, and the recognized processes, to secure a return to normal conditions, minutely detailed.


Under the division of materia medica, will be taught the character and value of those remedies that have a direct or indirect bearing upon dental therapeutics.


CLINICAL INSTRUCTION.

In addition to the above, with the exception of Saturday, four hours daily are spent by the student in actual practice under the supervision of the Demonstrators.

THE OPERATIVE DEPARTMENT.

Every student is required to provide his own instruments, except those for extracting. He is expected to keep them in perfect order, and will be provided with a place in which they can be locked when not in use. In the new operating room, wires are arranged to a number of the chairs for the use of electric pluggers.

 *Persons desiring further information relating to this department should address the Secretary, and should give in their communication their Name, Post Town, County, and State.*

 *Members of the profession receiving a copy of this Announcement, are requested to notify the Secretary should they change their residence. Also, to send postal card with names of dentists practising in the town or county in which they reside.*

Members of the profession who have specimens of peculiarities of development, or unusual pathological conditions, models of irregularities as to position in the natural teeth, etc. etc., and who will be good enough to send the same by mail or otherwise to Prof. E. T. Darby, No. 1513 Walnut Street, Philadelphia, Pa., will receive suitable acknowledgment and thanks for the same, and the specimens will be nicely mounted, with the donor's name attached, and deposited in the College Museum.

CHAS. J. ESSIG, Secretary,
*Department of Dentistry of University of Pennsylvania,
 36th Street and Woodland Avenue.*

MATRICULATES, 1882-3.

DENTAL DEPARTMENT.

STUDENTS OF THE SECOND YEAR.

NAME.	POST-OFFICE.	STATE.	PRECEPTOR.
Andersen, Sigurd S.	Christiana,	Norway.	Univ. of Christiana.
Austin, John F.	Cascade,	Wis.	Dr. J. L. Shephard.
Baker, Charles R.	Davenport,	Iowa.	Dr. J. B. Morgan.
Barrett, W. Oliver	Barre,	Mass.	Dr. J. N. Dodge.
Battles, Wilton L.	Girard,	Pa.	University of Mich.
Beck, Uriah G.	Williamsport,	Pa.	Dr. G. W. Klump.
Brown, Wistar P.	West Chester,	Pa.	University of Pa.
Carter, Colin S.	New York,	N. Y.	Drs. Charles J. Essig and J. L. Baker.
Cook, Everett M.	Waterbury,	Conn.	Dr. J. O. Cook.
Croll, William L.	Middletown,	Pa.	Dr. J. B. Crist.
Davenport, John F.	Freeport,	Ill.	Drs. Kingsley & Mills.
De Witt, Joseph R.	Birdsboro',	Pa.	University of Pa.
Franklin, De Witt C.	Maysville,	Ky.	Dr. Jno. A. Mitchell.
Gibbons, Clifford	Brighton,	England.	Dr. George Owen.
Goettinger, Louis	Berlin,	Germany.	University of Pa.
Harper, J. Warren	Carlisle,	Pa.	Dr. Geo. W. Neidich.
Herbein, Howard J.	Sinking Spring,	Pa.	University of Pa.
Hofmann, Georg	Darmstadt,	Germany.	Dr. E. Walb.
James, David L.	Greenville,	N. C.	Dr. J. G. James.
Jennings, Irving H.	Harrisburg,	Pa.	Dr. George W. Stine.
Keffer, Edward I.	Lancaster,	Pa.	Dr. M. H. Webb.
Leser, Victor	St. Louis,	Mo.	University of Pa.
Lewis, Elmer L.	York,	Pa.	Dr. C. A. Eisenhart.
Luce, John E.	Red Wing,	Minn.	Dr. Charles J. Essig.
McCandless, Albert H.	Columbus City,	Iowa.	University of Pa.
McDougall, John	Pittston,	Pa.	University of Pa.
Nicol, John D.	Peoria,	Ill.	Drs. Hewett Bros.
Noble, Joseph W.	Carlisle,	Pa.	Drs. Fogg & Kirk.
Parker, J. Abbott	Minneapolis,	Minn.	Dr. J. H. Bowman.
Scott, Robert M.	Gettysburg,	Pa.	University of Pa.
Sherraden, William H.	Council Bluff,	Iowa.	Dr. Geo. C. Brown.
Stowe, Frank J.	Toronto,	Canada.	Dr. J. S. Stowe.
Taylor, William D.	West Springfield,	Mass.	Dr. C. S. Hurlbut.
Tovar, Luis F.	Bogota, U. S. Columbia,	S. A.	University of Pa.
Valdes, Antonio G.	Matanzas,	Cuba.	University of Pa.
Wienecke, Eugene	Leipzig,	Germany.	Drs. Hering & Klare.
Yorks, John R.	Danville,	Pa.	Dr. J. L. Baker.
			Total 37.

STUDENTS OF THE FIRST YEAR.

Alderoft, J. Gamwell	Hudson,	N. Y.	Dr. C. K. Van Vleck.
Bermudes, Salvador	Managua, Nicaragua,	C. A.	University of Pa.
Bowers, Horace A.	Nashua,	N. H.	Dr. George Bowers.
Campbell, Charles S.	St. Albans,	Vt.	Dr. J. M. Comegys.
Cate, Wilbur T.	Springfield,	Mass.	Drs. Anderson & Hurlbut.
Da Silva, Vasco A.	Elmira,	N. Y.	Dr. Frank B. Darby.
Davila, Nemezio (Ph.D.)	Santiago,	Chili.	University of Pa.

NAME.	POST-OFFICE.	STATE.	PRECEPTOR.
Eadie, George	Oakland,	Canada.	Dr. Edward Hart.
Emmert, John W.	Freeport,	Ill.	University of Pa.
Entrikin, Joseph B.	Kennet Square,	Pa.	University of Pa.
Gastal, Edmund	Pelotas,	Brazil.	Dr. A. G. Gastal & Son.
Graves, Luther H.	Philadelphia,	Pa.	University of Pa.
Hert, Benedict S.	Rochester,	N. Y.	Dr. A. A. Morgan.
Hiestand, Ira	Millersville,	Pa.	Dr. P. N. Hiestand.
Jimenez, Generoso A.	Havana,	Cuba.	Dr. Piar.
Kirby, William B.	Bridgeton,	N. J.	Dr. J. C. Kirby.
Loder, James E.	Philadelphia,	Pa.	Dr. E. M. Beesley.
McCance, James L.	Oil City,	Pa.	Dr. J. H. Heivly.
McMillan, Samuel J.	Cumberland,	Md.	Dr. Jos. M. Weller.
Maercklein, Robert	Milwaukee,	Wis.	Dr. B. G. Maercklein.
Miner, Howard A.	Guilford,	N. Y.	Dr. A. E. Bradley.
Munn, Edgar W.	Freeport,	Ill.	Dr. W. H. Taggart.
Nittinger, Alfred	Philadelphia,	Pa.	Dr. S. D. Stroh.
Provost, Howard G.	Stamford,	Conn.	Drs. Strang & Sage.
Redpath, Philip E.	Niagara Falls,	N. Y.	Dr. A. C. Cryster.
Richter, Charles H.	Milwaukee,	Wis.	Dr. R. G. Richter.
Shockley, Abraham S.	Lakeville,	Mass.	Dr. E. S. Hathaway.
Skidmore, Luther W.	Morris,	Ill.	Dr. M. W. Steiner.
Slegel, Samuel E.	Reading,	Pa.	Dr. E. Slegel.
Stebbins, Leonard S.	Springfield,	Mass.	Dr. J. S. Hurlbut.
Stine, Harry M.	Harrisburg,	Pa.	Dr. G. W. Stine.
Stowell, Sidney S.	Peru,	Mass.	Dr. C. L. Anderson.
Swartz, John T.	Hazleton,	Pa.	Dr. Wm. H. Hertz.
Teller, William H.	Philadelphia,	Pa.	University of Pa.
Torelly, Firmino S.	Rio Grande,	Brazil.	University of Pa.
Tripler, William C.	Philadelphia,	Pa.	University of Pa.
Walls, Frank H.	Vineland,	N. J.	Dr. Fred. W. Welch.
Watson, D. Stuart	Fairfield,	Pa.	Dr. R. Watson.
Winner, William L.	Williamsport,	Pa.	Dr. J. M. Winner.
			Total 39.

SPECIAL STUDENTS.

Bushong, Albert J. (D.D.S.)	Philadelphia,	Pa.	University of Pa.
Foster, J. Levick (M.D., D.D.S.)	Nashville,	Tenn.	University of Pa.
Stubblefield, D. R. (A.M., M.D., D.D.S.)	Nashville,	Tenn.	University of Pa.
			Total 3.

Students of the second year	. . . . .	37
Students of the first year	. . . . .	39
Special Students	. . . . .	3
Total	. . . . .	79

SUMMARY.

Brazil	2	Missouri	1
Canada	2	New Hampshire	1
Chili, S. A.	1	New Jersey	2
Connecticut	2	New York	6
Cuba	2	Nicaragua, C. A.	1
England	1	North Carolina	1
Germany	3	Norway	1
Illinois	5	Pennsylvania	28
Iowa	3	Tennessee	2
Kentucky	1	U. S. of Columbia, S. A.	1
Maryland	1	Vermont	1
Massachusetts	6	Wisconsin	3
Minnesota	2		
		Total	79

DEPARTMENT OF LAW.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST OF THE UNIVERSITY, and *ex-officio* President of the Faculty.
- P. PEMBERTON MORRIS, A.M., Professor of Practice, Pleading, and Evidence at Law and in Equity.
- HON. J. I. CLARK HARE, LL.D., Professor of the Institutes of Law, including, *inter alia*, International, Constitutional, and Commercial Law.
- E. COPPÉE MITCHELL, LL.D., Professor of the Law of Real Estate and Conveyancing, and of Equity Jurisprudence.
- JAMES PARSONS, A.M., Professor of the Law of Personal Relations and Personal Property.
- JOHN J. REESE, A.M., M.D., Professor of Medical Jurisprudence.

E. C. MITCHELL, *Dean of the Law Faculty*,
518 Walnut Street, Philadelphia.

It is the design of this Department to aid in preparing students for admission to the Bar, as well as to offer to those who have not the Bar in view, an opportunity of acquiring knowledge in any one or all of the branches of legal learning. The Conveyancer and the Merchant may attend, with profit, the particular lectures appropriate to their respective pursuits.

Instruction is given by lectures, and by books and portions of books upon the subjects of the lectures, which are recommended by the Professors. The students are frequently and carefully examined.

Moot courts are held, at which questions, prepared by the Professors, are argued. These courts meet once a week during both terms of the annual session. A special evening is assigned to each case, so that a continuous discussion can be had of the points raised for argument. The Law Academy of Philadelphia, too, an institution of long standing, to which not only students, but many practising lawyers, belong, gives opportunity for debate and argument which has been found of the greatest practical advantage.

The Supreme Court of Pennsylvania, the County Courts, and the Federal Courts are in session in Philadelphia during a great part of the year, so that students can have ample facilities for observing judicial proceedings.

The Faculty is composed as follows:—

1. A Professor of the Institutes of Law, to whom are assigned the subjects of International Law, Constitutional Law, Conflict of Laws, Criminal Law, Contracts, including Promissory Notes and Bills of Exchange, Suretyship and Guaranty.

2. A Professor of Personal Relations and Personal Property, to whom are assigned the subjects of Personal Relations, Corporations, Agency, Partnership, Insurance, Title to Personal Property, Contracts of Sale, Bills of Lading, Bailment, Common Carriers, Pledges and Chattel Mortgages, Executors and Administrators.

3. A Professor of Real Estate, Conveyancing, and Equity Jurisprudence, to whom these subjects are assigned.

4. A Professor of Practice, Pleading, and Evidence at Law and in Equity, to whom these subjects are assigned.

5. A Professor of Medical Jurisprudence, to whom this subject is assigned.

The Full Course occupies two years.

There are two terms each year. The first term begins on the first of October, the second on the first of February. Each term continues four months. From the first day of June to the first of October is vacation. The course is so arranged that a student entering at the commencement of any October term will complete his term of study in two academical years. The arrangement for the next year will be found upon a subsequent page.

The Tuition Fee for the full course with all the Professors (except the Professor of Medical Jurisprudence) is \$40 for each term. Each Professor will issue separate tickets for his own lectures to such students as do not desire to attend the full course, for such fee as he shall determine. Each student taking the full course is required also to pay, upon entering, a matriculation fee of \$5. There are no other charges made.

Students who have attended the lectures of any of the Professors without taking a full course, may receive from such Professors certificates of proficiency.

Those who have received the degree of Bachelor of Laws may attend all future lectures free of charge.

A hall has been assigned for the exclusive use of the Law Department, in the University Building, which will be open for the use of

the students for the purpose of pursuing their studies in private, in day time, under proper regulations.

The students in this Department are allowed also to attend all the Lectures given in the other Departments—with the exception of certain special exercises in practical chemistry—free of charge. Some of these, especially the Lectures on English History and Literature, Rhetoric, Intellectual and Moral Philosophy, and Social Science, are of value to the lawyer, and an opportunity is thus offered, to those whose previous training has been to some extent limited, to make up the deficiency.

The law students have also the free use of the University Library, under the usual regulations.

The use of the Library of the Law Association of Philadelphia (which is one of the largest law libraries in the country) is also allowed the students of law in the University for a fee of \$3 per annum, under proper regulations.

DEGREES.

The following statute, fixing the qualifications of candidates for graduation, was adopted by the Board of Trustees in the year 1875:—

“In order to obtain the degree of the Bachelor of Laws, there shall be required of every candidate—

“1. That he shall have attended upon the full course of instruction (both Lectures and Examinations) given in the Law Department, except the Lectures on Medical Jurisprudence.

“2. He shall have prepared and submitted to the Faculty, at some time to be fixed by them, an essay, composed by himself, on some legal subject, sufficient in merit to satisfy the Faculty of his fitness to receive the degree.

“3. He shall have passed an examination at the end of each session upon the subjects of study during that session. The examination shall be conducted by the Faculty, either orally or in writing, as they may determine, in the presence of such of the members of the committee on the said Law Department belonging to this Board as may choose to attend. And the members of the Board of Examiners appointed by the Courts of Philadelphia may be present at the examination if they desire to do so.”

The essay required from each candidate must be handed to the Dean of the Faculty on or before the 15th day of February preceding the commencement.

Bad spelling or bad grammar in an essay, or other evidence of the want of a good English education, will preclude a candidate from receiving a degree.

The examinations required by the statute are both written and oral, and are held during the last week in May in each year. On a subsequent page will be found the questions used at the written examination, in May, 1882.

It will be noticed that no provision is made in these regulations for students entering upon advanced standing. No one can be graduated who has not actually attended the full course of two years.

PRIZES.

The Alumni of this Department have established two prizes, one of fifty dollars, called the "Sharswood Prize," and one of twenty-five dollars, called the "Meredith Prize," to be competed for by the Graduating Class in each year for the best and second best graduation essays—the merits of the essays to be passed upon by the Faculty.

A prize of fifty dollars has been established by the Faculty, to be given to the student in either class who shall pass the best written examination with all the Professors, the answers to the questions proposed to be completed within a limited time.

ADMISSION TO THE BAR.

Graduates of this Department, having complied with the rules of court, are admitted to practise in the Courts of Common Pleas and Orphans' Court of Philadelphia, in accordance with the following rule adopted by those courts in June, 1875:—

"Any citizen of the United States, of full age, who shall have been graduated Bachelor of Laws by the University of Pennsylvania, after the course of study required in the University, may be admitted to practise as an attorney of this court, if he shall have complied with the rule now in force as to the preliminary examination and been registered for one year in the Prothonotary's office as a student of law in said University by the Dean of the Law Faculty thereof."

The preliminary examination referred to in this rule is conducted by the Board of Examiners appointed by the courts of Philadelphia County, and embraces all the branches of a good English education. No person can be registered as a student of law without passing this examination.

Students may matriculate in this Department at any stage of their professional preparation. Except as required by the courts from those who expect to use their diplomas as a means of gaining admission to the bar, they are not examined for matriculation, nor is it possible to require, peremptorily, a college degree, or any previous line of study. This must be left to circumstances, to the views of the student, and to the influences which control him.

Application for admission, and for information, should be made to the Dean of the Faculty, at his office, 518 Walnut Street, Philadelphia.

EXAMINATION QUESTIONS, MAY, 1882

PROFESSOR MORRIS.

EVIDENCE.

1. State briefly the several kinds of presumptions known in the law, and explain them.
2. State how a will is to be proved.
3. Explain the words "patent ambiguity" and "latent ambiguity."
4. Who is a competent witness?
5. What is the probative effect of the acknowledgment of a deed?

EQUITY.

1. Name the original bills which do not pray relief.
2. What is the difference between a plea and an answer?
3. What is the practical test by which you determine whether your bill embraces all necessary parties defendant?
4. What do you understand by scandal and impertinence in a bill?
5. Explain the use of the cross bill.

PROFESSOR HARE.

CONTRACTS.

1. Define a stipulation under the Roman law, and state what were its requisites.
2. Which were the Consensual contracts, and was a consideration essential to their validity, as, for instance, in the case of a mandate?
3. Did the title pass under the Roman law on the completion of a contract of sale without payment or delivery? and what is the common law rule on this point?
4. Can the title pass by the sale of a part out of a larger mass without separation, and under what circumstances?
5. Must the price be definitely ascertained to pass the title, or is it enough that it should be computable?
6. Can a vendor detain goods which he has sold for cash, if the purchase-money be not paid, and what are his rights in this regard when the sale is on credit?
7. May goods which have been sold to a purchaser who makes default, be re-sold to the highest bidder? and what is the effect of such a sale as it regards the right of recovery against the purchaser?
8. Does an offer sent by mail become obligatory on the posting of a letter of acceptance, or not until the acceptance is delivered to the offerer?
9. May a parole undertaking, to be answerable for such goods as may be sold to a third person during the ensuing year, be recalled during the year, but before it has been acted on by the promisee? and what is the rule in this regard when the guarantee is under seal?

10. May a bid at auction be withdrawn before the hammer falls, notwithstanding a stipulation to the contrary on the part of the auctioneer and agreed to by the bidders?

PROFESSOR MITCHELL.

EQUITY.

1. Give a brief account of the administration of Equity in Pennsylvania from 1736 to 1836.
2. What presumption does equity raise in a case where the title to property is conveyed to one man and the purchase-money is paid with the funds of another? and how may such a presumption be rebutted?
3. What is the difference between the property given for the separate use of a married woman, in equity; and property conveyed to her and held by her under the married woman's act? State the rule laid down on the subject of separate use in *LANCASTER vs. DOLAN*.
4. For whom, and within what limits, may a trust for accumulation be created? What will be the effect if the limit, as to time, be exceeded? How is a charity affected by this rule?
5. State the effect of a deed for land absolute on its face, which is delivered to-day with a verbal agreement that the conveyance shall stand only as security for a debt, and that when the debt is paid the land will be re-conveyed. Give reasons for answer.
6. What mistakes are relieved in equity? and which are not relieved?
7. Under what circumstances will notice to an agent bind his principal, the principal having no actual knowledge of the fact?
8. How can equitable conversion be produced by a will? What must the will contain to have that effect? What is "conversion out and out"?
9. What sort of injunction will be decreed at the beginning of a suit? and under what restrictions can such an injunction be granted *ex parte*?
10. State the doctrine of equity as to enforcing the specific delivery of chattels. Can a bill for specific performance be filed by a seller of land against the purchaser? Give reasons for answer.

PROFESSOR PARSONS.

(State in each reply the reason for your answer.)

1. When are executors partners, and to what extent, if to any, is the testator's estate involved in the business?
2. How did the change come about which converted the joint contract of the common law into the joint, though severable contract of partners, with third persons?
3. What is the difficulty of adjusting accounts between firms with a common member; does it arise from the common law procedure, and is the obstacle removed by a resort to a remedy in equity?
4. Can a judgment confessed by a partner be shown to embody a firm or a separate claim, as the case may be?
5. What is the effect of a partner's release of a firm debt without receiving payment?

6. Could the restriction imposed by the Pennsylvania statute of 26 April, 1855, invalidate a bequest made to a Pennsylvania corporation by a citizen of a different State within one calendar month of the testator's death?
7. In Pennsylvania, is a foreign corporation taxed upon its property, which is not employed in the State?
8. Work out the doctrine of consideration in bailment, through the history of the bailor's remedies.
9. What constitutional distinction is made between a tax on the tonnage of a carrier and a tax on his gross receipts?
10. How is the equitable value of a life policy made the basis for relief against a forfeiture?

ARRANGEMENT OF THE COURSE.

PROFESSOR MORRIS.

October Term, 1883,	Evidence.
February Term, 1884,	Practice and Pleading in Equity.
October Term, 1884,	Practice and Pleading at Law.
February Term, 1885,	Practice and Pleading at Law.

PROFESSOR HARE.

October Term, 1883,	Contracts, Bills of Exchange and Promissory Notes; Bills of Lading.
February Term, 1884,	Conflict of Laws, Criminal Law.
October Term, 1884,	Constitutional Law, Insurance.
February Term, 1885,	Suretyship and Guaranty.

PROFESSOR MITCHELL.

October Term, 1883,	Equity Jurisprudence.
February Term, 1884,	Equity Jurisprudence.
October Term, 1884,	Real Estate.
February Term, 1885,	Conveyancing.

PROFESSOR PARSONS.

October Term, 1883,	Agency, Partnership, Corporations, International Law.
February Term, 1884,	Bailment, Common Carriers, Pledges, Chattel Mortgages, Life Insurance.
October Term, 1884,	Domestic Relations; Executors and Administrators.
February Term, 1885,	Title to Personal Property, Civil Law; Contract of Sale.

PROFESSOR REESE

Will deliver the Course of Lectures on Medical Jurisprudence, each year, beginning early in March, and ending June 15.

MATRICULATES—CLASS OF 1882-83.

POST-GRADUATE.		
NAME.	RESIDENCE.	PRECEPTOR.
Coggins, Paschall H.	Philadelphia,	Admitted.
SENIOR CLASS.		
Bakewell, Thomas W.	Pittsburgh, Pa.	E. C. Mitchell.
Ballard, Ellis Ames	Philadelphia,	MacVeagh & Bispham.
Bamberger, Leonard, J.	do.	J. H. Heverin.
Banks, Ben Stanley	Norristown, Pa.	H. C. Thompson.
Bockius, Morris R.	Germantown,	R. Morgan.
Boger, Charles W.	Philadelphia,	L. Lewis, Jr.
Browning, Howard L.	do.	W. W. Wiltbank.
Bucher, Francis E.	Sunbury, Pa.	S. B. Huey.
Chapman, S. Spencer	Philadelphia,	Redding, Jones, & Car-
Clayton, Samuel L.	Thurlow, Pa.	E. C. Mitchell. [son.
Cohen, John M.	Philadelphia,	Jerome Carty.
Davis, Howard A.	do.	C. F. Warwick.
Eichholz, Adolph	do.	G. Remak.
Eimerman, Charles H.	do.	R. W. Clay.
Ewing, Harry C.	Coleraine, Pa.	D. R. Patterson.
Fagen, Hugh J.	Philadelphia,	Theodore F. Jenkins.
Fitzpatrick, James	do.	A. A. Hirst.
Foulke, J. Francis	do.	S. S. Hollingsworth.
Fox, William H.	do.	Hon. D. M. Fox.
Geil, John H.	do.	J. R. Sprague.
Gest, William P.	do.	J. C. Bullitt.
Gross, George H.	do.	B. F. Fisher.
Harding, George J.	do.	G. Harding.
Harned, John F.	Camden, N. J.	Admitted.
Hartpence, Richard S.	Philadelphia,	T. E. Patterson.
Hause, J. Frank E.	West Chester, Pa.	R. Jones Monaghan.
Kilgore, Mrs. Carrie B.	Philadelphia,	D. Y. Kilgore.
Levi, Julius C.	do.	Rothermel & Brown.
Lukens, Howard J.	do.	MacVeagh & Bispham.
Lukens, William H. R.	do.	L. D. Vail.
Lyster, Edward, Jr.	do.	H. M. Dechert.
McCarron, James B.	do.	Read & Pettit.
McMahon, Thomas F.	do.	E. A. Anderson.
McManus, Francis P.	do.	J. G. Johnson.
MacVeagh, Lincoln	do.	MacVeagh & Bispham.
Maguire, Charles R.	do.	B. P. Wilson.
Maires, Samuel E.	do.	J. M. Thomas.
Murphy, J. Shriver	do.	W. G. Griffith.
Neide, Erskine	do.	MacVeagh & Bispham.
Owen, Robert J.	do.	Redding, Jones, & Car-
Pettit, Horace	do.	Read & Pettit. [son.

NAME.	RESIDENCE.	PRECEPTOR.
Place, Samuel V.	Eagleville, Pa.	Redding, Jones, & Car-
Price, Eli K., Jr.	Philadelphia,	J. S. Price. [son.
Ramsay, W. Howard	Oxford, Pa.	D. R. Patterson.
Reath, Thomas	Philadelphia,	R. L. Ashhurst.
Rosenberger, Emil	do.	A. A. Grace.
Schelling, Felix E.	do.	Hon. D. M. Fox.
Shiple, W. Penn	do.	P. P. Morris.
Smith, Abram H.	do.	Jos. Savidge.
Smith, Robert G.	Oxford, Pa.	E. C. Mitchell.
Snyder, Edgar C.	Thompsont'n, Pa.	J. Q. Hunsicker.
Sorver, Frank	Philadelphia,	A. Moore.
Stair, Edward	York, Pa.	Hon. B. H. Brewster.
Truitt, Alexander J.	Oakland, Pa.	Gendell & Reeves.
Vaughan, B. Masden	Wilmington, Del.	E. C. Mitchell.
Wallerstein, David	Philadelphia,	M. Arnold.

Seniors, 56.

JUNIOR CLASS.

Ashbridge, Abraham S., Jr.	Downingtown, Pa.	T. K. Longstreth.
Baker, John R., Jr.	Philadelphia,	Redding, Jones, & Car-
Bell, John C.	do.	J. M. Thomas. [son.
Benson, James B.	Coudersport, Pa.	W. MacVeagh.
Bowden, Harry M.	Philadelphia,	J. B. Roney.
Brotherton, J. Rawle	Erie, Pa.	J. P. Vincent.
Caldwell, James Hope	Dover, Del.	Heverin & Shakspeare.
Campbell, H. Noble	Muncy, Pa.	D. Dougherty.
Chapron, Francis S.	Philadelphia,	J. L. Kinsey.
Chase, Charles A.	do.	H. R. Edmunds.
Coleman, William H.	do.	H. T. Coleman.
Cramp, Howard	do.	E. C. Mitchell.
Cresse, Jere L.	Cape May, N. J.	J. G. Leach.
Cushman, J. Frank	Marietta, Pa.	J. Merrill Linn.
Cuyler, Theodore	Philadelphia,	T. DeW. Cuyler.
Duncan, Charles S.	Gettysburg,	R. M. Shick.
Fagan, Maurice E.	Philadelphia,	Wm. McMichael.
Fenner, William D.	do.	Read & Pettit.
Finletter, Thomas D.	do.	Wm. A. Porter.
Gibbons, Patrick H.	Mt. Carmel, Pa.	E. F. Hoffman.
Gillespie, Jackson A.	Greenville, Pa.	A. D. Gillespie.
Haag, Edward N.	Milton, Pa.	MacVeagh & Bispham.
Hillbish, William P.	McKee's High Falls, Pa.	J. Thompson Baker.
Holding, Archibald M.	West Chester, Pa.	R. E. Monaghan.
Hornor, Wm. Macpherson	Philadelphia,	MacVeagh & Bispham.
Jones, Walter G.	do.	J. T. Spencer.
Keefe, James J.	do.	E. L. Perkins.
Kinnear, James W.	Tidioute, Pa.	L. D. Vail.
Kilbride, Frederick T.	Philadelphia,	J. J. Clarke.
Kirby, J. Wilbur	do.	M. Arnold.

NAME.	RESIDENCE.	PRECEPTOR.
Kynett, Alpha G.	Philadelphia,	M. S. McCullough.
Lancaster, J. Campbell	do.	Wm. H. Lex.
Lawrence, St. Lawrence J.	do.	E. S. Lawrence.
Lentz, John M.	Glen Rock,	Hon. B. H. Brewster.
Lesser, F. Louis	Philadelphia,	University.
McFarland, Thomas	do.	J. M. Jennison.
Mercer, O. Van	do.	Williams & Fisher.
Miller, Harvey E.	Selins Grove, Pa.	A. W. Potter.
Murphy, Walter	Philadelphia,	Geo. Junkin.
Patterson, R. Cunningham	Huntingdon, Pa.	University.
Pike, Lewis E.	Philadelphia,	E. F. Hoffman.
Porter, Hobart C.	do.	J. E. Carpenter.
Records, Edward	Holmesburg,	C. Carver.
Remak, Gustavus, Jr.	Philadelphia,	G. Remak.
Scattergood, J. Edward	do.	J. M. Pile.
Schively, Edwin F.	Germantown,	Edw. Shippen.
Schmidt, George S.	York, Pa.	Hon. B. H. Brewster.
Schwalm, John M.	Leechburg, Pa.	Hon. B. H. Brewster.
Sheppard, Warren W.	Shiloh, N. J.	T. E. Patterson.
Simes, Alexander, Jr.	Philadelphia,	Rothermel & Brown.
Snyder, Martin L.	Salem, Pa.	A. W. Potter.
Spottswood, Wilbur F.	Philadelphia,	W. R. Fisher.
Steckel, Alfred D.	Ruchsville, Pa.	J. Q. Hunsicker.
Thayer, William W.	Philadelphia,	J. B. Thayer.
Townsend, Jos. B., Jr.	do.	J. B. Townsend.
Trego, Benjamin T.	do.	G. H. Davis.
White, John J.	Fernwood, Pa.	N. H. Sharpless.
Whyte, Albert	Philadelphia,	D. M. Lowry.
Wilkinson, Ogden D.	do.	F. F. Brightly.
Wintersteen, Abram H.	do.	MacVeagh & Bispham.
		Juniors, 60.

SPECIAL STUDENTS.

Eva, W. E.	Philadelphia,	Admitted.
Henry, Louis B.	do.	Conveyancer.
Kirkpatrick, George E.	do.	University.
Levis, Townsend E.	Media, Pa.	Admitted.
Richards, Louis H.	do.	Admitted.
Rodgers, John J. S.	Philadelphia,	W. E. Littleton.
Tripple, William Y.	do.	C. Matlack.
Waddell, Robert S.	West Chester,	W. B. Waddell.
		Special Students, 8.

SUMMARY.

Post-Graduate	. . . . .	1
Seniors . . . . .	. . . . .	56
Juniors . . . . .	. . . . .	60
Special Students	. . . . .	8
Total . . . . .	. . . . .	125

DEPARTMENT OF PHILOSOPHY.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., Provost of the University, and *ex-officio* President of the Faculty.
- E. OTIS KENDALL, LL.D., Professor of Mathematics, and Dean of the Faculty.
- JOSEPH LEIDY, M.D., LL.D., Professor of Zoölogy.
- J. PETER LESLEY, LL.D., Professor of Geology.
- J. I. CLARK HARE, LL.D., Professor of Law.
- REV. ROBERT E. THOMPSON, A.M., Professor of Political and Social Science.
- FREDERICK A. GENTH, Ph.D. (Marburg), Professor of Inorganic Chemistry.
- SAMUEL B. HOWELL, M.D., Assistant Professor of Geology.
- GEORGE F. BARKER, M.D., Professor of Physics.
- GEORGE A. KENIG, Ph.D. (Heidelberg), Professor of Mineralogy.
- HUGH A. CLARKE, Professor of Music.
- JOSEPH T. ROTHROCK, B.S., M.D., Professor of Botany.
- THEODORE G. WORMLEY, M.D., LL.D., Professor of Organic Chemistry.
- ANDREW J. PARKER, M.D., Ph.D., Assistant Professor of Zoölogy.
- MORTON W. EASTON, Ph.D., Professor of Comparative Philology.
- ——— Professor of History.
- ——— Professor of Philosophy.

The Faculty of Philosophy has recently been organized for the supervision of advanced studies in the several departments of literature and science. The degree conferred upon recommendation of this Faculty is that of Doctor of Philosophy. The courses, which cover a period of at least two years, are open to graduates in any department of this or like institutions, and to others who can pass a satisfactory examination. The fees are, for examination and graduation, \$100. For instruction, \$150 per annum, with special charges for material used; provided, that when instruction is received at the University, the graduation fee is \$35.

A circular, giving in detail the courses of study, and the conditions of examination and graduation, will be furnished on application to

A. J. PARKER, M.D.,
 Secretary of the Faculty,
 315 North 9th St., Philada.

RECAPITULATION.

PROFESSORS.

Department of Arts	13
“ “ Science	19
“ “ Finance and Economy	12
“ “ Music	1
“ “ Medicine	12
“ “ “ (Auxiliary Faculty)	6
“ “ “ (Hospital)	11
“ “ Dentistry	7
“ “ Law	6
“ “ Philosophy	17
Professores Emeriti	2
	<hr/>
Deduct repetitions	106
	58
	<hr/>
	48

LECTURERS, INSTRUCTORS, ETC.

Department of Arts, Science, and Finance and Economy	11
“ “ Medicine, including Hospital Service	65
“ “ Dentistry	21
	<hr/>
Deduct repetitions	97
	21
	<hr/>
	76

STUDENTS.

Department of Arts	136
“ “ Science	201
“ “ Finance and Economy	9
“ “ Music	10
“ “ Medicine	367
“ “ “ (Auxiliary)	57
“ “ Dentistry	79
“ “ Law	125
	<hr/>
Total	984

ACADEMIC DEGREES,

HONORS, PRIZES, ETC.

1881--82.

HONORARY DEGREES.

The Honorary Degree of Doctor of Laws was conferred upon ELI K. PRICE, WILLIAM HENRY RAWLE, and GEORGE W. BIDDLE at the Commencement held June 15, 1882.

DEGREES.

At the Commencement held June 15, 1882, the following Degrees were conferred:—

The Degree of Bachelor of Arts was conferred upon—

Herman Bryden Allyn,	Harold Kennedy,
Abraham Sharples Ashbridge, Jr.,	George Edward Krauth,
Frank Schell Ballentine,	Joseph Campbell Lancaster,
David Bell Birney,	Edwin Fussell Lott,
James Brown Cowperthwait,	Frederick Adolphus Packard,
Thomas Dickson Finletter,	George Lewis Plitt,
Harry Abbott Fuller,	Gustavus Remak, Jr.,
Henry Gibbs,	Howard Singer Stetler,
Alex. James Derbyshire Haupt,	Joseph Brevitt Townsend, Jr.,
William Macpherson Hornor,	Thompson Seiser Westcott,
Charles Edward Ingersoll,	Isaac Keil Wismer,
Henry McKean Ingersoll,	Samuel Brown Wylie.
Joseph Jastrow,	

A Certificate of Proficiency was awarded to Frank Hallett DeSilver.

The Degree of Bachelor of Science was conferred upon—

Frank Spencer Brock,	James Franklin McFadden,
Charles Wardell Brown,	Harry Wilmer Moore,
Edwin Schofield Crawley,	Francis Newland Paris,
Howard Deacon,	Meyer Schamberg,
Winchester Dickerson,	Samuel Edward Scott,
Leon Philip Feustmann,	William Hinckle Smith,
Charles Hanford Henderson,	Guy Comfort Walraven,
Charles John Hexamer,	Charles Spittal Walton,
William Thomas Hildrup, Jr.,	William Ghiskey White,
James Swaim Hopkinson,	Albert Maxwell Whitman,
Thomas Guy Hunter,	Coffin Colket Wilson.
George Marison Lawrence,	

Certificates of Proficiency were awarded to—

Richard Downing Baker,	Edwin Meyer Goldsmith,
Maurice Benjamin Chandler,	Charles Prevost MacArthur,
John Chalmers DaCosta,	Francis Clark Perot.

The Degree of Master of Arts was conferred upon—

John Douglass Brown, Jr.,	Rev. Henry Scott Jefferys,
Charles Claxton,	William Egbert Mitchell,
Charles Howard Colket,	Richard Montgomery,
Benjamin Bartis Comegys, Jr.,	Charles Santee Pauly,
Henry Taylor Dechert,	Thomas Reath,
George Stewart Fullerton,	George Wood Bissell Roberts,
John Marshall Gest,	William Moore Stewart, Jr.
George Wood Hunt,	

The Degree of Bachelor of Laws was conferred upon—

Charles Adamson,	Fred. M. McFadden,
George Ashbridge,	James Marshall,
D. Moreau Barringer,	J. Houston Merrill,
Frank K. Biggs,	Charles W. Meyer, Jr.,
M. Wm. Bradley,	Philippus W. Miller,
George E. Brooks,	J. Howard Morrison,
Henry Phillips Coleman,	Harry L. Neall,
Charles B. Earley,	Alfred W. Ott,
Frank S. Elliott,	Wm. A. Pike,
Charles H. A. Esling,	E. Clinton Rhoads,
Oscar C. Foster,	Lendrum B. Ridge,
John Marshall Gest,	Henry D. Saylor,
B. DeS. Frank Harrah,	J. Walter Screven,
Francis Henderson,	Allison O. Smith,
Edwin A. Jaggard,	Andrew B. Smith,
Frederick M. Leonard,	Moses Stevenson,
Alex. J. B. Lieder,	John M. Strong,
Agnew MacBride,	Charles K. Zug.
John B. McAfee,	

HONORS, ETC.

At the Examination of the Senior Class for Degrees, Honors were awarded as follows:—

To Graduates in ARTS—

Honors of the *First Class* to THOMPSON SEISER WESTCOTT.

Of the *Second Class* to HENRY M'KEAN INGERSOLL, JOSEPH JASTROW, ABRAHAM SHARPLES ASHBRIDGE, JR., GEORGE LEWIS PLITT, SAMUEL BROWN WYLIE, WILLIAM MACPHERSON HORNOR, EDWIN FUSSELL LOTT, and ALEXANDER JAMES DERBYSHIRE HAUPT.

Of the *Third Class* to GUSTAVUS REMAK, JR., HENRY GIBBS, THOMAS DICKSON FINLETTER, HERMAN BRYDEN ALLYN, JAMES BROWN COWPERTHWAIT, JOSEPH BREVITT TOWNSEND, JR., ISAAC KEIL WISMER, GEORGE EDWARD KRAUTH, HOWARD SINGER STETTER, JOSEPH CAMPBELL LANCASTER, and FRANK SHELL BALLENTINE.

To Graduates in the TOWNE SCIENTIFIC SCHOOL—

Honors of the *First Class* to WILLIAM GHRISKEY WHITE and CHARLES HANFORD HENDERSON.

Of the *Second Class* to EDWIN SCHOFIELD CRAWLEY, CHARLES JOHN HEXAMER, LEON PHILIP FEUSTMANN, WILLIAM THOMAS HILDRUP, JR., GEORGE MARISON LAWRENCE, WINCHESTER DICKERSON, ALBERT MAXWELL WHITMAN, CHARLES SPITTALL WALTON.

Of the *Third Class* to GUY COMFORT WALRAVEN, JAMES FRANKLIN MCFADDEN, MEYER SCHAMBERG, SAMUEL EDWARD SCOTT, and THOMAS GUY HUNTER.

At the Annual Examination, *Distinctions of the First Class* were awarded to the following students, viz:—

In the DEPARTMENT OF ARTS—

Juniors—CORNELIUS DAVIS MECUTCHEN, CHARLES YOUNG AUDENRIED, and EDWARD POTTS CHEYNEY.

Sophomores—JAMES DALLAS STEELE, JOHN STOKES ADAMS, LEWIS LAWRENCE SMITH, and JOHN AUGUST WILLIAM HAAS.

Freshmen—HERMAN T. LUKENS, MARK WILKS COLLETT, GEORGE DE BENNEVILLE MYERS, HOWARD LOWE CRESSWELL, and JAMES FRY BULLITT.

In the TOWNE SCIENTIFIC SCHOOL—

Juniors—FRANK MILES DAY and WILLIAM JONES SERRILL.

Sophomore—SAMUEL VAN PELT.

Freshmen—HENRY SZLAPKA, MORRIS SUTPHEN SOLOMON, MARSHALL ROGERS PUGH, and JAMES COLLINS JONES.

In the WHARTON SCHOOL OF FINANCE AND ECONOMY—

Sub-Junior—WILLIAM REDWOOD WHARTON.

Prizes for voluntary exercises, over and above the regular course, were awarded to students in the Arts and in Science as follows:—

In the Department of Intellectual and Moral Philosophy: Junior Prize of the best essay on "*Pessimism*," to CHARLES OSCAR BEASLEY and JOHN ROBERT MOSES, with Honorable Mention of EMIL ROTH and CYRUS ADLER.

In the Department of Greek Language and Literature: Junior Prize for the best examination on "*The Oration of Æschines contra Ctesiphontem*," read with the Professor in addition to the regular course, to CORNELIUS DAVIS MECUTCHEN, with Honorable Mention of EDWARD POTTS CHEYNEY.

In the Department of Mathematics: Junior Prize for the best extra work and examination in "*Quaternions*"—the First Prize to WILLIAM HOWARD FALKNER, and the Second to EDWARD POTTS CHEYNEY.

In the Department of History and English Literature: the Senior Prize for the best Essay on "*The Influence of General Literature on the Latest English and American Historians*" to SAMUEL BROWN WYLIE.

The Sophomore Prize for the best *Declamation* to CHARLES HOFFMAN.

The Prize offered by the Board of Trustees to the Scientific Classes, for superiority in "*Mechanical Drawing*," to MORRIS SUTPHEN SOLOMON.

The Prize founded by the Society of the Alumni, for the best *Latin Essay* by a member of the Graduating Class (the subject to be selected by the writer), to GEORGE LEWIS PLITT, for his Essay "*De Republica Romana*."

The Prize founded by the Society of the Alumni, for the best *Original Declamation* by a member of the Junior Class, to WILLIAM HOWARD FALKNER.

The Prize founded by Mr. H. L. JAYNE, for the best *English Composition* by a member of the Freshman Class, on "*The Swedish Settlements on the Delaware*," to SAMUEL WILLIAMSON CHEYNEY.

The Joseph Warner Yardley Memorial Prize, founded by the Class of 1877, for the best Essay on "*International Copyright in its Economical Relations*," to CHARLES HANFORD HENDERSON.

The Van Nostrand Prize, for the highest general average of scholarship in the Department of Civil Engineering (Junior Class), to SANFORD KEYSER CAMPBELL.

In the Department of Law, Prizes were awarded as follows:—

The Sharswood Prize, for the best graduation Essay in 1882, was awarded to JOHN MARSHALL GEST, ESQ., for an Essay entitled "*Securities for Bills of Exchange*."

The Meredith Prize, for the second best Essay, was awarded to HARRY L. NEALL, ESQ. Subject: "*Lien of Judgments in Pennsylvania*."

The Faculty Prize, for the best written examination with all the Professors, was awarded to EDWIN A. JAGGARD, ESQ., of the Senior Class.

DEGREES, PRIZES, ETC., IN MEDICINE.

At a Public Commencement held Wednesday, March 15, 1882, at the American Academy of Music, the degree of Doctor of Medicine was conferred by WILLIAM PEPPER, M.D., LL.D., Provost, upon the following gentlemen:—

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Anderson, Archibald S. M.	Mercersburg,	Pa.	Symptomatic Treatment.
Baker, Albert Hosmer	Philadelphia,	Pa.	Rötheln.
Barber, Timothy L. (A.M.)	Marietta,	Ohio.	"Principiis Obsta."—Hippocrates.
Bateman, Eliston R.	Cedarville,	N. J.	Dermatitis Neurotica.
Beck, J. Howard (Ph.G.)	Yardville,	N. J.	Malarial Fever.
Blackburn, I. Wright	Phillipsburg,	Pa.	The Microscopic Diagnosis of Lymphoid Structures.
Boyd, George M.	Philadelphia,	Pa.	The Lesions in Scarlatina.
Brockerhoff, Joseph M.	Bellefonte,	Pa.	Nervous Shock as a Cause of Pernicious Anæmia.
Brown, Frampton H.	Pittston,	Pa.	Pertussis.
Brown, Frederick A.	Webster,	Mass.	Milk Cholera.
Bunce, Thade S.	Philadelphia,	Pa.	Abortion.
Burnside, Samuel H.	Lancaster,	Ky.	Syphilis.
Caldwell, Samuel L. (A.M.)	Poughkeepsie,	N. Y.	Finger Contractions.
Calkins, Cheyney Hosmer	Springfield,	Mass.	Koumiss.
Carpenter, J. Strat. (B.A.)	Pottsville,	Pa.	Chloroform.
Carter, Robert S.	Philadelphia,	Pa.	Uterine Vegetations.
Christian, Hilary M.	Philadelphia,	Pa.	Gastric Ulcer.
Christy, Francis M.	Altoona,	Pa.	Truss to be used in Luxation of the Fibula.
Claxton, Charles (A.B.)	Philadelphia,	Pa.	The Virulence of Normal Human Saliva, experimentally considered.
Costill, Henry B.	Freehold,	N. J.	Veratrum Viride in Pneumonia.
Curran, Thomas M.	Cross Roads,	Pa.	Typhoid Fever.
Daland, A. Judson	Philadelphia,	Pa.	Mineral Springs of the United States.
Dobson, Augustus T. (A.B.)	Chester,	Pa.	Morbus Coxarius.
Dolan, William A.	Fall River,	Mass.	Amenorrhœa.
Dolley, Charles S. (B.S.)	Rochester,	N. Y.	Vibratile Cilia and Ciliary Motion.
Dorsey, Robert R.	Hagerstown,	Md.	Rötheln: Its Nature and Relations.
Elkin, W. Simpson (A.B.)	Lancaster,	Ky.	Traumatic Injuries of the Liver and Hepatic Abscess.
Elliott, John L.	Pontiac,	Mich.	Asthenopia.
Fort, Samuel J.	Philadelphia,	Pa.	The Hip Joint.
Gerhard, Josiah K.	Worcester,	Pa.	Antipyretic Treatment.
Gotwald, D. King	York,	Pa.	Points in the Histology of the Uriniferous Tubules.
Gray, William M.	Philadelphia,	Pa.	The Mechanism of the Hemorrhagic Infarct.
Guild, Edgar H.	Ware,	Mass.	Headaches.
Hæchlen, W. Frank	Philadelphia,	Pa.	The Pathological Anatomy of Alopecia Furfuracea.
Haldeman, H. W. (M.D.)	Mitchellville,	Iowa.	Evacuation of Exposed Ovarian Cysts.
Harshberger, Samuel U.	Philadelphia,	Pa.	Eczema.
Henry, Charles P. (A.M.)	Philadelphia,	Pa.	Psycho-Physiology of Sleep and Dreaming.
Henry, Wm. P. S. (A.M.)	Everett,	Pa.	The Diagnosis of Neuralgia.
Higate, Wilford O. (Ph.G.)	Philadelphia,	Pa.	Typhoid Fever.

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Hinkle, Frank W. (A.B.)	Columbia,	Pa.	Why is Smallpox still Epidemic?
Hoell, Conrad G. (Ph.G.)	Camden,	N. J.	Diphtheria.
Holt, Charles A.	Snow Shoe,	Pa.	The History of Lithotomy.
Ives, William Warren	Scranton,	Pa.	Cerebral Hemorrhage and Apoplexy.
Jakes, C. Russel (Ph.B.)	Wyoming,	Del.	Malaria.
Jayne, Horace F. (A.B.)	Philadelphia,	Pa.	The Variations in the Arteries of the Arm.
Johnston, Geo. W. (A.B.)	Washington,	D. C.	Calculous and Other Affections of the Pancreatic Ducts.
Johnston, Wm. A. (D.D.S.)	Peoria,	Ill.	Fracture of the Lower Jaw.
Keiser, James W.	Reading,	Pa.	Typhoid Fever.
Kelly, Howard A. (A.B.)	Philadelphia,	Pa.	Inner Group of Muscles of the Forearm.
Kerr, Norman B.	Halifax,	N. S.	Air in relation to Health.
Kline, George W.	Pleasant Gap,	Pa.	Diphtheria.
Kupp, D. Webster B.	Douglasville,	Pa.	Puerperal Septicæmia.
Lamparter, E. (Ph.G.)	Reuthingen,	Wurt.	Legal Induction of Abortion.
Leavitt, Charles B.	Trenton,	N. J.	Syphilis.
Leiser, Oliver	Watsonstown,	Pa.	Typhoid Fever.
Lemmon, James Quinn	Latrobe,	Pa.	Diabetes Mellitus.
Lichtenthaler, Henry C.	Lock Haven,	Pa.	Physical Diagnosis.
Lichtenwallner, J. B. (A.B.)	Allentown,	Pa.	Hay Fever.
Lodor, Charles H. (A.B.)	Philadelphia,	Pa.	The Physiology of the Voice.
Long, Alfred E. (A.B.)	Fredericton,	Can.	Diphtheria.
McCullough, Howard	Fort Wayne,	Ind'a.	Constipation.
McKenna, T. M. T. (A.B.)	Washington,	Pa.	Rötheln.
McLean, Angus	Eldon,	P. E. I.	Acute Bright's Disease.
Markley, Paul H.	Hatboro,	Pa.	Syphilis.
Martin, Ed. M. (D.D.S.)	Strasburg,	Pa.	Lead Poison.
Matchett, Charles R. (Ph.B.)	Allegheny C'y,	Pa.	The Action of Vegetable Acids on Tin.
Miller, Morgan I.	E. Stroudsb'g,	Pa.	Pleurisy.
Moorhead, William W. (Ph.G.)	Philadelphia,	Pa.	Relative Strength of Commercial Pepsin.
Morse, G. Byron, Jr.	Philadelphia,	Pa.	Do Bacteria exist in Healthy Living Tissues?
Mossell, Nathan F. (A.B.)	Lockport,	N. Y.	Indigestion in Infancy.
Moylan, John J.	Pittston,	Pa.	Acute Articular Rheumatism.
Oliver, Allen H.	Wilkesbarre,	Pa.	Probable Causes of Malaria in the Wyoming Valley.
Palmer, John, Jr.	Wilmington,	Del.	Myelitis.
Pease, Charles E.	Middletown,	Pa.	Perityphlitis.
Pratt, C. Manville (A.B.)	Towanda,	Pa.	The Clinical Thermometer.
Prendergast, M. T. (Ph.B.)	Easton,	Pa.	Tissue Consumption.
Radcliffe, McCluney (A.M.)	Lewistown,	Pa.	Exophthalmic Goitre.
Randolph, N. Archer	Philadelphia,	Pa.	Certain Appearances of the Red Blood Corpuscles.
Rebert, Michael A.	York,	Pa.	Specific Urethritis.
Reed, Carl H.	Philadelphia,	Pa.	Histogenesis of Carcinoma.
Reed, Thos. B. (M.D.)	Philadelphia,	Pa.	
Reeves, J. Howard	Philadelphia,	Pa.	Local Action of Nitrate of Silver on Mucous Membrane.
Reinoehl, John K. (A.B.)	Lebanon,	Pa.	Stricture of the Urethra.
Rentzheimer, Wm. H.	Hellertown,	Pa.	Scarlatina.
Roberts, Charles J.	New Centrev'e,	Pa.	Scarlatina.
Robinson, George Taylor	Camden,	N. J.	Visual Purple.
Robinson, James Arthur	Taunton,	Mass.	Syphilis.
Rogers, Richard R., Jr.	Trenton,	N. J.	Diagnosis and its Importance.
Rudge, J. Cezar	San Paulo,	Brazil.	The Mechanism of Dystochia.

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Schmidt, Joseph (A.B.)	Braunsburg,	Pruss.	The Protection of the Central Nervous System.
Schwenk, P. N. K. (B.S.)	Lewisburg,	Pa.	Histology of Gangrene.
Shaner, Warren Bunting	Pottstown,	Pa.	Anæsthetics.
Shelly, Daniel W.	Quakertown,	Pa.	Addison's Disease.
Sheppard, John E. (A.B.)	Greenwich,	N. J.	The Pathology of Acute Myelitis.
Shoemaker, George Erety (A.B.)	Bridgeton,	N. J.	The Identity of Callus and True Bone.
Shope, J. Henry	Clearfield,	Pa.	Alopecia.
Simpson, John C.	North'mberl'd,	Pa.	Jaundice.
Smith, Alexis Dupont	Philadelphia,	Pa.	Physiological Action of Potassium Bromate.
Smith, Herbert Eugene (Ph.B.)	Hartford,	Conn.	Absorption of Subnitrate of Bismuth.
Smith, Nelson M.	Danville,	Pa.	Pneumonitis.
Smock, Ledru P. (A.B.)	Hightstown,	N. J.	Rötheln.
Steen, Alexander M.	Trenton,	N. J.	Cyanosis.
Steen, William H.	Philadelphia,	Pa.	Cyanotic Induration of the Kidney.
Tait, J. Sinclair (B.Sc.)	Wallace,	N. S.	The Heart and its Valves.
Taylor, Philip Kittredge	Kingston,	R. I.	Medicinal Plants of Rhode Island.
Taylor, William Johnson	Philadelphia,	Pa.	Hystero-Epilepsy.
Thompson, H. D. (C.E.)	Philadelphia,	Pa.	Acute Coryza.
Thompson, Richard J.	New Britain,	Conn.	Antisepsis in Obstetrics.
Wattles, George Hazzard	Lebanon,	Conn.	Carcinoma of the Stomach.
Wells, John R.	Pickering,	Pa.	Cholera Infantum.
Wentz, Alexander C. (A.B.)	Hanover,	Pa.	Cadaveric Poisoning.
Wentz, John L. (A.B.)	Jeddo,	Pa.	Stricture of the Male Urethra.
Wilbur, George Franklin (A.B.)	Hightstown,	N. J.	Popular Ignorance on Medical Subjects the Support of Quackery: How shall the Profession meet it?
Wile, Henry (A.B.)	Rochester,	N. Y.	The Pathogenesis of Tumors.
Wills, William Le Moyne	Washington,	Pa.	Pyæmia.
Wilson, Arthur M.	Philadelphia,	Pa.	Phlebitis.
Zimmer, Frederick W.	Rochester,	N. Y.	Our Prescriptions.

The following-named gentlemen received the Degree of Doctor of Medicine at the Commencement held June 15, 1882.

Alday, Henry B.	Philadelphia,	Pa.	Alimentation.
Bancroft, Wm. A.	Camden,	N. J.	The Plagues of Marriage.
Fauntleroy, Claybrook	Dragonville,	Va.	Signs of Pregnancy.
Peabody, John D.	Omaha,	Neb.	Fractures.
Price, James F.	Walnut Bot'm.	Pa.	Art, Sciences, and Medicine.

Of the foregoing there were from

Brazil	1	New Jersey	13
Canada	1	New York	5
Connecticut	3	Nova Scotia	2
Delaware	2	Ohio	1
District of Columbia	1	Pennsylvania	75
Illinois	1	Prince Edward Island	1
Indiana	1	Prussia	1
Iowa	1	Rhode Island	1
Kentucky	2	Virginia	1
Maryland	1	Wurtemberg	1
Massachusetts	5		
Michigan	1	Total	122
Nebraska	1		

DEGREES, PRIZES, ETC., IN AUXILIARY DEPARTMENT OF MEDICINE.

At the Commencement held June 15, 1882, the Degree of DOCTOR OF PHILOSOPHY was conferred upon the following persons, Doctors of Medicine:—

Frank H. Elder, M.D.,	G. Byron Morse, M.D.,
E. P. Raab, M.D.,	Arthur M. Wilson, M.D.

The Degree of Bachelor of Science was conferred upon—
Martha P. Hughes, M.D.

The George B. Wood Alumni Prize was awarded to E. P. RAAB, M.D., for his Thesis containing the results of original investigation.

For proficiency in Hygiene, a microscope offered by the Professor of Hygiene, to ERNEST P. RAAB, M.D.

DENTAL DEPARTMENT.

At the Commencement held March 15, 1882, the Degree of DOCTOR OF DENTAL SURGERY was conferred upon the following gentlemen:—

NAME.	RESIDENCE.	STATE.
Abrams, James H.	Brownsville,	Pennsylvania.
Allen, Edward H.	Freeport,	Illinois.
Betts, Philip	Birmingham,	England.
Bradley, Allen E.	Guilford,	New York.
Bushong, Albert J.	Philadelphia,	Pennsylvania.
Causse, Charles O. de (M.D.)	Santiago,	Cuba.
Correvon, Alfred E.	Lausanne,	Switzerland.
Cristy, Alfredo	Mayaquiz,	Porto Rico.
Devereux, Theodore E.	Evansville,	Wisconsin.
Dillon, Raphael A. C.	Pelotas,	Brazil.
Edwards, J. Judson	Cochranville,	Pennsylvania.
Ely, Adriel B.	East Worcester,	New York.
Escovar, Francisco	Bogota,	U. S. of Columbia.
Fothergill, John A. (L.D.S.,	Darlington,	England.
Freeman, Sol. [M.R.C.S.)	Easton,	Pennsylvania.
Gerrish, William E.	Seymour,	Indiana.
Haberstich, Emil	Aarau,	Switzerland.
Hurd, George L.	Lee,	Massachusetts.
Keim, Henry H.	Middletown,	Pennsylvania.
Kelly, Charles F.	Philadelphia,	Pennsylvania.
Laney, John H.	Savannah,	Missouri.
Musser, Martin H.	Strasburg,	Pennsylvania.
McCandless, A. W.	Davenport,	Iowa.
McFadden, Harry B.	Philadelphia,	Pennsylvania.
McFarlan, Charles R.	Downingtown,	Pennsylvania.
McIntire, Frank H.	Boston,	Massachusetts.

NAME.	RESIDENCE.	STATE.
McNair, William	Middletown,	Pennsylvania.
Nunez, Leoncio B.	Sagua,	Cuba.
Oltramare, Gabriel	Geneva,	Switzerland.
Peters, Charles J., Jr.	Syracuse,	New York.
Ramos, Manuel G.	Guayaquil,	Ecuador.
Salomon, Godfrey S.	Milwaukee,	Wisconsin.
Shannon, William H.	West Chester,	Pennsylvania.
Sharpe, John G.	Syracuse,	New York.
Smedley, Harry L. (Ph.G.)	Media,	Pennsylvania.
Stetson, Charles M.	Buenos Ayres,	Buenos Ayres.
Sunderland, Eugene	Freeport,	Illinois.
Tudor, John W.	York Springs,	Pennsylvania.
Weed, Albert G., Jr.	Stamford,	Connecticut.
White, William T.	Belvidere,	New Jersey.
Winner, Jefferson P.	Wilmington,	Delaware.

SUMMARY.

Brazil 1	Illinois 2	Pennsylvania 13
Buenos Ayres 1	Indiana 1	Porto Rico 1
Connecticut 1	Iowa 1	Switzerland 3
Cuba 2	Massachusetts 2	U. S. of Columbia 1
Delaware 1	Missouri 1	Wisconsin 2
Ecuador 1	New Jersey 1	—
England 2	New York 4	Total 41

FINAL EXAMINATIONS.

The following members of the graduating class received honorable mention for averages exceeding 90.

James H. Abrams, Pennsylvania.	W. McNair, Pennsylvania.
Edward H. Allen, Illinois.	Gabriel Oltramare, Switzerland.
John A. Fothergill, England.	John G. Sharpe, New York.
M. H. Musser, Pennsylvania.	C. M. Stetson, Buenos Ayres.

PREPARATORY SCHOOL,

No. 700 North Broad Street.

GEORGE EASTBURN, M.A., PRINCIPAL.

The Building

occupied by this Institution is peculiarly adapted to the needs of a school of the highest grade. Two floors, containing an area of more than 5700 square feet, divided into 9 rooms, and lighted by means of 57 windows, are used for school purposes.

Two Courses of Study,

one preparatory to the Classical, and the other to the Scientific Department of College or for Business, are pursued in the School.

Twelve Regular Instructors

constitute the corps of teachers. All branches essential to the basis of a sound liberal education are thoroughly taught. The instruction is directed, not so much for the purpose of securing an unconditional entrance into any particular college, as it is for laying a substantial foundation, and for developing and disciplining the mind of the student in such a manner, that he may acquire his higher education with ease and efficiency. Catalogues furnished on application, either in person or by mail.

RUGBY ACADEMY,

FOR YOUNG MEN AND BOYS,

No. 1415 Locust Street, Philadelphia.

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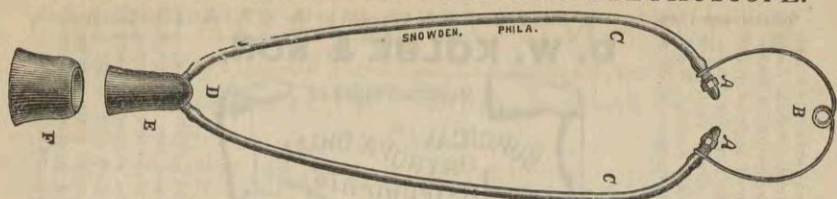
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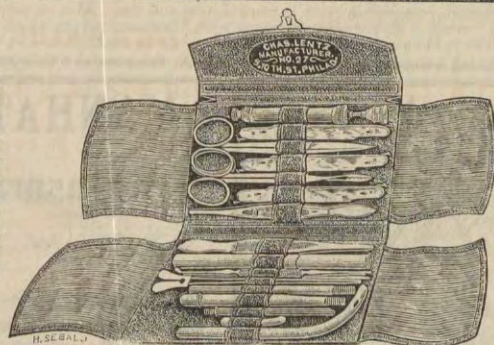
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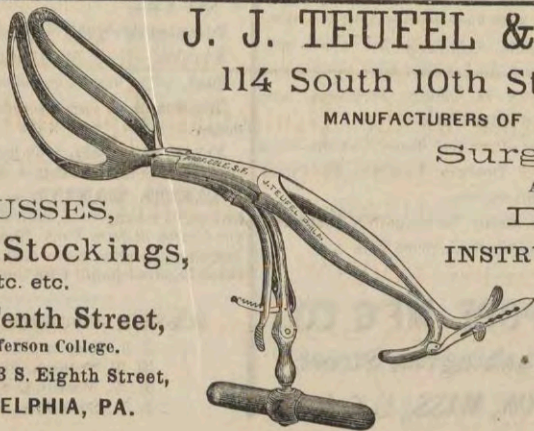
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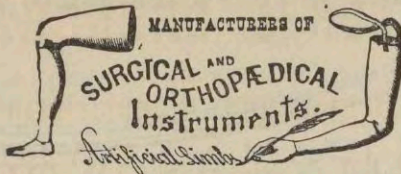
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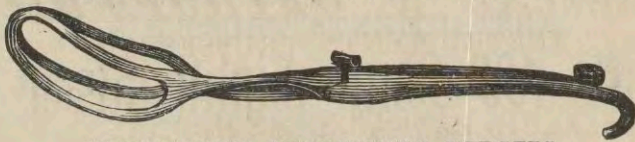
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