

CATALOGUE
OF THE
UNIVERSITY OF PENNSYLVANIA.

CONTENTS:

Officers of Instruction and Government,	3
General Statement,	8
General Information in regard to the Collegiate De- partments,	9
Department of Arts,	14
The Towne Scientific School,	22
The Wharton School of Finance and Economy,	37
Department of Music,	42
Department of Medicine,	43
Law Department,	70
Auxiliary Department of Medicine,	79
Department of Dentistry,	86
Academic Degrees, Honors, Prizes, Etc., 1880-1,	99

1881-2.

CATALOGUE

OF THE

TRUSTEES OFFICERS AND STUDENTS

OF THE

UNIVERSITY OF PENNSYLVANIA

1881-2

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PRESS OF EDWARD STERN & CO.,
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1882.

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CHARLES J. ESSIG, M. D., D. D. S., Professor of Mechanical Dentistry and Metallurgy.	1533 Locust Street.
EDWIN T. DARBY, M. D., D. D. S., Professor of Operative Dentistry and Dental Histology.	4000 Chestnut Street.
ANDREW J. PARKER, M. D., Ph. D., Professor of Comparative Anatomy and Zoölogy.	315 North 9th Street.
CHARLES T. HUNTER, M. D., Demonstrator of Anatomy.	1905 Walnut Street.
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	RESIDENCE.
JOHN MARSHALL, M. D., Demonstrator of Practical Chemistry.	University.
WILLIAM BARTON HOPKINS, M. D., Assistant Demonstrator of Surgery.	2018 Spruce Street.
GEORGE A. PIERSOL, M. D., Assistant Demonstrator of Normal Histology.	University.
HENRY F. FORMAD, M. D., Assistant Demonstrator of Pathological Histology, and Librarian of the Stillé Medical Library.	3449 Woodland Avenue.
WALTER M. L. ZIEGLER, M. D., Chief of the Clinic for Diseases of the Ear,	2007 Columbia Avenue.
JOHN M. KEATING, M. D., Lecturer on the Diseases of Children, and Assistant Physician in the Medical Dispensary in charge of Diseases of Children.	2201 Locust Street.
CARL SEILER, M. D., Lecturer on Laryngoscopy, and Assistant in the Medical Dispensary in charge of Diseases of the Throat.	1608 Pine Street.
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ALBERT L. A. TOBOLDT, M. D., Assistant Demonstrator of Practical Pharmacy.	318 North 9th Street.
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WILLIAM E. HUGHES, M. D., Medical Registrar in the University Hospital.	
JOHN B. WEBSTER, Janitor of the University.	3625 Locust Street.

GENERAL STATEMENT.

The UNIVERSITY OF PENNSYLVANIA is the outgrowth and successor of the COLLEGE OF PHILADELPHIA, which was founded chiefly through the influence of Dr. BENJAMIN FRANKLIN and Dr. WILLIAM SMITH. Dr. Smith was the first PROVOST, and he is conspicuous in American college history as having established here in 1757 the *curriculum* of study which was adopted substantially by all the colleges of later foundation, until scientific departments were attached to them. The College of Philadelphia was chartered in 1755, and is therefore the sixth in the order of succession of American Colleges. Instruction is now given in eight different departments; viz,—

THE DEPARTMENT OF ARTS,	Established in 1755.
THE DEPARTMENT OF MEDICINE,	“ “ 1765.
THE DEPARTMENT OF LAW,	“ “ 1789.
THE AUXILIARY DEPARTMENT OF MEDICINE,	“ “ 1865.
THE TOWNE SCIENTIFIC SCHOOL,	“ “ 1872.
THE DEPARTMENT OF MUSIC,	“ “ 1877.
THE DEPARTMENT OF DENTISTRY,	“ “ 1878.
THE WHARTON SCHOOL OF FINANCE AND ECONOMY,	“ “ 1881.

Detailed statements of the aims and methods of each department will be found under its own head, below.

Public commencements are held,—

(1.) For the Departments of Arts and of Law, the Auxiliary Department of Medicine, the Towne Scientific School, the Department of Music, and the Wharton School of Finance and Economy, on JUNE 15TH, or, if this day falls on Saturday or Sunday, on the previous Friday.

(2.) For the Department of Medicine and of Dentistry, on MARCH 15TH, or on the preceding Friday (as above).

The following degrees are now conferred by the University:

COLLEGIATE DEPARTMENTS.—Bachelor of Arts (A. B.); Bachelor of Science (B. S.), with mention of special course of study pursued. The latter degree is awarded to graduates of both the Towne Scientific School and the Wharton School of Finance and Economy.

MEDICAL DEPARTMENT.—Doctor of Medicine (M. D.).

LAW DEPARTMENT.—Bachelor of Laws (LL. B.).

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.

FACULTY OF PHILOSOPHY.—Doctor of Philosophy (Ph. D.), in the special branch of study pursued. Doctor of Science (D. S.); Doctor of Music (Mus. Doct.).

The Faculty of Philosophy has recently been organized by the Trustees. On the recommendation of this Faculty, the three last-named degrees may be conferred,—that of DOCTOR OF PHILOSOPHY upon Bachelors of Arts, Doctors of Medicine and Bachelors of Law; the degree of DOCTOR OF SCIENCE on Bachelors of Science; and the degree of DOCTOR OF MUSIC on Bachelors of Music.

The conditions upon which the above degrees will be conferred may be ascertained by inquiry of the Provost.

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, SHAKESPEARE, 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 TOBIAS WAGNER LIBRARY FUND, amounting to two hundred and fifty dollars a year, 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.

1881.		
Sept. 15.	College Year begins.	10 A. M.
Nov. 24, 25.	Thanksgiving Day, and the Friday following.	(Holidays.)
Dec. 23.	First Term ends.	(Chapel at 10 A. M.)
	CHRISTMAS RECESS.	
1882.		
Jan. 3.	Second Term begins.	10 A. M.
Jan. 23 to 31.	Annual Examination, First Session.	
Feb. 22.	Washington's Birthday Celebration.	10 A. M.
April 5.	Second Term ends.	(Chapel at 10 A. M.)
	EASTER RECESS.	
April 11.	Third Term begins.	10 A. M.
May 12.	Senior Examinations end.	
May 15.	Announcement of Results.	10 A. M.
June 13.	Annual Examinations, Third Session, end.	
June 14.	Announcement of Results.	10 A. M.
June 15.	Commencement Day.	
June 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 three terms; the *first* beginning on the 15th of September, and ending on the 24th of December; the *second* beginning on the 2d of January, and ending on the Wednesday before Easter; and the *third* beginning on the Tuesday after Easter, 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 three instalments, on October 1st, January 1st and April 1st. The Graduation Fee is twenty dollars. A separate charge of ten 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 five 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. During the first and second terms, private examinations by way of review may be held by each Professor. 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 must 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 Archaeology, 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, fifty 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. 16.)

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. 24.)

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. 38.)

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 FRANKLIN SCIENTIFIC SOCIETY also draws its members from the three collegiate departments, and holds its meetings weekly at the University. 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, the lecturers being chosen from among the foremost scientists in the country.

SCHOLARSHIPS.

I. 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.

II. Ten Prize Scholarships in the Towne Scientific School (tenable for five years,) are given annually to pupils from the public schools of Philadelphia. 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 ten,) who reach the highest grade in that examination, provided that grade is at least sixty-five out of a possible hundred.

III. The Wharton School is open without fee to those students from the public grammar schools who have gained the prize scholarships in the Towne Scientific School, after they have passed through the Freshman and Sophomore Classes. Scholarships of Class I., 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 or propose to become teachers, 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 Faculty 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 Faculty, 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: "Pessimism."

2. In the DEPARTMENT OF GREEK LANGUAGE AND LITERATURE, a prize of twenty dollars for the best examination upon the *Oration of Æschines 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 Composition 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: "The Influence of General Literature on the Latest English and American Historians."

6. A prize of the value of twenty dollars for the best English Essay, by a member of the Junior Class. Subject: "Traces of the Best Ages of the Roman Empire still Apparent after its Fall."

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 said examinations reach a satisfactory standard of excellence. The examination will take place on or about the first day of October. In 1882, it will be upon the first fifty-five exercises in Part I. of *Arnold's Latin Prose Composition*. Certificates will also be presented to *all* competitors whose examinations reach a satisfactory standard.

Two prizes of like amount for *Greek Prose Composition* will be awarded annually. The examination in the year 1882 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 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 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 '879, 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, "The Swedish Settlements on the Delaware."

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 "International Copyright in its Economic Relations."

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.

- MORTON W. EASTON, PH. D., Instructor in French and in Elocution.
- LAWRENCE B. FLETCHER, PH. D., 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.)

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. Greek Prose Composition (as much as is contained in *Arnold* to the end of Exercise 24). *Xenophon* (Four Books of the Anabasis). *Homer* (First Three Books of the Iliad.)

LATIN.—Latin Grammar. Cæsar (*Three Books of the Gallic War*). Virgil (*Six Books of the Æneid*). Cicero (Four Orations against Catiline). Horace (*First Book of the Odes*). 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 FRIDAY, 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 Roots*). From 10¾ to 1¼.—A written examination in *Algebra*—*To Quadratic Equations, including Proportion, Progression, Surds, Imaginary Quantities, and The Binomial Theorem.*

ON SATURDAY, JUNE 17, 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 MONDAY, 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 TUESDAY, 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 WEDNESDAY, JUNE 21, beginning at 9 o'clock.—An oral examination upon *Cicero's four orations against Catiline, and the first book of the Odes of Horace*.

ON THURSDAY, 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 11.30 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 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 *Thomson and Quimby's Algebra*, and on *Chauvenet's Geometry*.

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

IN ENGLISH.—Upon *How to Write Clearly* (Abbott), and *A System of Punctuation* (McElroy).

IN FRENCH.—Upon *Selections from Collot's Pronouncing French Reader*, and *Brégy's Compendium of Grammatical Rules* (First Part).

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:—

On FRIDAY, SATURDAY, MONDAY, TUESDAY, WEDNESDAY and THURSDAY, September 8th, 9th, 11th, 12th, 13th, and 14th, at the hours and upon the subjects named respectively for the corresponding days of the week 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 and Physics (Astronomical and Terrestrial), and English Composition and Oratory.

2. 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 pp. 9 to 13. Letters of inquiry may be addressed to the Rev. C. P. KRAUTH, D. D., LL. D., 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.—Algebra (*Thomson and Quimby*). Geometry (*Chauvenet*).

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

ENGLISH.—*How to Write Clearly* (Abbott), and *A System of Punctuation* (McElroy).

FRENCH.—Collot's *Pronouncing French Reader*. Brégy's *Compendium of Grammatical Rules (First Part)*, or equivalents.

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.—Plane and Spherical Trigonometry (*Chauvenet*), with applications. Analytical Geometry (*Bowser*).

- ENGLISH.—Elements of Rhetoric (*Lectures*). Compositions and Declamations. Halde-
man's *Outlines of Etymology*. Lounsbury's *English Language*.
- GERMAN.—Whitney's *German Grammar*. Woodbury's *Elementary Reader*.
- FRENCH (*Voluntary*).—*Un Philosophe sous les Toits*. Brégy's *Compendium of
Rules (Second Part)*.
- CHEMISTRY.—Inorganic and Organic Chemistry (*Experimental Lectures, with Exami-
nations*).

JUNIOR CLASS.

- PHILOSOPHY (*Required*).—Intellectual Philosophy. Lectures introductory to Philoso-
phy. Hamilton's *Philosophy*. Moral Philosophy. Whewell's *Elements (Lec-
tures)*. Logic (*Atwater*).
- 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.
- ASTRONOMY (*Required*).—Mathematical Astronomy (begun).
- PHYSICS (*Required*).—Mechanics, Sound, Heat (*Lectures and Recitations*).
- CHEMISTRY (*Required*).—Inorganic and Organic Chemistry, completed (*Experi-
mental Lectures, with Examinations*).
- ENGLISH (*Required*).—Compositions and Declamations.
- ENGLISH (*Elective with Pure Mathematics*).—Shakspeare (*Several Plays illustrating
the Growth of the Dramatist's Mind and Art*).
- 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 *Wilhelm
Tell*. Lessing's *Minna von Barnhelm*.
- FRENCH (*Elective with Latin*).—Racine. Noel et Chapsal's *Grammaire*. Sadler's
Cours de Versions.

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 (*Tusculanâ*) or Lucretius (*Selections*).
Horace (*Ars Poetica*). Reading at Sight.
- PURE MATHEMATICS (*Elective with English*).—Integral Calculus.
- ASTRONOMY.—Mathematical Astronomy (completed).
- PHYSICS (*Required*).—Light, Electricity, and Astronomical Physics (*Lectures and
Recitations*).
- HISTORY (*Required*).—Mediæval and Modern History (*Lectures*). Compositions and
Original Declamations.
- HISTORY (*Elective*).—Taine's *History of English Literature*.
- ENGLISH (*Elective with Pure Mathematics*).—Chaucer (*The Canterbury Tales*). Spen-
ser (*Selections*).
- SOCIAL SCIENCE (*Required*).—International Law (*Lectures*). Thompson's *Social
Science and National Economy*.
- GERMAN (*Elective with Greek*).—Schiller's Poems. Goethe's *Prose*. Translations
into German. History of German Literature.
- FRENCH (*Elective with Latin*).—Molière. Bridge's *History of French Literature*.
Brégy's *Compendium of Rules* (reviewed). French Composition.

UNDERGRADUATES, 1881-2.

DEPARTMENT OF ARTS.

SENIOR SOPHISTERS.

Herman Bryden Allyn,	Pennsylvania.	Philadelphia.
Abraham Sharples Ashbridge, Jr.,	Pennsylvania.	Downingtown.
Frank Schell Ballentine,	Pennsylvania.	Frankford.
David Bell Birney,	Pennsylvania.	Philadelphia.
James Brown Cowperthwait,	Pennsylvania.	Chestnut Hill.
Thomas Dickson Finletter,	Pennsylvania.	Philadelphia.
Henry Gibbs,	Pennsylvania.	Philadelphia.
Alexander James Derbyshire Haupt,	Pennsylvania.	Philadelphia.
William Macpherson Hornor,	Pennsylvania.	Philadelphia.
Charles Edward Ingersoll,	Pennsylvania.	Germantown.
Henry McKean Ingersoll,	Pennsylvania.	Germantown.
Joseph Jastrow,	Pennsylvania.	Philadelphia.
Harold Kennedy,	Pennsylvania.	Philadelphia.
George Edward Krauth,	Pennsylvania.	Philadelphia.
Joseph Campbell Lancaster,	Pennsylvania.	Philadelphia.
Edwin Fussell Lott,	Pennsylvania.	Philadelphia.
Frederick Adolphus Packard,	Pennsylvania.	Philadelphia.
George Lewis Plitt,	Pennsylvania.	Philadelphia.
Gustavus Remak, Jr.,	Pennsylvania.	Philadelphia.
Howard Singer Stetler,	Pennsylvania.	Philadelphia.
Joseph Brevitt Townsend, Jr.,	Pennsylvania.	Overbrook.
Thompson Seiser Westcott,	Pennsylvania.	Philadelphia.
Isaac Keil Wismer,	Pennsylvania.	Philadelphia.
Samuel Brown Wylie,	Pennsylvania.	Philadelphia.
		Seniors,—24.

JUNIOR SOPHISTERS.

William Adger,	Pennsylvania.	Philadelphia.
Cyrus Adler,	Pennsylvania.	Philadelphia.
Charles Young Audenried,	Pennsylvania.	Philadelphia.
Charles Oscar Beasley,	Pennsylvania.	Philadelphia.
Logan McKnight Bullitt,	Pennsylvania.	Philadelphia.
Edward Potts Cheyney,	Pennsylvania.	Philadelphia.
William Howard Falkner,	Pennsylvania.	Germantown.
Edmund Morris Fergusson,	Pennsylvania.	Philadelphia.
Edward Grier Fullerton,	Pennsylvania.	Philadelphia.
William Daniel Gross, Jr.,	Pennsylvania.	Philadelphia.

James Powers Hawkes,	Pennsylvania.	Philadelphia.
James Arthur Heaton,	Pennsylvania.	Philadelphia.
Arthur Washington Hess,	Pennsylvania.	Philadelphia.
Louis J. Cunningham Kimmell,	Pennsylvania.	Philadelphia.
George Lodge,	Delaware.	Claymont.
Charles Hinkle Marple,	Pennsylvania.	Bridgeport.
Cornelius Davis Mecutchen,	Pennsylvania.	Philadelphia.
Elliston Joseph Morris,	Pennsylvania.	Germantown.
John Robert Moses,	New Jersey.	Camden.
Samuel Theophilus Neuber,	Pennsylvania.	Philadelphia.
Howard Wurts Page.	Pennsylvania.	Philadelphia.
Louis Rodman Page,	Pennsylvania.	Philadelphia.
Emil Roth,	Pennsylvania.	Philadelphia.
Paul Judd Sartain,	Pennsylvania.	Philadelphia.
John William Savage,	Pennsylvania.	Philadelphia.
George Edward Schlegelmilch,	Pennsylvania.	Philadelphia.
Herman Schmitt,	Pennsylvania.	Philadelphia.
Joseph Sherlock,	Pennsylvania.	Philadelphia.
Francis Edward Smiley,	Pennsylvania.	Philadelphia.
Harrison Smith, Jr.,	Pennsylvania.	Philadelphia.
Alpheus Waldo Stevenson,	Pennsylvania.	Philadelphia.
Joseph Whitaker Thompson,	Pennsylvania.	Phœnixville.
		Juniors,—32.

SOPHOMORES.

John Stokes Adams,	Kentucky.	Lexington.
Caldwell Keppele Biddle,	Pennsylvania.	Philadelphia.
William Henry Bower,	New Jersey.	Riverton.
Marcus Ingraham Brock,	Pennsylvania.	Philadelphia.
Philip Putnam Chase,	Pennsylvania.	Philadelphia.
Thomas Cooke,	Pennsylvania.	Philadelphia.
John Pusey Croasdale,	Pennsylvania.	Philadelphia.
Morris Dallett,	Pennsylvania.	Philadelphia.
William Henry Dillingham,	Pennsylvania.	West Chester.
John August William Haas,	Pennsylvania.	Philadelphia.
Butler Kenner Harding,	Pennsylvania.	Philadelphia.
Charles Hoffman,	Pennsylvania.	Philadelphia.
William Reynolds Lincoln,	Pennsylvania.	Philadelphia.
James Woodside MacBride,	Pennsylvania.	Philadelphia.
Robert McGrath,	Pennsylvania.	Philadelphia.
John Vaughan Merrick, Jr.,	Pennsylvania.	Roxborough.
John Carnahan Milligan,	Pennsylvania.	Philadelphia.
Thomas Lynch Montgomery,	Pennsylvania.	Philadelphia.
John Mullen,	Pennsylvania.	Philadelphia.
Allen Carrington Prescott,	Connecticut.	New Haven.
Benjamin Brannan Reath, Jr.,	Pennsylvania.	Philadelphia.
Laurence Butler Ridgely,	Pennsylvania.	Philadelphia.
Waters Dewees Roberts,	New Jersey.	Riverton.

Francis Rudderow,	Pennsylvania.	Oaks, Montg. Co.
James Irvine Scott,	Pennsylvania.	Philadelphia.
Henry Hale Sleeper,	Pennsylvania.	Philadelphia.
Elliott Crissy Smith,	Pennsylvania.	Philadelphia.
Lewis Lawrence Smith,	Pennsylvania.	Media.
James Dallas Steele,	Pennsylvania.	Philadelphia.
Ardemus Stewart,	Pennsylvania.	Abington.
Landreth Worthington Thompson,	Pennsylvania.	Philadelphia.
John Barton Townsend,	Pennsylvania.	Overbrook.
Alexander Waddell,	Pennsylvania.	Philadelphia.
Benjamin Harvey Welch,	Pennsylvania.	Philadelphia.
George Emlen West,	Pennsylvania.	Philadelphia.
Milton Cooper Work,	Pennsylvania.	Philadelphia.

Sophomores,—36.

FRESHMEN.

Harrison White Biddle,	Pennsylvania.	Philadelphia.
Samuel Laurence Bodine,	Pennsylvania.	Philadelphia.
George Rosengarten Bower,	New Jersey.	Riverton.
James Fry Bullitt,	Pennsylvania.	Philadelphia.
Miers Busch, Jr.,	Pennsylvania.	Philadelphia.
Charles Howard Campbell,	Pennsylvania.	Philadelphia.
Mark Wilks Collet,	Pennsylvania.	Germantown.
Redmond Conyngham,	Pennsylvania.	Lancaster.
Howard Lowe Cresswell,	Pennsylvania.	Philadelphia.
Valentine Sherman Doebler,	Pennsylvania.	Philadelphia.
Naudain Duer,	Pennsylvania.	Philadelphia.
Randolph Faries,	Pennsylvania.	Philadelphia.
Leonard Finletter,	Pennsylvania.	Philadelphia.
Edward Pinckney Greene,	Pennsylvania.	Philadelphia.
William Spence Harvey,	Pennsylvania.	Philadelphia.
William Linton Landreth,	Pennsylvania.	Philadelphia.
Elliott Eskridge Lane,	New Jersey.	Camden.
Robert Grier Le Conte,	Pennsylvania.	Philadelphia.
Charles Henry Lemon,	Pennsylvania.	Philadelphia.
Charles Lester Leonard,	Pennsylvania.	Philadelphia.
Herman T. Lukens,	Pennsylvania.	Philadelphia.
William Emott Maison,	Pennsylvania.	Philadelphia.
Francis Benjamin Muhlenberg,	Pennsylvania.	Philadelphia.
George de Benneville Myers,	Pennsylvania.	Philadelphia.
George Gelbach Emanuel Neuber,	Pennsylvania.	Philadelphia.
William Woodbridge Noble,	Pennsylvania.	Germantown.
Arthur Nott Sanford,	New York.	Carlton.
Joseph Allison Scott,	Pennsylvania.	Philadelphia.
Henry Sheaffer,	Pennsylvania.	Pottsville.
George Ard Shoemaker,	Pennsylvania.	Philadelphia.
Arthur Donaldson Smith,	Pennsylvania.	Andalusia.
Henry Austie Smith,	Pennsylvania.	Philadelphia.

William George Thomson,	Pennsylvania.	Philadelphia.
William Turner Van Pelt,	Pennsylvania.	Philadelphia.
John Rhea Barton Willing,	Pennsylvania.	Philadelphia.
Gustave Winelander,	Pennsylvania.	Philadelphia.
Lewis Wynne Wister,	Pennsylvania.	Germantown.
Edward Yarnall,	Pennsylvania.	Overbrook.
		Freshmen,—38.

PARTIAL STUDENTS.

Frank Hallett De Silver,	Pennsylvania.	Philadelphia.
Henry Abbott Fuller,	Pennsylvania.	Philadelphia.
Edward Beecher Finck,	Pennsylvania.	Philadelphia.
John Lambert, Jr.,	Pennsylvania.	Jenkintown.
Henry Rankin Poore,	Pennsylvania.	Philadelphia.
Henry Chapman Thompson,	New Jersey.	Beverly.
William Constantine Goodell,	Pennsylvania.	Philadelphia.
Frank Lambader, Jr.,	Pennsylvania.	Philadelphia.
Edward Records,	Pennsylvania.	Philadelphia.
George Bartleson Benners,	Pennsylvania.	Philadelphia.
Henry Bell Bryan,	New Jersey.	Camden.
Charles Howard Hagert,	Pennsylvania.	Philadelphia.
Grant Lee Knight,	Pennsylvania.	Philadelphia.

Partial Students,—13.

DEPARTMENT OF ARTS.

Seniors,	24
Juniors,	32
Sophomores,	36
Freshmen,	38
	<hr/>
Total,	130
Partial Students,	13
	<hr/>
Total Matriculates in the Department of Arts,	143

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, Professor of Mathematics.
- J. PETER LESLEY, LL. D., Professor of Geology and Mining.
- 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 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. KÆNIG, PH. D., Assistant Professor of Chemistry, Instructing in Metallurgy, Technical Chemistry and Mineralogy.
- SAMUEL P. SADTLER, PH. D., Assistant Professor of Chemistry, Instructing in General and Organic Chemistry.
- JOSEPH T. ROTHROCK, B. S., M. D., 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.
-
- John Welsh Centennial Professor of History and English Literature.

INSTRUCTORS AND ASSISTANTS.

- MORTON W. EASTON, PH. D., Instructor in French and in Elocution.
- HENRY W. SPANGLER, Assistant Engineer U. S. N., Instructor in Marine Engineering and Naval Architecture.
- CARL HERING, B. S., Instructor in Dynamical Engineering.
- FREDERICK A. GENTH, JR., M. S., Assistant in Analytical Chemistry.
- HERMAN A. KELLER, B. S., Assistant in Geology and Mining Engineering.
- LAWRENCE B. FLETCHER, PH. D., Assistant in Physics.

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; 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 p. 24.) 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*).

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

First,

ON FRIDAY, 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 SATURDAY, JUNE 17, from 9 to 11.—A written examination in *the first four books of Chauvenet's or Wentworth's Geometry*.

ON MONDAY, 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*.

* 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, the Juniors, and one section of the Sophomore Class, are pursuing the four years' course, whose requirements will be found in the catalogue of 1879-80.

ON TUESDAY, 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 on the following subjects studied by the Freshman Class:

ON TUESDAY, JUNE 20, from 11 to 2.—Written or oral examinations upon the whole of Thomson and Quimby's *Algebra*, Chauvenet's *Geometry*, and Chauvenet's *Plane Trigonometry*.

Also, oral examinations upon the following subjects:

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 *Selections from Collot's Pronouncing French Reader*, and Brégy's *Compendium of Grammatical Rules*, or equivalents.

IN GERMAN.—On Schmitz's *German Grammar*.

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

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

Second,

ON FRIDAY, SATURDAY, MONDAY and TUESDAY, September 8th, 9th, 11th and 12th, at the hours and upon the subjects named respectively for the corresponding days of the week in June.

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 definitive 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 commences in the Analytical Laboratories, 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 in drawing-rooms in the plotting of original field-notes, in contouring, in making relief maps of mineral properties, and in constructing sections on an equal vertical and horizontal scale, converting thereby their maps into clay and plaster models, with coloring to show the structure of the country. Solid models of underground work are made to show the position of veins and beds, and the connection of these with the surface. To these are added illustrative diagrams and pictures, calculations of quantity, and whatever else is needful for the preparation of professional reports.

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, 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 and Sound, the exercises consist-

ing of recitations from a text-book, illustrated by experiments, with occasional lectures. In the Junior year, the subjects treated are Heat and Light, the instruction being by lectures, with recitations and examinations. In the Senior year, lectures are delivered on Electricity, and on Astronomical and Terrestrial Physics. The Senior Class receives also 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, and strength and properties of materials, railroads, tunnels, canals, water-supply, drainage, architecture, mechanics, navigation, harbor improvements, park and landscape engineering, with a valuable collection of Reports of American, English and French Engineering Societies, and periodicals, Coast Survey and hydrographic charts, maps, diagrams and drawings.

For further information respecting the Towne Scientific School, see pages 9-13. 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.—Collot's *Pronouncing French Reader*. Brégy's *Compendium of Grammatical Rules* (First Part).

MATHEMATICS.—Thomson and Quimby'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.—Schmitz's *German Grammar; Elementary German Reader*.

SOPHOMORE YEAR.

ENGLISH.—Elements of Rhetoric (Lectures). Haldeman's *Outlines of Etymology*. Lounsbury's *English Language*. Compositions and Declamations.

GERMAN.—Hodge's *Course of Scientific German*. Storm's *Immensee*. *Guide to German Conversation*. Translations into German.

FRENCH.—Souvestre's *Un Philosophe sous les Toits*. Brégy's *Compendium of Grammatical Rules* (Part II.).

MATHEMATICS.—Chauvenet's *Spherical Trigonometry*. Bowser's *Analytical Geometry*. Descriptive 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.—Mechanics (including Hydrostatics and Pneumatics), Sound.

MINERALOGY.—Crystallography and General Description of Minerals.

MATHEMATICS.—Descriptive Geometry. Differential Calculus.

GERMAN.—*Der Mensch und die Natur*. Lessing's *Nathan der Weise*.

FRENCH.—Racine or Corneille.

ENGLISH.—Critical Reading of English Authors. 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.

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

ENGINEERING.—Spherical Projections. Graphical Statics.

MATHEMATICS.—Differential Calculus.

DRAWING.—Topographical Charts. Problems in map projections. Perspective. Details of frames, joints, etc.

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.

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 and Mediæval Ornament. Shading in India Ink.

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. Cæsar (*De Bello Gallico*).

JUNIOR YEAR.

STUDIES PURSUED BY THE WHOLE CLASS.

PHYSICAL SCIENCE.—Heat and Light. Lectures and Recitations.

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 and making of organic chemical preparations and 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.

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*, Henck's *Field-Book for Engineers*, and *Earthwork Formulae*.

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

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

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

MODELLING.—Construction of Scarfs and Joints used in Framing, Centres, Caissons, Coffers-Dams, Trestles, Bents, etc., from working drawings.

4. *Studies pursued by Dynamical Engineering Section.*

MATHEMATICS.—Differential and Integral 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.

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.

ENGINEERING.—Same as Section 3.

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 Zoology and Embryology.

LATIN.—Reading of Latin Authors.

SENIOR CLASS.

STUDIES PURSUED BY THE WHOLE CLASS.

ENGLISH.—Compositions. Declamations.

HISTORY.—Mediæval History, Lectures.

SOCIAL SCIENCE.—International Law. Thompson's *Social Science and National Economy*.

ASTRONOMY.—Gummere's *Astronomy*.

PHYSICAL SCIENCE.—Electricity, Astronomical Physics, 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—with 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, Decorations. 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, rivetting, 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 designs 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.

6. Studies in the Course Preparatory to Medical Studies.

CHEMISTRY.—Laboratory Practice in Quantitative Analysis. Physiological and Toxicological Chemistry.

BOTANY.—Medical and Vegetable Adulterations.

ZOÖLOGY.—Vertebrate Zoölogy and Animal Mechanics.

PHYSIOLOGY.—Elementary Physiology. Application of Physics.

MATRICULATES, 1881-2.

TOWNE SCIENTIFIC SCHOOL.

POST-GRADUATE.

- * 1. Charles Augustus Paul Borda, B. S., Pennsylvania. Philadelphia.
(University, 1877.)

SENIORS.

4. Frank Spencer Brock,	Pennsylvania.	Philadelphia.
4. Charles Wardell Brown,	New Jersey.	Mount Holly.
4. Edwin Schofield Crawley,	Pennsylvania.	Philadelphia.
3. Howard Deacon,	Pennsylvania.	Philadelphia.
2. Winchester Dickerson,	Pennsylvania.	Philadelphia.
2. Leon Philip Feustmann,	Pennsylvania.	Philadelphia.
2. Charles Hanford Henderson,	Pennsylvania.	Philadelphia.
3. Charles John Hexamer,	Pennsylvania.	Philadelphia.
4. William Thomas Hildrup, Jr.,	Pennsylvania.	Harrisburg.
4. James Swaim Hopkinson,	Pennsylvania.	Philadelphia.
1. Thomas Guy Hunter,	Pennsylvania.	Philadelphia.
1. George Marison Lawrence,	Pennsylvania.	Philadelphia.
6. James Franklin McFadden,	Pennsylvania.	Philadelphia.
4. Harry Wilmer Moore,	Pennsylvania.	Philadelphia.
4. Francis Newland Paris,	Pennsylvania.	Philadelphia.
1. Meyer Schamberg,	Pennsylvania.	Philadelphia.
4. Samuel Edward Scott,	Pennsylvania.	Philadelphia.
3. William Hinckle Smith,	Pennsylvania.	Philadelphia.
2. Guy Comfort Walraven,	Pennsylvania.	Philadelphia.
2. Charles Spittall Walton,	New Jersey.	Haddonfield.
3. William Ghriskey White,	Pennsylvania.	Philadelphia.
5. Albert Maxwell Whitman,	Pennsylvania.	Philadelphia.
1. Coffin Colket Wilson,	Pennsylvania.	New Centreville.

Seniors,—23.

JUNIORS.

3. Dorsey Ash,	Pennsylvania.	Philadelphia.
6. George Fales Baker,	Pennsylvania.	Philadelphia.
2. Charles Michael Baumann, Jr.,	Pennsylvania.	Philadelphia.
6. Charles Walts Burr,	Pennsylvania.	Philadelphia.
3. Sanford Keyser Campbell,	Pennsylvania.	Philadelphia.

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

2. Robert Culin Canby,	Pennsylvania.	Philadelphia.
4. Samuel Norris Craven,	Pennsylvania.	Philadelphia.
4. Richard Wistar Davids,	Pennsylvania.	Overbrook.
1. Howard Nelson Davis,	Pennsylvania.	Philadelphia.
5. Frank Miles Day,	Pennsylvania.	Philadelphia.
4. Charles Hay Doebler,	Pennsylvania.	Philadelphia.
2. Lincoln Grant Eakins,	Pennsylvania.	Philadelphia.
2. Edward Henry Earnshaw,	New Jersey.	Riverton.
3. Amasa Ely,	Pennsylvania.	Philadelphia.
2. William Magee Field,	Pennsylvania.	Philadelphia.
4. Isaac Ford,	Pennsylvania.	Philadelphia.
2. Frank Lynwood Garrison,	Pennsylvania.	Philadelphia.
4. Hugh Thomas Henry,	Pennsylvania.	Philadelphia.
4. William Marshall Hinkle,	Pennsylvania.	Philadelphia.
6. Isaac Leopold,	Pennsylvania.	Philadelphia.
4. Edwin Beale Sadtler,	Pennsylvania.	Allentown.
3. Hiram Abiff Schofield,	Pennsylvania.	Elwyn.
4. William Jones Serrill,	Pennsylvania.	Darby.

Juniors—23.

SOPHOMORES.

Milo Dimmick Baldy,	Pennsylvania.	Philadelphia.
Llewellyn Barry,	Pennsylvania.	Philadelphia.
William Milliken Bodine,	Pennsylvania.	Philadelphia.
Gilbert Forney Brown,	Pennsylvania.	Philadelphia.
Charles Edward Burton,	Pennsylvania.	Philadelphia.
* 5. James Lindsay Burton,	Pennsylvania.	Philadelphia.
Clarence Raymond Claghorn,	Pennsylvania.	Philadelphia.
Frank Cooper,	Pennsylvania.	Mount Airy.
Charles Nathaniel Davis,	Pennsylvania.	Pottsville.
5. Jay Dickerson,	Pennsylvania.	Philadelphia.
Charles Ellis Ellicott,	Pennsylvania.	Philadelphia.
Edward Shippen Watson Farnum,	Pennsylvania.	Germantown.
James Barr Ferree,	Pennsylvania.	Philadelphia.
5. Alexander Johnston Gray,	Pennsylvania.	Philadelphia.
George Ross Green,	Pennsylvania.	Philadelphia.
Charles Francis Gummey, Jr.,	Pennsylvania.	Germantown.
Napoleon Bonaparte Heller,	Pennsylvania.	Philadelphia.
Wilford Lawrence Hoopes,	Pennsylvania.	Philadelphia.
5. Charles James Hurst,	Pennsylvania.	Philadelphia.
5. Llywellyn Howard Jenks,	Pennsylvania.	Philadelphia.
Clemens Jones,	Pennsylvania.	Philadelphia.
Henry Frank Kellner,	Pennsylvania.	Philadelphia.
5. St. Lawrence Jackson Lawrance,	Pennsylvania.	Philadelphia.

* The Sophomores to whose names the figure 5 is prefixed have elected to pursue the new five years' course of study, and will graduate in 1885. The rest pursue the four years' course, and will graduate in 1884. This is the only class to which this option will be given, as the five years' course will hereafter be required of those students who are not fitted to secure a more advanced standing than the Freshman Class.

5. Lucien Vernon Leach,	Pennsylvania.	Philadelphia.
Richard Levick,	Pennsylvania.	Philadelphia.
5. Charles Elder Lindsay,	Pennsylvania.	Philadelphia.
George Beauregard McGinley,	Texas.	Galveston.
Theodore Maris,	Pennsylvania.	Philadelphia.
John Lavington Morgan,	Pennsylvania.	Phoenixville.
5. Frederick Gad Myhlertz,	Pennsylvania.	Philadelphia.
William Forrest Paul,	Pennsylvania.	Philadelphia.
Robert Haynes Pile,	Pennsylvania.	Philadelphia.
5. William Merriman Price,	Pennsylvania.	Philadelphia.
William Evan Russell,	Pennsylvania.	Philadelphia.
William Irvin Seltzer,	Pennsylvania.	Philadelphia.
George Sergeant, Jr.,	Pennsylvania.	Germantown.
5. Charles Hopkins Small,	Pennsylvania.	York.
Emlyn Lamar Stewardson,	Pennsylvania.	Philadelphia.
Samuel Slee Taite,	Pennsylvania.	Philadelphia.
William Joseph Thompson,	Maryland.	Westminister.
William Townsend Van Culin,	Pennsylvania.	Philadelphia.
Samuel Smyth Van Pelt,	Pennsylvania.	Philadelphia.
		Sophomores,—42.

FRESHMEN.

Enoch Jones Acker,	Pennsylvania.	Schuylkill Post-Office.
Charles Henry Anspach,	Pennsylvania.	Philadelphia.
Percy Ash,	Pennsylvania.	Philadelphia.
William Lincoln Black,	New Jersey.	Hammonton.
Henry Thomas Boyd,	Pennsylvania.	Philadelphia.
John Abbott Cantrell,	Pennsylvania.	Philadelphia.
Samuel Williamson Cheyney,	Pennsylvania.	Philadelphia.
Samuel James Creswell, Jr.,	Pennsylvania.	Philadelphia.
Allen Brooks Cuthbert,	New Jersey.	Beverly.
Charles Rick Dundore,	Pennsylvania.	Philadelphia.
John Stephens Durham,	Pennsylvania.	Philadelphia.
Edmund Waterman Dwight,	Pennsylvania.	Philadelphia.
George Kingsbury Fischer,	Pennsylvania.	Philadelphia.
Howard Godey,	Pennsylvania.	Philadelphia.
Rockwell Hall,	New Jersey.	Woodbury.
Charles Stanley Harvey,	Pennsylvania.	Philadelphia.
John Lincoln Harvey,	Pennsylvania.	Ridley Park.
Edwin Newberry Hawkins,	Pennsylvania.	Philadelphia.
William Whitney Heberton,	Pennsylvania.	Philadelphia.
Hermann Siegfried Hering,	Pennsylvania.	Philadelphia.
Herman Herzog, Jr.,	Pennsylvania.	Philadelphia.
Edward Ilsley,	Pennsylvania.	Germantown.
James Collins Jones,	Pennsylvania.	Philadelphia.
Jerome Thomas Kelly,	Pennsylvania.	Philadelphia.
Wilbur Paddock Klapp,	Pennsylvania.	Philadelphia.
Damaso Laine, Jr.,	Cuba.	Navajas.

Wilmer Francis Lubbe,	Pennsylvania.	Conshohocken.
Harry Spencer Lucas,	Pennsylvania.	Philadelphia.
David Lincoln Luke,	Delaware.	Rockland.
John Gibson McCall,	Pennsylvania.	Philadelphia.
Robert Hansell Page,	Pennsylvania.	Philadelphia.
Henry Lippincott Patterson,	Pennsylvania.	Philadelphia.
Marshall Rogers Pugh,	Pennsylvania.	Doylestown.
Lino Francesco Rondinella,	Pennsylvania.	Philadelphia.
William Carmalt Scull,	New Jersey.	Camden.
William Sharpe,	Pennsylvania.	Philadelphia.
William Ignatius Shields,	Pennsylvania.	Philadelphia.
Samuel Lieberkuhn Shober, Jr.,	Pennsylvania.	Philadelphia.
Henry Szlapka,	Pennsylvania.	Phoenixville.
Samuel McMurray Smith,	Pennsylvania.	Philadelphia.
Morris Sutphen Solomon,	Pennsylvania.	Philadelphia.
Frank Thibault,	Pennsylvania.	Philadelphia.
Paul Thompson,	New Jersey.	Beverly.
Frederick G. Thorn, Jr.,	Pennsylvania.	Philadelphia.
Harry Stewart Van Osten,	Pennsylvania.	Philadelphia.
Louis Hood Watt,	Pennsylvania.	Philadelphia.
Herbert Coleman Whitaker,	New Jersey.	Camden.
Frederick Ernest Wiltberger,	Pennsylvania.	Philadelphia.
William Schmoë Wolfe,	Pennsylvania.	Philadelphia.

Freshmen,—49.

SPECIAL STUDENTS.

1. Richard Downing Baker,	Pennsylvania.	Philadelphia.
4. Maurice Benjamin Chandler,	Pennsylvania.	Philadelphia.
1. John Chalmers Da Costa,	Pennsylvania.	Philadelphia.
1. Edwin Meyer Goldsmith,	Pennsylvania.	Philadelphia.
3. Charles Prevost MacArthur,	Pennsylvania.	Philadelphia.
4. Francis Clark Perot,	Pennsylvania.	Germantown.
1. Franklin Prince,	Pennsylvania.	Philadelphia.
<hr/>		
6. Thomas Ridgway Barker,	Pennsylvania.	Philadelphia.
4. George Herbert Condict,	Pennsylvania.	Germantown.
6. Lloyd Wolley Curtiss, M. D.,	New Jersey.	Point Pleasant.
6. Emily Scull Dinnin,	Pennsylvania.	Philadelphia.
1. Edwin Greble Dreer,	Pennsylvania.	Philadelphia.
5. William Miller Ellicott, 3d,	Pennsylvania.	Philadelphia.
1. George Deazley Firmin,	Pennsylvania.	Norristown.
2. Anthony Fischer,	District of Columbia.	Washington.
1. Harry Stuart Fleming,	Pennsylvania.	Philadelphia.
3. William George Gossling,	Pennsylvania.	Philadelphia.
3. Harry Bern Hirsh,	Pennsylvania.	Philadelphia.
3. George Andrew Luccareni,	Pennsylvania.	Philadelphia.
6. Martha Annie McAlpine,	Pennsylvania.	Philadelphia.
6. William Cromwell McFetridge,	Pennsylvania.	Philadelphia.
6. Anna Elizabeth Murphy,	Pennsylvania.	Philadelphia.

3. Joaquim Teixeira de Almeida Nogueira, Jr.,	Brazil.	Campinas.
1. Alfred Hurst Read,	Pennsylvania.	Norristown.
6. Harvey Shoemaker,	Pennsylvania.	Philadelphia.
6. Jesse Groom Shoemaker,	Pennsylvania.	Philadelphia.
3. Harry Clay Shurtleff,	Pennsylvania.	Philadelphia.
3. Jacob Henry Stadelman,	Pennsylvania.	Overbrook.
1. Edward Walden, Jr.,	Pennsylvania.	Spring Hill.
6. Charles Barclay Warder,	Pennsylvania.	Philadelphia.
4. William Henry Weston,	Pennsylvania.	Philadelphia.
4. Thomas Drake Whitaker,	Pennsylvania.	Olney.
6. Samuel Harvey Wollerton, M. D.,	Pennsylvania.	West Chester.

Special Students,—33.

TOWNE SCIENTIFIC SCHOOL.

Post-Graduate,	I
Seniors,	23
Juniors,	23
Sophomores,	42
Freshmen,	49
Special Students,	33
Total Matriculates in Towne Scientific School,	<u>171</u>

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 Literature, 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 Geology, 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 economical 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 furnished without a close acquaintance with the principles of economic science.

Hencefore, 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 a 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. Thomson and Quimby'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*. Collot's *French Reader*. Brégy's *French Rules* (Pt. I.). Inorganic and Organic Chemistry.

B. Horace's *Satires* and *Odes*. Livy. Virgil's *Aeneid*. 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*. Brégy's *French Rules* (Pt. II.). Souvestre's *Un Philosophe sous les Toits*. 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. 15-16 or 23-24.)

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 are satisfied that they possess the elements of a good English education, and are able to profit by the course of instruction. They shall pursue all those studies which the Faculty shall 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. 9-13. Letters of inquiry may be addressed to either 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 *National Economy*. Johnston'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. Shakspeare (Several Plays Illustrating the Growth of the Dramatist's Mind and Art). Compositions and Declamations.

GERMAN.—Lessing's *Nathan der Weise*. *Der Mensch und die Natur*.

FRENCH.—Racine or Corneille.

PHYSICS.—Mechanics, including Hydrostatics, Pneumatics and Sound.

MINERALOGY.—General description of Minerals and Crystallography.

LATIN (Elective with Drawing).—Smith's *Principia Latina*, Part I. Caesar (*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.

PHYSICS.—Heat and Light.

LATIN.—Cicero's *Epistolæ*, *De Senectute*, etc. (Long's edition). Virgil's *Georgics*.

GERMAN.—Schiller's *Wilhelm Tell*. Goethe's *Hermann und Dorothea*. Translations into German. Whitney's *German Grammar*.

FRENCH.—Molière.

SENIOR YEAR.

LAW.—Elementary Law. Mercantile Law (Law of Partnership. Law of Common Carrier. License Laws. Land Laws, etc., etc.). Constitutional Law of the United States and of the Commonwealth of Pennsylvania. The Rules of Order in Public and Corporation Meetings.

SOCIAL SCIENCE.—Lectures on Living Issues (Land, Labor, Monetary Questions in their Popular Aspects, Socialism and Communism, Free Trade and Protection, Charity Organization, Popular and Industrial Education).

— — — — — Mulford's *Nation*.

— — — — — Original Research in the Theory and History of Economical Questions, under direction of the Professor.

HISTORY.—Lectures on Modern and Mediæval History. Guizot's *History of Civilization in Europe*.

ENGLISH.—Compositions and Declamations.

PHYSICS.—Electricity. Practical and Astronomical Physics.

ASTRONOMY.—Mathematical Astronomy.

MATRICULATES, 1881-2.

WHARTON SCHOOL OF FINANCE AND ECONOMY.

SUB-JUNIORS.

NAME.	STATE.	RESIDENCE.
Charles Winrod Finck,	Pennsylvania.	Philadelphia.
William Redwood Wharton,	Pennsylvania.	Philadelphia.
		Sub-juniors,—2.

SPECIAL STUDENTS.

Robert Dix Benson,	Pennsylvania.	Titusville.
Hubert Brock,	Pennsylvania.	Philadelphia.
Newbold Etting,	Pennsylvania.	Philadelphia.
William Simmons Johnson,	Pennsylvania.	Germantown.
Charles Lincoln Livingston,	Pennsylvania.	Philadelphia.
John Gummere Marsh,	New Jersey.	Burlington.
Shiro Shiba,	Japan.	Tokio.
William Lukens Supplee,	Pennsylvania.	Philadelphia.
Clarence Wills Taylor,	New Jersey.	Camden.
George Buckley Warder,	Pennsylvania.	Germantown.
Clement Biddle Webster,	Pennsylvania.	Philadelphia.
		Special Students,—11.

WHARTON SCHOOL OF FINANCE AND ECONOMY.

Sub-Juniors,	2
Special Students,	11
	13

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.

Helen D. Abbott,	Philadelphia.
William Bancroft,	Wilmington, Delaware.
Helen A. Clarke,	Philadelphia.
Emma J. Gussman,	Philadelphia.
Louisa S. Hornor,	Philadelphia.
Marie Jefferys,	Philadelphia.
Frank H. Thornton,	Philadelphia.
Elsie Walker,	Philadelphia.

DEPARTMENT OF MEDICINE.

FACULTY.

- WILLIAM PEPPER, M. D., LL. D., PROVOST OF THE UNIVERSITY,
and *ex-officio* President of the Faculty.
- HENRY H. SMITH, M. D., Emeritus Professor of Surgery.
- JOSEPH LEIDY, M. D., LL. D., Professor of Anatomy.
- 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, Phar-
macy, and General Therapeutics.
- THEODORE G. WORMLEY, M. D., LL. D., Professor of Chemistry.
- JOHN ASHHURST, JR., M. D., Professor of Clinical Surgery.
- HARRISON ALLEN, M. D., Professor of Physiology.

DEMONSTRATORS.

- CHARLES T. HUNTER, M. D., Demonstrator of Anatomy.
- J. HENRY C. SIMES, M. D., Demonstrator of Pathological Histology.
- ADOLPH W. MILLER, M. D., Demonstrator of Practical Pharmacy.
- JOSEPH G. RICHARDSON, M. D., Demonstrator of Normal Histology.
- CHARLES B. NANCREDE, M. D., Demonstrator of Osteology and Syndesmology.
- ROBERT MEADE SMITH, M. D., Demonstrator of Experimental Physiology.
- JOHN MARSHALL, M. D., Demonstrator of Practical Chemistry.
- BENJAMIN F. BAER, M. D., Demonstrator of Clinical Gynæcology.
- EDWARD T. BRUEN, M. D., Demonstrator of Clinical Medicine.
- J. WILLIAM WHITE, M. D., Demonstrator of Surgery.
- HENRY F. FORMAD, M. D., Assistant Demonstrator of Pathological Histology.
- GEORGE A. PIERSOL, M. D.,
B. ALEXANDER RANDALL, M. D., } Assistant Demonstrators of Normal Histology.
- CHARLES B. NANCREDE, M. D.,
JOHN B. DEEVER, M. D., } Assistant Demonstrators of Anatomy.
RICHARD H. HARTE, M. D., }

- WM. BARTON HOPKINS, M. D.,
 HARRY R. WHARTON, M. D.,
 RICHARD H. HARTE, M. D., } Assistant Demonstrators of Surgery.
- ALBERT L. A. TOBOLDT, M. D., Assistant Demonstrator of Practical Pharmacy.
 ROLAND G. CURTIN, M. D.,
 THOMAS H. CATHCART, M. D., } Assistants to the Professor of Clinical Medicine.
- HARRY R. WHARTON, M. D., Assistant to the Professor of Clinical Surgery.
 HENRY F. FORMAD, M. D., Librarian, and Assistant to the Professor of Morbid Anatomy.
- FRANCIS X. DERCUM, M. D., Assistant Demonstrator of Physiology.
 WASHINGTON H. BAKER, M. D., Assistant to the Professor of Obstetrics.

LECTURERS IN THE SPRING SESSION.

- CHARLES T. HUNTER, M. D., Regional Anatomy.
 J. WILLIAM WHITE, M. D., Venereal Diseases, and Operative and Minor Surgery.
 DE FOREST WILLARD, M. D., Orthopædic Surgery.
 ROLAND G. CURTIN, M. D., Physical Diagnosis.
 SAMUEL D. RISLEY, M. D., Ophthalmoscopy.
 EDWARD O. SHAKESPEARE, M. D., Refraction and Accommodation of the Eye, and Operative Ophthalmic Surgery.
 ADOLPH W. MILLER, M. D., Practical Pharmacy.
 J. HENRY C. SIMES, M. D., Histology.
 ELLIOTT RICHARDSON, M. D., Practical Obstetrics.
 CHARLES K. MILLS, M. D., Mental Diseases and Electro-Therapeutics.
 CARL SEILER, M. D., Laryngoscopy.
 EDWARD T. BRUEN, M. D., Pathology of the Urine.
 JOHN M. KEATING, M. D., Diseases of Children.
 CHARLES B. NANCREDE, M. D., Descriptive Anatomy of the Bones and Joints.
 LOUIS STARR, M. D., General Symptomatology.
 HENRY F. FORMAD, M. D., Experimental Pathology.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

HOSPITAL STAFF.

- ALFRED STILLÉ, M. D., Professor of the Theory and Practice of Medicine, and of Clinical Medicine.
 D. HAYES AGNEW, M. D., John Rhea Barton Professor of Surgery.
 RICHARD A. F. PENROSE, M. D., Professor of Obstetrics and of the Diseases of Women and Children. } *Ex-officio.*
- 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 the 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.
 THOMAS D. DAVIS, M. D., Resident Physician.
 GEORGE E. DE SCHWEINITZ, M. D., Resident Physician.

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 Venereal Dispensary.
 JOHN H. MUSSER, M. D., Chief of Medical Dispensary.
 LEWIS H. KIRK, M. D.,
 EDWARD W. ALLISON, M. D., } Assistant Physicians in the Medical Dispensary.
 HOLLINGSWORTH NEILL, M. D.,
 WM. BARTON HOPKINS, M. D., } Assistant Surgeons in the Surgical Dispensary.
 J. HENRY C. SIMES, M. D., }
 WM. L. TAYLOR, M. D., } Assistant Physicians in the Dispensary for Diseases of
 WM. D. ROBINSON, M. D., } Women.
 WILLIAM A. DAVIS, M. D., }
 CARL SEILER, M. D., Assistant Physician in the Medical Dispensary in Charge of
 Throat Department.
 JAMES WALLACE, M. D.,
 B. ALEXANDER RANDALL, M. D., } Assistant Physicians in the Dispensary for Diseases
 of the Eye.
 ROBERT B. GLASGOW, M. D., } Assistant Physicians in the Dispensary for Nervous
 JAMES HENDRIE LLOYD, M. D., } Diseases.
 JOHN M. KEATING, M. D., Assistant Physician in the Medical Dispensary in Charge of
 Children's Department.
 ROBERT HAMILI, M. D., Assistant Physician in the Dispensary, for Diseases of the Ear.

All communications should be addressed to

WM. H. SALVADOR, *Clerk.*

JAMES TYSON, M. D.,
Secretary of the Faculty of Medicine.
University of Pennsylvania.

DEPARTMENT OF MEDICINE.
CALENDAR, 1882-3.

1882.	
September 11.	Preliminary Course opens.
September 27.	Competitive Examination for Scholarships held.
September 28.	Examination for admission to advanced standing, and Re-Examination of undergraduates.
September 29.	Examination for Admission.
October 2.	Winter Session opens.
1883.	
April 2.	Examinations begin.
April 15.	Annual Commencement.
April 16.	Examination for Resident Physicians, University Hospital.
April 23.	Spring Session opens.

The Department of Medicine was founded in 1765, by Drs. WILLIAM SHUPPEN, 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 of 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 Pittsburgh 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, on 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 that 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 designing to study medicine is particularly called to the special advantages of the Course Preparatory to Medicine in the Towne Scientific School. 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 sessions 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

*Arrangements will be made for holding an admission examination in the more distant cities of the United States.

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 or post-graduate year, recently organized to go into operation with the session of 1882-3, and upon which attendance is voluntary, the instruction is almost purely practical in character. (See p. 49)

The laboratory instruction referred to, in Chemistry, Pharmacy, Osteology, and Normal and Pathological Histology, and which is further described 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, and 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. Day by day, the line which separates the graduates of superior or advanced schools from those of institutions clinging to the old standard becomes more and more distinct. The attention of the community is aroused, and it is unquestionable that future graduates of the University and of schools upon a similar basis will not only be entitled to, but will also receive, a larger share of the confidence of the community than will be given to those who have pursued a less thorough course of study.

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 con-

vinced 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 accordance with the policy of the Trustees and Faculty already announced, it has been decided that *for and after the session of 1882-3, the Winter Term of instruction upon which attendance is required will be extended to six months,—from the first Monday in October to the first day of April.* 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 COURSE FOR GRADUATES, which will be found detailed on pages 49 and 55. There are no subjects connected with the fundamental departments of medicine, or with the several subdivisions determined by usage, that are not thoroughly taught in one or other of these courses. While several of these subjects 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 after graduation to pursue the studies of the fourth year, for attendance on which a suitable certificate will be given.

Before the opening of the next winter session, a new wing will be added to the University Hospital, for the accommodation of cases of chronic diseases, especially of the heart and lungs, so that unusually good opportunities will be afforded for the study of these important affections. This wing will be erected by the liberality of Mr. Henry C. Gibson; and the beds, one hundred 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.

FIRST YEAR.

	Total hours per week.
Anatomy,—for half the term 4 lectures per week, for half the term 3 lectures, 10 hours practical anatomy,	13½
Histology,—2 hours laboratory,	2
Materia Medica and Pharmacy,—1 lecture per week, 2 hours laboratory,	3
General Chemistry, including Chemical Physics,—for half the term 3 lectures per week, for half the term 2 lectures, 5 hours laboratory,	7½
Physiology,—3 lectures per week, 3 hours laboratory,	6
General Pathology,—1 lecture per week,	1
General Clinics, Medical and Surgical,	2
Final examinations at the end of the course: General Chemistry, Materia Medica and Pharmacy.	

SECOND YEAR.

Anatomy,—for half the term 4 lectures per week, for half the term 3 lectures, 10 hours evening dissection,	13½
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 labor- atory,	3½

	Total hours per week.
Therapeutics,—for half the term 3 lectures per week, for half the term 2 lectures,	2½
Theory and Practice of Medicine,—for half the term 4 lectures per week, for half the term 3 lectures,	3½
Surgery,—for half the term 4 lectures per week, for half the term 3 lectures,	3½
Obstetrics,—for half the term 3 lectures per week, for half the term 2 lectures,	2½
General Clinics, Medical and Surgical,	8

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 lecture per week,	1
Therapeutics,—for half the term 3 lectures per week, for half the term 2 lectures,	2½
Theory and Practice of Medicine,—for half the term 4 lectures per week, for half the term 3 lectures,	3½
Surgery,—for half the term 4 lectures per week, for half the term 3 lectures,	3½
Obstetrics,—for half the term 3 lectures per week, for half the term 2 lectures,	2½
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 hour bedside teaching,	1
*Bedside Instruction in Practical Surgery,—1 hour practical instruction,	1
*Practical Ophthalmology,—1 hour practical instruction,	1
*Practical Otology,—1 hour practical instruction,	1
*Practical Dermatology,—1 hour practical instruction,	1
*Practical Electro-Therapeutics,—1 hour practical instruction,	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 for degree at the end of the course : General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children.

FOURTH YEAR AND POST-GRADUATE COURSE (VOLUNTARY).

(FROM OCTOBER 20TH, 1882, TO MARCH 1ST, 1883.)

	Total hours per week.
Clinical Medicine and Physical Diagnosis,—1 hour clinical lecture, 2 hours ward visit, 1 hour clinical conference,	4
Clinical Surgery,—2 hours clinical lecture, 1 hour practical instruction,	3
Operative Surgery,—1 hour practical instruction,	1
Syphilis,—1 hour practical instruction,	1
Nervous and Mental Diseases and Electro-Therapeutics,—1 hour clinical lecture, 1 hour ward visit,	2
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, 1 hour clinical lecture, 1 hour practical in- struction,	3

* For these courses the class will be divided into sections, so that each student may receive direct personal instruction. *The Courses on Ophthalmology, Otology, Dermatology and Electro-Therapeutics are optional, and for each a special fee is charged.*

	Total hours per week.
Renal Diseases, with Practical Examination of Urine,—1 hour ward visit,	1
Laryngology,—1 hour practical instruction,	1
Diseases of Children,—1 hour,	1
Clinical and Operative Obstetrics,—1 hour practical instruction,	1

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 or post-graduate year, together with the didactic lectures throughout the six months on Morbid Anatomy, Therapeutics, Practice of Medicine and Surgery, Obstetrics and Gynæcology, and pass a satisfactory examination. A certificate of attendance will be given to those attending one or more of the post-graduate courses.

TEXT-BOOKS.

TEXT-BOOKS.	COLLATERAL READING.
CHEMISTRY.—Fownes's <i>Chemistry</i> ; Muller's <i>Analytical Chemistry</i> .	Wurts's <i>Elements of Modern Chemistry</i> ; Attfield's <i>Chemistry</i> .
MATERIA MEDICA.—H. C. Wood.	Wood & Bache's <i>Dispensatory</i> .
ANATOMY.—Leidy; Gray; Schaeffer's <i>Practical Histology</i> for laboratory work.	Quain's <i>Anatomy</i> ; Stricker's <i>Histology</i> .
PHYSIOLOGY.—Kirke.	Carpenter; Foster.
GENERAL PATHOLOGY.—Wagner; Tyson's <i>Cell Doctrine</i> , pp. 127-152.	
SECOND AND THIRD YEARS.	
MEDICAL CHEMISTRY.—Greene; Tyson's <i>Practical Examination of Urine</i> .	Wormley's <i>Micro-Chemistry of Poisons</i> .
ANATOMY.—Leidy; Gray.	Quain; Stricker's <i>Histology</i> .
PHYSIOLOGY.—Foster.	Carpenter.
GENERAL PATHOLOGY AND MORBID ANATOMY.—Cornil and Ranvier, translated by Shakespeare and Simes; Wagner.	Rindfleisch's <i>Pathological Histology</i> ; Orth's <i>Diagnosis in Pathological Anatomy</i> .
THERAPEUTICS.—H. C. Wood.	Wood & Bache's <i>Dispensatory</i> .
PRACTICE OF MEDICINE.—Flint or Roberts. Fenwick's <i>Medical Diagnosis</i> .	Reynold's <i>System</i> ; Bruen, <i>Physical Diagnosis</i> ; Stillé's <i>Therapeutics</i> ; Stillé & Maisch's <i>Dispensatory</i> ; Duhring on <i>Diseases of the Skin</i> .
SURGERY.—Agnew; Ashhurst.	Smith's <i>Principles and Practice of Surgery</i> ; Erichson; Billroth's <i>Surgical Pathology</i> .
OBSTETRICS.—Playfair's <i>Midwifery</i> .	Hodge's <i>Obstetrics</i> ; West on <i>Diseases of Women</i> ; West on <i>Diseases of Children</i> ; Meigs and Pepper on <i>Diseases of Children</i> .
GYNÆCOLOGY.—Goodell's <i>Lessons in Gynæcology</i> .	Hodge on <i>Diseases Peculiar to Women</i> ; Thomas on <i>Diseases of Women</i> ; Emmet's <i>Practice of Gynæcology</i> .

ORDER OF LECTURES, DAILY, SESSION 1881-2.—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 hrs.	Chemical Laboratory, two hours.	Philada. or Penna. Hosp., Medical and Surgical Clinics or Dissection.		Chemical Laboratory, three hours.	Physiological Laboratory, three hours.
11 A. M.	Others Pract. Anatomy.			General Pathology.		
12 M.	Materia Medica.	Normal Histology. Laboratory. One section 2 hrs.	Normal Histology. Laboratory. One section 2 hrs.	Normal Histology. Laboratory. One section 2 hrs.	Normal Histology. Laboratory. One section 2 hrs.	Normal Histology. Laboratory. One section 2 hrs.
1 P. M.	Anatomy.	Others Pract. Anatomy.	Others Pract. Anatomy.	Others Pract. Anatomy.	Others Pract. Anatomy.	Others Pract. Anatomy.
3½ P. M.		Anatomy.		Anatomy.	Anatomy.	
4½ P. M.	Physiology.		Physiology.		Physiology.	
7½ to 10 P. M.		Pharmacy, Laboratory.		Pharmacy, Laboratory.		

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 or Penna. Hosp., Med. and Surgical Clinics.	Practice.	Practice.	Philadelphia or Penna. Hosp., Med. and Surgical Clinics.
11 A. M.	Morbid Anatomy.	Topographical Anatomy.		Topographical Anatomy.	Morbid Anatomy.	
12 M.	Surgery.	Surgery.	Pathol. Histology, Laboratory. One section 2 hrs.	Surgery.	Surgery.	Pathol. Histology, Laboratory. One section 2 hrs.
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.	Therapeutics	Physiology.	Therapeutics	Physiology.	Therapeutics
7½ to 10 P. M.	Dissection.	Dissection.	Dissection.	Dissection.	Dissection.	

THIRD YEAR.

10 A. M.	Practice.	Practice.	Philadelphia or Penna. Hosp., Med. and Surgical Clinics.	Practice.	Practice.	Philadelphia or Penna. Hosp., Med. and Surgical Clinics.
11 A. M.	Morbid Anatomy.	Demonst'ns in Morbid Anatomy.		Clinical Conference.	Morbid Anatomy.	
12 M.	Surgery.	Surgery.	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.	Didactic Gynecology, U. H.	Obstetrics.	Diseases of Women and Children.		Obstetrics.
4½ P. M.	Practice in Minor and Operative Surgery and Bandaging.	Therapeutics	Lecture on Minor and Operative Surgery and Bandaging.	Therapeutics	Practice in Minor and Operative Surgery and Bandaging.	Therapeutics

U. H. University Hospital.

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

Special Classes for graduates and third-year men are formed for practical instruction in Electro-Therapeutics, Ophthalmology, Otolaryngology and Dermatology. The classes are limited in size and a fee is charged.

ROSTER OF BEDSIDE INSTRUCTION AND SPECIAL CLINICS FOR STUDENTS OF THE THIRD YEAR, SESSION 1881-2.

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

FROM TUESDAY, OCTOBER 4TH, UNTIL FRIDAY, NOVEMBER 4TH, INCLUSIVE.

	Monday.	Tuesday.	Thursday.	Friday.
Professor Pepper,	A	B	C	D
Professor Goodell,	B	C	D	A
Professor Ashhurst,	C	D	A	B
Special Clinics,	D	A	B	C

FROM MONDAY, NOVEMBER 7TH, TO FRIDAY, DECEMBER 9TH, INCLUSIVE.

Professor Pepper,	B	C	D	A
Professor Goodell,	C	D	A	B
Professor Ashhurst,	D	A	B	C
Special Clinics,	A	B	C	D

FROM MONDAY, DECEMBER 12TH, TO FRIDAY, JANUARY 20TH, INCLUSIVE.

Professor Pepper,	C	D	A	B
Professor Goodell,	D	A	B	C
Professor Ashhurst,	A	B	C	D
Special Clinics,	B	C	D	A

FROM MONDAY, JANUARY 23D, TO FRIDAY, FEBRUARY 24TH, INCLUSIVE.

Professor Pepper,	D	A	B	C
Professor Goodell,	A	B	C	D
Professor Ashhurst,	B	C	D	A
Special Clinics,	C	D	A	B

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.
	Professor Strawbridge.	Professor Duhring.	Professor Norris.	Professor Wood.
	Otology.	Dermatology.	Ophthalmology.	Nervous Diseases.

The entire Third Year Class attends the General Medical, Surgical and Gynæcological Clinics held on Wednesdays and Saturdays, from twelve to two o'clock, in the Upper Lecture-Room; also, the Clinical Conference of Professor Pepper, at eleven o'clock, on Thursdays, and the Autopsies and Demonstrations in Morbid Anatomy, by Professor Tyson, at eleven o'clock, on Tuesdays.

RULES AND REQUIREMENTS FOR ADMISSION AND GRADUATION.

I. The candidate for admission is required to pass the preliminary examination described on page 46. 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 will be 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 will be 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.†

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

† The examinations for admission to advanced standing in the next year will be held on Thursday, September 28th, 1882, at 12 M. The re-examination of those who have failed in their term examinations will be held on the same day.

Graduates of other regular medical schools in good standing will be 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. Candidates who have not been successful upon a first examination will be permitted to have a second before the June Commencement.

VI. 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.

VII. 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.

VIII. The Commencement for conferring the Degree of Doctor of Medicine is held on the 15th day of April, unless that day shall fall on a Sunday, when it will be held the preceding Friday. Degrees in Medicine are also conferred at the Commencement held June 15th, on those who have failed to comply with the requirements before the March Commencement.

IX. 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*, upon which alone attendance is obligatory, begins on Monday, the second day of October, and ends on the last week-day of March ensuing.

The *Preliminary Session* begins on the second Monday (11th,) in September, and ends on the Saturday preceding the day of opening of the Winter Session.

The *Spring Session*, 1882, begins on the third Monday in March, 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

* 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 should also be bound.*

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.

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, and graduation fee,	\$150 00
Material for operating,	\$1 a part.

FOURTH YEAR.

For general ticket, including all the practical courses of this year, with privilege of attending the didactic courses of the third year, and applying for graduation, (no graduation fee,)	\$200 00
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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
(Thirty dollars 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
Fee for the full third-year course to graduates of other schools, including privilege of applying for graduation, (no graduation fee,)	150
Fee for a single Course of Lectures, except Materia Medica,	20
Fee for Course on Materia Medica, and on Bandaging and Operating, each,	10
Fee for Practical Course in the Chemical Laboratory,	25
Fee for the Course in Practical Gynæcology of the third year,	25
Fee for any one of the remaining Practical Courses of the third year,	15
Fee for eight weeks' attendance on any seven of the post-graduate courses of the fourth year,	100
Fee for any seven of the post-graduate courses of the fourth year, for sixteen weeks,	150
Fee for any three of the post-graduate courses of the fourth year, for eight weeks,	60
Fee for any three of the post-graduate courses of the fourth year for sixteen weeks,	100

For fees for separate courses of the fourth or post-graduate year, see p. 55.

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 four dollars per week and upwards.

SCHOLARSHIPS.

There will be held at the Medical Hall, on Wednesday, September 27th, 1882, 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 September 15th*, and appear without further notice at the hour and place above named.

SPRING COURSE OF INSTRUCTION—1882.

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 furnished.

The clinics and lectures are continued at the Hospital, and the Faculty have further established a spring course on important subjects by a special corps of instructors. The following are subjects upon which instruction has been given: CHEMISTRY; PHARMACY; GENERAL PATHOLOGY and MORBID ANATOMY; ANATOMY OF THE BONES AND JOINTS; REGIONAL ANATOMY; HISTOLOGY; EXPERIMENTAL PHYSIOLOGY; GENERAL SYMPTOMATOLOGY; PHYSICAL DIAGNOSIS; OPERATIVE and MINOR SURGERY; ORTHOPÆDIC SURGERY; OPHTHALMOSCOPY; REFRACTION and ACCOMMODATION OF THE EYE, and OPERATIVE OPHTHALMIC SURGERY; PATHOLOGY OF THE URINE; VENEREAL DISEASES; PRACTICAL OBSTETRICS; PRACTICAL PHARMACY; MENTAL DISEASES and ELECTRICAL THERAPEUTICS; LARYNGOSCOPY; CLINICAL MEDICINE; CLINICAL SURGERY; CLINICAL GYNÆCOLOGY; DISEASES OF CHILDREN; DISEASES OF THE NERVOUS SYSTEM; DISEASES OF THE EYE; DISEASES OF THE EAR; and DISEASES OF THE SKIN.

POST-GRADUATE COURSES,—SPRING AND SUMMER OF 1882.

With a view to furnishing facilities to such graduates, either of the University or of other medical schools, as may wish to extend their studies beyond the requirements of the three years' course, the following courses for graduates have been established:

Graduates of other schools taking one or more of these courses will be required to pay a registration fee of five dollars to the Secretary. They will then be entered upon the catalogue among those taking special courses.

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. Toxicological and Medico-Legal Studies, Investigation of Blood-Stains, etc. Fee, \$50.

HISTOLOGY AND PATHOLOGY, by Dr. H. F. FORMAD. Two courses: I. 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.

CLINICAL MEDICINE, by Professor PEPPER and Dr. EDWARD T. BRUEN. A thorough study of all the branches of medical diagnosis, with demonstrations at the bedside. Especial attention will be given to physical diagnosis. Fee, \$25.

DISEASES OF THE KIDNEYS, by Professor TYSON. A course of ward visits and practical examinations of urine. Fee, \$15.

CLINICAL SURGERY, by Professor ASHHURST. Ward visits in the University Hospital. Fee, \$15.

CLINICAL SURGERY OF CHILDREN, by Professor ASHHURST and Dr. H. R. WHARTON, at the Children's Hospital. Fee, \$15.

BANDAGING and DRESSINGS, by Dr. C. T. HUNTER. Practical instruction in bandaging and dressing, including treatment of cases. Fee, \$15.

PRACTICAL OBSTETRICS, by Dr. ELLIOT RICHARDSON. A course of Operative Obstetrics; Operations on the Cadaver. Cases supplied. Fee, including material, \$15.

CLINICAL GYNÆCOLOGY, by Dr. B. F. BAER. A course in Practical Gynæcology; Examination of Cases; Attendance on Operations. Fee, \$25.

DISEASES OF THE NERVOUS SYSTEM, including Electro-Therapeutics, by Professor WOOD and Dr. CHARLES K. MILLS. Fee, \$15.

DISEASES OF CHILDREN, by Dr. JOHN M. KEATING. Ward visits. Fee, \$15.

DISEASES OF CHILDREN, by Dr. LOUIS STARR, at the Children's Hospital. Class limited to five. February, March and April. Fee, \$15.

OPHTHALMOLOGY, by Dr. S. D. RISLEY. Use of the Ophthalmoscope; Refraction and Accommodation. Fee, \$25.

DERMATOLOGY, by Professor DUHRING and Dr. A. VAN HARLINGEN. Examination and treatment of cases. Fee, \$20.

OTOLOGY, by Professor STRAWBRIDGE and Dr. W. M. L. ZIEGLER. Practical Instruction; Examination and Treatment of Cases. Fee, \$15.

LARYNGOSCOPY, including Diseases of Upper Air-Passages, by Dr. CARL SEILER. Fee, \$15.

SYPHILIS, by Dr. J. WM. WHITE. Diagnosis and Treatment of Venereal Ulcers, Syphilis, and Genito-Urinary Diseases; Instruction in catheterization and the use of bougies. Fee, \$15.

OPERATIVE SURGERY AND BANDAGING, by Dr. J. WM. WHITE. Fee, \$15.

PRELIMINARY LECTURES,—1882.

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 artistic 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 while he held that chair, 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, 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 course 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 the 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 expressly 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, with the exception of 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 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 Professor 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 four 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.—1. The Working Laboratory for Practical Chemistry, under the supervision of the Professor of Chemistry and the Demonstrator, with competent assistants, is open for students of the first year, for 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 wash-stands, 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 and surgical operations on the cadaver are a part of the practical instruction 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 1880, 6,963 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 duties of the students, and ample opportunities are afforded to the more ad-

vanced among them to gain a personal and practical acquaintance with Clinical Medicine, Surgery, Gynæcology, and 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, and are open to competition by the graduates of the school, of whom a large number have filled these valuable situations.

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 1881-2 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.

The Demonstrator of Osteology and Syndesmology, Dr. CHARLES B. NANCREDE, offers for competition by the members of the first year class of the Medical Depart-

* 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.

ment, a standard work upon anatomy or surgery,—to be awarded to the author of the best thesis upon any subject connected with Osteology or Syndesmology, Microscopic, Comparative, or Developmental, accompanied by drawings, preparations, dissections, etc., illustrative of the points to be proved. It must be handed to the Demonstrator before the first week in March, 1882.

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, 1881-2.

MEDICAL DEPARTMENT.

STUDENTS OF THE THIRD YEAR.

NAME.	STATE.	PRECEPTOR.
Alday, Henry B.	Pennsylvania.	University of Penna.
Anderson, Archibald S. M.	Pennsylvania.	A. B. Brumbaugh.
Baker, Albert Hosmer	Pennsylvania.	University of Penna.
Bancroft, William H.	New Jersey.	University of Penna.
Barber, Timothy L. (A. M.)	Ohio.	Samuel Hart.
Bateman, Eliston R.	New Jersey.	E. E. Bateman.
Beck, J. Howard (Ph. G.)	New Jersey.	I. D. Young.
Bellerjeau, Daniel V.	New Jersey.	W. W. L. Philips.
Blackburn, I. Wright	Pennsylvania.	S. F. Lytle.
Boyd, George M.	Pennsylvania.	University of Penna.
Brockerhoff, Joseph M.	Pennsylvania.	Geo. F. Harris.
Brooks, Joseph W.	Pennsylvania.	A. Harshberger.
Brown, Frampton H.	Pennsylvania.	W. L. Hartman.
Brown, Frederick A.	Massachusetts.	F. D. Brown.
Bunce, Thade S.	Pennsylvania.	R. G. Curtin and B. F. McElroy.
Burnside, Samuel H.	Kentucky.	H. C. Herring.
Caldwell, Samuel L. (A. M.)	New York.	W. W. Keen.
Calkins, Cheney Hosmer	Massachusetts.	M. Calkins.
Carpenter, J. Stratton (B. A.)	Pennsylvania.	John T. Carpenter.
Carter, Robert S.	Pennsylvania.	H. R. Wharton.
Christian, Hilary M.	Pennsylvania.	R. H. Hamill.
Christy, Francis M.	Pennsylvania.	J. T. Christy.
Claxton, Charles (A. B.)	Pennsylvania.	Chas. T. Hunter.
Costill, Henry B.	New Jersey.	O. R. Freeman.
Daland, A. Judson	Pennsylvania.	Wm. Pepper.
Dobson, Augustus T. (A. B.)	Pennsylvania.	University of Penna.
Dolan, William A.	Massachusetts.	University of Penna.
Dolley, Charles S. (B. S.)	New York.	L. C. and S. R. A. Dolley.
Dorsey, Robert R.	Maryland.	Fred. Dorsey.
Elkin, W. Simpson (A. B.)	Kentucky.	Wm. Huffman.
Elliott, John L.	Michigan.	Robt. Le Baron.
Faunt Le Roy, Claybrook	Virginia.	S. G. Faunt Le Roy.
Fogleman, Adam P.	Pennsylvania.	J. C. Livingood.
Fort, Samuel J.	Pennsylvania.	Wm. F. Kemp.
Gerhard, Josiah K.	Pennsylvania.	Geo. K. Meschter.

NAME.	STATE.	PRECEPTOR.
Gotwald, D. King	Pennsylvania.	J. Hay.
Gray, William M.	Pennsylvania.	C. Hermon Thomas.
Guild, Edgar H.	Massachusetts.	E. C. Richardson.
Haehnlen, W. Frank	Pennsylvania.	University of Penna.
Haldeman, Henry W. (M. D.)	Iowa.	E. P. Cook.
Harris, Harry C.	Pennsylvania.	H. M. Nedde.
Harshberger, Samuel U.	Pennsylvania.	A. Harshberger.
Henry, Charles P. (A. M.)	Pennsylvania.	And. Nebinger.
Henry, William P. S. (A. M.)	Pennsylvania.	University of Penna.
Higgate, Wilford O. (Ph. G.)	Pennsylvania.	J. T. Walker.
Himinez, Roberto	Costa Rica.	University of Penna.
Hinkle, Frank W. (A. B.)	Pennsylvania.	F. Hinkle.
Hoell, Conrad G. (Ph. G.)	New Jersey.	Jas. M. Ridge.
Holt, Charles H.	Pennsylvania.	H. Allport.
Ives, William Warren	Pennsylvania.	N. Y. Leet.
Jakes, C. Russell (Ph. B.)	Delaware.	E. W. Cooper.
Jayne, Horace F. (A. B.)	Pennsylvania.	W. W. Keen.
Johnston, George W. (A. B.)	Dist. Columbia.	Wm. Pepper.
Johnston, William A. (D. D. S.)	Illinois.	University of Penna.
Keiser, James W.	Pennsylvania.	Wm. N. Davis.
Kelly, Howard A. (A. B.)	Pennsylvania.	University of Penna.
Kerr, Norman B.	Nova Scotia.	C. J. Morse.
Kline, George W.	Pennsylvania.	J. Y. Dale.
Kupp, D. Webster B.	Pennsylvania.	F. R. Gerhard.
Lamparter, Eugene (Ph. G.)	Wurtemberg.	University of Penna.
Leavitt, Charles B.	New Jersey.	Lyman Leavitt.
Leiser, Oliver	Pennsylvania.	I. M. Rockefeller.
Lemmon, James Quinn	Pennsylvania.	J. Y. Dale.
Lichtenthaler, Henry C.	Pennsylvania.	A. G. Walls.
Lichtenwallner, John B. (A. B.)	Pennsylvania.	S. C. B. Fogel.
Long, Alfred E. (A. B.)	Canada.	Geo. E. Coulthard.
Lodor, Charles H. (A. B.)	Pennsylvania.	Benj. B. Wilson.
Markley, Paul H.	Pennsylvania.	A. D. Markley.
Martin, Edwin M. (D. D. S.)	Pennsylvania.	J. H. Musser.
Matchett, Chas. R. (Ph. B.)	Pennsylvania.	C. B. King.
Miller, Morgan L.	Pennsylvania.	M. G. Lesh.
Moorhead, Wm. W. (Ph. G.)	Pennsylvania.	University of Penna.
Morse, G. Byron, Jr.	Pennsylvania.	University of Penna.
Mossell, Nathan F. (A. B.)	New York.	University of Penna.
Moylan, John J.	Pennsylvania.	Geo. W. Guthrie.
McCullough, Howard	Indiana.	T. P. McCullough.
McKenna, Thomas M. T. (A. B.)	Pennsylvania.	Thos. McKenna.
McLean, Angus	Prince Edward Is.	Angus McSwain.
O'Brien, Thomas C.	Pennsylvania.	Hiram Corson.
Oliver, Allen H.	Pennsylvania.	Edw. R. Mayer.
Palmer John, Jr.	Delaware.	E. G. Shortlidge.
Peabody, John D. (M. D.)	Nebraska.	J. H. Peabody.
Pease, Charles E.	Pennsylvania.	Thomas K. Shaw.

NAME.	STATE.	PRECEPTOR.
Pratt, C. Manville (A. B.)	Pennsylvania.	D. S. Pratt.
Prendergast, Michael T. (Ph. B.)	Pennsylvania.	C. C. Field.
Price, James F.	Pennsylvania.	E. Lane Schofield.
Radcliffe, McCluney (A. M.)	Pennsylvania.	Jas. J. Levick.
Randolph, N. Archer	Pennsylvania.	University of Penna.
Read, Harry C.	Pennsylvania.	R. G. Curtin.
Rebert, Michael A.	Pennsylvania.	J. Weist.
Reed, Carl H.	Pennsylvania.	Alex. W. Ransley.
Reed, Thomas B. (M.D.,)	Pennsylvania.	Jefferson Medical College.
Reeves, J. Howard	Pennsylvania.	University of Penna.
Reinoehl, John K. (A. B.)	Pennsylvania.	Geo. P. Lineaweaver.
Rentzheimer, William H.	Pennsylvania.	Alfred Brown.
Roberts, Charles J.	Pennsylvania.	Chas. N. Frederick.
Robinson, George Taylor	New Jersey.	University of Penna.
Robinson, James Arthur	Massachusetts.	W. S. Robinson.
Rogers, Richard R., Jr.	New Jersey.	R. R. Rogers and Jno. Woolverton.
Rudge, J. Cezar	Brazil.	University of Penna.
Schmidt, Joseph (A. B.)	Prussia.	A. J. Parker.
Schwenk, Peter N. K. (B. S.)	Pennsylvania.	Wm. Leiser, Jr.
Shaner, Warren Bunting	Pennsylvania.	M. A. Withers.
Shapley, William E.	Pennsylvania.	C. A. Howland and W. M. Witherspoon.
Shelly, Daniel W.	Pennsylvania.	I. S. Moyer.
Sheppard, John E. (A. B.)	New Jersey.	H. C. Wood.
Shoemaker, George Erey (A. B.)	New Jersey.	University of Penna.
Shope, J. Henry	Pennsylvania.	Chas. T. Hunter.
Simpson, John C.	Pennsylvania.	Joseph Priestly.
Smedley, Harry L. (Ph. G.)	Pennsylvania.	University of Penna.
Smith, Alexis Dupont	Pennsylvania.	Robt. Meade Smith.
Smith, Herbert Eugene (Ph. B.)	Connecticut.	De F. Willard.
Smith, Nelson M.	Pennsylvania.	Isaac Pursell.
Smock, Ledru P. (A. B.)	New Jersey.	I. P. Davis and Geo. Titus.
Steen, Alexander M.	New Jersey.	H. W. Coleman.
Stewart, William H.	Pennsylvania.	University of Penna.
Tait, J. Sinclair (B. Sc.)	Nova Scotia.	University of Penna.
Taylor, Philip Kittredge	Rhode Island.	T. A. Hazard.
Taylor, William Johnson	Pennsylvania.	Louis Starr
Thomason, Harry D. (C. E.)	Pennsylvania.	C. T. Hunter.
Thompson, Richard J.	Connecticut.	George S. Eddy.
Urquhart, D. Colin	Pennsylvania.	H. E. Goodman.
Wattles, George Hazzard	Connecticut.	S. S. Stryker.
Wells, John R.	Pennsylvania.	Jacob Rickabaugh.
Wentz, Alexander C. (A. B.)	Pennsylvania.	A. J. Snively.
Wentz, John L. (A. B.)	Pennsylvania.	Geo. S. Wentz.
Wilbur, George Franklin (A. B.)	New Jersey.	Lloyd Wilbur.
Wile, Henry (A. B.)	New York.	G. W. Padiera.
Wills, William Le Moyne	Pennsylvania.	Frank Le Moyne.

NAME.	STATE.	PRECEPTOR.
Wilson, Arthur M.	Pennsylvania.	Benj. B. Wilson.
Zimmer, Frederick W.	New York.	J. F. and J. W. Whitbeck.
		Total,—131.

STUDENTS OF THE SECOND YEAR.

Backus, Ogden	New York.	A. Backus.
Barber, A. Walker	Pennsylvania.	F. Swartzlander.
Berens, Conrad (A. B.)	Pennsylvania.	University of Penna.
Bidwell, Edwin H. (Ph.G.)	New Jersey.	E. C. Bidwell.
Biggar, M. Racey (D. D. S.)	Michigan.	University of Penna.
Bliss, Arthur A. (A. B.)	Pennsylvania.	University of Penna.
Bliss, H. Dwight (B. S.)	New York.	J. W. Whitbeck.
Bowman, Jacob Z.	Pennsylvania.	S. G. Lane.
Boyd, William T.	Pennsylvania.	George Gleim.
Brooks, Frederick M.	Virginia.	B. M. Collins.
Burger, Anthony J. (B. S.)	Pennsylvania.	J. Z. Ellinger.
Carothers, J. Weller	Pennsylvania.	C. H. Dougal.
Carr, William H.	Pennsylvania.	A. P. Carr.
Charlton, William S.	Pennsylvania.	University of Penna.
Cheston, Radcliffe	Maryland.	D. Murray Cheston.
Chrystie, Walter	New Jersey.	University of Penna.
Clemens, Brentano	Pennsylvania.	Jos. Mixsell.
Codding, Charles L.	Pennsylvania.	Charles K. Ladd.
Collins, Thomas S. (Ph. G.)	New Jersey.	D. D. Richardson.
Cooper, J. Cardeen	Delaware.	Ezekiel Cooper.
Costa, Leopoldo M. da	Brazil.	University of Penna.
Cox, Charles N.	Pennsylvania.	Harvey Kratz.
Crane, H. Bedell (Ph. G.)	New Jersey.	University of Penna.
Crawford, Joel	Virginia.	John J. Crawford.
Culpeper, William A.	Barbadoes, W. I.	University of Penna.
Cuebas, Manuel J. de las	Cuba, W. I.	University of Penna.
Custer, David D.	Pennsylvania.	G. K. Meschter.
Duncan, Robert A.	Prince Edward Is.	D. M. McIntosh.
Ecroyd, Henry, Jr.	Pennsylvania.	Wm. M. Rankin.
Ely, Adriel B.	New York.	A. G. Ely.
Eschbach, H. Clay (A. B.)	Pennsylvania.	University of Penna.
Evans, Charles W.	Pennsylvania.	S. S. Koser.
Field, Benjamin Rush	Pennsylvania.	C. C. Field.
Fronfield, J. Harvey	Pennsylvania.	Isaac Massey.
Garden, Henry M.	Pennsylvania.	University of Penna.
Gibson, Maris	Pennsylvania.	University of Penna.
Given, S. A. Mercer	Pennsylvania.	R. A. Given.
Gloninger, Andrew B. (A. B.)	Pennsylvania.	Wm. M. Guilford.
Grier, Edgar B.	Pennsylvania.	John Fay.
Hamersly, William H.	Pennsylvania.	M. E. Hornbeck.
Hamilton, Isaac B. (A. B.)	Pennsylvania.	University of Penna.
Hawes, Earl P.	Rhode Island.	University of Penna.
Haworth, Elwood B.	Pennsylvania.	Wm. E. Ashton.

NAME.	STATE.	PRECEPTOR.
Hedges, Ellis W. (A. B.)	New Jersey.	Smith E. Hedges.
Heebner, Thomas F.	Pennsylvania.	Geo. W. Brown and T. J. Birch.
Hickman, Harbeson, Jr.	Delaware.	Hiram R. Burton.
Hirst, Barton C.	Pennsylvania.	University of Penna.
Hoffman, Joseph E. (A. B.)	Pennsylvania.	Jas. D. Strawbridge.
Hopkinson, Oliver, Jr. (A. B.)	Pennsylvania.	J. M. Keating.
Ingram, James H.	New Jersey.	University of Penna.
Johnson, Frederick C.	Pennsylvania.	University of Penna.
Johnson, George P. (A. B.)	Maryland.	Geo. Johnson.
Johnson, Richard G.	New York.	W. H. Robb and Chas. Stover.
Johnson, William N. (A. B.)	Pennsylvania.	A. S. Roberts.
Jordan, J. Murray (B. S.)	Pennsylvania.	R. G. Curtin.
Junkin, George, Jr. (A. B.)	Pennsylvania.	W. W. Keen.
Keys, T. Frank (Ph G.)	Pennsylvania.	University of Penna.
Krecker, William H. (A. B.)	Pennsylvania.	L. W. Hildebrand.
Lowrie, William L. (A. B.)	Pennsylvania.	University of Penna.
McIntire, Frank H.	Massachusetts.	University of Penna.
MacIntosh, William	Pennsylvania.	A. W. Miller.
Maher, Andrew J.	Pennsylvania.	P. Clarence McGill.
Martin, Edward (A. B.)	Pennsylvania.	University of Penna.
Mateer, Horace N. (A. M.)	Pennsylvania.	University of Penna.
Matson, Eugene G. (Ph. B.)	Pennsylvania.	C. M. and W. F. Matson.
Matthes, John F.	Pennsylvania.	H. H. Roedel.
Mazarredo, Federico de (A. B.)	Cuba, W. I.	H. F. Formad.
Mercur, William H.	Pennsylvania.	C. K. Ladd.
Mewhinney, James	Pennsylvania.	B. R. Peltz.
Millington, Benjamin F.	Pennsylvania.	A. P. Carr.
Mitchell, James (A. B.)	Pennsylvania.	D. F. Woods.
Mitchell, John K.	Pennsylvania.	W. W. Keen.
Montgomery, Guy Rochester	New York.	W. S. Ely.
Mulholland, Philip F.	Pennsylvania.	O. H. Allis.
Neal, James B. (A. B., Ph. B.)	Pennsylvania.	J. D. Strawbridge.
Norton, Albert E.	Pennsylvania.	University of Penna.
Orsell, Jacob F. (Ph. G.)	Pennsylvania.	Jas. Laws.
Patterson, Thomas J.	Pennsylvania.	T. J. and R. C. Gallaher.
Pershing, Howell Terry (M. Sc.)	Pennsylvania.	A. H. Halberstadt and O. F. Harvey.
Pettit, Louis Clark (Ph. G.)	Ohio.	University of Penna.
Phillips, William E. (B. S.)	Pennsylvania.	University of Penna.
Potter, Jas. Thomas (A. B.)	Pennsylvania.	University of Penna.
Prætorius, Gilbert G.	Pennsylvania.	University of Penna.
Preston, George Junkin (A. B.)	Virginia.	University of Virginia.
Pyle, Joseph P. (Ph. B.)	Delaware.	John J. Black.
Raht, William E.	Tennessee.	University of Penna.
Randall, Edward, Jr.	Texas.	Ed. Randall.
Rankin, James R.	Pennsylvania.	Wm. M. Rankin.
Reh fuss, Emil G. (Ph. G.)	Pennsylvania.	Geo. M. Vogler.
Reimann, Louis P. (Ph. G.)	New York.	Jas. B. Walker.

NAME.	STATE.	PRECEPTOR.
Reynolds, Conrad S.	Maryland.	L. R. Kirk.
Rishel, George P. (A. B.)	Pennsylvania.	T. R. Hays.
Ruhl, John H.	Pennsylvania.	University of Penna.
Schloss, Aaron	Indiana.	J. B. Grove.
Seibert, James L.	Pennsylvania.	H. O. Orris.
Seiss, Ralph W.	Pennsylvania.	University of Penna.
Stewart, Walter S.	Pennsylvania.	Miller Stewart.
Stokes, Joseph (A. B.)	New Jersey.	N. Newlin Stokes.
Summerell, E. Mitchell (A. B.)	North Carolina.	J. J. Summerell.
Summers, S. Lewis	Pennsylvania.	M. A. Wood.
Taylor, Frederick A. (A. B.)	New York.	E. M. Moore.
Terrill, George M. (Ph. G.)	Virginia.	George P. Terrill.
Thompson, William F.	Canada.	Dr. Esmond.
Tremblay, Asencio O. du	Cuba.	John Reynolds.
Trotter, Spencer	Pennsylvania.	G. R. Morehouse.
Tustin, J. Clay	Pennsylvania.	University of Penna.
Voorhees, Nathaniel W., Jr. (A. B.)	New Jersey.	University of Penna.
Walsh, Edward F.	Pennsylvania.	R. H. Gibbons.
Walter, William W.	Kansas.	S. F. Neely.
Wentz, David Heist (A. B.)	Pennsylvania.	University of Penna.
West, George R. (B. S.)	Georgia.	Robert Battey.
Whitney, George	Pennsylvania.	University of Penna.
Wilkinson, George P.	Iowa.	T. B. Reed.
Wilson, Harry D.	New Jersey.	H. D. Brock.
Wilson, Matthew J. (Ph. G.)	Pennsylvania.	Francis X. Dercum.
Young, George M.	Pennsylvania.	A. F. Purington.
Young, James K.	New Jersey.	David Warman.
Zuill, William L. (D. V. S.)	Pennsylvania.	Munro Bond.
		Total,—118.

STUDENTS OF THE FIRST YEAR.

Abbott, William L. (A. B.)	Pennsylvania.	R. A. F. Penrose.
Bachman, Archibald C.	Pennsylvania.	A. C. Mansue.
Baldy, John M.	Pennsylvania.	J. D. Strawbridge.
Bartleson, Harry C.	Pennsylvania.	S. P. Bartleson.
Barr, Martin W.	Delaware.	W. H. Barr.
Batchelor, William A. (A. M.)	Illinois.	University of Penna.
Batt, Wilmer R.	Pennsylvania.	Jacob Rickabaugh.
Bergey, David H.	Pennsylvania.	Samuel Wolfe.
Bodamer, George A.	Pennsylvania.	H. F. Formad.
Bradford, Thomas B. (A. B.)	Delaware.	E. T. Bruen.
Breneman, Park P.	Pennsylvania.	J. H. Musser.
Brinkman, Morris W. (A. B.)	Pennsylvania.	E. T. Bruen.
Bucher, John C.	Pennsylvania.	I. R. Bucher.
Carson, Thomas H.	Pennsylvania.	J. Y. Scott.
Cantwell, Francis V.	New Jersey.	Thos. H. MacKenzie.
Carothers, Edward J.	Texas.	A. E. Carothers.

NAME.	STATE.	PRECEPTOR.
Cassel, George L.	Pennsylvania.	H. M. Alexander.
Collmar, Charles	Pennsylvania.	J. B. Heller.
Darey, J. Herbert (A. B.)	Canada.	University of Penna.
Delpuech, William (A. B.)	Pennsylvania.	S. M. Woodburn.
Diven, Samuel L. (A. M.)	Pennsylvania.	S. B. Kieffer.
Dock, George	Pennsylvania.	Chas. A. Rahter.
Duplan, Ernesto	Mexico.	H. F. Formad.
Eddy, Robert C. (B. S.)	Syria.	University of Penna.
Edgar, William E.	Pennsylvania.	John M. Edgar.
Evans, Elmer E.	Pennsylvania.	P. J. Roebuck.
Evans, E. William	Pennsylvania.	C. C. Field.
Evans, Franklin J.	Pennsylvania.	J. L. Forwood.
Fahrney, Elmer C. (A. B.)	Maryland.	University of Penna.
Farquhar, Charles T. N.	Pennsylvania.	Q. C. Farquhar.
Fithian, Frank	Kentucky.	Joseph Fithian.
Fussell, M. Howard	Pennsylvania.	Edwin Fussell.
Gaul, C. Reese	Pennsylvania.	J. S. Herbein.
Gauntt, Franklin A.	New Jersey.	F. Gauntt.
Glover, Samuel D.	Pennsylvania.	M. L. Mench.
Greenewalt, John C.	Pennsylvania.	S. G. Lane.
Hamaker, Winters D. (A. B.)	Pennsylvania.	T. C. M. Stockton.
Hare, Hobart Amory	Pennsylvania.	University of Penna.
Hirsh, Charles E.	Virginia.	University of Penna.
Hodgdon, Alexander L.	Virginia.	H. C. Wood.
Hoobaugh, John U. (A. B.)	Pennsylvania.	S. B. Kieffer.
Howell, William G., Jr.	Pennsylvania.	J. B. Weston.
Irvin, C. Jones	Pennsylvania.	J. Wm. White.
Jack, Louis, Jr.	Pennsylvania.	University of Penna.
Jenkins, Stephen R.	Prince Edward Is.	Jno. T. Jenkins.
Jennings, John E.	Pennsylvania.	T. J. Dunott.
Joy, J. Addison (A. B.)	Massachusetts.	W. M. Trow.
Judge, John P. (A. B.)	Pennsylvania.	Wm. R. Cruice.
Junco, Leoncio del.	Cuba.	University of Penna.
Leaman, William G.	Pennsylvania.	University of Penna.
Little, George	Pennsylvania.	J. T. Carpenter.
Lynd, Robert S.	Pennsylvania.	University of Penna.
Martin, William E.	Pennsylvania.	University of Penna.
Marvel, Philip	Delaware.	E. W. Cooper.
Mastin, Claude H., Jr.	Alabama.	C. H. Mastin.
Miller, Elijah	New Jersey.	H. Swain.
Montgomery, P. Brough	Pennsylvania.	Jno. Montgomery.
Moore, William A.	New York.	E. H. Howard.
Morey, Frank S.	Pennsylvania.	University of Penna.
Mosteller, William H.	Pennsylvania.	O. W. Brownback.
Moyer, Alfred C.	Pennsylvania.	University of Penna.
McBride, Thomas B.	Pennsylvania.	University of Penna.
McClintock, Jesse M.	Iowa.	I. H. Moore.
Novaes, Francisco de P.	Brazil, S. A.	University of Penna.

NAME.	STATE.	PRECEPTOR.
Orr, William P., Jr.	Delaware.	University of Penna.
Penrose, Charles Bingham (A. B.)	Pennsylvania.	R. A. F. Penrose.
Peters, Howard Vance (A. B.)	Pennsylvania.	J. K. Knorr.
Pierce, William R.	New York.	Robb and Stover.
Powell, William M.	Pennsylvania.	University of Penna.
Power, David P. (A. B.)	Pennsylvania.	W. F. Knox and D. W. Cadwallader.
Prendergast, James F.	New York.	G. and D. S. Burr.
Prettyman, John S., Jr.	Delaware.	J. S. Prettyman.
Purcell, McDaniel	Virginia.	University of Virginia.
Raughley, William C.	Delaware.	A. H. Bishop.
Reap, George B.	Pennsylvania.	R. H. Gibbons.
Richardson, Rodney H. (Ph. B.)	Delaware.	David Hall.
Robb, Hunter	New Jersey.	J. Howard Pugh.
Robinson, Oliver D.	Delaware.	University of Penna.
Roderer, John F.	Pennsylvania.	University of Penna.
Scholl, Alfred K.	Pennsylvania.	University of Penna.
Scott, John B. (A. M.)	Pennsylvania.	University of Penna.
Semple, William O. (Ph. B.)	Pennsylvania.	Traill Green.
Shaver, William Davenport	Pennsylvania.	University of Penna.
Simpson, Maxwell G. (A. B.)	Pennsylvania.	University of Penna.
Skinner, Harry	Pennsylvania.	University of Penna.
Steer, Edgar H.	Pennsylvania.	Jas. B. Walker.
Temple, William H., Jr.	Virginia.	University of Penna.
Trumbull, John Heyward (Ph. B.)	Chili, S. A.	University of Penna.
Tullidge, George B. (A. B.)	Pennsylvania.	University of Penna.
Van Horn, Alfred F.	Pennsylvania.	M. E. Hornbeck.
Van Loon William F. (Ph. B.)	Pennsylvania.	University of Penna.
Wells, George M. (A. M.)	Pennsylvania.	Traill Green.
Whitney, Harry Leroy	Pennsylvania.	Cornell University.
Williams, Charles N.	Pennsylvania.	C. W. Webb.
Wilson, Cunningham	Alabama.	J. W. Sears.
Winner, William G.	Pennsylvania.	University of Penna.
Woodnutt, Clement A.	Pennsylvania.	University of Penna.
Wood, Stephen Carroll	New York.	University of Penna.

Total, 98.

STUDENTS ON THE OLD PLAN.

Curran, Thomas Miller	Pennsylvania.	University of Penna.
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Total, 1.

SPECIAL STUDENTS.

Armstrong, William J. (A. B.)	Pennsylvania.	C. C. Baker.
Buck, Charles E.	Maine.	College of Pharmacy.
Coates, Isaac T. (M. D.)	Pennsylvania.	University of Penna.
De Lancy, Charles E. (M. D.)	Pennsylvania.	University of New York.
Hart, Reginald L.	Pennsylvania.	University of Penna.

NAME.	STATE.	PRECEPTOR.
Hazlett, Isaac C. (M. D.)	Pennsylvania.	University of Penna.
Herbst, John E. (M. D.)	Kansas.	Pennsylvania College.
Hoffman, Joseph H.	Pennsylvania.	A. F. Balmer.
Lee, Albert R.	Pennsylvania.	University of Penna.
Magoffin, Montrose M. (M. D.)	Pennsylvania.	University of Penna.
Shull, John D. (M. D.)	Pennsylvania.	Coll. of Physicians and Surgeons, Baltimore.
Smith, Sidney	Pennsylvania.	C. T. Hunter.
Snowden, L. Randolph	Pennsylvania.	H. E. Goodman.
Whillden, J. Stites (M. D.)	Pennsylvania.	University of Penna.
Zimmerman, Gustavus A. (M. D.)	Pennsylvania.	University of Penna.
		Total, 15.

TOTAL.	
Students of the third year,	131
Students of the second year,	118
Students of the first year,	98
Students on the old plan,	1
Special Students,	15
	<u>363</u>

The total number of new matriculates the present session, including those admitted to advanced standing, is 130.

SUMMARY.

Alabama,	2	Massachusetts,	7
Barbadoes,	1	Mexico,	1
Brazil,	3	Michigan,	2
Canada,	3	Nebraska,	1
Chili,	1	New Jersey,	28
Connecticut,	3	New York,	16
Costa Rica,	1	North Carolina,	1
Cuba,	4	Nova Scotia,	2
Delaware,	13	Ohio,	2
District of Columbia,	1	Pennsylvania,	232
Georgia,	1	Prince Edward Island,	3
Illinois,	2	Prussia,	1
Indiana,	2	Rhode Island,	2
Iowa,	3	Syria,	1
Kansas,	2	Tennessee,	1
Kentucky,	3	Texas,	2
Maine,	1	Virginia,	9
Maryland,	5	Wurtemberg,	1
		Total,	<u>363</u>

LAW DEPARTMENT.

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. CLARKE 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 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 gentlemen for admission to the bar, and also 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 conveyed 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 practicing 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 forty dollars 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 five dollars. 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 three dollars 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 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 mem-

bers 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, 1881.

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.

The Sharswood Prize for the best graduation essay in 1881 was awarded to *Charles H. Bannard, Esq.*, a graduate of that year, for an essay entitled "The Partnership Relation."

The Meredith Prize for the second best essay was awarded to *Henry T. Dechert, Esq.*; subject, "The Appointment of Guardians."

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. At the examination in 1881, the prize was awarded to *Mr. Edwin A. Jaggard*, of the Junior Class.

ADMISSION TO THE BAR.

Graduates of this Department, having complied with the rules of court, are admitted to practice 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 practice 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, 1881.

PROFESSOR MORRIS.

1. Define and explain the action of trover.
2. Define and explain the action of ejectment.
3. What is the general issue in an action of covenant, when you do not wish to admit the performance by the plaintiff of his part of the argument?
4. Define a common traverse.
5. What is the judgment in favor of the plaintiff on a demurrer to the declaration for matter of form? and what if the demurrer is for matter of substance?
6. What would be the judgment in favor of the defendant in the same cases?
7. What is essential to a good levy by the sheriff on personal property?
8. Describe the process by which real estate is taken in execution and sold on a judgment against the owner.
9. Give a brief account of the action of foreign attachment.
10. What is the difference between a plea in bar and a plea in abatement? To which class does a plea in confession and avoidance belong?

PROFESSOR HARE.

1. Does the prohibition of laws impairing the obligation of contracts extend to prospective or is it limited to retroactive legislation?
2. What is the obligation that may not be impaired, and what laws impair the obligation?
3. Is the grant of a charter or franchise to a private corporation a contract within the meaning of the prohibition, and what is the rule as to municipal corporations?
4. Can a State forego the right of taxation by a provision to that effect in a grant or charter?
5. May the police power be exercised, although the effect is to impair the rights and privileges which the State has conferred by a previous grant or charter?
6. Can a deed which has been defectively acknowledged be confirmed retroactively by legislation? and what will be the effect of a confirmatory statute on a will that has not been duly executed?
7. Is any, and what, clause of the Constitution violated by a statute confirming an usurious contract?
8. State what power of taxation and the right of eminent domain have in common, and wherein they differ.
9. What are the modes by which the Federal courts can take jurisdiction of causes within the grant of judicial power of the United States?
10. Can a State court enforce rights and consider defences arising under the Constitution of the United States?
Will trover or trespass lie in such a court against an officer of the United States for acts done in his official capacity? What is the rule as it regards replevin?

PROFESSOR MITCHELL.

1. Under what circumstances would a steam-engine in a factory be considered real property? and when personalty?
2. Where the owner of two adjoining houses and lots sells one, what easements pass by the grant of the land without being specially mentioned in the deed?

3. What was the prevailing tenure upon which lands were held in England at the time of Penn's charter? How long had it been the prevailing tenure? How was it introduced into Pennsylvania? Give reasons.
4. Can an estate-tail now *exist* in this State? and under what circumstances?
5. If a married woman, owning real and personal estate, should die, leaving a will, what choice could her surviving husband have as to his share in the estate?
6. State the distinction between words of limitation and words of purchase, and the effect of each.
7. Will the enjoyment of light and air through a window over a neighbor's ground for more than twenty-one years, give any right? Give reasons for answer.
8. What is the presumption with respect to the sanity of a grantor in a deed, who has been duly declared a lunatic? State the presumption before and after the decree.
9. How far is a date in a deed necessary? What is the effect of the date in a deed? and how far is it conclusive?
10. What are the effects of the acknowledgment of a deed? and what is the effect of the record of a deed which has not been acknowledged?

PROFESSOR PARSONS.

1. Could a store-keeper direct by will his estate to be distributed among his customers in proportion to their dealings with him, as exhibited by his books of account?
2. What is the difference between a contingent legacy and a vested legacy subject to a divesting contingency?
3. Does an administrator's account which contains no claim of credit for the payment of a debt stop the running of the statute of limitations against it?
4. Would an advancement made to a grandson during his father's life-time be deducted from the grandson's share, which he claimed by representation in the distribution of the grandfather's estate?
5. If an administrator who has transferred his intestate's stock to his own name dies, would the corporation recognize the administrator's administrator, or the administrator *d. b. n.*, as entitled to transfer the stock or collect the dividends?
6. Does an executor charge himself as a partner by leaving the capital of his testator in the firm in which he was a partner?
7. If judgment is obtained against the administrator for a debt of his intestate, with due notice to the heirs, and a *fi. fa.* issues within but the sale on *vend. ex.* is made after ten years, would the levy create a special lien which would outlast the general lien of the debt and pass title to the purchaser?
8. Would a mortgagee who lent to an executor in order to enable him to raise money under a power in the will to sell land for the payment of debts, be bound to see that the executor applied the money lent to the payment of the decedent's debts, which were reduced to judgment at the date of the loan?
9. What five tests were adduced to show that marriage was not merely a contract at the common law?
10. How does the remedy against a married woman differ from that against an infant for necessaries?

ARRANGEMENT OF THE COURSE.

PROFESSOR MORRIS.

October Term, 1882.	Practice and Pleading at Law.
February Term, 1883.	Practice and Pleading at Law.
October Term, 1883.	Evidence.
February Term, 1884.	Practice and Pleading in Equity.

PROFESSOR HARE.

October Term, 1882.	Constitutional Law, Insurance.
February Term, 1883.	Suretyship and Guaranty.
October Term, 1883.	Contracts, Bills of Exchange and Promissory Notes; Bills of Lading.
February Term, 1884.	Conflicts of Laws, Criminal Law.

PROFESSOR MITCHELL.

October Term, 1882.	Real Estate.
February Term, 1883.	Conveyancing.
October Term, 1883.	Equity Jurisprudence.
February Term, 1884.	Equity Jurisprudence.

PROFESSOR PARSONS.

October Term, 1882.	Domestic Relations; Executors and Admin- istrators.
February Term, 1883.	Title to Personal Property, Civil Law; Con- tract of Sale.
October Term, 1883.	Agency, Partnership, Corporations, Interna- tional Law.
February Term, 1884.	Bailment, Common Carriers, Pledges, Chattel Mortgages, Life Insurance.

PROFESSOR REESE

Will deliver the course of lectures on Medical Jurisprudence each year, beginning early in March and ending June 1st.

LAW DEPARTMENT—CLASS OF 1881-82.

SENIOR CLASS.

NAME.	RESIDENCE.	PRECEPTOR.
Adamson, Charles	Philadelphia.	MacVeagh & Bispham.
Ashbridge, George	W. Whiteland, Pa.	J. P. Townsend.
Barringer, D. Moreau	Philadelphia.	L. W. Barringer.
Biggs, Frank K.	Hammonton, N. J.	J. E. Carpenter.
Bradley, M. Wm.	Philadelphia.	W. F. Johnson.
Brooks, George E.	Philadelphia.	J. R. Sypher.
Chapman, S. Spencer	Princess Anne, Md.	Redding, Jones & Carson.
Coleman, Henry Phillips	Philadelphia.	H. M. Phillips.
Earley, Chas. B.	Ridgway, Pa.	Read & Pettit.
Elliot, Frank S.	York, Pa.	W. W. Wiltbank.
Esling, Chas. H. A.	Philadelphia.	Admitted.
Flood, Chris. A. L.	Philadelphia.	G. C. Purves.
Foster, Oscar C.	Pittston, Pa.	J. S. Gerhard.
Geil, John H.	Philadelphia.	J. R. Sprague.
Gest, John Marshall	Philadelphia.	G. C. Purves.
Harrah, B. de S. Frank	Philadelphia.	J. W. M. Cardeza.
Harrison, W. Henry	Philadelphia.	W. H. Lex.
Henderson, Francis	Germantown.	Geo. L. Crawford.
Jaggard, Edwin A.	Altoona, Pa.	E. C. Mitchell.
Leonard, Frederick M.	Philadelphia.	Wm. McGeorge, Jr.
Lieder, Alex. J. B.	Philadelphia.	Read & Pettit.
Lukens, Wm. H. R.	Philadelphia.	L. D. Vail.
MacBride, Agnew	Philadelphia.	J. C. Ferguson.
McAfee, John B.	Philadelphia.	G. S. Graham.
McFadden, Fred. M.	Philadelphia.	B. Daniels.
Marshall, James	Philadelphia.	W. W. Wiltbank.
Meyer, Charles W., Jr.	Philadelphia.	E. C. Mitchell.
Merrill, J. Houston	Philadelphia.	MacVeagh & Bispham.
Miller, Philippus W.	Philadelphia.	E. C. Mitchell.
Morrison, J. Howard	Philadelphia.	H. B. Freeman.
Neall, Harry L.	Philadelphia.	Latta & Megargee.
Ott, Alfred W.	Philadelphia.	F. Sheppard.
Pike, Wm. A.	Philadelphia.	Gendell & Reeves.
Rhoads, E. Clinton	Philadelphia.	C. W. McKeenan.
Ridge, Lendrum B.	Bustleton, Pa.	R. E. Shapley.
Saylor, Henry D.	Pottstown, Pa.	T. J. Ashton.
Screven, J. Walter	Philadelphia.	M. Arnold.
Sharp, Robert W.	Brooklyn, N. Y.	Sharp & Alleman.
Smith, Allison O.	Watsontown, Pa.	Redding, Jones & Carson.

NAME.	RESIDENCE.	PRECEPTOR.
Smith, Andrew B.	Montrose, Pa.	Admitted.
Stevenson, Moses	Philadelphia.	M. Stevenson.
Strong, John M.	Philadelphia.	J. A. Clark.
Ziegler, George H.	Philadelphia.	J. M. West.
Zug, Charles K.	Mechanicsburg, Pa.	MacVeagh & Bispham.

JUNIOR CLASS.

NAME.	RESIDENCE.	PRECEPTOR.
Allison, Thomas N.	Manayunk.	J. Dolman.
Babcock, Frank G.	Knoxville, Pa.	Admitted.
Bakewell, Thomas W.	Pittsburgh, Pa.	E. C. Mitchell.
Ballard, Ellis A.	Philadelphia.	MacVeagh & Bispham.
Bamberger, Leonard J.	Philadelphia.	J. H. Heverin.
Banks, Ben. Stanley	Norristown.	H. C. Thompson.
Boger, Chas. Wm.	Philadelphia.	L. Lewis, Jr.
Bockius, Morris R.	Philadelphia.	R. Morgan.
Browning, Howard L.	Philadelphia.	W. W. Wiltbank.
Bucher, Francis E.	Sunbury, Pa.	Rawle & Smith.
Chapron, Francis S.	Philadelphia.	J. L. Kinsey.
Clayton, Samuel L.	Thurlow, Pa.	E. C. Mitchell.
Cohen, John M.	Philadelphia.	James Parsons.
Colwell, Edward R.	Canton, Pa.	Hon. B. H. Brewster.
Davis, Howard A.	Philadelphia.	C. F. Warwick.
DeHaven, Alex. M.	Philadelphia.	West & McCarthy.
Donnelly, Chas. P.	Philadelphia.	Earle & White.
Drawbaugh, Allen	Goldsborough, Pa.	J. E. Patterson.
Eichholz, Adolph	Philadelphia.	G. Remak.
Eimerman, Chas. H.	Philadelphia.	R. W. Clay.
Everhart, John F.	Pittston Pa.	B. H. Brewster.
Ewing, Harry C.	Coleraine, Pa.	G. Junkin.
Fagan, Hugh J.	Philadelphia.	Rawle & Smith.
Fitzpatrick, James	Philadelphia.	Hirst & Smith.
Foulke, J. Francis	Philadelphia.	S. S. Hollingsworth.
Fox, Wm. Henry	Philadelphia.	Hon. D. M. Fox.
Gest, Wm. P.	Philadelphia.	J. C. Bullitt.
Giltinan, John A.	Minnesota.	Admitted.
Grier, Alvan R.	Birmingham, Pa.	J. R. Grier.
Gross, Geo. Herman	Philadelphia.	B. F. Fisher.
Harding, Geo. J.	Philadelphia.	G. Harding.
Harned, John F.	Camden, N. J.	M. B. Taylor.
Hartpence, Richard S.	Stockton, N. J.	T. Elliott Patterson.
Hause, J. Frank E.	West Chester, Pa.	R. J. Monaghan.
Henderson, James H.	Philadelphia.	Jerome Carty.
Kilgore, Carrie B.	Philadelphia.	D. Y. Kilgore.
Kirby, J. Wilbur	Philadelphia.	M. Arnold.
Lamborn, Wilmer W.	Media, Pa.	H. C. Howard.
Lederer, Ephraim	Philadelphia.	F. A. Bregy.

NAME.	RESIDENCE.	PRECEPTOR.
Levi, Julius C.	Philadelphia.	Rothermel & Brown.
Lloyd, James Henry	Philadelphia.	H. J. Lloyd.
Lukens, Howard J.	Philadelphia.	MacVeagh & Bispham.
Lyster, Edward, Jr.	Philadelphia.	Henry M. Dechert.
McManus, Frank P.	Philadelphia.	J. G. Johnson.
McCarron, James B.	Philadelphia.	Read & Pettit.
McDonald, Owen J.	Germantown.	P. E. Carroll.
McMahon, Thos. F.	Philadelphia.	E. A. Anderson.
MacVeagh, Lincoln	Philadelphia.	MacVeagh & Bispham.
Maguire, Chas. R.	Philadelphia.	B. P. Wilson.
Maires, Samuel E.	Philadelphia.	J. M. Thomas.
Marks, Rufus B.	Philadelphia.	H. M. Dechert.
Michellon, Frank F.	Camden, N. J.	M. B. Taylor.
Munroe, Robert G.	Wilkesbarre.	G. Harding.
Murphy, J. Shriver	Philadelphia.	J. M. Jennison.
Neide, Erskine	Philadelphia.	MacVeagh & Bispham.
Owen, Robert J.	Philadelphia.	Redding, Jones & Carson.
Palmer, Ernest	Providence, Pa.	John Q. Lane.
Peters, Wm. A.	Philadelphia.	G. Harding.
Pettit, Horace	Jenkintown, Pa.	Read & Pettit.
Place, Samuel	Eagleville, Pa.	Redding, Jones & Carson.
Potts, John L.	Pottstown, Pa.	R. P. Dechert.
Price, Eli K., Jr.	Philadelphia.	J. S. Price.
Ramsay, W. Howard	Oxford, Pa.	D. R. Patterson.
Reath, Thomas	Philadelphia.	R. L. Ashhurst.
Rosenberger, Emil	Philadelphia.	A. A. Grace.
Schelling, Felix E.	Philadelphia.	H. K. Fox.
Shiple, Walt. Penn	Philadelphia.	P. P. Morris.
Smith, Abram H.	Philadelphia.	Jos. Savidge.
Smith, Robert G.	Oxford, Pa.	E. C. Mitchell.
Snyder, Edgar C.	Thompsontown, Pa.	J. Q. Hunsicker.
Sorver, Frank F.	Philadelphia.	Alfred Moore.
Stair, Edward	York, Pa.	Hon. B. H. Brewster.
Vaughan, B. Masden	Wilmington, Del.	E. C. Mitchell.
Wade, Lavalette	Philadelphia.	Redding, Jones & Carson.
Wallerstein, David	Philadelphia.	M. Arnold.

SPECIAL STUDENTS.

NAME.	RESIDENCE.	PRECEPTOR.
Cramp, Howard	Philadelphia.	E. C. Mitchell.
Powell, R. J. H.	Providence, Pa.	S. S. Hollingsworth.
Sergeant, Wm. W.	Germantown.	G. Sergeant.

AUXILIARY DEPARTMENT OF MEDICINE.

FACULTY.

WILLIAM PEPPER, M. D., LL. 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, conveys 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 the 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.

Although these lectures are open to all students under the above regulations, the nature of the subjects taught is such that for their proper understanding it is desirable that 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.

Inasmuch as this course of instruction, although strictly collateral to medicine, is largely scientific in its character, the Trustees of the University have 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 Faculty, 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

* Minutes of the Board of Trustees.

"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. Wamsley, 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 1882 will commence on Monday, March 6th, and continue until the early part of June. Three lectures a week will be given by each Professor.

These lectures are equally accessible 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.

PROFESSOR 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.

PROFESSOR 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.

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

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.

PROFESSOR 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 Personal and Public Hygiene respectively. After a few lectures upon Etiology, and upon General and Special Prophylaxis, the remainder of the course for 1881 will, therefore, be devoted to the subject of Public Hygiene.

COMPARATIVE ANATOMY AND ZOOLOGY.

PROFESSOR 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 malformation.
4. A description of human parasites.
5. An account of the more important sources of those articles of the materia medica 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 ani-

mals. 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 Elements 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.

Sachs's Text-Book of Botany.

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

Cook and Berkeley on Fungi.

Parke's or Wilson's Manual of Hygiene.

Buck's Hygiene and Public Health.

Pavy or Chambers on Diet.

Mivart's Elements of Anatomy.

Nicholson's Manual of Zoölogy.

Gegenbaur's Elements of Comparative Anatomy.

Balfour's Comparative Embryology.

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

1513 Green Street.

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

MATRICULATES, 1881.

NAME.	RESIDENCE.	STATE.
Baker, Albert H.	Philadelphia,	Pennsylvania.
Barber, Timothy L.	Marietta,	Ohio.
Bateman, Eliston R.	Cedarville,	New Jersey.
Blackburn, I. Wright	Philipsburg,	Pennsylvania.
Bliss, H. Dwight	Rochester,	New York.
Boyd, George M.	Philadelphia,	Pennsylvania.
Brose, Lewis D.	Evansville,	Indiana.
Calkins, Cheney H.	Springfield,	Massachusetts.
Christian, Hilary M.	Philadelphia,	Pennsylvania.
Claxton, Charles	Philadelphia,	Pennsylvania.
Costa, Leopoldo M. da.	S. Paulo,	Brazil.
Craig, Thomas C.	Philadelphia,	Pennsylvania.
Culpeper, William A.	Barbadoes,	West Indies.
Dimond, Henry C.	Marietta,	Ohio.
Dinnin, Emily S.	Philadelphia,	Pennsylvania.
Dolan, William A.	Fall River,	Massachusetts.
Dole, Raphael	Newburyport,	Massachusetts.
Dolley, Charles S.	Rochester,	New York.
Drown, Edward D.	Wildon,	Pennsylvania.
Edgar, John M.	Philadelphia,	Pennsylvania.
Edwards, William A.	Philadelphia,	Pennsylvania.
Elder, Frank H.	Philadelphia,	Pennsylvania.
Faunt Le Roy, Claybrook	Dragonville,	Virginia.
Gerrish, Millard F.	Seymour,	Indiana.
Ghriskey, Albert A.	Philadelphia,	Pennsylvania.
Gillespie, John, Jr.	Philadelphia,	Pennsylvania.
Gray, William M.	Philadelphia,	Pennsylvania.
Griffiths, W. Patton	Towanda,	Pennsylvania.
Guild, Edgar H.	Ware,	Massachusetts.
Haehnlen, W. Frank	Philadelphia,	Pennsylvania.
Haworth, Elwood B.	Philadelphia,	Pennsylvania.
Hinkle, Frank W.	Columbia,	Pennsylvania.
Hirst, Barton C.	Philadelphia,	Pennsylvania.
Hughes, Martha P.	Salt Lake City,	Utah.
Ickes, William J.	Sandy Hill,	Pennsylvania.
Jayne, Horace F.	Philadelphia,	Pennsylvania.
Johnson, George P.	Frederick City,	Maryland.
Johnston, William A.	Peoria,	Illinois.
Jones, Roland D.	Milton,	Delaware.
Jordan, J. Murray	Philadelphia,	Pennsylvania.

NAME.	RESIDENCE.	STATE.
Keiser, James W.	Reading,	Pennsylvania.
Keys, T. Frank	Philadelphia,	Pennsylvania.
Krecker, William H.	Philadelphia,	Pennsylvania.
Lautenbach, Louis J.	Philadelphia,	Pennsylvania.
Lemmon, James Q.	Latrobe,	Pennsylvania.
Lichtenwallner, John B.	Allentown,	Pennsylvania.
McIvaine, Edward S.	Philadelphia,	Pennsylvania.
McKennan, Thomas M. T.	Washington,	Pennsylvania.
MacIntosh, William	Philadelphia,	Pennsylvania.
Marcondes, Moyses	Parana,	Brazil.
Mercur, William H.	Towanda,	Pennsylvania.
Morse, G. Byron, Jr.	Philadelphia,	Pennsylvania.
Moylan, John J.	Pittston,	Pennsylvania.
Norton, Albert E.	Philadelphia,	Pennsylvania.
Penrose, Thomas N.		U. S. Navy.
Praetorius, Gilbert G.	Wilkesbarre,	Pennsylvania.
Prendergast, Michael T.	Easton,	Pennsylvania.
Raab, Ernest	Belleville,	Illinois.
Radcliffe, McCluney	Lewistown,	Pennsylvania.
Raht, William E.	Philadelphia,	Pennsylvania.
Rebert, Michael A.	York,	Pennsylvania.
Reed, Charles H.	Philadelphia,	Pennsylvania.
Reeves, J. Howard	Philadelphia,	Pennsylvania.
Reinoehl, John K.	Lebanon,	Pennsylvania.
Robinson, George T.	Camden,	New Jersey.
Robinson, Orlando C.	Southamptonville,	Pennsylvania.
Rudge, J. Cezar	Sao Paulo,	Brazil.
Schmidt, Joseph	Braunsberg,	Prussia.
Schwenk, Peter N. K.	Lewisburg,	Pennsylvania.
Scott, Horace B.	Bristol,	Pennsylvania.
Seiss, Ralph W.	Philadelphia,	Pennsylvania.
Shaner, Warren B.	Pottstown,	Pennsylvania.
Shell, J. Kinzer	Philadelphia,	Pennsylvania.
Shelly, Daniel W.	Pleasant Valley,	Pennsylvania.
Shoemaker, George E.	Bridgeton,	New Jersey.
Smith, Alexis D.	Philadelphia,	Pennsylvania.
Smith, Herbert E.	Hartford,	Connecticut.
Smith, Nelson M.	Riverside,	Pennsylvania.
Smock, Ledru P.	Hightstown,	New Jersey.
Speakman, Howard D.	Woodbury,	New Jersey.
Stamm, Edward P.	Philadelphia,	Pennsylvania.
Stetler, William H.	Philadelphia,	Pennsylvania.
Stewart, William H.	Philadelphia,	Pennsylvania.
Tait, J. Sinclair	Wallace,	Nova Scotia.
Thompson, Richard J.	New Britain,	Connecticut.
Tustin, J. Clay	Chester Springs,	Pennsylvania.
Tuttle, James P.	Fulton,	Missouri.

NAME.	RESIDENCE.	STATE.
Ulmer, Charles E.	Philadelphia,	Pennsylvania.
Van Nest, Rynier	Philadelphia,	Pennsylvania.
Weiser, Henry K.	York,	Pennsylvania.
Wells, John R.	Pickering,	Pennsylvania.
Wells, P. Frailey	Philadelphia,	Pennsylvania.
Whitney, W. Norton	Tokio,	Japan.
Wills, William L.	Washington,	Pennsylvania.
Wilson, Arthur M.	Philadelphia,	Pennsylvania.
Young, James K.	Trenton,	New Jersey.
		Total,—96.

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 Metal-
lurgy.

EDWIN T. DARBY, M. D., D. D. S., Professor of Operative Dentistry, Dental His-
tory and Dental Pathology.

JOSEPH LEIDY, M. D., LL. D., Professor of Anatomy.

HORATIO C. WOOD, M. D., Professor of Materia Medica, Pharmacy and General
Therapeutics.

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.

AMBLER TEES, D. D. S., Lecturer on Mechanical Dentistry.

CLINICAL INSTRUCTORS.

DR. C. S. BECK,

DR. LOUIS JACK,

DR. GEO. W. KLUMP,

DR. GEORGE B. McDONALD,

DR. W. R. MILLARD,

DR. R. R. UNDERWOOD,

DR. E. H. NEALL,

DR. H. C. REGISTER,

DR. R. H. SHOEMAKER,

DR. J. A. WARDELL.

DR. J. A. WOODWARD,

DR. H. C. LONGNECKER.

DEMONSTRATORS.

J. L. BAKER, D. D. S., Demonstrator of Operative Dentistry.

C. S. JONES, D. D. S., Demonstrator of Mechanical Dentistry.

WILLIAM DIEHL, D. D. S., Assistant Demonstrator of Operative Dentistry.

J. HARRISON CAMPBELL, D. D. S., Assistant Demonstrator of Mechanical Den-
tistry.

CHARLES T. HUNTER, M. D., Demonstrator of Anatomy.

JOHN MARSHALL, M. D., Demonstrator of Practical Chemistry.

CHAS. J. ESSIG, M. D., D. D. S.,

Secretary of Faculty of Dentistry.

ANNOUNCEMENT.

A retrospective glance at the history of dentistry, and a comparison of the past with the present, is a sufficient plea for the movement which created a *Dental Department* in the University of Pennsylvania. Scarcely half a century ago, a knowledge of most of the branches now included in the study of dentistry was not thought necessary, and those engaged in its practice were satisfied with a mere empirical acquaintance with the agents they used. But its range of usefulness has extended, until now, so many new

methods and theories are embraced in its successful practice, that nothing but the broadest and most thorough training in the collateral sciences will enable its members to practice it intelligently and successfully. These are facts recognized and admitted by many members of the dental profession who have been forced to the conclusion that competent instructors, laboratory conveniences for practical instruction in chemistry and physiology, materials and accommodations for the study of anatomy, histology and pathology, with all the numerous accessories for treating these subjects broadly and thoroughly, could be offered only by such an institution as the University of Pennsylvania, with its superabundance of these important requirements.

It is now four years since the Department of Dentistry was organized, and the decided success of the movement is abundant proof of the need that existed for such a school; while the degree of proficiency in all the branches exhibited by the graduates has probably not heretofore been attained by any class of dental students.

For the accommodation of the operative clinic, the Board of Trustees have erected an additional building, at a cost, with its equipments, of seventy thousand dollars. The operating-room alone is one hundred and fifty-one feet in length by forty-six feet in width; it is lighted by windows on all sides, thus affording three hundred and ninety-four feet of window frontage. The room is furnished with private closets for the safety of the books, instruments and clothing of the students, and is supplied with every other convenience. It occupies the first story, and, as the main entrance connects only with it, (access to the laboratories in the upper stories being on the opposite side next the main hall,) privacy and freedom from noise are thus secured. Everything has been done to make it perfect in its adaptation to the practical work of operative dentistry. The arrangement of its windows so as to command the best light has received careful consideration, and it may safely be said to be unequalled anywhere.

The second and third floors are devoted to practical laboratory work in general and medical chemistry; their dimensions are the same as those of the dental clinic room, and they are used in common by the students of both the Dental and Medical Departments.

In front of each window of the operating-room is placed a Morrison chair of the latest and most improved pattern; also, a handsome nickel-plated movable bracket, and a neat walnut table for the accommodation of instruments, etc.

The lecture-rooms and laboratory of the mechanical department are in the main medical hall.

The belief entertained, when the Dental Department was instituted, that the facilities for obtaining a supply of clinical patients were ample, has been more than realized. The daily attendance is now greatly in excess of the requirements; the Demonstrators are thus afforded the opportunity of assigning to each student a number of patients; in many cases, appointments for more than a week in advance are necessary; and so each member of the class in a measure becomes familiar with the management of an active practice.

CALENDAR.

1882.	
September 11.	Preliminary Course opens.
September 28.	Examination for admission to advanced standing, and re-examination of undergraduates.
October 2.	Winter Session opens.
1883.	
February 27.	Examinations begin.
April 15.	Annual Commencement.
April 23.	Spring Session opens.

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 thirty 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 then must 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, if 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 Follicle. 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 Dispensatory.
On Surgery. Agnew's Surgery; Ashhurst's Surgery; Billroth's Surgical Pathology.

STUDIES OF THE FIRST YEAR.

ORDER OF CLINICS AND LECTURES.—Session of 1882-3. Beginning Monday, October 2nd.

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.		Clinical Lecture, Dr. Ambler Tees.
11 A. M.		Chemical Laboratory.			Chemical Laboratory.	
12 M.	WOOD. Materia Medica.		Philadelphia Hospital Clinics.			
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.	WOOD. Therapeutics	ALLEN. Physiology.	WOOD. Therapeutics	WOOD. Therapeutics	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 1882-3. Beginning Monday, October 2nd.

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.	Clinical Lecture, Dr. Ambler Tees.
10 A. M.						
12 M.	WOOD. Materia Medica.		Philadelphia Hospital Clinics.			Philadelphia Hospital Clinics.
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.	WOOD. Therapeutics.	ALLEN. Physiology.	WOOD. Therapeutics.	WOOD. Therapeutics.	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 first 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,	Professor ESSIG.
Operative Dentistry, Dental Histology, and Pathology,	Professor DARBY.
Physiology,	Professor ALLEN.
Chemistry,	Professor WORMLEY.
Histology,	Dr. J. H. C. SIMES.
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 student's 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 these 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.

It is the desire of the Faculty to offer every opportunity for the acquirement of practice in operative and mechanical dentistry; and, as 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 2d).

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 2d, and continue until the first of March ensuing. The course is so arranged that twenty lectures will be delivered each week on the various branches taught in the college. (See pages 89-90.)

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
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Total fees for the two courses in dentistry, including graduation,	\$140 00
	\$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.

The University of Pennsylvania is but a few minutes' walk from the Pennsylvania Railroad depot, and students arriving by that road may save time by going directly to the Janitor's office in the Medical Hall, Thirty-Sixth Street and Darby Road, where they can be directed to a suitable boarding-house.

INFIRMARY AND LABORATORY.

The Infirmary and Laboratory are open during the several sessions of the college when 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, DENTAL HISTOLOGY AND DENTAL PATHOLOGY.

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.

MATERIA MEDICA AND THERAPEUTICS.

Students will attend lectures upon materia medica, both the first and second year, and will have the privilege of attending the lectures upon therapeutics during the second year, but will not be required to be examined thereon.

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 having specimens of peculiarities of development, or unusual pathological conditions, models of irregularities as to position in the natural teeth, etc., etc., who will be good enough to send the same by mail or otherwise to Professor E. T. Darby, No. 1513 Walnut Street, Philadelphia, Pa., will receive suitable acknowledgments 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,
Thirty-Sixth Street and Woodland Avenue.*

MATRICULATES, 1881-2.

STUDENTS OF THE SECOND YEAR.

NAME.	STATE.	WHERE PREVIOUSLY.	PRECEPTOR.
Abrams, James H.	Pennsylvania.	University of Penna.	Dr. J. M. Abrams.
Allen, Edward H.	Illinois.	University of Penna.	Drs. Kingsley and Mills.
Barrs, Carrington C.	Florida.	Penna. Coll. Den. Surg.	Dr. R. F. Philips.
Beck, Uriah G.	Pennsylvania.	University of Penna.	Dr. G. W. Klump.
Betts, Philip	England.	University of Penna.	University of Penna.
Bradley, Allen E.	New York.	University of Penna.	Dr. H. A. McFarland.
Bushong, Albert J.	Pennsylvania.	University of Penna.	University of Penna.
Causse, Charles O. de (M. D.)	Cuba.	University of Penna.	University of Penna.
Coney, Frank A.	Pennsylvania.	University of Penna.	Dr. G. W. Klump.
Correvon, Alfred E.	Switzerland.	University of Penna.	Dr. H. Debonneville.
Cristy, Alfredo	Porto Rico.	University of Penna.	University of Penna.
Devereux, Theodore E.	Wisconsin.	University of Penna.	University of Penna.
Dillon, Raphael A. C.	Brazil.	University of Penna.	Dr. S. E. Bond.
Edwards, J. Judson	Pennsylvania,	University of Penna.	Dr. R. L. McClellan.
Ely, Adriel B.	New York.	University of Penna.	University of Penna.
Escovar, Francisco	U. S. of Col.	University of Penna.	University of Penna.
Fothergill, John A. L.D.S. (M.R.C.S.)	England.	London Dental Coll.	University of Penna.
Freeman, Solomon	Pennsylvania.	University of Penna.	Theo. F. King.
Gerrish, William E.	Indiana.	University of Penna.	University of Penna.
Goettinger, Louis	Germany.	University of Penna.	University of Penna.
Haberstich, Emil	Switzerland.	Gymnasium of Aarau.	Dr. H. Schaffner.
Hahn, William Piper	Pennsylvania.	University of Penna.	Dr. Charles S. Jones.
Hoar, Adam	Pennsylvania.	University of Penna.	University of Penna.
Hurd, George L.	Massachusetts.	University of Penna.	Dr. S. K. Saunders.
Keim, Henry H.	Pennsylvania.	University of Penna.	University of Penna.
Kelly, Charles F.	Pennsylvania.	University of Penna.	University of Penna.
Laney, John H.	Missouri.	University of Penna.	Drs. Austin and Darby.
Luce, John E.	Minnesota.	University of Penna.	Dr. Charles S. Jones.
Musser, Martin H.	Pennsylvania.	University of Penna.	Dr. Marshall H. Webb.
McCandless, A. Wilson	Iowa.	University of Penna.	Dr. J. B. Morgan.
McFadden, Harry B.	Pennsylvania.	University of Penna.	Dr. Charles J. Essig.
McFarlan, Charles R.	Pennsylvania.	University of Penna.	Dr. R. R. Underwood.
McIntire, Frank H.	Massachusetts.	Boston Dental College.	Dr. Cooledge.
McNair, William	Pennsylvania.	University of Penna.	University of Penna.

NAME.	STATE.	WHERE PREVIOUSLY.	PRECEPTOR.
Nunez, Leoncio	Cuba.	University of Penna.	University of Penna.
Oltramare, Gabriel	Switzerland.	Geneva Gymnasium.	University of Penna.
Peters, Charles J., Jr.	New York.	University of Penna.	University of Penna.
Ramos, Manuel G.	Ecuador.	University of Penna.	University of Penna.
Salomon, Godfrey S.	Wisconsin.	University of Penna.	Dr. Charles Kahn.
Shannon, William H.	Pennsylvania.	University of Penna.	University of Penna.
Sharpe, John G.	New York.	University of Penna.	University of Penna.
Silpath, Harry B.	New Jersey.	University of Penna.	University of Penna.
Smedley, H. L. (Ph.G.)	Pennsylvania.	University of Penna.	Dr. Abram Smedley.
Southwell, Claude A.	Wisconsin.	University of Penna.	Dr. C. P. Southwell.
Stetson, Charles M.	Buenos Ayres.	University of Penna.	Dr. Newland and brother.
Sunderland, Eugene	Illinois.	University of Penna.	Drs. Kingsley and Mills.
Thompson, William F.	Canada.	University of Maryland.	Dr. Esmonde.
Tudor, John W.	Pennsylvania.	University of Penna.	Dr. David T. Way.
Weed, Albert G., Jr.	Connecticut.	University of Penna.	Dr. A. H. Scofield.
White, William T.	New Jersey	University of Penna.	Dr. E. M. Beesley.
Wienecke, Oscar E.	Germany.	University of Penna.	Drs. Hering and Klare.
Winner, Jefferson P.	Delaware.	University of Penna.	Dr. J. M. Winner.
			Total,—52.

STUDENTS OF THE FIRST YEAR.

NAME.	STATE.	PRECEPTOR.
Baker, Charles R.	Iowa.	Dr. J. B. Morgan.
Baldwin, John B.	Massachusetts.	Dr. C. L. Anderson.
Barrett, W. Oliver	Massachusetts.	Dr. A. A. Howland.
Brown, Wistar P.	Pennsylvania.	Dr. T. Yardley Brown and University of Penna.
Carter, Colin S. M.	New York.	Dr. Charles J. Essig.
Cook, Everett M.	Connecticut.	Dr. James O. Cook.
Croll, William L.	Pennsylvania.	Dr. J. B. Crist.
Davenport, John F.	Illinois.	Drs. Kingsley and Mills.
De Witt, Joseph R.	Pennsylvania.	University of Penna.
Gibbons, Clifford	England.	Dr. George Owen.
Herbein, Howard J.	Pennsylvania.	Dr. J. S. Herbein.
Hertz, John C.	Pennsylvania.	Dr. William H. Hertz.
Hofmann, Georg	Germany.	Dr. E. Wall.
Hurlburt, H. Duane	Vermont.	Dr. J. M. Comegys.
Jack, Louis, Jr.	Pennsylvania.	Dr. Louis Jack.
James, David L.	North Carolina.	Dr. J. G. James.
Jennings, Irving H.	Pennsylvania.	Dr. George W. Stine.
Keffer, Edward I.	Pennsylvania.	Dr. Marshall H. Webb.
Laird, Hugh J.	Pennsylvania.	Dr. H. N. Laird.
Lemos, Odorico G. de	Brazil.	University of Penna.
Leser, Victor C.	Missouri.	Dr. Henry Riedel.

NAME.	STATE.	PRECEPTOR.
Lewis, Elmer L.	Pennsylvania.	University of Penna.
Morrow, Charles H.	Massachusetts.	Dr. George O. Tuck.
McCandless, Albert H.	Iowa.	University of Penna.
Nicol, John D.	Illinois.	Drs. Hewett Bros.
Noble, Joseph W.	Pennsylvania.	Drs. Fogg and Kirk.
Parker, J. Abbott	Minnesota.	Dr. J. A. Bowman.
Redpath, Philip E.	Canada.	University of Penna.
Scott, Robert M.	Pennsylvania.	University of Penna.
Sherraden, Will H.	Iowa.	Dr. George C. Brown.
Smith, W. Albert	Colorado.	Dr. H. N. Urmey.
Sullivan, James H.	Pennsylvania.	University of Penna.
Taylor, William D.	Massachusetts.	Dr. C. S. Hurlburt.
Tovar, Luis F.	U. S. of Colombia.	University of Penna.
Valdes, Antonio	Cuba.	University of Penna.
Yorks, John R.	Pennsylvania.	Dr. J. L. Baker.

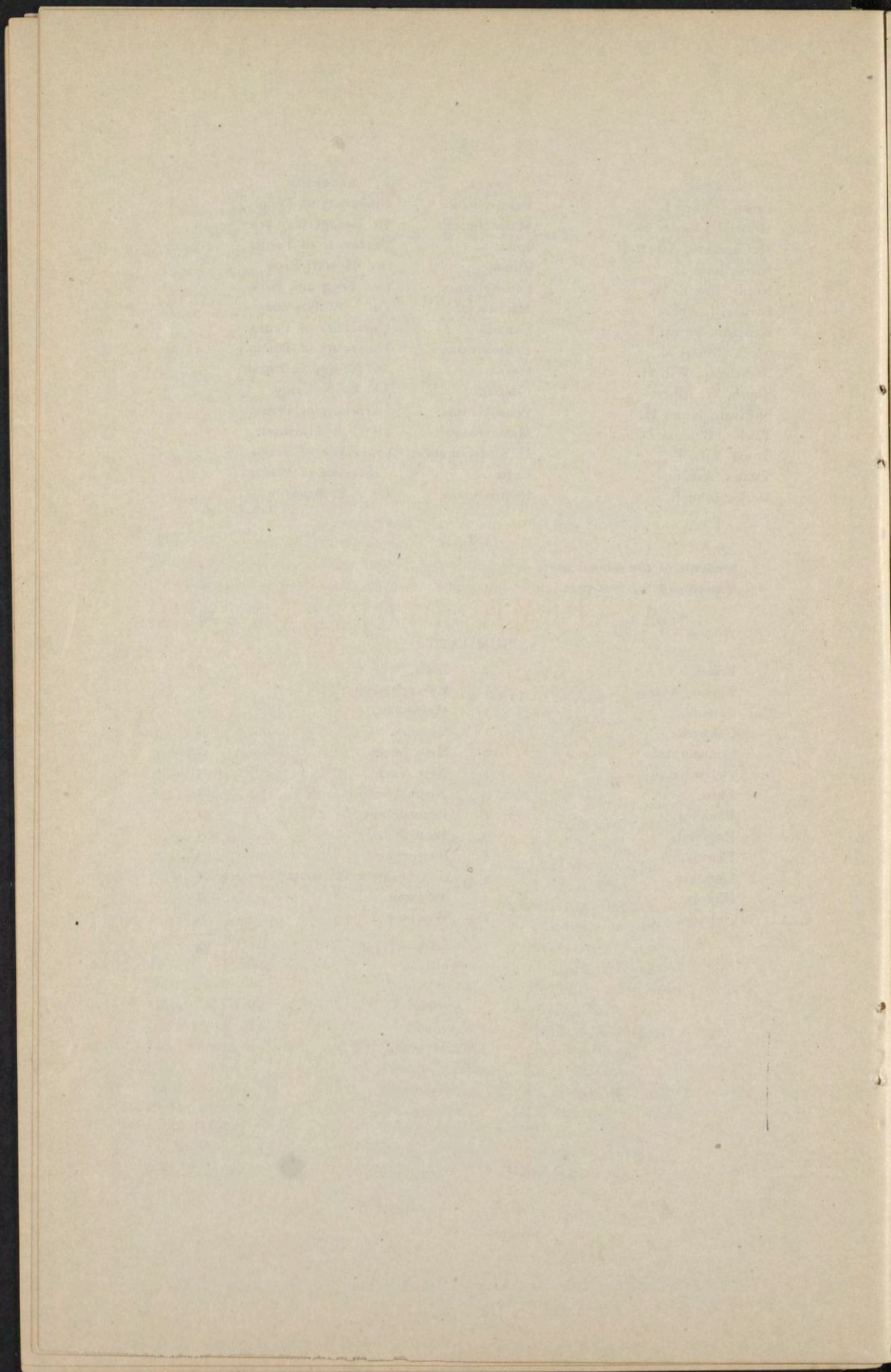
Total,—36.

TOTAL.

Students of the second year,	52
Students of the first year,	36
Total,	<u>88</u>

SUMMARY.

Brazil,	2	Iowa,	4
Buenos Ayres,	1	Massachusetts,	6
Canada,	2	Minnesota,	2
Colorado,	1	Missouri,	2
Connecticut,	2	New Jersey,	2
Delaware,	1	New York,	5
Cuba,	3	North Carolina,	1
Ecuador,	1	Pennsylvania,	31
England,	3	Porto Rico,	1
Florida,	1	Switzerland,	3
Germany,	3	U. S. of Colombia, South America,	2
Illinois,	4	Vermont,	1
Indiana,	1	Wisconsin,	3
		Total,	<u>88</u>



ACADEMIC DEGREES,

HONORS, PRIZES, ETC.

1880-81.

HONORARY DEGREES.

The HONORARY DEGREE OF DOCTOR OF LAWS was conferred upon Hon. JAMES A. GARFIELD, President of the United States, on the 22d of February, 1881.

The HONORARY DEGREE OF DOCTOR OF LAWS was conferred upon His Excellency, Hon. HENRY M. HOYT, Governor of the Commonwealth of Pennsylvania, at the Commencement held June 15th, 1881.

DEGREES.

At the Commencement held June 15th, 1881, the following Degrees were conferred:

The Degree of Bachelor of Arts was conferred upon—

William Louis Abbott,	Morris Jastrow,
Ellis Ames Ballard,	John Eaton Le Conte,
Joseph Thompson Barnhurst,	Howard Jones Lukens,
Elihu Spencer Blight,	Rufus Bicknell Marks,
Morris Weyl Brinkmann,	Robert Kennedy Matlock,
Joseph Sill Clark,	David Milne,
William Allison Cochran,	James Claytor Montgomery,
William Heyward Drayton, Jr.,	Lewis Neilson,
John Francis Foulke,	Clifford Pemberton, Jr.,
William Henry Fox,	Eli Kirk Price, Jr.,
George Howard Freedley,	James Hamilton Robins,
George Christian Gardner,	Felix Emanuel Schelling,
William Jones Gregory,	Pearson Peterson Sentman,
George Herman Gross,	William Crowell Watt.
John Hall Ingham,	

The Degree of Bachelor of Science was conferred upon—

Richard I. Downing Ashbridge,	Henry Frederick Keller,
Joseph Trowbridge Bailey, Jr.,	Charles Brandes Lane,
George Blow Beale,	William Albert McGonagle,
Francis Hoskins Easby,	Francis Lanier Potts,
Howard Beck Felton,	Severo Mallet-Prevost,
Willis Edward Hall,	Nathaniel Wiley Thomas,
Orville Horwitz,	Benjamin Chew Tilghman,
Samuel Jamison,	Samuel Tobias Wagner,
Hermann Augustus Keller,	Uriah Yeakel.

Certificates of Proficiency were awarded to—

Louis Hull Barnard,	Henry Clement Smith,
Edward Lownes,	George Chapman Thayer,
William Thomas Robinson,	Lienau Walden,
Henry Skinner,	John Hambleton Webster, Jr.

The Degree of Master of Arts was conferred upon—

William Sergeant Blight, Jr.,	Rev. Harry McDowell,
George Ethan Brooks,	Thomas Prichett,
Edward Swift Buckley, Jr.,	Claes August Oscar Rosell,
James Clark Corry,	Augustus Janney Rudderow,
Rev. James Chalice Craven,	Rev. Richard Bowden Shepherd,
Charles Philip Henry,	Isaac Scott Smyth, Jr.,
Clarence Kennedy,	William Henry Stetler.
Edward Garrett McCollin,	

The Degree of Bachelor of Laws was conferred upon—

James B. Anderson, Jr.,	Philadelphia,	Pennsylvania.
Albert J. Bamberger,	Philadelphia,	Pennsylvania.
Charles H. Bannard,	Salem,	New Jersey.
Henry B. Bartow,	Bristol,	Pennsylvania.
Edward P. Bliss,	Philadelphia,	Pennsylvania.
Frederick L. Breitingen,	Philadelphia,	Pennsylvania.
J. Douglass Brown, Jr.,	Philadelphia,	Pennsylvania.
John D. Carlile,	Philadelphia,	Pennsylvania.
Edward G. Comingo,	Pittsburgh,	Pennsylvania.
Samuel W. Cooper,	Philadelphia,	Pennsylvania.
Henry T. Dechert,	Philadelphia,	Pennsylvania.
Amos H. Evans,	Cecil Co.,	Maryland.
Walter S. Gibson,	Philadelphia,	Pennsylvania.
Joseph L. Greenwald,	Philadelphia,	Pennsylvania.
Henry W. Hall,	Philadelphia,	Pennsylvania.
Frederick W. Hammett,	Philadelphia,	Pennsylvania.
Samuel A. Heilner,	Philadelphia,	Pennsylvania.
Henry M. Hoyt, Jr.,	Harrisburg,	Pennsylvania.
Bertram Hughes,	Philadelphia,	Pennsylvania.
Harry A. Ingram,	Philadelphia,	Pennsylvania.
Clarence Kennedy,	Philadelphia,	Pennsylvania.
Joseph J. Knox,	Philadelphia,	Pennsylvania.
A. Nelson Lewis,	Philadelphia,	Pennsylvania.
Hugh J. McCartney,	Philadelphia,	Pennsylvania.
Edward W. Magill,	Chester,	Pennsylvania.
Charles Mecum,	Salem,	New Jersey.
James L. Miles,	Philadelphia,	Pennsylvania.
Alfred S. Miller,	Philadelphia,	Pennsylvania.
Charles R. Miller,	Philadelphia,	Pennsylvania.
E. Augustus Miller,	Philadelphia,	Pennsylvania.
Walton Pennewill,	Philadelphia,	Pennsylvania.
Benjamin F. Perkins,	Philadelphia,	Pennsylvania.
Hugo A. Rennert,	Philadelphia,	Pennsylvania.
George Rogers,	Philadelphia,	Pennsylvania.
Millard F. Scheide,	Philadelphia,	Pennsylvania.
Norcom L. Seguin,	Philadelphia,	Pennsylvania.
Jacob Singer,	Philadelphia,	Pennsylvania.

William M. Stewart, Jr.,	Philadelphia,	Pennsylvania.
Francis G. Taylor,	Philadelphia,	Pennsylvania.
Oscar B. Teller,	Philadelphia,	Pennsylvania.
Henry M. Tracy,	Conshohocken,	Pennsylvania.
Thomas P. Twibill,	Philadelphia,	Pennsylvania.
Francis Lincoln Wayland,	Philadelphia,	Pennsylvania.
Henry C. Whitlock,	Camden,	New Jersey.
Charles F. Wignall,	Philadelphia,	Pennsylvania.
Robert J. Williams,	Philadelphia,	Pennsylvania.
William G. Wise,	Philadelphia,	Pennsylvania.
J. Willis Witherop,	Titusville,	Pennsylvania.
Le Roy J. Wolfe,	York,	Pennsylvania.
Harry B. Yerger,	Philadelphia,	Pennsylvania.

Also, by recommendation of the Law Faculty, the Degree of Bachelor of Laws was conferred upon Michael Arnold, Esq., a student in the Department in 1862-3.

HONORS, ETC.

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

To Graduates in THE ARTS—

Honors of the *First Class* to JAMES CLAYTOR MONTGOMERY, RUFUS BICKNELL MARKS, HOWARD JONES LUKENS and WILLIAM ALLISON COCHRAN.

Of the *Second Class* to ELI KIRK PRICE, JR., JOHN HALL INGHAM and ELLIS AMES BALLARD.

Of the *Third Class* to MORRIS JASTROW, JOHN EATON LE CONTE, FELIX EMANUEL SCHELLING, WILLIAM CROWELL WATT, PEARSON PETERSON SENTMAN, GEORGE CHRISTIAN GARDNER, DAVID MILNE and JOSEPH THOMPSON BARNHURST.

To Graduates in the TOWNE SCIENTIFIC SCHOOL—

Of the *Second Class* to SAMUEL TOBIAS WAGNER, WILLIS EDWARD HALL and HERMANN AUGUSTUS KELLER.

Of the *Third Class* to SEVERO MALLET-PREVOST, URIAH YEAKEL, GEORGE BLOW BEALE, SAMUEL JAMISON, BENJAMIN CHEW TILGHMAN, FRANCIS HOSKINS EASBY and HENRY FREDERICK KELLER.

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

In the DEPARTMENT OF ARTS—

Junior—THOMPSON SEISER WESTCOTT.

Sophomores—CORNELIUS DAVIS MECUTCHEN, EDWARD POTTS CHEYNEY, CHARLES YOUNG AUDENRIED and WILLIAM HOWARD FALKNER.

Freshmen—JOHN STOKES ADAMS, LEWIS LAWRENCE SMITH, JAMES DALLAS STEELE, BENJAMIN HARVEY WELCH, THOMAS COOKE, JOHN AUGUST WILLIAM HAAS and LANDRETH WORTHINGTON THOMPSON.

In the TOWNE SCIENTIFIC SCHOOL—

Sophomore—FRANK MILES DAY.

Freshmen—SAMUEL VAN PELT and WILLIAM IRVIN SELTZER.

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 for the best Essay on "*The Influence of Leibnitz on the Latest Philosophical Thinking,*" to JOSEPH JASTROW, with Honorable Mention of FRANK SCHELL BALLENTINE.

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 THOMPSON SEISER WESTCOTT.

Freshman Prize for the best Examination on "*Greek Prose Composition with the Accents,*" to JAMES DALLAS STEELE.

In the Department of Mathematics: Freshman Prizes for the best Work and Examination in the "*Mathematical Course of the Year.*" Of the First Rank to JOHN STOKES ADAMS; of the Second Rank to LEWIS LAWRENCE SMITH.

In the Department of History and English Literature: The Senior Prize for the best Essay on "*Our Antagonists Are Our Helpers,*" to JAMES CLAYTOR MONTGOMERY, with Honorable Mention of FELIX EMANUEL SCHELLING and WILLIAM CROWELL WATT.

The Junior Prize for the best Essay on "*The History of Metallic Industry as Showing the Progress of Civilization,*" to CHARLES HANFORD HENDERSON.

The Matriculate Greek Prize, for the best Examination by a member of the Freshman Class, immediately after his admission to college, upon "*The Elements of Greek Prose Composition.*" Of the First Rank to JOHN AUGUST WILLIAM HAAS.

The Matriculate Latin Prize, for the best Examination by a member of the Freshman Class, immediately after his admission to college, upon "*The Elements of Latin Prose Composition.*" Of the First Rank to JOHN STOKES ADAMS.

The Prize offered by the Board of Trustees to the Scientific Classes, for superiority in "*Mechanical Drawing,*" to SAMUEL SLEE TAITE.

The Henry Reed Prize, founded by the Alumni of the University, for the best Essay on "*The Pen is Mightier than the Sword,*" to GEORGE HERMAN GROSS.

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,) equally to JAMES CLAYTOR MONTGOMERY and RUFUS BICKNELL MARKS.

The Prize founded by the Society of the Alumni, for the best *Original Declamation*, by a member of the *Junior Class*, to EDWIN FUSSELL LOTT.

The Prize founded by Mr. HENRY LA BARRE JAYNE, for the best *English Composition*, by a member of the *Freshman Class*, to JAMES BARR FERREE, for his Essay on "*Prehistoric America.*"

The Joseph Warner Yardley Memorial Prize, founded by the class of 1877, to CLIFFORD PEMBERTON, JR., for his Essay on "*National Debts.*"

The Senior Prize for the highest general average of scholarship in the Department of Civil Engineering, to SAMUEL TOBIAS WAGNER.

The Van Nostrand Prize for the highest general average of scholarship in the Department of Civil Engineering (*Junior Class*), to WILLIAM GHRISKEY WHITE.

DEGREES, PRIZES, ETC., IN MEDICINE.

At a Public Commencement held Tuesday, March 15th, 1881, the Degree of DOCTOR OF MEDICINE was conferred upon the following gentlemen:

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Allen, Thomas L.	Langhorne,	Pa.	Damiana.
Andes, John B.	Sadsburyville,	Pa.	Typhoid Fever.
Angell, Edward B. (A. B.)	Rochester,	N. Y.	A Case of Hypochondriasis.
Archibald, Henry C. (Ph. G.)	Philadelphia,	Pa.	Amyl Nitris.
Ashton, William E.	Manayunk,	Pa.	The Treatment of Wounds.
Bailey, Edwin C.	Philadelphia,	Pa.	Indurated Ulcers.
Beachly, William K.	Meyersville,	Pa.	Diphtheria.
Berkaw, Willard Ewing	Stanton,	N. J.	The Use of Cold Water in Fever.
Betancourt, Pedro A. (A. B.)	Matanzas,	Cuba.	Arnica on the Circulation.
Bissell, Frederic Packard	Norwalk,	Conn.	Phosphorus.
Boyer, Philip A.	Selinsgrove,	Pa.	Scarlatina.
Boyer, Zaccur P., Jr.	Pottsville,	Pa.	Acute Gastritis.
Bromley, Frederic W.	La Grange,	Wis.	Stricture of the Urethra.
Brose, Louis D.	Evansville,	Ind.	Experimental Contributions to the Histology of Bright's Disease.
Buchanan, John J. (A. B.)	Allegheny,	Pa.	Air in the Circulation.
Coates, L. Roberts (B. C. S., M. D.)	Baltimore,	Md.	The Soft Sore.
Confer, D. Clarence	Duncansville,	Pa.	Pseudo-Membranous Laryngitis.
Corson, Carroll	Plymouth Meeting,	Pa.	Ulcers.
Crosthwaite, David W.	Altoona,	Pa.	Pepsin.
Denham, Thomas C.	Henderson,	N. C.	Cathartics and Their Applications.
Detwiler, Thomas C.	Williamsport,	Pa.	Trichina Spiralis.
Dey, Addison H.	Hightstown,	N. J.	Relapsing Fever.
Dickenshied, Eugene H.	Spinnerstown,	Pa.	Histology of Atheroma.
Dimond, Henry C. (A. B.)	Marietta,	Ohio.	Medical Theses.
Dole, Raphael	Newburyport,	Mass.	The Supra-Renal Capsules
Duffield, John R.	McConnellsburg,	Pa.	Neurasthenia.
Dunn, Thomas D.	West Chester,	Pa.	Hæmophilia.
Edwards, William A.	Philadelphia,	Pa.	The Ovarian Cell: Is It Pathognomonic?
Evans, William D.	Chester Springs,	Pa.	Tetanus.

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Field, George B. Wood	Easton,	Pa.	The Spinal Cord and Its Adjacent Parts.
Finley, Robert P.	Philadelphia,	Pa.	Treatment for the Radical Cure of Hydrocele.
Franklin, Charles M. (A. B.)	Lancaster,	Pa.	Phlebitis and Varix.
Funk, David S. (A. M.)	Mexico,	Pa.	Influence of the Mind on the Body in Health and Disease.
Gayley, William C.	Colora,	Md.	Asiatic Cholera.
George, Augustus B. (M. D.)	Savannah,	Ga.	Mitral Obstruction.
Gerrish, Millard F.	Seymour,	Ind.	The Etiology of Typho-Malarial Fever.
Gibbs, John Blair	Philadelphia,	Pa.	Fat Embolism of the Lungs.
Grayson, Chas. M. P. (M. D.)	Philadelphia,	Pa.	Tympanites of Typhoid Fever.
Griffith, J. P. Crozer (A. B.)	Upland,	Pa.	The Histology of the Testis.
Gunter, Guilford	Nashwaak,	N. B.	Typhoid Fever.
Gwinner, John M.	St. Clair,	Pa.	Tubercular Meningitis.
Hall, Briton S.	Beach Creek,	Pa.	Remittent Fever.
Hammer, Robert B.	Greensburg,	Pa.	Experimental Researches on the Functions of White Blood Corpuscles in Organization of Tissues.
Hancock, Edward C.	Philadelphia,	Pa.	Vesico-Vaginal Fistula.
Harmanson, Charles I.	Pungoteague,	Va.	Typhoid Fever.
Harwood, Sweitzer S. (M. D.)	Sydney,	Austrl.	Infant Therapeutics.
Hazard, Thomas L.	Monongahela City,	Pa.	Laceration of Cervix Uteri.
Hennershotz, John S.	Reading,	Pa.	Influence of Maternal Impressions on the Fœtus in Utero.
Herbst, Henry H. (A. B.)	Trexlerstown,	Pa.	Observations on Alimentation.
Herman, Ambrose C. S.	Maxatawny,	Pa.	Cerebro-Spinal Meningitis.
Hiestand, Daniel	Siegfried's Bridge,	Pa.	Incised Wounds.
Hiett, George W.	La Fayette,	Ind.	Etiology of Phthisis.
Highley, George N.	Jeffersonville,	Pa.	Some of the Indigenous Medicinal Plants of Montgomery Co., Pa.
Hinsdale, Guy (A. B.)	Brooklyn,	N. Y.	Potassium Nitrite.
Hollingsworth, W. Wharton	Philadelphia,	Pa.	Health Resorts of Southern France.

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Hutchins, Richard H.	Wyoming,	Pa.	Cholera Infantum.
Janney, Robert W.	Hamilton,	Va.	Myalgia.
Jones, Roland Davis (Ph. G.)	Milton,	Del.	Citric Acid.
Kelley, J. Horton (A. B.)	Still Pond,	Md.	Abortion.
Kelly, Patrick M. (Ph. G.)	Philadelphia,	Pa.	Hydrophobia.
Kennedy, Robert A.	Danville,	Pa.	The Antipyretic Treatment.
Kimball, George T.	Kenosha,	Wis.	Periodical Fevers.
Kingsbury, James (M. D.)	Sydney,	Austrl.	Pathological Anatomy of Epilepsy.
Klump, John A. (D. D. S.)	Williamsport,	Pa.	Constitutional Treatment of the Teeth.
Knittle, William G.	Port Carbon,	Pa.	Diabetes Mellitus.
Kollock, Charles W.	Cheraw,	S. C.	Injuries of the Hand.
Koser, John J.	Shippensburg,	Pa.	Inanition.
Lautenbach, Louis J. (A. B.)	Philadelphia,	Pa.	Broom and its Alkaloid.
Lewis, Smith H.	Pennington,	N. J.	The Epidemic of Princeton.
Longaker, Daniel (Ph. G.)	Schwenksville,	Pa.	Albuminuria of Pregnancy.
Lopez, J. Augustin	Havana,	Cuba.	Fatty Degeneration of the Heart.
McCance, Joseph K.	Allegheny,	Pa.	Acute Lobar Pneumonia.
McGrew, Samuel J. (A. B.)	Shelbyville,	Tenn.	The Etiology, Pathology and Treatment of Diphtheria.
McIlvaine, Edward S.	Philadelphia,	Pa.	Delirium Tremens.
Marcondes, Moyses	Palmeira,	Brazil.	The Mechanism of Eutochia.
Marcy, Alexander, Jr.	Cape May,	N. J.	Calomel.
Marshall, Edward W.	Williamsport,	Pa.	Hydrophobia.
Mecaskey, John W.	Frankford,	Pa.	Insanity.
Michler, Henry D. (M. S.)	Easton,	Pa.	A Case of Compound Comminuted Fracture.
Miller, Niles M.	Philadelphia,	Pa.	Practical Microscopical Diagnosis of Tumors.
Miner, Joshua L. (A. B.)	Wilkesbarre,	Pa.	Diphtheria.
Mosher, James	Washington,	D. C.	Melituria.
Nead, Daniel W.	Chambersburg,	Pa.	Yellow Fever in Pennsylvania Historically Considered.
Nunez, Eduardo F.	Sagua la Grande,	Cuba.	Sputum in Phthisis.
O'Brien, Bryan (Ph. G.)	Philadelphia,	Pa.	Is Dysentery Contagious?

NAME.	POST-OFFICE.	STATE.	SUBJECT OF ESSAY.
Polk, W. Robeson (A. B.)	Philadelphia,	Pa.	Shock.
Power, Henry J. (A. B.)	McKeesport,	Pa.	Treatment.
Puente, Marcos de la	Havana,	Cuba.	Yellow Fever.
Raab, Ernest P. (Ph. G.)	Belleville,	Ill.	Changes as Produced Experimentally in the Liver of Animals.
Richmond, Thomas	Coatesville,	Pa.	Hæmoptysis.
Robinson, Orlando C.	Southamptonville,	Pa.	An Experimental Research on Tuberculosis.
Rockwell, Henry B. Jr. (A. B.)	Scranton,	Pa.	Exophthalmic Goitre.
Schweinitz, G. E. de (B. A.)	Bethlehem,	Pa.	Painful Tumors, with Special Reference to Neuromata.
Scott, Joseph B. (A. B.)	Gettysburg,	Pa.	Climate and Consumption in the United States.
Seltzer, Cyrus J.	Lebanon,	Pa.	Neuralgia.
Shell, J. Kinzer (A. B.)	Philadelphia,	Pa.	The Muscular System.
Shelly, Edwin T.	Quakertown,	Pa.	Exophthalmic Goitre.
Small, Alexander H.	Riverside,	Pa.	Stricture of the Urethra, and its Treatment.
Speakman, Howard D.	Woodbury,	N. J.	Action of Potassium Bromide on the Circulation.
Stamm, Edward P.	Philadelphia,	Pa.	Diphtheria.
Tuttle, James P. (A. M.)	Fulton,	Mo.	The Menopause.
Weaver, Henry F.	Hecktown,	Pa.	The Therapeutic Value of Chlorate of Sodium.
Weber, Matthias Y.	L. Providence,	Pa.	Varicocele.
Weiser, Henry K.	York,	Pa.	Elephantiasis Arabum.
Wells, P. Frailey (A. B.)	Philadelphia,	Pa.	Poisoning from Rhus Toxicodendron and Allied Plants.
Whitney, W. Norton	Newark,	N. J.	Blood Changes in Erysipelas.
Williams, Henry T.	Rochester,	N. Y.	Chorea.
Wilson, Edgar A.	Meriden,	Conn.	Stricture of the Urethra.
Worrell, John W.	Brownsville,	Pa.	Animal Parasites of the Living Human Muscle.
Young, J. Henry W. (B. S.)	New York,	N. Y.	Comparative Myology of the Forearm in Man and in the Cat.

The following-named gentlemen received the Degree of DOCTOR OF MEDICINE at the Commencement held June 15th, 1881 :

Beltz, Franklin M.	North Penn,	Pa.	Typhoid Fever.
Elder, Frank H.	Philadelphia,	Pa.	Infanticide.
Fager, Christian M.	Harrisburg,	Pa.	Intermittent Fever.
Griffiths, W. Patton	Towanda,	Pa.	Treatment of Aneurism.
Haynes, Robert W.	Philadelphia,	Pa.	Germ Theories.

Of the foregoing, there were from

Australia,	2	New Brunswick,	1
Brazil,	1	New Jersey,	8
Connecticut,	2	New York,	4
Cuba,	4	North Carolina,	1
Delaware,	1	Ohio,	1
District of Columbia,	2	Pennsylvania,	77
Georgia,	1	South Carolina,	1
Illinois,	1	Tennessee,	1
Indiana,	3	Virginia,	2
Maryland,	3	Wisconsin,	2
Massachusetts,	1		
Missouri,	1	Total,	120

PRIZES AWARDED.

The following graduates were awarded prizes for their Theses :

J. P. Crozer Griffith, Pennsylvania, \$50.	George E. de Schweinitz, Penna., \$50.
Orlando C. Robinson, Penna., \$50.	Louis J. Lautenbach, Pennsylvania, \$50.

The following were announced as having presented Theses of

DISTINGUISHED MERIT :

Louis D. Brose, Indiana.	Joseph B. Scott, Pennsylvania.
George B. Wood Field, Pennsylvania.	Howard D. Speakman, New Jersey.
Robert B. Hammer, Pennsylvania.	W. Norton Whitney, Pennsylvania.

The Theses of the following received

HONORABLE MENTION :

Thomas D. Dunn, Pennsylvania.	James Kingsbury, Australia.
William Edwards, Pennsylvania.	Moyes Marcondes, Brazil.
Millard F. Gerrish, Indiana.	Eduardo F. Nunez, Cuba.
John B. Gibbs, Pennsylvania.	Bryan O'Brien, Pennsylvania.
Henry H. Herbst, Pennsylvania.	Ernest P. Raab, Pennsylvania.
Guy Hinsdale, New York.	Edwin T. Shelly, Pennsylvania.

Henry K. Weiser, Pennsylvania.

ANATOMICAL PRIZES.

For diligence, care and skill in the Practical Study of Anatomy :

A Gold Medal to Thomas D. Dunn and George E. de Schweinitz, with Honorable Mention, of Matthias Y. Weber.

For the best record of anomalies found in the Dissecting-Room during the year :

Guy Hinsdale, of New York, \$30.

THE MORBID ANATOMY PRIZE,

a Zentmayer's Microscope, was awarded to Eugene H. Dickinshied, of Pennsylvania, with Honorable Mention of Niles M. Miller, of Pennsylvania.

OSTEOLOGICAL PRIZE.

Abraham H. Wintersteen, of Pennsylvania, a copy of Agnew's *Surgery*, with Distinguished Mention of George R. West, of Georgia.

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

At the Commencement held June 15th, 1881, the Degree of DOCTOR OF PHILOSOPHY was conferred upon the following gentlemen, Doctors of Medicine :

Millard F. Gerrish, M. D.,	P. Frailey Wells, M. D.,
J. P. Crozer Griffith, M. D.,	Howard D. Speakman, M. D.,
Louis J. Lautenbach, M. D.,	Louis D. Brose, M. D.

The George B. Wood Alumni Prize was awarded equally between Dr. J. P. Crozer Griffith and Dr. Louis J. Lautenbach, for their Theses containing the results of original investigation.

Dr. P. Frailey Wells, received Honorable Mention as having presented a Thesis of distinguished merit.

A Gold Medal of Merit for Diligence and the best Record of the Lectures on Hygiene, was awarded by Professor Richardson, M. D., to Dr. Louis D. Brose, of Evansville, Indiana.

DEGREES, PRIZES, ETC., IN DENTISTRY.

At the Commencement held March 15th, 1881, the Degree of DOCTOR OF DENTAL SURGERY was conferred upon the following gentlemen :

NAME.	RESIDENCE.	STATE.
Abbott, Sumner B.	Philadelphia,	Pennsylvania.
Barclay, William H. (M. D.)	Philadelphia,	Pennsylvania.
Baxter, Walter W.	Drummondville,	Canada.
Biggar, Miles R.	Brantford,	Canada.
Brister, James	Philadelphia,	Pennsylvania.
Campbell, J. Harrison	Media,	Pennsylvania.
Cornog, Albert	Philadelphia,	Pennsylvania.
Downer, Milton J.	Watertown,	New York.
Ellis, Charles J.	Hornellsville,	New York.
Falero, Juan	Campeachy,	Mexico.
Gauger, Horace	Milton,	Pennsylvania.
Guiteras, Justo O.	Matanzas,	Cuba.
Harlan, Justin E.	Coatesville,	Pennsylvania.
Hawes, Earle P.	Providence,	Rhode Island.
Howard Charles P.	Rochester,	New York.
Johnson, William A.	Peoria,	Illinois.
Justiniani, J. Domingo	Havana,	Cuba.
Kaas, Carl P. A.	Christiania,	Norway.
Ketcham, Theodore V.	Stamford,	Connecticut.
Kimball, Richard H.	Chicago,	Illinois.
Koser, A. Stewart.	Gettysburg,	Pennsylvania.
Kutz, Albert J.	Lancaster,	Pennsylvania.
Lang, Frank W.	Kennett Square,	Pennsylvania.
Martin, Christopher C.	Rocky Mount,	Louisiana.
Martin, Edwin M.	Strasburg,	Pennsylvania.
Martin, Robert B.	Rocky Mount,	Louisiana.
Mascot, Augustin E.	Trinidad,	Cuba.
Mason, Burr T.	Phoenix,	New York.
Maxfield, George A.	Chester,	Pennsylvania.
Meaker, Cyrus T.	Pittston,	Pennsylvania.
Molina, José Justiniani y	Havana,	Cuba.
Morse, H. Leslie	Philadelphia,	Pennsylvania.
McClure, Harry C.	Coatesville,	Pennsylvania.
Place, Benjamin F.	Eagleville,	Pennsylvania.
Reinecke, Herman L.	Pittsburgh,	Pennsylvania.
Rhein, Meyer L. (M. D.)	Albany,	New York.
Reidel, Henry	Forto Alegre,	Brazil.
Saunders, Boyd G.	Niagara Falls,	New York.
Sinclair, Thomas D.	Philadelphia,	Pennsylvania.

III

NAME.	RESIDENCE.	STATE.
Smith, Victor M.	New York,	New York.
Southwell, Charles C.	Milwaukee,	Wisconsin.
Stewart, William W.	Millersburg,	Pennsylvania.
Voelker, Ludwig H.	Williamsport,	Pennsylvania.
Wells Charles H.	Philadelphia,	Pennsylvania.
Wendel, William C.	Milwaukee,	Wisconsin.
Wing, Stephen R.	Philadelphia,	Pennsylvania.
Worrall, George H.	Media,	Pennsylvania.

At the Commencement held June 15th, 1881, the Degree of DOCTOR OF DENTAL SURGERY was conferred upon Manuel B. Trelles, of Matanzas, Cuba.

SUMMARY.

Brazil,	1	New York,	7
Canada,	2	Norway,	1
Connecticut,	1	Pennsylvania,	22
Cuba,	6	Rhode Island,	1
Illinois,	2	Wisconsin,	2
Louisiana,	2		—
New Hampshire,	1	Total,	48

CHARLES J. ESSIG,

Secretary.

DEGREES, PRIZES, ETC., IN DENTISTRY, SESSION 1880-1.

The following-named gentlemen were the successful competitors for the different prizes:

CHARLES T. HOWARD, New York.—A set of instruments, offered by the Trustees of S. S. White for the best essay.

Theses of distinguished merit were also presented by STEPHEN R. WING, Pennsylvania, CARL P. A. KAAS, Norway.

WILLIAM C. WENDEL, Wisconsin.—A prize of a dental engine, offered by the Trustees of S. S. White for the best specimen of plate work.

RICHARD H. KIMBALL, Illinois.—A prize of a gold medal, offered by Professor Charles J. Essig for the best specimen of continuous gum work.

ALBERT J. KUTZ, Pennsylvania, and CHAS. C. SOUTHWELL, Wisconsin.—Gold medals, offered by Professor E. T. Darby for the best specimens of gold fillings in the mouth.

FINAL EXAMINATIONS.

The following members of the Graduating Class received Honorable Mention for averages exceeding 90:

STEPHEN R. WING,	Pennsylvania.	CHARLES T. HOWARD,	New York.
HERMAN L. REINECKE,	Pennsylvania.	BOYD D. SAUNDERS,	New York.
CYRUS T. MEAKER,	Pennsylvania.	VICTOR M. SMITH,	New York.
WILLIAM W. STEWART,	Pennsylvania.	CHARLES C. SOUTHWELL,	Wisconsin.
BENJAMIN F. PLACE,	Pennsylvania.	THEODORE V. KETCHAM,	Connecticut.
EARLE P. HAWES,	Rhode Island.	BURR T. MASON,	New York.

