

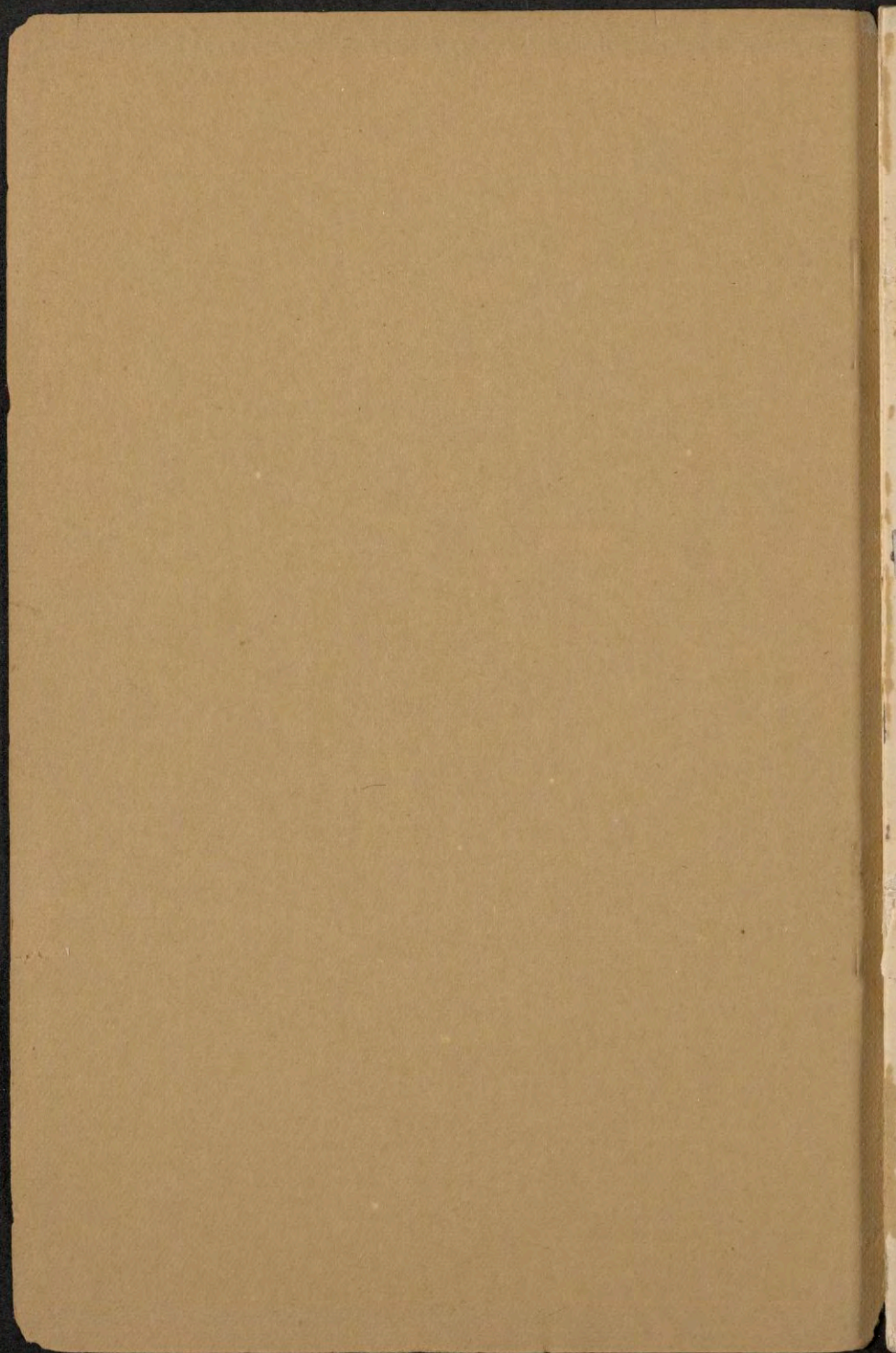
Horace C. Richards '68.

UNIVERSITY
OF
PENNSYLVANIA

CATALOGUE AND ANNOUNCEMENTS

1885-86

PHILADELPHIA
PRINTED FOR THE UNIVERSITY
1885



UNIVERSITY
OF
PENNSYLVANIA

CATALOGUE AND ANNOUNCEMENTS

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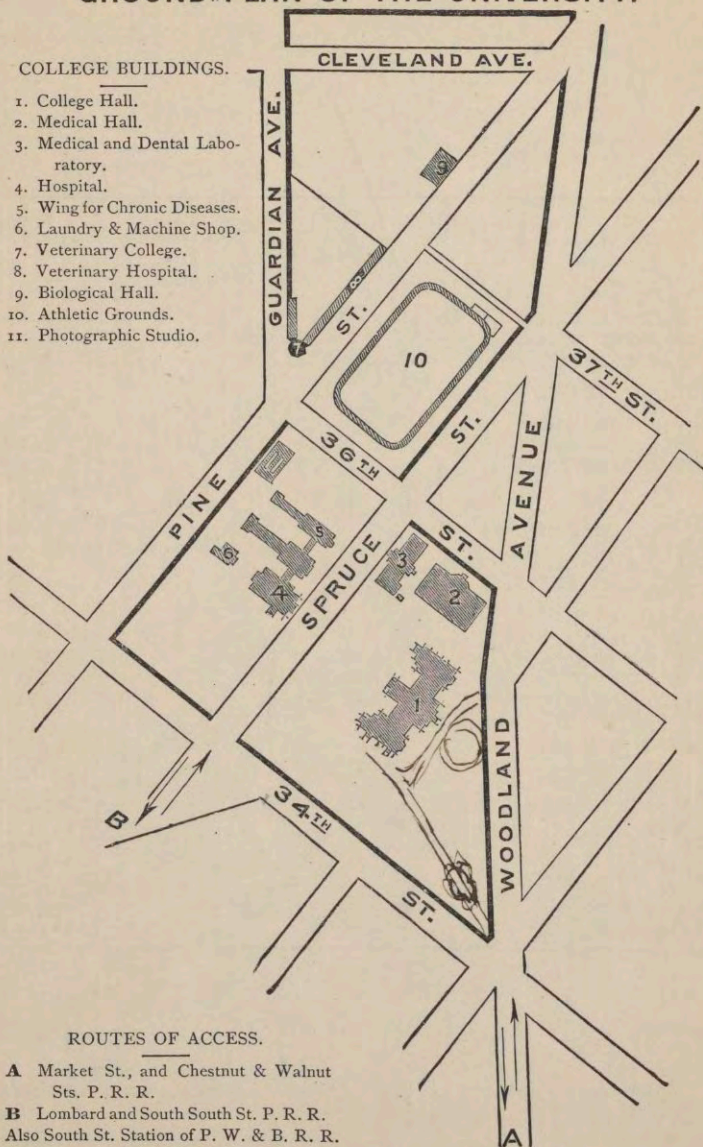
PHILADELPHIA
PRINTED FOR THE UNIVERSITY
1885

Press of GLOBE PRINTING HOUSE, Philadelphia.

GROUND PLAN OF THE UNIVERSITY.

COLLEGE BUILDINGS.

1. College Hall.
2. Medical Hall.
3. Medical and Dental Laboratory.
4. Hospital.
5. Wing for Chronic Diseases.
6. Laundry & Machine Shop.
7. Veterinary College.
8. Veterinary Hospital.
9. Biological Hall.
10. Athletic Grounds.
11. Photographic Studio.



ROUTES OF ACCESS.

- A** Market St., and Chestnut & Walnut Sts. P. R. R.
- B** Lombard and South South St. P. R. R.
Also South St. Station of P. W. & B. R. R.

THE BUILDINGS AND PROPERTY.

1885	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
JULY.	1	2	3	4
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CALENDAR.

- 1885.
- Sept. 15, Tuesday. First Term begins: College Department and Department of Biology. 10 A.M.
- Oct. 1, Thursday. First Term begins: Departments of Medicine, Law, Dentistry and Veterinary Medicine.
- “ 5, Monday. First Term begins: Department of Music and Auxiliary Department of Medicine.
- Nov. 26, Thursday. Thanksgiving Day. (Holiday.)
- Dec. 24, Thursday. Christmas Recess begins.

1886.

CHRISTMAS RECESS.

- Jan. 4, Monday. Christmas Recess ends. 9 A.M.
- “ 28, Thursday. Mid-Year Examinations end: College Department.
- “ 29, Friday. First Term ends: College Department (Chapel at 10 A.M.) and Department of Law.
- Feb. 1, Monday. Second Term begins: College Department, and Departments of Biology and Law.
- April 12, Monday. Final and Term Examinations begin: Departments of Medicine and Dentistry.
- “ 21, Wednesday. Examination for Resident Physicians, University Hospital. 12 Noon.
- “ 21, Wednesday. Easter Recess begins: College Department, 5 P.M.
- “ 23, Friday. Good Friday. (Legal Holiday.)

EASTER RECESS.

- “ 27, Tuesday. Easter Recess ends: College Department. 9 A.M.
- May 3, Monday. Annual Commencement: Departments of Medicine and Dentistry. 12 Noon.
- “ 10, Monday. Spring Session opens: Departments of Medicine and Dentistry. 11 A.M.
- “ 14, Friday. Senior Examinations, College Department, end.
- “ 20, Thursday. Examinations begin: Department of Law and Auxiliary Department of Medicine.
- “ 31, Monday. Second Term ends: Department of Law.

- June 14, Monday. Announcement of Results, Annual Examinations:
College Department. 10 A.M.
- " 15, Tuesday. Annual Commencement: College Department, De-
partments of Law and Biology, and Auxiliary
Department of Medicine. 11 A.M.
- " 16 to 23. Entrance Examinations: College Department.
9 A.M. each day.

SUMMER VACATION.

- Sept. 7 to 12. Entrance Examinations: College Department.
9 A.M. each day.
- " 15, Wednesday. First Term begins: College Department and De-
partment of Biology. 10 A.M.
- " 16, Thursday. Introductory Course opens: Departments of Medicine,
and Dentistry. 11 A.M.
- " 24, Friday. Competitive Examination for Medical Scholarships.
12 Noon.
- " 28, Tuesday. Examinations for Admission to Advanced Standing,
and Re-examination of Undergraduates, Depart-
ments of Medicine and Dentistry. 12 Noon.
- " 29, Wednesday. Entrance Examination: Departments of Medicine
and Veterinary Medicine. 12 Noon.
- Oct. 1, Friday. Winter Session opens: Departments of Medicine,
Dentistry and Veterinary Medicine. 12 Noon.
- " 1, " First Term begins: Department of Law.
- " 4, Monday. First Term begins: Department of Music and Aux-
iliary Department of Medicine.

University of Pennsylvania.

A pamphlet, called: *Proposals Relative to the Education of Youth in Pennsylvania*, written in 1749 by Dr. FRANKLIN, led to an association, by certain citizens of Philadelphia, for the purpose of founding a School on the lines suggested by that wise counsellor. Over two thousand pounds, equivalent to at least forty thousand dollars at the present time, were raised and a building, which had been erected to accommodate the thronged congregations of the celebrated Whitfield, was purchased, and in 1751 the Academy, consisting of an English, a Mathematical, and a Latin School, each under a Master, with subordinate tutors and ushers, was formally opened. So successful was the undertaking that in two years the Trustees applied to the Proprietaries for a Charter, which was thus granted: —

THOMAS PENN and RICHARD PENN, true and absolute proprietors and governors in chief of the province of Pennsylvania and counties of Newcastle, Kent, and Sussex, on Delaware, To all persons to whom these presents shall come, greeting: *Whereas*, the well-being of a society depends on the education of their youth, as well as, in great measure, the eternal welfare of every individual, by impressing on their tender minds principles of morality and religion, instructing them in the several duties they owe to the society in which they live, and one towards another, giving them the knowledge of languages, and other parts of useful learning necessary there-to, in order to render them serviceable in the several public stations to which they may be called. *And whereas*, it hath been represented to us by Thomas Lawrence, William Allen, John Inglis, Tench Francis, William Masters, Lloyd Zachary, Samuel M'Call, junior, Joseph Turner, Benjamin Franklin, Thomas Leech, William Shippen, Robert Strettell, Philip Syng, Charles Willing, Phineas Bond, Richard Peters, Abraham Taylor, Thomas Bond, Joshua Maddox, William Plumstead, Thomas White, William Cole-

man, Isaac Norris, and Thomas Cadwalader, of our city of Philadelphia, gentlemen, that for the erecting, establishing, and maintaining an academy within our said city, as well to instruct youth for reward, as poor children whose indigent and helpless circumstances demand the charity of the opulent part of mankind, several benevolent and charitable persons have generously paid, and by subscriptions promised hereafter to pay, into their hands as trustees, for the use of the said academy, divers sums of money, which sums already paid, they, the said trustees, have expended in the purchase of lands well situated, and a building commodious for the uses aforesaid, within our said city in maintaining an academy there as well for the instruction of poor children on charity, as others whose circumstances have enabled them to pay for their learning, for some time past, and in furnishing the said academy with books, maps, mathematical instruments, and other necessaries of general use therein, according to the intentions of the donors. *And whereas*, the said trustees to facilitate the progress of so good a work, and to perfect and perpetuate the same, have humbly besought us to incorporate them and their successors.

Now know ye, That we favouring such pious, useful, generous, and charitable designs, hoping, through the favour of Almighty God, this academy may prove a nursery of virtue and wisdom, and that it will produce men of dispositions and capacities beneficial to mankind in the various occupations of life; but more particularly suited to the infant state of North America in general, and for other causes and considerations us hereto specially moving, *have* granted, ordained, declared, constituted, and appointed, and by these presents *we do*, for us, our heirs, and successors grant, ordain, declare, constitute, and appoint, That the said Thomas Lawrence, and others, as before recited, and such others, as shall be from time to time chosen, nominated or elected in their place and stead, shall be one community, corporation and body politic, to have continuance for ever, by the name of The Trustees of the Academy and Charitable School in the Province of Pennsylvania.

In witness whereof, we have caused these our letters to be made patent; in the twenty-seventh year of the reign of our sovereign lord, George the Second, who now is king of Great Britain, France, and Ireland, &c., and in the year of our Lord, one thousand seven hundred and fifty-three."

Under the skillful training of the learned Rev. William Smith the highest class in this Academy attained that proficiency which, in a College course, would entitle it to a Degree. Accordingly, two years later the Proprietaries were again petitioned to convert the Academy into a College with the power of conferring Collegiate Degrees. The petition was granted substantially as follows:

Thomas Penn and Richard Penn, true and absolute proprietaries of the province of Pennsylvania, etc., to all persons to whom these presents shall come, greeting:

And whereas the said trustees have, represented, That since our granting our said recited charter, the academy therein mentioned, by the blessing of Almighty God, is greatly improved, being now well provided with masters, not only in the learned languages, but also in the liberal arts and sciences, and that one class of hopeful students has now attained to that station in learning and science, by which, in all well constituted seminaries, youth are entitled to their first *degree*. *Now know ye also*, That we do hereby, for us, our heirs and successors, give and grant full power and authority to the said trustees and their successors, to constitute and appoint a Provost and Vice-Provost of the said college and academy, who shall be severally named and styled Provost and Vice-Provost of the same. And also to nominate and appoint professors in all the liberal arts and sciences, the ancient languages and the English tongue, which Provost, Vice-Provost, and Professors, so constituted and appointed, shall be known and distinguished as one body and faculty, by the name of *The Provost, Vice-Provost, and Professors of the College and Academy of Philadelphia, in the province of Pennsylvania*; and by that name shall be capable of exercising such powers and authorities as the said trustees and their successors shall think necessary to delegate to them, for the discipline and government of the said college, academy, and charitable school: *Provided always*, That the said trustees, the Provost, and Vice-Provost, and each Professor, before they shall exercise their several and respective powers or authorities, offices, and duties, do and shall take and subscribe the three first written oaths appointed to be taken and subscribed, in and by one act of Parliament, passed in the first year of the reign of our late sovereign lord, George the first, intituled, *An Act for the further security of his Majesty's Person and Government; and the Succession of the Crown in the Heirs of the late Princess Sophia, being protestants, and for extinguishing the hopes of the pretended Prince of Wales, and his open and secret abettors*; and shall also make and subscribe the declaration appointed to be made and subscribed by one other act of parliament, passed in the twenty-fifth year of the reign of king Charles the second, intituled, *An Act for preventing dangers which may happen, etc.* excepting only the people called Quakers, who, upon taking, making, and subscribing the affirmations and declarations appointed to be taken, made, and subscribed, by the acts of General Assembly of the province of Pennsylvania, to qualify them for the exercise of civil offices, shall be admitted to the exercise of all and every the powers, authorities, offices, and duties

above mentioned, any thing in this provision to the contrary notwithstanding *And we do hereby*, at the desire and request of the said trustees, constitute and appoint the Reverend William Smith, M.A., to be the first and present Provost of the said college and academy, and the Reverend Francis Allison, M.A., to be the first and present Vice-Provost of the same

And we do further, for us, our heirs and successors, give and grant to the trustees of the said college and academy, That for animating and encouraging the students thereof to a laudable diligence, industry, and progress in useful literature and science, they and their successors, met together on such day or days as they shall appoint for that purpose, shall have full power and authority, by the provost, to admit any the students within the said college and academy, or any other person or persons meriting the same, to any degree or degrees, in any of the faculties, arts, and sciences, to which persons are usually admitted, in any or either of the universities or colleges in the kingdom of Great Britain. . . . *Provided always*, and it is hereby declared to be our true meaning and express will, That no student or students, within the said college and academy, shall ever, or at any time or times hereafter, be admitted to any such degree or degrees, until such student or students have been first recommended and presented as worthy of the same, by a written mandate, given under the hands of at least thirteen of the trustees of the said college and academy

In testimony whereof, we have caused these our letters to be made patent, and the great seal of our said province to be hereunto affixed this fourteenth day of May, in the twenty-eighth year of the reign of our sovereign lord, George the second, king of Great Britain, France, and Ireland, etc., and in the year of our Lord, one thousand seven hundred and fifty-five.

The First Commencement was held May 17th, 1757, when Paul Jackson, Jacob Duché, Francis Hopkinson, Samuel Magaw, Hugh Williamson, James Latta, and John Morgan received the Degree of Bachelor of Arts. In the agitated times which followed, the Provost, Mr. Smith, was a Tory of so pronounced a type that he was thrown into prison by the Legislature; but, in faithfulness to his sworn duties as Provost, he received his classes in gaol, and continued his instructions to them there while still a prisoner. He was set at liberty, however, for the purpose of going to England to make a personal appeal to the king, and his kindly reception there was not lessened by the strain to which his loyalty at home had been put. Oxford conferred on him the Degree of Doctor of Divinity. On his return home so highly did his fellow-citizens rate his influence abroad, that when in 1761 the Trustees were hard bestead they sent him back to England to raise funds for an endowment. It happened that King's College (now

Columbia) in New York was in similar straits and had resolved on similar efforts. The two commissioners met in England and amicably resolved to "divide the land between them," and share the proceeds. Through the influence of the Archbishop of Canterbury they received a circular letter from the king to all churches, and succeeded in raising a very considerable endowment for each college.

On Dr. Smith's return, as it appears on the minutes of the 14th of June, 1764, a letter was received from the Archbishop of Canterbury, Thomas and Richard Penn, and the Rev. Samuel Chandler, D.D., addressed to the trustees, in which the trustees are congratulated on the success of Dr. Smith's, the provost's, collection, in England, and advised of what would be further necessary to the due improvement of the collection and the future prosperity of the institution. "That the institution was originally founded and carried on for the general benefit of a mixed body of people—that on the king's brief it is represented as a seminary that would be of great use for securing capable instructors and teachers, as well for the service of the society for propagating the gospel in foreign parts, as for other protestant denominations in the colonies.—That at the time of making the collection, the provost was a clergyman of the Church of England—the vice-provost, a Presbyterian—a principal professor, a Baptist, with other useful professors and tutors, all carrying on the education of youth with great harmony, and people of various denominations have heretofore contributed liberally and fully.—That jealousies had arisen lest the foundation should be narrowed, and some party exclude the rest, or put them on a worse footing than they have been or were at the time of the collection, which would be unjust and productive of contentions unfriendly to religion. It was therefore recommended to the trustees, by the writers of the letter (who had a principal share in procuring the collection), to make a fundamental rule or declaration, to prevent inconvenience of this kind; and in doing which, they were advised that the more closely they kept in view the plan on which the seminary was at the time of the royal brief, and on which it was carried on from the beginning, so much the less cause would any party have to be dissatisfied."

A committee having been appointed to frame a fundamental *Resolve* or declaration, in consequence of the letter, the following was reported and adopted:

"The trustees being ever desirous to promote the peace and prosperity of this seminary, and to give satisfaction to all its worthy benefactors, have taken the above letter into their serious consideration, and perfectly approving the sentiments therein contained, do order the same to be inserted in their books, that it may remain perpetually *declaratory* of the present

wide and excellent plan of this institution, which hath not only met with the approbation of the great and worthy personages above mentioned, but even the royal patronage of his majesty himself. They further declare that they will keep this plan closely in their view, and use their utmost endeavours that the same be not narrowed, nor the members of the church of England, or those dissenting from them (in any future election to the principal offices mentioned in the aforesaid letter), be put on any worse footing in this seminary, than they were at the time of obtaining the royal brief. They subscribe this with their names, and ordain that the same be read and subscribed by every new trustee that shall hereafter be elected, before he takes his seat at the board."

Perhaps no more striking instance can be given of the distortion to which men's minds were subject in those days of political commotion, than the fact that in 1779 this resolution was construed by the Legislature into a "narrowing of the foundation," and seized as a pretext for confiscating all the rights and properties of the College, which were bestowed upon a new organization called in its charter the "Trustees of the University of the State of Pennsylvania." Ten years later, these rights and properties were all restored, and in 1791 an act was passed amalgamating the old College in the new University, as follows:

WHEREAS, the trustees of the University of the State of Pennsylvania, and the trustees of the College, Academy, and Charitable School of Philadelphia, in the commonwealth of Pennsylvania, by their several petitions have set forth, that they have agreed to certain terms of union of the said two institutions, which are as follow:

First. That the name of the institution be "*The University of Pennsylvania,*" and that it be stationed in the city of Philadelphia.

Second. That each of the two boards shall elect, from among themselves, twelve persons, who, with the governor for the time being, shall constitute the board of trustees of the university of Pennsylvania; and that the governor shall be president.

SECT. 2. *And be it further enacted,* That the said twenty-four persons so elected and certified, together with the governor for the time being, who shall always be president, and their successors, be, and they are hereby made and constituted a corporation and body politick, in law and in fact, to have continuance for ever by the aforesaid name, style, and title of "*The Trustees of the University of Pennsylvania,*" and that the said university shall at all times be stationed in the city of Philadelphia.

Thus established, the University has advanced with the times, and now comprises the following departments:—

- THE COLLEGE DEPARTMENT, including
THE COURSE IN ARTS,
THE TECHNICAL COURSES IN SCIENCE,
(The Towne Scientific School),
A COURSE IN PHILOSOPHY,
THE COURSE IN FINANCE AND ECONOMY,
(The Wharton School),
THE COURSE IN MUSIC.
- THE DEPARTMENT OF MEDICINE.
THE DEPARTMENT OF LAW.
THE AUXILIARY DEPARTMENT OF MEDICINE.
THE DEPARTMENT OF DENTISTRY.
THE DEPARTMENT OF PHILOSOPHY.
THE DEPARTMENT OF VETERINARY MEDICINE.
THE DEPARTMENT OF BIOLOGY.
THE DEPARTMENT OF PHYSICAL EDUCATION.

PROVOST OF THE UNIVERSITY,
WILLIAM PEPPER, M. D., LL. D.,
President *pro tempore* of the Board of Trustees.

TRUSTEES.

THE GOVERNOR OF PENNSYLVANIA, *ex-officio* President of the Board.

REV. HENRY J. MORTON, D. D.,
FREDERICK FRALEY, LL. D.,
REV. CHARLES W. SCHAEFFER, D. D.,
JOHN WELSH, LL. D.,
RT. REV. WILLIAM BACON STEVENS, D. D., LL. D.,
JOHN ASHHURST,
WILLIAM SELLERS,
REV. RICHARD NEWTON, D. D.,
J. VAUGHAN MERRICK,
FAIRMAN ROGERS,
RICHARD WOOD,
S. WEIR MITCHELL, M. D.,
JOSHUA B. LIPPINCOTT,
CHARLES C. HARRISON,
JAMES H. HUTCHINSON, M. D.,
REV. GEORGE DANA BOARDMAN, D. D.,
WILLIAM HUNT, M. D.,
HORACE HOWARD FURNESS, LL. D.,
WHARTON BARKER,
SAMUEL DICKSON,
JOHN SCOTT,
JAMES MACALISTER,
JOHN C. SIMS, JR.,
HENRY H. HOUSTON.

REV. JESSE Y. BURK, Secretary, University.

WHARTON BARKER, Treasurer, 125 South Fourth-st.

CHAIRMEN OF STANDING COMMITTEES FOR THE YEAR
1885-6.

WAYS AND MEANS: MR. WELSH, 304 Walnut-st.
BUILDINGS, ESTATES AND PROPERTY: MR. LIPPINCOTT, 715 Mar-
ket-st.

LIBRARY: DR. FURNESS, 222 West Washington Square.

DEPARTMENT OF ARTS: MR. FRALEY, 1000 Walnut-st.

DEPARTMENT OF MEDICINE: . . . DR. MITCHELL, 1524 Walnut-st.

DEPARTMENT OF LAW: MR. SCOTT, 3813 Chestnut-st.

DEPARTMENT OF SCIENCE: MR. MERRICK, Roxboro'.

DEPARTMENT OF FINANCE AND ECONOMY: MR. BARKER, 28 S.
Third-st.

DEPARTMENT OF VETERINARY MEDICINE: MR. LIPPINCOTT, 715
Market-st.

DEPARTMENT OF PHYSICAL EDUCATION: . . . MR. DICKSON, 32 S.
Third-st.

DEPARTMENT OF BIOLOGY: MR. MERRICK, Roxboro'.

OFFICERS.*

	Residence.
WILLIAM PEPPER, M.D., LL.D., PROVOST OF THE UNIVERSITY.	1811 Spruce-st.
E. OTIS KENDALL, LL.D., VICE-PROVOST.	3826 Locust-st.
<hr style="width: 20%; margin: 0 auto;"/>	
JOSEPH LEIDY, M.D., LL.D., Professor of <i>Anatomy</i> .	1302 Filbert-st.
HENRY H. SMITH, M.D., Emeritus Professor of <i>Surgery</i> .	1800 Spruce-st.
FRANCIS A. JACKSON, A.M., Professor of the <i>Latin Language and Literature</i> .	University.
E. OTIS KENDALL, LL.D., THOMAS A. SCOTT Professor of <i>Mathematics</i> .	3826 Locust-st.
J. PETER LESLEY, LL.D., Emeritus Professor of <i>Geology and Mining</i> .	1008 Clinton-st.
P. PEMBERTON MORRIS, A.M., Emeritus Professor of <i>Practice, Pleading, and Evidence at Law and in Equity</i> .	404 Locust-st.
RICHARD A. F. PENROSE, M.D., LL.D., Professor of <i>Obstetrics</i> and of the <i>Diseases of Women and Children</i> .	1331 Spruce-st.
ALFRED STILLÉ, M.D., LL.D., Emeritus Professor of the <i>Theory and Practice of Medicine</i> , and of <i>Clinical Medicine</i> .	3900 Spruce-st.
HARRISON ALLEN, M.D., Emeritus Professor of <i>Physiology</i> .	117 S. 20th-st.
HORATIO C. WOOD, M.D., LL.D., Professor of <i>Materia Medica, Pharmacy, and General Therapeutics</i> , and Clinical Professor of <i>Nervous Diseases</i> .	1925 Chestnut-st.
JOHN J. REESE, M.D., Professor of <i>Medical Jurisprudence</i> , including <i>Toxicology</i> .	3710 Walnut-st

* The names are given in the order of accession to office.

- CHARLES J. STILLÉ, LL.D.,
Emeritus JOHN WELSH CENTENNIAL Professor of *His-*
tory and English Literature. 2201 St. James's Place.
- OSWALD SEIDENSTICKER, PH.D. (Göttingen),
Professor of the *German Language and Literature.* 1016 Cherry-st.
- JOHN G. R. McELROY, A.M.,
Professor of *Rhetoric and the English Language.* 115 S. 20th-st.
- J. I. CLARK HARE, LL.D.,
Professor of the *Institutes of Law*, including, inter alia,
International, Constitutional, Commercial, and Civil
Law. 118 S. 22d-st.
- D. HAYES AGNEW, M.D., LL.D.,
JOHN RHEA BARTON Professor of *Surgery*, and Profes-
sor of *Clinical Surgery.* 1611 Chestnut-st.
- REV. ROBERT E. THOMPSON, A.M.,
JOHN WELSH CENTENNIAL Professor of *History and*
English Literature. Jenkintown, P. O.
- FREDERICK A. GENTH, PH.D. (Marburg),
Professor of *Chemistry and Mineralogy.* University.
- SAMUEL B. HOWELL, M.D.,
Professor of *Mineralogy and Geology.* 1513 Green-st.
- GEORGE F. BARKER, M.D., PH.B.,
Professor of *Physics.* 3909 Locust-st.
- E. COPPÉE MITCHELL, LL.D.,
Professor of the *Law of Real Estate and Conveyancing*
and of *Equity Jurisprudence.* 518 Walnut-st.
- LEWIS M. HAUPT, A.M., C.E.,
Professor of *Civil Engineering.* University.
- WILLIAM PEPPER, M.D., LL.D.,
Professor of the *Theory and Practice of Medicine* and of
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2. Frank James Keeley,	3815 <i>Spruce-st.</i> ,	Philadelphia.
3. Edward Fulbister Kenney,	4802 <i>Fairmount Ave.</i> ,	do.
1. Jno. Philip Kreckler,	1327 <i>Marshall-st.</i> ,	do.
3. Theophilus Kuelling,	625 <i>N. 36th-st.</i> ,	do.
3. Thomas Love Latta,	3717 <i>Hamilton-st.</i> ,	do.

5. Charles Robert Lee,		Bryn Mawr, Pa.
4. Leighton Lee,	<i>Manheim-st.,</i>	Germantown.
3. William McLean,	2000 <i>Wallace-st.,</i>	Philadelphia.
2. James Francis Magee, Jr.,	114 <i>N. 17th-st.,</i>	do.
3. Albert Lee Magilton,	713 <i>Florida-st.,</i>	Philadelphia.
3. George Ledlie Martin,	1316 <i>Catharine-st.,</i>	do.
1. Levis Passmore Newlin,	1730 <i>Catharine-st.,</i>	do.
4. William Byrd Page,	281 <i>S. 4th-st.,</i>	do.
3. John Grubb Parke, Jr.,	403 <i>N. 33d-st.,</i>	do.
4. David Pepper, Jr.,	1827 <i>Spruce-st.,</i>	do.
3. Andrew Perry Redifer,	135 <i>Race-st.,</i>	do.
5. Howard Smith Richards,	1512 <i>Otis-st.,</i>	do.
1. Robert Riddle,	4722 <i>Green-st.,</i>	do.
3. Henry Hunter Seyfert,	1735 <i>Park Ave.,</i>	do.
4. Franklin Sheble,	1709 <i>Mt. Vernon-st.,</i>	do.
3. James Reeves Siddall,	818 <i>N. 40th-st.,</i>	do.
4. Alfred Henry Smith,	1416 <i>Bowier-st.,</i>	do.
4. William Poultney Smith, Jr.,		Abington, Pa.
2. Milton Valentine Snyder,	515 <i>N. 38th-st.,</i>	Philadelphia.
3. Theodore Nelson Spencer,	942 <i>Franklin-st.,</i>	do.
2. Daniel Morrell Stackhouse,		Wallingford, Pa.
3. Horace Ambrose Stever, Jr.,	1718 <i>Cadwallader-st.,</i>	Philadelphia.
3. Joseph Christian Wagner,	1539 <i>N. 12th-st.,</i>	do.
3. John Wallace Weaver,	1909 <i>N. 7th-st.,</i>	do.
4. Alan Dean Whittaker,	<i>Chestnut Hill,</i>	do.

COURSE IN PHILOSOPHY.

George Fetterolf,	<i>Girard College,</i>	Philadelphia.
Robert Stephen Maison,	6901 <i>Woodland Ave.,</i>	do.
Hyland Clark Murphey,	5134 <i>Lancaster Ave.,</i>	do.
Frank Remi Remont,	4204 <i>Viola-st.,</i>	do.

COURSE IN THE WHARTON SCHOOL.

Forrest Murrell Anderson,	745 <i>S. 9th-st.,</i>	Philadelphia.
William Francis Audenried,	1823 <i>Walnut-st.,</i>	do.
Edward Charles Batchelor,	886 <i>N. 6th-st.,</i>	do.
Charles Seligman Bernheimer,	1804 <i>Franklin-st.,</i>	do.
Joseph Spencer Brock,	2025 <i>Wallace-st.,</i>	do.
Francis Asbury Bruner,	743 <i>N. 40th-st.,</i>	do.
Clarence William Dolan,	1809 <i>Walnut-st.,</i>	do.
Joseph Allison Eyster, Jr.,	236 <i>W. Logan Sq.,</i>	do.
Francis Edmund Green,	2125 <i>Spruce-st.,</i>	do.
Clement Acton Griscom, Jr.,	1018 <i>Spruce-st.,</i>	do.
Crawford Dawes Hening,	330 <i>S. 21st-st.,</i>	do.
Samuel Frederick Houston,	<i>Tulpehocken-st.,</i>	do.
Hew Brydon MacLean,	277 <i>S. 4th-st.,</i>	do.
William Tennent Mofly,	<i>Wayne & Walnut Lane,</i>	do.
Frank Wenrich Sheaffer,	3900 <i>Walnut-st.,</i>	do.
Henry Naglee Smaltz,	801 <i>N. 6th-st.,</i>	do.
Edward Lowber Welsh,	1420 <i>Spruce-st.,</i>	do.

SOPHOMORES.

COURSE IN THE ARTS.

Frazer Ashhurst,	1830 <i>Spruce-st.</i> ,	Philadelphia.
William Lyttleton Barclay,	1816 <i>Pine-st.</i> ,	do.
Richard Henry Bayard Bowie,	1710 <i>Walnut-st.</i> ,	do.
George Clay Bowker,	4375 <i>Main-st.</i> ,	Manayunk.
Chandler Root Bugbee,	3332 <i>Walnut-st.</i> ,	Philadelphia.
John Willits Campion,	404 <i>Franklin-st.</i> ,	do.
Harrison Koons Caner,	315 <i>S. 17th-st.</i> ,	do.
James Haworth,	37 <i>Wyoming-st.</i> ,	do.
Walter Budd Keen,	3913 <i>Chestnut-st.</i> ,	do.
Theodore William Kretschmann,	5880 <i>Main-st.</i> ,	Germantown.
Stuart Douglas Lansing,		Burlington, N. J.
James Barton Longacre,	1337 <i>Spruce-st.</i> ,	Philadelphia.
William Wilson Longstreth,	2013 <i>Chestnut-st.</i> ,	do.
Ernest de Fremery Miel,	515 <i>S. 41st-st.</i> ,	do.
Samuel Geo. Morton Montgomery,	<i>Ardrrossan</i> ,	West Chester, Pa.
William Salter Porter,		Media, Pa.
James Martin Raker,	2937 <i>Richmond-st.</i> ,	Philadelphia.
Horace Clark Richards,	3332 <i>Chestnut-st.</i> ,	do.
John David Samuel,	1809 <i>Pine-st.</i> ,	do.
Lawrence Savery Smith,	1419 <i>Walnut-st.</i> ,	do.
John Duncan Ernest Spaeth,	1615 <i>Girard Ave.</i> ,	do.
Carrow Thibault,	325 <i>S. 16th-st.</i> ,	do.
Lightner Witmer,	1814 <i>Franklin-st.</i> ,	do.
Carleton Bicknel Zeilin,	<i>Tulpehocken-st.</i> ,	Germantown.

COURSE IN SCIENCE.

William Kennedy Barclay,	4044 <i>Chestnut-st.</i> ,	Philadelphia.
Heston Bates,	1900 <i>Tioga-st.</i> ,	do.
James Cornell Biddle, Jr.,	1420 <i>Walnut-st.</i> ,	do.
George Brinton,	1423 <i>Spruce-st.</i> ,	do.
Henry Bennett Buck,	3600 <i>Chestnut-st.</i> ,	do.
Eugene Delano Cleaver,		Berwyn, Pa.
Francis Cadwallader Dade, Jr.,	525 <i>S. 41st-st.</i> ,	Philadelphia.
Julian Hiland Dewey,	1537 <i>Centennial Ave.</i> ,	do.
Harry John Doyle,	3421 <i>Race-st.</i> ,	do.
Joseph Hildeburn Gumbes,		Germantown.
George Brodhead Harris,	<i>School Lane</i> ,	do.
Franklin Derstine Hartzell,	3306 <i>Walnut-st.</i> ,	Philadelphia.
Manton Eckfeldt Hibbs,	527 <i>N. 18th-st.</i> ,	do.
Oliver Hough,	325 <i>S. 16th-st.</i> ,	do.
Franklin Davenport Howell, Jr.,		Ridley Park, Pa.
Frederick Mervin Ives,	3709 <i>Woodland Ave.</i> ,	Philadelphia.
Edgar Francis Jordan,	4226 <i>Walnut-st.</i> ,	do.
Herbert Moses Kaufmann,	1325 <i>Franklin-st.</i> ,	do.
Edwin Robert Keller,	257 <i>N. 6th-st.</i> ,	do.
William Kendall Leonard,		Piqua, O.
Adam Keith Luke,		Rockland, Del.
Howard Mellor,	460 <i>Marshall-st.</i> ,	Philadelphia.
David Pacheco,	1310 <i>Walnut-st.</i> ,	do.

William Thompson Plummer,	1527 <i>S. Broad-st.</i> ,	Philadelphia.
Albert Layton Register,	120 <i>N. 34th-st.</i> ,	do.
Croft Register,	120 <i>N. 34th-st.</i> ,	do.
Charles Everett Ross,	347 <i>Kerlin-st.</i> ,	Chester, Pa.
John Richard Savage, Jr.,	<i>W. Orthodox-st.</i> ,	Frankford.
William James Smith,	868 <i>Preston-st.</i> ,	Philadelphia.
Isaac Starr, Jr.,	2203 <i>Trinity Place</i> ,	do.
William Caner Wiedersheim,	315 <i>S. 17th-st.</i> ,	do.
Edward Hand Williamson, Jr.,	3321 <i>Walnut-st.</i> ,	do.
Maurice Davidson Wilt,	1417 <i>N. 15th-st.</i> ,	do.

FRESHMEN.

COURSE IN THE ARTS.

William Wayne Ashhurst,	20th & <i>De Lancey Pl.</i> ,	Philadelphia.
Frederic Robeson Baker,	1414 <i>Arch-st.</i> ,	do.
William Alexander Bell,	717 <i>S. 10th-st.</i> ,	do.
Joseph Warren Coulston, Jr.,	1908 <i>Spring Garden</i> ,	do.
Leon Symonety Dexter,	1018 <i>Walnut-st.</i> ,	do.
Conway Dillingham,		West Chester, Pa.
Sherborne William Dougherty,	1435 <i>Girard Ave.</i> ,	Philadelphia.
William Innes Forbes,	1409 <i>Locust-st.</i> ,	do.
Charles Harrison Frazier,	101 <i>S. Front-st.</i> ,	do.
Dallet Fuguet,	1128 <i>Spruce-st.</i> ,	do.
Samuel Moore Hepburn,	3256 <i>Chestnut-st.</i> ,	do.
Robert Carmer Hill,	129 <i>N. 18th-st.</i> ,	do.
Edwin Isaac Hyneman,	1015 <i>Green-st.</i> ,	do.
Edmund Theophilus Kuendig,	118 <i>N. 34th-st.</i> ,	do.
Charles King Lennig,		Andalusia, Pa.
Dickinson Sergeant Miller,	1309 <i>Pine-st.</i> ,	Philadelphia.
James Clayton Mitchell,	1716 <i>N. 16th-st.</i> ,	do.
Arthur Rich. Harcourt Morrow,	1520 <i>S. 16th-st.</i> ,	do.
De Lancey Verplanck Newlin,	1018 <i>Clinton-st.</i> ,	do.
Preston Ware Orem,	1241 <i>N. 15th-st.</i> ,	do.
Rufus Palen,	44 <i>Harvey-st.</i> ,	Germantown.
Charles Peabody,	<i>Wayne & Walnut Lane</i> ,	do.
Elliston Joseph Perot,	5103 <i>Germant'n Ave.</i> ,	Philadelphia.
David Bowen Salter,	2016 <i>Mt. Vernon-st.</i> ,	do.
Lloyd Mifflin Scott,		Howelville, Pa.
Walter Scott,	3808 <i>Chestnut-st.</i> ,	Philadelphia.
Franklin Nelson Strader,	<i>Wissahickon</i> ,	do.
Edmund Carter Taylor,	2129 <i>Pine-st.</i> ,	do.
William Macpherson Wiltbank,	1813 <i>De Lancey Pl.</i> ,	do.
William Moodie Yeomans,	1948 <i>N. Broad-st.</i> ,	do.

COURSE IN SCIENCE.

Franklin Bache,	<i>Cor. 40th & Pine-sts.</i> ,	Philadelphia.
William Penn Beishlag,	4911 <i>Aspen-st.</i> ,	do.
Timothy Raymond Beyer,	4835 <i>Green-st.</i> ,	Germantown.
Herbert Hart Boyd,	2223 <i>Spruce-st.</i> ,	Philadelphia.
George Brooke, Jr.,		Birdsboro, Pa.
Oscar Pearl Chamberlain,	3923 <i>Aspen-st.</i> ,	Philadelphia.

Howard Crawley,		Haddonfield, N. J.
Francis Macomb Cresson,		Oaks, Pa.
Christian Frederic Fisher,		Philadelphia.
Lawrence Brown Fonda,	515 <i>Green-st.</i> ,	do.
William Guggenheim,	1807 <i>N. Logan Sq.</i> ,	do.
George Henderson,	1420 <i>N. 16th-st.</i> ,	do.
William Barklie Henry,	1221 <i>Arch-st.</i> ,	do.
Shelton Adams Hibbs,	2200 <i>St. James's Pl.</i> ,	do.
George Hammeken Hill,	527 <i>N. 18th-st.</i> ,	do.
Thomas Wilkins Hulme,	231 <i>S. 42d-st.</i> ,	do.
Charles Peter B. Jefferys, Jr.,	3928 <i>Walnut-st.</i> ,	Mount Holly, N. J.
Rudolph Howard Klander,	2208 <i>Venango-st.</i> ,	Philadelphia.
Edward Christman Knight,	<i>Clapier-st.</i> ,	do.
Samuel McCune Lindsay,	3912 <i>Chestnut-st.</i> ,	Germantown.
William McClellan Menah,	1517 <i>South-st.</i> ,	Philadelphia.
August Appleton Miller,	623 <i>N. 13th-st.</i> ,	do.
Benjamin Rowland Milnes,	1821 <i>Wallace-st.</i> ,	do.
Edward Warloch Mumford,	1401 <i>N. 17th-st.</i> ,	do.
William Albert Paris,	1907 <i>Green-st.</i> ,	do.
Edward Asa Partridge,	1738 <i>Sydenham-st.</i> ,	do.
William Ervin Penington,	2020 <i>Mt. Vernon-st.</i> ,	do.
Walter Phillips,	450 <i>Marshall-st.</i> ,	do.
Thomas Robinson Reaney,	200 <i>S. 42d-st.</i> ,	do.
Albert Haseltine Smith,		Abington, Pa.
Robert Stulb,	506 <i>N. 4th-st.</i> ,	Philadelphia.
Solomon Teller,	903 <i>N. 8th-st.</i> ,	do.
Archibald Graham Thomson,	1426 <i>Walnut-st.</i> ,	do.
Frederic William Van Buskirk,		Pottstown, Pa.
Selden Lord Walkley,	1813 <i>Green-st.</i> ,	Philadelphia.
Nathan Young Worrall,	2005 <i>Mt. Vernon-st.</i> ,	do.
Archibald Wright,	1804 <i>Race-st.</i> ,	do.

COURSE IN PHILOSOPHY.

George Dana Boardman Darby,	4000 <i>Chestnut-st.</i> ,	Philadelphia.
Charles Barton Keen,	3913 <i>Chestnut-st.</i> ,	do.

THE COURSE IN MUSIC.

SECOND YEAR.

Lillie Crankshaw,	73 <i>Sellers-st.</i> ,	Frankford.
Lilian F. Glenn,	40th & <i>Baltimore Ave.</i> ,	Philadelphia.
William F. Smith,	870 <i>Marshall-st.</i> ,	do.
Frank Ware,		do.
Marianne E. White,	1614 <i>Chestnut-st.</i> ,	do.
Wallace W. Richards,		Allentown, Pa.

FIRST YEAR.

Ella Harned,	4027 <i>Walnut-st.</i> ,	Philadelphia.
Robert N. Keely, Jr., M.D.,	228 <i>S. 9th-st.</i> ,	do.
Emma Whiteley,	715 <i>N. 44th-st.</i> ,	do.
Evor Williams,		Coaldale, Pa.
Sara Wilton,	674 <i>N. 39th-st.</i> ,	Philadelphia.
Annie Wyckoff,		do.

SPECIAL STUDENTS.

COURSE IN SCIENCE.

	1. Wm. Colladay Robinson, Jr.,	2050 <i>Cherry-st.</i> ,	Philadelphia.
	3. Paul Thompson,		Beverly, N. J.
	3. James Coxe Travilla,	3701 <i>Haverford Ave.</i> ,	Philadelphia.
86	3. T. Sydenham Reed Flickwir,	226 <i>German-st.</i> ,	do.
	5. William Davenport Goforth,		Cheltenham Hills.
	1. Louis Joseph Mátos,	3943 <i>Fairmount Ave.</i> ,	Philadelphia.
87	3. Charles Condit Clifford,	<i>Frankford Arsenal</i> ,	do.
	3. William Warner Hill,	1537 <i>N. 8th-st.</i> ,	do.
88	3. William George Houston,	814 <i>N. 21st-st.</i> ,	do.
89	1. Bradford Knight,	4000 <i>Pine-st.</i> ,	do.
90	3. William Henry Law,	1639 <i>Franklin-st.</i> ,	do.
91	3. Robert Samuel McCleister,	2218 <i>Pine-st.</i> ,	do.
92	4. William Vincent McGrath,	1810 <i>Spring Garden-st.</i> ,	do.
93	1. Francis William Ralston, Jr.,	233 <i>S. 13th-st.</i> ,	Philadelphia.
94	1. Andrew Frazer Stevens, Jr.,	1345 <i>Lombard-st.</i> ,	do.
95	1. John William Thomas,		Overbrook, Pa.
96	1. Richard Albert Tilghman, Jr.,	321 <i>S. 11th-st.</i> ,	Philadelphia.

PARTIAL STUDENTS.

COURSE IN THE ARTS.

	Edmund Austin Stewardson,	<i>Chestnut Hill</i> ,	Philadelphia.
	William Clarence Arrison,	33 <i>E. Orthodox-st.</i> ,	Frankford.
	Lucien Hugh Alexander,	1935 <i>Arch-st.</i> ,	Philadelphia.
	Charles Newton Clement Brown,	2119 <i>Mt. Vernon-st.</i> ,	do.
	Matthew James Hyndman,	1529 <i>N. 2d-st.</i> ,	do.
	James Hall Oliver,	1031 <i>Arch-st.</i> ,	do.
	William Morrill Rumney,	<i>Wayne & Harvey-sts.</i> ,	Germantown.
	Thomas Mellor Tyson,	1506 <i>Spruce-st.</i> ,	Philadelphia.

COURSE IN SCIENCE.

87	Crawford Coates,	4302 <i>Spruce-st.</i> ,	Philadelphia.
88	Frank Herron Carothers,	3444 <i>Sansom-st.</i> ,	San Antonio, Tex.
89	Lewis Crozer Lewis,		Chester, Pa.
90	Paul Farnum,		Media, Pa.
91	William Edwin Gaunt, Jr.,		Paulsboro, N. J.
92	Tamio Havashi,		Tokio, Japan.
93	Dion M. Martinez, Jr.,	112 <i>Rittenhouse-st.</i> ,	Germantown.
94	Ellis Paxson Oberholtzer,		Norristown, Pa.
95	Francis Hermann Bohlen,	1510 <i>Walnut-st.</i> ,	Philadelphia.

COURSE IN PHILOSOPHY.

	Milton J. Greenman,	202 <i>S. 41st-st.</i> ,	Milton, Pa.
	Edward H. Hance, Jr.,		Germantown,
	William Homes Salter,	3256 <i>Chestnut-st.</i> ,	Philadelphia.
	George Sinnamon,		do.
	Marcus A. Weems,		Columbia, Tex.
	Richard Wilson,	2037 <i>Pine-st.</i> ,	Philadelphia.

COURSE IN WHARTON SCHOOL.

George J. Hopkins, Jr.,	3603 <i>Spring Garden-st.</i> ,	Philadelphia.
William Paul Martin,	3827 <i>Spring Garden-st.</i> ,	do.
William Burton Pratt,		Milford, Del.
Leonard Morton Prince,	204 <i>S. 41st-st.</i> ,	Philadelphia.
Miles Tucker,	1213 <i>Locust-st.</i> ,	do.
William Townsend Wright,	3818 <i>Chestnut-st.</i> ,	do.
Norton Buel Young.	<i>Chestnut Hill</i> ,	do.

FELLOWS IN THE WHARTON SCHOOL.

James Collins Jones, Ph.B., (University of Pa.)	American History.
Frank N. Thorpe, Ph.D., (Syracuse)	Political Science.

SUMMARY OF COLLEGE DEPARTMENT.

	Arts.	Science.	Philosophy.	Finance.	Music.	Totals
Fellows,	—	—	—	2	—	2
Post-Seniors,	—	28	—	—	—	28
Seniors,	20	35	8	1	6	70
Juniors,	31	49	4	17	6	107
Sophomores,	24	33	—	—	—	57
Freshmen,	30	37	2	—	—	69
Special Students,	—	17	—	—	—	17
Partial Students,	8	9	6	7	—	30
Totals,	113	208	20	27	12	380

The College Faculty, comprising the respective Faculties, conducts the following Courses of study: the Course in Arts, the Courses in the Towne Scientific School, the Course in the Wharton School, a Course in Philosophy for Undergraduates, and the Course in Music.

These courses permit a student to take, in the Freshman and Sophomore years, either the classical or the modern languages, with English, History, Mathematics, etc., and to elect at the close of the Sophomore Year, between the Courses in Arts, Philosophy, Finance and Economy; and any one of the five Technical Courses in the Towne Scientific School.

The Degree of *Bachelor of Arts (A.B.)* is given on graduation not only to students in the Department of Arts, but also to students in the Wharton School, and in The Course of Philosophy for Undergraduates, who have passed the first two years of the Department of Arts.

The Degree of *Bachelor of Science (B.S.)* is given on graduation to the students in the Towne Scientific School.

The Degree of *Bachelor of Philosophy (Ph.B.)* is given on graduation to students who have pursued the full Course of the Wharton School, and also to those who, graduating in this School, may have passed the Freshman and Sophomore Years in the Towne Scientific School.

PUBLIC LECTURES.

The following courses of Lectures given in this Department are open to the public:—

On German Literature, by Professor SEIDENSTICKER.

On the Older English Classics, by Professor McELROY.*

On Social Science, by Professor THOMPSON.

On Physics and Astronomical Physics, by Professor BARKER.

On Inorganic and Organic Chemistry, by Professor SADTLER.

On Goethe and his Works, by Professor JAMES.

On the French Language and Literature, by A. N. VAN DAELL, LL.D.

On Semitic Languages, by MORRIS JASTROW, PH.D.

Instruction in Analytical Chemistry, including practical work in the laboratory, under Professor GENTH.

The lectures, except those by Dr. Van Daell, and Dr. Jastrow, begin about February 1st. The fee for each course is five dollars; for the instruction in Analytical Chemistry, two hundred dollars a year.

Application for admission or for further information respecting this instruction may be made to the Dean, or to the Secretary, of any of the Faculties.

FEES.

For College fees, Expenses, Boarding, etc., see page 139.

SCHOLARSHIPS.

I. THE PENN SCHOLARSHIPS, two in number, are filled by the Governor of the State from time to time as vacancies occur. They exist by virtue of a privilege reserved by Thomas Penn, Proprietary of Pennsylvania.

II. Certain Free Scholarships (about five in each class) are granted to deserving and needy students in this Department, under the following regulations:

Each candidate must present written testimonials, as to their deserts and needs, to the Dean of the Faculty, at or before the entrance-examinations in June or September. He must pass these examinations, or, in case he is already in the classes, the annual examinations; and is then recommended for admission to the committee of the Board of Trustees. The scholarships are granted for one year only.

III. THE PUBLIC SCHOOL PRIZE SCHOLARSHIPS.—Under a contract with the City of Philadelphia, Fifty Free Scholarships have been permanently established in the University for the benefit of pupils from the Public Schools of the city. The candidates for these scholarships are sent by the Board of Public Education to the examinations for admission, in

* This course consists chiefly of Readings, with critical commentary.

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, according to the number of vacancies, are bestowed upon those who reach the highest grade in their examination, provided that grade be at least sixty-five per cent.

Of these, THE BENJAMIN FRANKLIN SCHOLARSHIPS, three in number, and the SAMUEL V. MERRICK SCHOLARSHIP have been endowed.

IV. The object of the income of the BLOOMFIELD MOORE FUND is to enable women (not exceeding six in any year) who are teaching, or who propose to teach, to receive free instruction in all departments to which women are admitted.

ANNUAL EXAMINATIONS

For promotion are held in January and June; for degrees, in May. At the end of each term, students who attain a certain standing are classed as "Distinguished." Students whose term-averages show them to be deficient in any of their studies, are conditionally attached to their class, until the deficiency has been fully made up. For persistent neglect of study, great irregularity of attendance, or inability to keep up with the class, students are dropped from the rolls.

PRIZES FOR THIS YEAR.

I. THE FACULTY PRIZES:

1. A prize of twenty dollars for the best Essay in Intellectual and Moral Philosophy by a member of the Junior Class. Subject: *A Criticism of Locke's Theory of Perception.*

2. A prize of twenty dollars for the best examination on the *Oration of Æschines against Ctesiphon* by the members of the Junior Class.

3. A prize of ten dollars for the best examination by a member of the Freshman Class on Greek Prose Composition with the Accents. The examination will be on *Arnold's Greek Prose Composition*, from the Relative to the end of the book.

4. A first prize of fifteen dollars, and a second prize of ten dollars, for the best examination on the *Lectures on Quaternions* given to the Voluntary Junior Class.

5. A prize of thirty dollars for the best Essay in History and English Literature by a member of the Senior Class. Subject: *The Union of Scotland with England.*

6. A prize of twenty dollars for the best Essay by a member of the Junior Class. Subject: *Nathaniel Hawthorne.*

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

8. A first prize of fifteen dollars, and a second prize of ten dollars, for

the best special examinations in the Elements of Latin Prose Composition, by Freshmen on entering College. The examinations must reach a satisfactory standard of excellence. In 1886, they will be upon the first fifty-five exercises in *Arnold's Latin Prose Composition*. Certificates will be presented to all competitors whose examinations reach a satisfactory standard.

9. Two prizes of the same value as those offered for Latin Prose Composition for the best special examinations in Greek Prose Composition by Freshmen on entering College. In 1886, the examinations will be on *Jones's Greek Exercises*, with the Accents.

10. A prize of twenty dollars to a member of the Scientific Classes for improvement in Drawing, and general good conduct and application.

II. THE HENRY REED PRIZE, founded by the Alumni of the University, for the best English Essay by a member of the Senior Class, entitles the successful competitor to one year's interest on six hundred dollars, and to a Diploma of Merit. The Essay must be handed to the Dean before the first day of May. Subject: In Professor Reed's Lecture on the reign of Henry the Sixth is the following:—"Jeanne Darc is now a heroine to Englishmen no less than to Frenchmen, and indeed a Christian heroine to all Christendom. . . How it was that the thought came into her soul that *she* was to be an instrument to save her country and her king, no history can tell, no philosophy explain; and we must fain content ourselves, I suppose, with the poor theory that it was an enthusiasm—political and religious enthusiasm combined, and working on an ardent imagination and a lofty spirit." (Examine Articles in the *Revue des Deux Mondes*, 1st May, and 1st June, 1885; Lord Mahon's *Essay*; Southey's *Poem*, and Notes; Schiller's *Jungfrau von Orleans*; Michelet on *Jeanne Darc*; Henri Martin's *Jeanne Darc*; DeQuincy; Encyclopædia Britannica; Larousse's *Dictionnaire*.)

III. THE SOCIETY OF THE ALUMNI PRIZES:—

1. A prize for the best Latin Essay, by a member of the graduating class. It entitles the successful competitor to one year's interest on nine hundred dollars. The essays must be handed to the Dean by the first day of May, for transmission to a Committee of Examiners appointed by the Society.

2. A prize for the best Original Declamation by a member of the Junior Class. It entitles the successful competitor to one year's interest on three hundred dollars.

IV. A prize, founded by HENRY LA BARRE JAYNE, of the Class of 1879, for the best English Composition by a member of the Freshman Class. It entitles the successful competitor to one year's interest on two hundred dollars. Subject: *John Quincy Adams*.

V. THE JOSEPH WARNER YARDLEY PRIZE, founded by the Class of 1877, in memory of their classmate, for the best Thesis in Political Economy by a member of the Senior Class. It entitles the successful competitor to one year's interest on five hundred dollars, and to an accompanying Diploma of Merit. Subject: *Socialism*.

VI. A prize founded by D. VAN NOSTRAND, Esq., for the member of the Junior Class in Civil Engineering who attains the highest general average of scholarship. It consists of certain technical works.

SOCIETIES.

The PHILOMATHEAN (Literary) SOCIETY, founded in 1813, holds meetings weekly during the college year, in its rooms at the University. All undergraduates of the College Department 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.

The SCIENTIFIC SOCIETY holds weekly meetings at its rooms in the University throughout the college year. All undergraduates of the University are eligible to membership. Scientific essays are read, discussions are held, with a general comparison of observations and experiments. 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.

THE COURSE IN ARTS.

ENTRANCE EXAMINATION.

For the FRESHMAN CLASS, candidates are examined in—

GREEK.—Greek Grammar. Arnold's *Greek Prose Composition* (to the end of Exercise 24). Xenophon (*Four Books of the Anabasis*). Homer (*First, three Books of the Iliad*).

LATIN.—Latin Grammar. Cæsar (*Three Books of the Gallic War*). Virgil (*Six Books of the Æneid*). Cicero (*Five Orations*). Arnold's *Latin Prose Composition* (to the end of Exercise 20).

ENGLISH.—Grammar. (Abbott's *How to Parse* or Whitney's *Essentials of English Grammar* indicates the amount required.) Abbott's *How to Write Clearly* (first sixty-three pages). Composition. (An essay on a subject to be taken from the last-named of the following books, all of which must have been read by each candidate, viz.: Macaulay's *History of England*, Chaps. VII. to XII. (inclusive), Hawthorne's *Marble Faun*, Froude's *Essay on Education* (*Short Studies*, 2d Series), and Scott's *Marmion*.)

The subject of composition in 1887 will be taken from the last-named of the following works, all of which must have been read by each candidate, viz.: Froude's *Essay on Education* (*Short Studies*, 2d Series); Scott's *Marmion*; Alexander Smith's *On the Writing of Essays* and *A Shelf in My Book-case* (*Dreamthorpe*, pp. 21-45, and 187-210); and Kingsley's *Hereward, The Last of the English*.

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

HISTORY.—Ancient History (Freeman's *General Sketch of History*, Chaps. I.-VI.). History of the United States. (Higginson, Scudder, or Johnston is suggested.)

MATHEMATICS.—Arithmetic (*including the Decimal System of Weights and Measures*). Algebra (*through Quadratic Equations*). Plane Geometry.

For **ADVANCED STANDING**, candidates must pass satisfactorily in all the subjects pursued by the lower class or classes.

The examinations are held in June and September. Circulars stating the days and the subjects of examination for each day can be had, after April 1st, on application to Mr. J. B. WEBSTER, Clerk to the College Faculty.

COURSE OF STUDY.

FRESHMAN CLASS.

GREEK.—Xenophon's *Hellenics*. Æschylus. Arnold's Greek Prose Composition, completed.

LATIN.—Selections from Livy, and Horace's Satires.

ENGLISH.—Prose Composition (Abbott's *How to Write Clearly*). Lectures, with Illustrative Readings from an English prose writer.

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

MATHEMATICS.—Newcomb's *Algebra*, Chauvenet's *Geometry*. Wentworth's *Trigonometry*.

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*).

ENGLISH.—McElroy's *Structure of English Prose*. Lounsbury's *English Language*. Compositions and Declamations.

MATHEMATICS.—Wentworth's *Plane and Spherical Trigonometry*, with applications. Bowser's *Analytical Geometry*.

PHYSICS.—Mechanics.

CHEMISTRY.—Inorganic and Organic Chemistry (*Experimental Lectures, with Examinations*).

GERMAN.—(During the Second Term) Whitney's *Grammar and Reader*.

JUNIOR CLASS.

REQUIRED,—

- LOGIC.—Jevons's *Lessons in Logic*; Ethics, Whewell's *Elements*; Murray's *Outlines of Hamilton's Philosophy*; Lectures.
- PHYSICS.—Sound, Heat, Light, Electricity. (Stewart's *Physics*.)
- ENGLISH.—Compositions and Declamations.
- HISTORY.—History of English Literature.

ELECTIVE,*—

- GREEK.—Sophocles. Lysias or Isocrates. Theocritus or Pindar.
- LATIN.—Selections from Juvenal. Cicero (*De Officiis*, *De Finibus*, or *De Amicitia*). Horace (*Epistles*). Reading at Sight.
- PURE MATHEMATICS.—Differential Calculus. Lectures on Higher Algebra.
- GERMAN.—Whitney's *German Grammar*. Schiller's *Maria Stuart*. Lessing's *Minna von Barnhelm*.
- FRENCH.—Corneille and Racine.
- HISTORY.—Johnston's *American Politics* (with a critical study of Pamphlets and Political Documents).

SENIOR CLASS.

REQUIRED,—

- PHILOSOPHY.—Berkeley's *Principles, annotated*. Studies in the History of Philosophy. Butler's *Analogy*. Lectures.
- ASTRONOMY.—Newcomb's *Astronomy*.
- HISTORY.—Lectures on the Philosophy of History, and on Modern History since 1789.
- ENGLISH.—Compositions and Original Declamations.
- SOCIAL SCIENCE.—International Law (*Lectures*). Thompson's *Elements of Political Economy*.

ELECTIVE,—

- GREEK.—Demosthenes *de Coronâ*. Plato (*Apology* and *Crito*, or *Phædo*).
- LATIN.—Cicero (*Tusculanæ*), or Lucretius (*Selections*). Horace (*Ars Poetica*). Reading at Sight.
- ENGLISH.—Chaucer (*The Canterbury Tales*). Spenser (*Selections*). Shakespeare (*Three Plays*).
- GERMAN.—Goethe's *Torquato Tasso*. Lessing's *Dramaturgie*. Reading at Sight. Schiller's Poems. Translations into German. History of German Literature.
- FRENCH.—Boileau. Molière. Pascal. Brachet's *Historical Grammar*. History of French Literature and the Language.
- PURE MATHEMATICS.—Integral Calculus.

* In the Junior and Senior years, Greek is elective with German; Latin with French; and Pure Mathematics with History and English.

PARTIAL COURSES.

A student may take any portion of the above Courses that the Faculty may sanction; but admission to a *Partial Course* is to be considered an exceptional arrangement, and may be withdrawn when deemed expedient. A Certificate, stating what studies have been pursued, will be awarded to those who complete such a Course satisfactorily.

For further information address Prof. E. O. KENDALL, LL.D., Dean of the Faculty.

DEGREES.

The degree of Master of Arts is conferred on Alumni of the University, Bachelors of Arts of three years' standing, who have pursued liberal studies since their graduation, and who present a satisfactory Thesis to the Faculty. This thesis must be sent to the Dean by the first Friday in April.

THE COURSES

IN THE

TOWNE SCIENTIFIC SCHOOL.

The object of this School (named from its largest benefactor, John Henry Towne) is to give a thorough scientific education with technical training.

The studies of the Freshman and Sophomore years are nearly identical with those of the Department of Arts, except that for Latin and Greek are substituted French, and German, and additional Mathematics.

The Technical Courses of Instruction cover three years, termed Junior, Senior, and Post-Senior; of these, the last is in the main practical.

The Courses are:—

- I. CHEMISTRY AND MINERALOGY.
- II. GEOLOGY AND MINING.
- III. CIVIL ENGINEERING.
- IV. DYNAMICAL ENGINEERING.
- V. MECHANICAL DRAWING AND ARCHITECTURE.

Duly authenticated graduates of other Colleges are admitted without examination to the Towne School, upon giving evidence that their studies have been such as to fit them to pursue the particular course for which they apply. Candidates, not graduates of other Colleges, must pass a satisfactory examination in the studies of the previous years.

ENTRANCE EXAMINATIONS.

For the FRESHMAN CLASS candidates are examined in the following subjects:—

MATHEMATICS.—Arithmetic (*including the Decimal System of Weights and Measures*). Algebra (*through Quadratic Equations*). Plane and Solid Geometry.

ENGLISH.—Grammar. (Abbott's *How to Parse* or Whitney's *Essentials of English Grammar* indicates the amount required.) Etymology (*Greek and Latin Roots*, as in Sargent's *Manual*). Abbott's *How to Write Clearly* (first sixty-three pages). Composition. (An essay on a subject to be taken from the last-named of the following books, all of which must have been read by each candidate, viz.: Macaulay's *History of England*, Chaps. VII. to XII. (inclusive), Hawthorne's *Marble Faun*, and Froude's *Essay on Education* (*Short Studies*, 2d Series), and Scott's *Marmion*.)

The subject of composition in 1887 will be taken from the last-named of the following works, all of which must have been read by each candidate, viz.: Froude's *Essay on Education* (*Short Studies*, 2d Series); Scott's *Marmion*; Alexander Smith's *On the Writing of Essays* and *A Shelf in My Book-case* (*Dreamthorpe*, pp. 21-45, and 187-210), and Kingsley's *Hereward, the Last of the English*.

FRENCH.—Harrison's *French Syntax* (first forty-five *Practical Exercises*), and *Télémaque* (*Three Books*).

GERMAN.—Ahb's *Method*, Fisher's edition (*First Course*, pp. 1-100 and 135-140; *Second Course*, pp. 1-64).

GEOGRAPHY.—Modern Geography.

HISTORY.—Ancient History (Freeman's *General Sketch of History*, Chaps. I.-VI.). History of the United States. (Higginson, Scudder, or Johnston is suggested.)

COURSE OF STUDY

FRESHMAN YEAR.

MATHEMATICS.—Newcomb's *Algebra*. Chauvenet's *Plane and Spherical Trigonometry*. Bowser's *Analytical Geometry* begun.

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.

HISTORY.—Barnes's *Brief History of Medieval and Modern Peoples*. Freeman's *General Sketch of History*.

ENGLISH.—Prose Composition (Abbott's *How to Write Clearly*). Lectures, with Illustrative Readings from an English Prose Writer.

GERMAN.—Review of Grammar. Whitney's *German Reader*. Hodges's *Course of Scientific German*.

FRENCH.—Harrison's *French Syntax*. Modern French Prose. Bôcher's *French Plays*.

SOPHOMORE YEAR.

- MATHEMATICS.—Descriptive Geometry. Bowser's *Analytical Geometry*.
 PHYSICS.—Mechanics.
 CHEMISTRY.—Inorganic Chemistry (Experimental Lectures).
 DRAWING.—Linear Perspective. Geometric and Isometric Drawing.
 Projection of Shadows. Architectural Detail and Ornament. Gothic
 Tracery. Shading in India Ink. Free Hand Drawing.
 ENGLISH.—McElroy's *Structure of English Prose*. Lounsbury's *English
 Language*. Compositions and Declamations.
 GERMAN.—Schiller's *Jungfrau von Orleans*; Selections from Virchow and
 Hotzendorff's *Wissenschaftliche Vorträge*. Practical Exercises.
 FRENCH.—Modern Prose (continued). Molière.

TECHNICAL COURSES.

JUNIOR YEAR.

STUDIES PURSUED BY THE WHOLE CLASS.

- CHEMISTRY.—Exercises in Analytical Chemistry, with recitations.
 LOGIC.—Jevons's *Lectures on Logic*. Ethics.
 HISTORY.—Lectures on Modern History, in connection with Wilhelm
 Müller's *Modern History* as a text-book, and Compositions on Historical
 subjects.
 PHYSICAL SCIENCE.—Sound, Heat, Light, and Electricity.
 MINERALOGY.—Crystallography and General Description of Minerals.
 MATHEMATICS.—Descriptive Geometry.
 FRENCH.—Racine or Corneille. Molière.
 ENGLISH.—Critical Study of English Prose Writers, with Special Refer-
 ence to Composition. 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.
 BOTANY.—Structure of Woods.

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

- GEOLOGY.—Elements of Geology. Construction of parts of mines, of min-
 ing machinery, etc., from notes and sketches.
 MINERALOGY.—Same as 1st section.
 BOTANY.—Structure of Woods.
 MATHEMATICS.—Differential Calculus.

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

- ENGINEERING.—Railroad Location. Graphical Statics.
 MATHEMATICS.—Differential Calculus. Spherical Projections.

DRAWING.—Topographical Charts, in ink and colors. Details of frames, joints, etc.

ARCHITECTURE.—Classical Architecture.

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

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.

ENGINEERING.—Graphical Statics.

5. *Studies pursued by the Architectural Section.*

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

MATHEMATICS.—Differential Calculus.

ENGINEERING.—Graphical Statics.

SENIOR YEAR.

STUDIES PURSUED BY THE WHOLE CLASS.

PHYSICAL SCIENCE.—Special Advanced Physics.

ASTRONOMY.—Newcomb's *Astronomy*.

ENGLISH.—Compositions and Declamations.

SOCIAL SCIENCE.—Thompson's *Elements of Political Economy*, and Lectures.

DESCRIPTIVE AND DETERMINATIVE MINERALOGY.

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

1. *Studies pursued by the Chemical Section.*

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

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

Theoretical Chemistry.

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 PALEONTOLOGY.—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.—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.

MATHEMATICS.—Differential and Integral Calculus.

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

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

MATHEMATICS.—Differential and Integral Calculus.

DRAWING.—Shades, Shadows, and Perspective; Platting field notes; Engineering Construction and Stereotomy.

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

SURVEYING.—A complete course in practical topography, including special instruments and field sketching. Field practice. Reconnaissance, Use of Prismatic Compass, Level, Solar Transit, Repeating Theodolites, and Heliotropes. Sketching.

GEODESY.—Measurements of Bases, Triangulation, Determination of Meridian Latitude, Longitude, Time, and Azimuth.

ENGINEERING.—Mechanics of Engineering, embracing the Statics of Rigid Bodies, Determination of the Centres of Gravity, Moments of Flexure, Rupture, Resistance, Torsion, Analysis of Bridge and Roof Trusses, Strength and Properties of Materials, etc. Nomenclature of and Constructions in Masonry, Timber, Iron, and Steel, as applied to Light-houses, Bridges and Roofs, Depots, and other engineering structures. Equilibrium of Arches and Retaining Walls. Tunnelling and Earth-works, with the required plant and organization. Sea-coast and Harbor improvements. Canal and River improvements. Transportation.

4. *Studies pursued by Dynamical Engineering Section.*

MATHEMATICS.—Differential and Integral Calculus.

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

DRAWING.—From the model and original design.

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

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

MATHEMATICS.—Differential and Integral Calculus.

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

ENGINEERING.—Same as Section 3, so far as to include strength and properties of materials.

POST-SENIOR CLASS.

STUDIES PURSUED BY THE WHOLE CLASS.

ENGLISH.—Compositions and Declamations.

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.*

Theoretical Chemistry.

Lectures on the Applications of 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 AND ANALYTICAL CHEMISTRY.—Same as Section 1.

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

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

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

ENGINEERING.—Observation tours, for collection of data, and critical reports on works in process of construction. Estimates of cost, prices of labor and materials. Construction and arrangement. Preparation of contracts and specifications. Theses for graduation.

DRAWING.—Details of Engineering Works, Composition, Plans, Sections, Elevations; Profiles and Cross-sections. Working drawings.

HYDRAULICS.—Recitations, and Lectures.

MODELLING.—Construction of trusses for bridges and roofs, girders, etc. Problems in stone-cutting. Tunnels.

ARCHITECTURE.—Shading, Decoration. History of Architecture (continued).

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

THE ANALYSIS AND SYNTHESIS OF MECHANISM.—Machine Tools and their principles. Lectures on forging, riveting, pattern making and moulding.

DYNAMICS.—Lectures on the conditions under which work and power act, and the means of regulating and transmitting the same. The Efflux of fluids. The Flow of Fluids through pipes. The Impulse and Resistance of Fluids. Theory of Oscillation of Fluids. Lines of least resistance. Hydraulic motors. Turbine, overshot, breast, and under-shot 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.

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

ARCHITECTURE.—Elements of design and principles of composition. Ornament of all styles. Sketching and measurement of works executed and in progress, building materials and processes. Specifications. Contracts. History of Architecture (concluded).

DRAWING.—Plans, Elevations, and Sections of original designs. Exercises with perspective Views. Water-color. Sketching.

ENGINEERING.—Studies of Construction in Masonry, Timber, Iron and Steel; of Roof Trusses, Girders, etc. Experiments on Strength of Materials, Beams, and Trusses.

METHODS OF STUDY.

For the first two years, all studies are required, and are the same for all students. The technical courses begin with the Junior year.

Instruction is thoroughly practical. It is given by lectures and recitations, and in the Laboratories and the Drawing and Model Rooms. These are open to the students all day, and work is required of the higher classes in the afternoon as well as in the forenoon.

In CHEMISTRY, the Juniors have a course of fully illustrated Lectures, covering the whole ground of Inorganic Chemistry, and another on Mineralogy and Metallurgy. At the same time, they begin work in the Analytical Laboratories. In the Senior and Post-Senior years, studies in Qualitative and Quantitative Analysis and Lectures on Organic Chemistry are combined with the making of Chemical Preparations and practical work in Metallurgy and other Technical Subjects.

Students in GEOLOGY and MINING ENGINEERING are trained with special reference to the management of mines. The practical study of rocks and minerals in the Laboratory and Museum, as well as in the field; the training in the construction and management of ore-concentrating machinery; the illustrative discussion of difficult problems in the development of mines, such as the rectification of faults in the veins and strata; the drainage and ventilation of mines;—these and similar subjects are

considered the most essential features of the course. Importance is attached rather to the economical occurrence and distribution of ores throughout the United States, than to the discussion of theories and hypothetical opinions.

Students in CIVIL ENGINEERING are instructed by recitations, lectures, and practical work, in order to develop the qualities most required of the practical engineer. Afternoons and Saturdays are devoted to drawing and practical work in the shop, or to surveying or visiting public or private works, manufactories, etc.

During the last year the student's time is devoted largely to examinations and reports upon engineering works in process of construction; to making estimates and designs for new projects, from data collected in the field; and to the preparation of Theses.

Special Students may be received for the last three years of this course, if found to be sufficiently advanced in *Mathematics, Physics, Mechanics*, and *Drawing*.

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.

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; drawing of profiles and cross sections and drawing for theses.

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 and 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 already given.

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.

Adequate instruction is also provided in Marine Engineering and Naval Architecture.

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

The instruction in PHYSICS extends over three years. In the Junior year the subjects treated are Sound, Heat, Light, and Electricity, the exercises consisting of lectures, illustrated by experiments, with recitations. In the Senior year, special instruction is given in Advanced Physics. Practical instruction in the Physical Laboratory is given throughout the year. The course is optional and is intended for such students only as are competent to take it with advantage.

SPECIAL COURSES.

Special students, not candidates for a Degree, may be received into any of the 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 complete 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 receive a Certificate of Proficiency. Application should be made to the Professor in charge of the course which the student wishes to take, and definite arrangements may be made with him,—subject, however, to the approval of the Faculty.

LIBRARY.

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

DEGREES.

The Degree of *Bachelor of Science (B.S.)* is conferred on students who have passed creditably through the five years' curriculum of this school, together with a Special Degree indicating the Special Course which they have pursued. These Special Degrees are those of *Mining Engineer, Civil Engineer, Architect, and Practical Chemist*; and for them a satisfactory Thesis must be prepared and presented.

For further information address Professor E. O. KENDALL, LL.D., Dean of the Faculty.

A COURSE IN PHILOSOPHY FOR UNDERGRADUATES.

This course provides instruction in Latin, English, French and German, Mathematics, and Natural Science. During the Junior and Senior years, a large amount of time is devoted to Biological studies, with practical laboratory work, under Prof. Joseph Leidy, the Director of the Biological Department, and the other members of the Biological Faculty. The new Biological Building, with its lecture-room, laboratories for general and special work, its cabinets, herbarium, library, and abundant supplies of material for practical work, affords ample facilities for these studies.

ENTRANCE EXAMINATIONS.

For the Freshman Class, candidates are examined in all subjects required for admission to the Towne Scientific School, and in the Latin required for the Course in Arts, or its equivalent.

For ADVANCED standing, candidates must pass satisfactorily in all the subjects pursued by the lower class or classes. The examinations are held in June and September. Circulars stating the days and the subjects of examination for each day can be had after April 1st, on application to the Clerk of the College Faculty.

COURSE OF STUDY.

FRESHMAN CLASS.

LATIN.—Selections from Livy.

ENGLISH.—Prose Composition (Abbot's *How to Write Clearly*). Lectures, with Illustrative Readings from an English prose writer.

GERMAN.—Whitney's *German Reader*. Körner's *Zriny*. Grammar and Exercises.

FRENCH.—Modern French Prose.

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

MATHEMATICS.—Newcomb's *Algebra*. Chauvenet's *Trigonometry*.

DRAWING.—Freehand Drawing.

SOPHOMORE CLASS.

LATIN.—Horace (*Selected Odes or Satires*).

ENGLISH.—McElroy's *Structure of English Prose*. Lounsbury's *English Language*. Compositions and Declamations.

GERMAN.—Hodges's *Course of Scientific German*. Selections from *Virchow & Holtzendorff's Wissenschaftliche Vorträge*. Schiller's *Jungfrau von Orleans*.

- FRENCH.—Modern French Prose. Molière.
 HISTORY.—Lectures.
 MATHEMATICS. Analytical Geometry.
 PHYSICS.—Mechanics.
 CHEMISTRY.—Inorganic and Organic Chemistry (Experimental Lectures, with Examinations).

JUNIOR CLASS.

- ENGLISH.—Critical Study of English Prose Writers, with Special Reference to Composition. Compositions and Declamations.
 HISTORY.—Lectures on Modern History with Wilhelm Müller's *Modern History* as a Text-book, and Compositions on historical subjects.
 LOGIC.—Jevons's *Lessons in Logic*; Ethics (Whewell's *Elements*); Murray's *Outlines of Hamilton's Philosophy*; Lectures.
 PHYSICS.—Sound, Heat, Light, Electricity. (Stewart's *Physics*).
 CHEMISTRY.—Inorganic Analytical Chemistry.
 GENERAL BIOLOGY.—Vegetal Biology. Animal Biology. (Lectures and practical work.) Huxley's and Martin's *Elementary Biology*. Bessey's *Botany*. Brooks' Handbook of *Invertebrate Zoology*. Parker's *Zootomy*.
 MAMMALIAN ANATOMY.—Lectures and laboratory exercises. Mivart's *The Cat*. Wilder's *Anatomical Technology*.
 BOTANY.—Systematic Botany. Practical exercises. Gray's *Botanical Text-book*. Gray's *Manual of Botany*.

SENIOR CLASS.

- ENGLISH.—Chaucer (*The Canterbury Tales*). Spenser (*Selections*). Shakespeare (*Three Plays*). Compositions and Declamations.
 PHILOSOPHY.—Berkeley's *Principles*; Studies in the *History of Philosophy*; Butler's *Analogy*; Lectures.
 SOCIAL SCIENCE.—Thompson's *Elements of Political Economy*, and Lectures.
 ASTRONOMY.—Newcomb's *Astronomy*.
 GEOLOGY.—Systematic and Stratigraphic Geology.
 MINERALOGY.—Descriptive Mineralogy.
 BOTANY.—1. (a) Medical Botany; the plants used in Medicine, adulteration of foods and drugs, or (b) Vegetal Morphology. 2. The life histories of plants. Practical exercises. Bessey's *Botany*, Sach's *Text-book of Botany*.
 ZOOLOGY.—The outlines of General Zoology and Comparative Anatomy. The classification and distribution of animals. Lectures. Claus' *Elementary Text-book of Zoology*. Gegenbauer's *Comparative Anatomy*.
 ANIMAL HISTOLOGY.—Lectures and laboratory exercises on Microscopic Anatomy. Schäfer's *Essentials of Histology*.
 EMBRYOLOGY.—Lectures and laboratory exercises and the development of the chick. Foster and Balfour's *Elementary Embryology*.
 PHYSIOLOGY.—The Elements of Physiology. Lectures and practical work. Dalton's *Physiology*.

At the close of Sophomore Year, students may elect to enter the Junior Class in the Course in Arts or in the Wharton School. The Degree of Bachelor of Philosophy is conferred upon students who complete the full course.

Instruction is given by lectures and recitations, and in the Laboratories of the College and Biological buildings. These latter are open all day, and by the higher classes a part of the work is done in the afternoon. Latin, History, Philosophy, Mathematics, and the Physical Sciences are assigned in proportions suitable to the general purpose of the Course. French and German receive special attention in the first two years, with a view to the effective use of text-books in these languages in the Junior and Senior years.

The study of the English Language and Literature extends through the four years, and is intended to be thorough and critical. In Chemistry, the Sophomores attend illustrated lectures on Inorganic and Organic Chemistry, followed in the Junior year by a course of analytical work in the Laboratory.

The instruction in General Biology is in the form of practical laboratory exercises, accompanied by explanatory lectures, and comprises the study of the structure, functions, and development of a series of plants and animals. The student in this manner gains a general knowledge of the vital phenomena, manifested in the different forms of living matter, before beginning the study either of Botany or Zoology. The series studied are: (1) Amoeba, Paramæcium, Vorticella, Bacterium, Yeast-plant, and Protococcus, as unicellular forms of life; (2) Moulds, Chara, Bracken-fern, and Bean-plant as exhibiting the structure and activities of plants. (3) These compared with Sponge, Hydra, Starfish, Earthworm, Leech, Cyclops, Crayfish, Cockroach, Clam, Squid, Amphioxus, Skate, Cod, Frog, Snake, Terrapin, Pigeon, and Rabbit as animals.

The course in Mammalian Anatomy consists of lectures on the methods of anatomical investigation, a detailed description of the anatomy of one of the higher mammals, and comparisons with human anatomy. In the laboratory the class carefully dissects the cat.

The work in Botany, during the Junior year, consists in exercises in the determination and classification of plants, and begins in the second term after the student has finished the first half of the course in General Biology, and has acquired a sufficient knowledge of vegetal structure and physiology. In the first term of the Senior year some choice is permitted. The student may take up Medical Botany, if intending to study medicine, or may devote his attention to more advanced work in plant structure. During the second term the life-histories of plants, their development, growth, and reproduction are studied.

General Zoology and Comparative Anatomy embrace the study of the differences between organic and inorganic bodies; animals and plants; in-

dividuals and colonies; cells and cell aggregates; a short account of the tissues; growth and division of labor; organs, their structure; reproduction, general facts of embryology; metamorphosis, alternation of generation, polymorphism and heterogony; systems of classification; the Darwinian theory; species and varieties; a succinct account of the various groups of animals, their anatomy, development and distribution.

Histology is taught, during the first term in the Senior year, mainly by practical work with the microscope. The structure of animal tissues and organs, and the methods of examining and preparing microscopic specimens, are thoroughly studied.

Embryology is taught in the second term, and the student is instructed in the processes by which the complex tissues and organs are built up from the simple egg. The instruction consists in lectures on the Embryology of the chick, with laboratory exercises in the preparation and study of the principal stages of development.

The instruction in the elements of Human and Comparative Physiology embraces the following subjects: nutrition, food-stuffs and digestion; circulation; respiration; reproduction; muscular function, including locomotion, speech, etc.; and the functional activity of nerve and brain.

THE COURSE IN FINANCE AND ECONOMY

IN THE

WHARTON SCHOOL.

This School aims to give a thorough general and professional training to young men who intend to engage in business, or upon whom will devolve the management of property. It also equips more completely persons who are preparing for the profession of Law, for Journalism, or for Public Service. The Founder of the School has remarked that "a great boon would be bestowed upon the nation if its young men of inherited intellect, means and refinement could be drawn into careers of unselfish legislation and administration; and, as the possession of any power is usually accompanied by taste for its exercise, it is reasonable to expect that adequate education in the principles underlying successful civil government would aid in producing such a class of men."

The Wharton School, therefore, has a well-defined aim not possessed by any other educational institution. Its instruction is of immediate practical importance to persons who are looking forward to a business career, or who wish to know how to manage their own affairs; to legal students desirous

of acquiring the best preparation possible for successful practice, and to those who are pressing into the ranks of journalism, such instruction is scarcely less important; while to persons who aim to serve the public in a legislative or administrative capacity, it should be indispensable. The success of the lawyer is often due as much to an extensive acquaintance with business, as to a knowledge of legal principles. For those who are desirous of becoming proficient in economic and financial science—especially for those who expect to teach political science—the Wharton School provides a more complete course than is furnished elsewhere. By adding a comprehensive knowledge of business to an extended knowledge of economic principles, the foundation is laid for a correct political economy, which must command the respect of those thoughtful business men who are skeptical concerning the worth of the political economy taught at the present time in most American colleges.

LIBRARY.

The University possesses one of the largest and most complete libraries of works relating to finance and political economy existing 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 on these subjects 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 about three thousand English pamphlets, covering the period from the close of the seventeenth century to our own time, and bound in chronological order; (2) by the bequest of the library of the late Henry C. Carey, which includes many works and pamphlets that appeared since Mr. Colwell's death, and is especially rich in statistical literature, European government reports, and the like.

Original research by the students, under the direction of the professors, is a part of the work of the School.

COURSE OF STUDY.

The course of study extends through four years, and embraces the following studies:

FRESHMAN YEAR.

HISTORY.—Freeman's *General Sketch of History*. [2*]

ENGLISH.—Prose Composition (Abbott's *How to Write Clearly*). [2] Lectures, with Illustrative Readings from an English prose writer.

FRENCH. Modern French Prose. [4]

* The numeral indicates hours per week.

GERMAN. Whitney's *German Reader*. Körner's *Zriny*. Grammar and Exercises. [4]

MATHEMATICS. Newcomb's *Algebra*. Chauvenet's *Trigonometry*. [5]

SOPHOMORE YEAR.

HISTORY.—English and American History. [2]

ENGLISH.—McElroy's *Structure of English Prose*; Lounsbury's *English Language*. Compositions and Declamations. [2]

FRENCH. Modern French Prose. Molière. [4]

GERMAN. Schiller's *Jungfrau von Orleans*. [4]

MATHEMATICS. Descriptive Geometry. Analytical Geometry. [4]

PHYSICS.—Mechanics. [4] 1

CHEMISTRY.—Inorganic Chemistry. Lectures. [3]

JUNIOR YEAR.

FIRST TERM.

POLITICAL SCIENCE.—Theory of the State. Public Functions. (Lectures and Text-book. Mulford's *Nation*. Selected portions of Bagehot's *Physics and Politics*. Crane and Moses's *Comparative Politics*.) [3]

AMERICAN POLITICS.—First Term, Washington to Jackson. (Johnston's *History of American Politics*. Gay's *Madison*. Morse's *John Quincy Adams*.) [3]

POLITICAL ECONOMY.—Thompson's *Elements of Political Economy*. Walker's *Political Economy*. [4]

LOGIC.—Jevons's *Logic*. [2]

PHYSICS.—Elementary Physics, Sound and Heat. Lectures. [4]

INTERNATIONAL LAW.—Lectures. (Optional.)

SECOND TERM.

CIVIL GOVERNMENT.—Elements of the Constitutional and Administrative Law of the Federal and State Governments. (Lectures and Text-book.) [3]

AMERICAN POLITICS.—Jackson to Arthur. (Sumner's *Jackson*. J. F. Clark's *Anti-Slavery Days*.) [3]

POLITICAL ECONOMY.—Thompson and Walker completed. Laveleye's *Éléments d'Économie politique*. Sidgwick's *Political Economy*. [4]

MORAL PHILOSOPHY.—Whewell's *Elements*. [2]

PHYSICS.—Elementary Physics. Light and Electricity. [4]

SENIOR YEAR.

FIRST TERM.

EXPOSITION OF LEADING PRINCIPLES OF POLITICAL ECONOMY AND THEIR APPLICATIONS.—Compositions and Lectures. [3]

MERCANTILE PRACTICE.—Lectures. Bolles's *Practical Banking*. [4]

- AMERICAN CONSTITUTIONAL HISTORY.—First Period, 1789–1825. Lectures. (Von Holst's *Constitutional History of the United States*. Young's *American Statesman*.) [3]
- FINANCE.—Principles and Methods of Public Finance. Objects of Public Expenditure. Revenue from Public Property and Fees. (Lectures. Bolles's *Financial History of the United States*.) [2]
- CIVIL GOVERNMENT.—Principles of General Constitutional and Administrative Law. Principles and Comparative Methods of Legislation. Lectures. [2]
- ENGLISH CONSTITUTIONAL HISTORY.—Stubbs's *Constitutional History of England*. (Optional.)

SECOND TERM.

- EXPOSITION OF LEADING PRINCIPLES OF POLITICAL ECONOMY AND THEIR APPLICATIONS.—Composition and Lectures. (Continued.) [3]
- MERCANTILE LAW.—Parsons's *Laws of Business*. [4]
- RAILROADS.—Kirkman's *Railway Expenditures, their Extent, Object, and Economy*. Hadley's *Railroad Transportation*. (Ten Lectures).
- AMERICAN CONSTITUTIONAL HISTORY.—Second Period, 1825–1885. (Lectures and Text-books.) [3]
- FINANCE.—Principles and Methods of Public Finance. Theory and Practice of Taxation. Financial Administration. Local Finance. Lectures. [2]
- CIVIL GOVERNMENT.—Principles and Comparative Methods of Public Administration—general and local. Lectures. [2]
- STATISTICS.—Principle and Methods of Statistical Science. (Ten Lectures.)
- CONSTITUTIONAL LAW.—(Optional)*
- ROMAN LAW.—(Optional)*
- PREPARATION OF THESES.

The course in the Freshman and Sophomore years is nearly parallel with that in the Towne Scientific School; but more attention is given to the study of History and less to Mathematics. Enough Mathematics, however, is required of all students to enable them to pursue satisfactorily their studies in Physics.

The instruction in Political Economy during the Junior year is that which is usually given to the Junior and Senior classes in colleges. During the Senior year instruction in this branch is given through compositions and discussions by the class, followed by a review, exposition and application of principles by the professor.

Instruction in European Finance comprises the history, and a description and comparison of the financial systems of the principal countries of Europe. American Finance comprises a history of the national, state and municipal systems, and a comparison of them with foreign systems.

* These courses are given in the Law School, but are open to Wharton School students.

The subject of Legislation and Administration is treated comparatively, including the practice of all the principal European countries and our own, beside the varying practice of the several States of the Union.

Instruction in Statistics embraces an investigation of the sphere and function of statistics, with practical training in the proper method of collecting and arranging them.

During the first term, the course in American Politics covers the period from the formation of the Constitution to the close of Jackson's administration. This subject is studied with the aid of text-books and special works; and essays are required on collateral topics. The Senior year is devoted to the Constitutional History of the United States. Much of the work is done by students in libraries. A series of lectures is given on the more important Constitutional questions, and essays thereon are prepared by the students and read in the class-room.

Instruction in Railroads pertains to their organization, cost of construction and operation, and their relation to other industries.

Mercantile Practice covers the usages and methods of business, the management of property and the administration of trusts, and is supplemented and completed by an exposition of the leading principles of Mercantile Law.

EXAMINATIONS FOR ADMISSION AND ADVANCED STANDING.

Candidates for admission to the Freshman class must pass the same examination as is required for admission to the course in Philosophy. Students in the Department of Arts, the Towne Scientific School or the Course in Philosophy who enter the Wharton School Course at the beginning of the Junior year, receive, at graduation, the degree of A.B., B.S., or Ph.B., according to the course from which they have come. Students from other colleges are admitted on the same conditions. Graduates in any course of colleges in good standing may enter the Senior Class without preliminary examination.

Students who do not desire to pursue the full course, and who are properly qualified, may take either a special or a partial course in any subject or subjects taught in the School.

DEGREES.

The degree of Bachelor of Philosophy (Ph.B.) is conferred after satisfactory examination on all who have pursued the four years course, and on graduates in Arts of the University of Pennsylvania or of colleges of equal standing who have pursued the course in this School for the senior year.

For additional information, apply to the Secretary, Professor Albert S. Bolles.

THE COURSE IN MUSIC.

The qualifications required to enter the department are, *first*, a knowledge of the rudiments of music, and, *second*, the ability to play on some instrument—preferably the piano or organ.

The course extends over two years. The year begins on the first Monday in October, and is divided into three terms of ten weeks each. 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 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 be examined 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 discretion of the examiners.

2. They must submit to the examiners an original composition in the form of a cantata for solos and chorus, with an 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.

For detailed information, apply to Prof. H. A. Clarke, 223 S. 38th Street.

DEPARTMENT OF MEDICINE.

FACULTY.

WILLIAM PEPPER, M.D., LL.D., PROVOST, and *ex-officio* President.
HENRY H. SMITH, M.D., Emeritus Professor of *Surgery*.
ALFRED STILLÉ, M.D., LL.D., Emeritus Professor of the *Theory and Practice of Medicine*, and of *Clinical Medicine*.
HARRISON ALLEN, M.D., Emeritus Professor of *Physiology*.

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*.
D. HAYES AGNEW, M.D., LL.D., John Rhea Barton Professor of *Surgery*, and Professor of *Clinical Surgery*.
WILLIAM PEPPER, M.D., LL.D., Professor of *Theory and Practice of Medicine* and of *Clinical Medicine*.
WILLIAM GOODELL, M.D., Professor of *Clinical Gynecology*.
JAMES TYSON, M.D., Professor of *General Pathology and Morbid Anatomy*.
HORATIO C. WOOD, M.D., LL.D., Professor of *Materia Medica, Pharmacy, and General Therapeutics*.
THEODORE G. WORMLEY, M.D., LL.D., Professor of *Chemistry and Toxicology*.
JOHN ASHHURST, JR., M.D., Professor of *Clinical Surgery*.
WILLIAM OSLER, M.D., Professor of *Clinical Medicine*.
——— ——— Professor of *Physiology*.*

CLINICAL PROFESSORS.

WILLIAM F. NORRIS, M.D., Clinical Professor of *Diseases of the Eye*.
GEORGE STRAWBRIDGE, M.D., Clinical Professor of *Diseases of the Ear*.
HORATIO C. WOOD, M.D., LL.D., Clinical Professor of *Nervous Diseases*.
LOUIS A. DUHRING, M.D., Clinical Professor of *Skin Diseases*.
LOUIS STARR, M.D., Clinical Professor of *Diseases of Children*.

ASSISTANT PROFESSOR.

EDWARD T. BRUEN, M.D., Assistant Professor of *Physical Diagnosis*.

* The course in Physiology, Session 1885-6, will be given by Dr. Edward T. Reichert.

AUXILIARY PROFESSORS.

JOHN J. REESE, M.D., Professor of *Medical Jurisprudence*, including
Toxicology,

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

LECTURERS AND DEMONSTRATORS.

ROLAND G. CURTIN, M.D., Lecturer on *Physical Diagnosis*.

CHARLES K. MILLS, M.D., Lecturer on *Mental Diseases*.

ADOLPH W. MILLER, M.D., Lecturer on *Materia Medica* and *Pharmacy*, and Instructor in *Practical Pharmacy*.

DE FOREST WILLARD, M.D., Lecturer on *Orthopædic Surgery*.

ELLIOTT RICHARDSON, M.D., Lecturer on *Clinical and Operative Obstetrics*, and Demonstrator of *Operative Obstetrics*.

JOHN MARSHALL, M.D., NAT.SC. D., Demonstrator of *Practical Chemistry*.

J. WILLIAM WHITE, M.D., Demonstrator of *Surgery*, and Lecturer on *Veneral Diseases*.

HARRY R. WHARTON, M.D., Instructor in *Clinical Surgery*.

JOHN B. DEEVER, M.D., Demonstrator of *Anatomy*.

HENRY F. FORMAD, M.D., Demonstrator of *Morbid Anatomy* and *Pathological Histology*, Lecturer on *Experimental Pathology* and Librarian of the Stillé Medical Library.

EDWARD T. REICHERT, M.D., Demonstrator of *Experimental Physiology*.

GEORGE A. PIERSOL, M.D., Demonstrator of *Normal Histology*.

RICHARD H. HARTE, M.D., Demonstrator of *Osteology*.

THOMAS R. NEILSON, M.D., } Assistant Demonstrators of *Anatomy*.
EDMUND W. HOLMES, M.D., }

RICHARD H. HARTE, M.D., } Assistant Demonstrators of *Surgery*.
THOMAS R. NEILSON, M.D., }

ALBERT L. A. TOBOLDT, M.D., Assistant Demonstrator of *Practical Pharmacy*.

WILLIAM A. EDWARDS, M.D., } Instructors in *Clinical Medicine*.
JUDSON DALAND, M.D., }

N. ARCHER RANDOLPH, M.D., Assistant Demonstrator of *Physiology*.

WASHINGTON H. BAKER, M.D., Assistant to the Professor of *Obstetrics*.

J. P. CROZER GRIFFITH, M.D., Assistant Demonstrator of *Normal Histology*,

GEORGE E. DE SCHWEINITZ, M.D., Prosector to the Professor of *Anatomy*.

SAMUEL D. RISLEY, M.D., Instructor in *Ophthalmology*.

W. M. L. ZIEGLER, M.D., Instructor in *Otology*.

CARL SEILER, M.D., Instructor in *Laryngology*.
 FRANCIS X. DERCUM, M.D., Instructor in *Nervous Diseases*.
 J. HENDRIE LLOYD, M.D., Instructor in *Electro-Therapeutics*.
 A. SYDNEY ROBERTS, M.D., Instructor in *Orthopædic Surgery*.
 HENRY W. STELWAGON, M.D., Instructor in *Dermatology*.
 ROBERT P. ROBINS, M.D., Instructor in *Clinical Medicine*.
 WILLIAM E. HUGHES, M.D., } Assistants in *Physical Diagnosis*.
 HOBART A. HARE, M.D., }
 SAMUEL G. DIXON, Assistant Demonstrator of *Physiology*.
 THOMAS R. NEILSON, M.D., Instructor in *Veneral Diseases*.
 WILLIAM L. TAYLOR, M.D., Instructor in *Clinical Gynecology*.
 GWILLYM G. DAVIS, M.D., Assistant Demonstrator of *Surgery*.
 CARL H. REED, M.D., Assistant Demonstrator of *Morbid Anatomy*.
 J. P. CROZER GRIFFITHS, M.D., Assistant to the Professor of *Clinical Medicine*.

The following Students, selected on account of their proficiency in Chemistry, act as Assistants in the Chemical Laboratory:—

Horace M. Alleman	Lafayette College.
Seneca Egbert	Princeton College.
Joseph K. Frame	Delaware College.
Randolph Faries	University of Pennsylvania.
Walton S. Greene	University of Mississippi.
John H. Nixon	Princeton College.
William C. Pierce	Philadelphia College of Pharmacy.
William A. Riegel	Pennsylvania College.
A. Livingston Stavely	Princeton College.
Joseph M. Spellissy	Georgetown College.
William S. Vanneman	Princeton College.
William L. Wilbur	Princeton College.

The following Students of the third year, selected for their proficiency in Anatomy, act as Assistant Demonstrators of Anatomy:—

John N. Baylis,	Elijah I. Kerlin,	William A. Parke,
Andrew J. Bevan,	James H. Knowles,	Allen J. Smith,
Chas. W. Burr,	Damaso T. Laine,	Harry Shoemaker,
Michael J. Donohoe,	Louis Marin,	Thompson Wescott,
John V. Fisher,	George M. Marshall,	R. Parks White.
Edgar M. Green,	Sherman G. T. Moyer,	
Walter D. Green,	Joseph Otto,	

The following Graduates of the School conduct the admission examinations in the several cities in which they reside:—

DR. C. H. MASTIN, 110 St. Francis Street, Mobile, Ala.
 DR. JOS. M. TOWLER, 6 N. Main Street, Columbia, Tenn.

- Dr. EUGENE A. GRISSOM, North Carolina Insane Asylum, Raleigh, N. C.
 Dr. C. D. FISHBURN, 70 McMicken Avenue, Cincinnati, Ohio.
 Dr. E. C. BULLARD, 185 Harrison Avenue, Boston, Mass.
 Dr. C. GILMAN SMITH, 2220 Calumet Avenue, Chicago, Ill.
 Dr. C. H. BOARDMAN, 503 Wabasha Street, St. Paul, Minn.
 Dr. W. FITZ HUGH EDWARDS, 205 Fort Street, Detroit, Mich.
 Dr. W. S. ELKIN, 70½ Whitehall Street, Atlanta, Ga.
 Dr. J. W. WHITBECK, 125 East Avenue, Rochester, N. Y.
 Dr. W. T. BELL, City and County Hospital, San Francisco, Cal.

HOSPITAL STAFF.

- WILLIAM PEPPER, M.D., LL.D., Professor of *Clinical Medicine*.
 D. HAYES AGNEW, M.D., LL.D., Professor of *Clinical Surgery*.
 WILLIAM GOODELL, M.D., Professor of *Clinical Gynecology*.
 JAMES TYSON, M.D., Professor of *General Pathology and Morbid Anatomy*.
 JOHN ASHHURST, JR., M.D., Professor of *Clinical Surgery*.
 WILLIAM OSLER, M.D., Professor of *Clinical Medicine*.
 WILLIAM F. NORRIS, M.D., Clinical Professor of *Diseases of the Eye*.
 GEORGE STRAWBRIDGE, M.D., Clinical Professor of *Diseases of the Ear*.
 HORATIO C. WOOD, M.D., LL.D., Clinical Professor of *Nervous Diseases*.
 LOUIS A. DUHRING, M.D., Clinical Professor of *Skin Diseases*.
 LOUIS STARR, M.D., Clinical Professor of *Diseases of Children*.
 ROLAND G. CURTIN, M.D., } Assistant Physicians.
 EDWARD T. BRUEN, M.D., }
 J. WM. WHITE, M.D., }
 H. R. WHARTON, M.D., } Assistant Surgeons.
 RICHARD H. HARTE, M.D., }
 SAMUEL D. RISLEY, M.D., Assistant *Ophthalmic Surgeon*.
 WALTER M. L. ZIEGLER, M.D., Assistant *Aural Surgeon*.
 HENRY W. STELWAGON, M.D., Assistant *Dermatologist*.
 RICHARD T. CADBURY, Superintendent of the Hospital.
 WILLIAM E. HUGHES, M.D., Medical Registrar.
 GEORGE E. DE SCHWEINITZ, M.D., Surgical Registrar.
 HENRY F. FORMAD, M.D., Pathologist.
 JUDSON DALAND, M.D., Curator.
 GWILLYM G. DAVIS, M.D., Surgical Anæsthetizer.
 W. D. HAMAKER, M.D., }
 E. G. RHOADS, M.D., } Resident Physicians.
 F. A. PACKARD, M.D., }
 JOSEPH C. ROGERS, Ph. G., Apothecary.

DISPENSARY SERVICE.

- SAMUEL D. RISLEY, M.D., Chief of the Dispensary for *Diseases of the Eye*.
 WALTER M. L. ZIEGLER, M.D., Chief of the Dispensary for *Diseases of the Ear*.
 WILLIAM L. TAYLOR, M.D., Chief of the Dispensary for *Diseases of Women*.
 DE FOREST WILLARD, M.D., } Attending Surgeons in the *Orthopædic*
 A. SYDNEY ROBERTS, M.D., } Dispensary.
 J. WILLIAM WHITE, M.D., Chief of the Dispensary for *Veneral Diseases*.
 JOHN H. MUSSER, M.D., Chief of the Medical Dispensary.
 CARL SEILER, M.D., Chief of the Dispensary for *Diseases of the Throat*.
 FRANCIS X. DERCUM, M.D., Chief of the Dispensary for *Nervous Diseases*.
 H. W. STELWAGON, M.D., Chief of the Dispensary for *Diseases of the Skin*.
 M. HOWARD FUSSELL, M.D., Assistant Physician in the Medical Dispensary.
 WM. BARTON HOPKINS, M.D., }
 RICHARD H. HARTE, M.D., } Attending Surgeons in the Surgical
 CHARLES W. DULLES, M.D., } Dispensary.
 JOSEPH M. FOX, M.D., }
 WILLIAM A. DAVIS, M.D., Assistant Surgeon in the Dispensary for Diseases of Women.
 JAMES WALLACE, M.D., } Assistant Surgeons in the Dispensary for
 G. E. DE SCHWEINITZ, M.D., } Diseases of the Eye.
 JAMES HENDRIE LLOYD, M.D., Assistant Physician in the Dispensary for Nervous Diseases.
 THOMAS R. NEILSON, M.D., Assistant Surgeon in the Dispensary for Veneral Diseases.
 JOHN SHEETS, M.D., } Assistant Physicians in the Dispensary for Diseases of the Throat.
 LEDRU P. SMOCK, M.D., }
 D. J. MILTON MILLER, M.D., } Attending Physicians in the Dispensary
 WILLIAM J. TAYLOR, M.D., } for Diseases of Children.
 HOBART A. HARE, M.D., }
 FREDERIC H. MILLIKEN, M.D., Assistant Surgeon in the Orthopædic Dispensary.
 WILLIAM R. HOCH, M.D., Assistant Surgeon in the Dispensary for Diseases of the Ear.
 HOWARD REEVES, M.D., Assistant Physician in the Dispensary for Diseases of the Throat.

All communications should be addressed to

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

The Secretary's office is in Medical Hall, where all business is transacted.

MATRICULATES.

FOURTH YEAR.

Buechner, William H., M.D.,	Youngstown, Ohio,	West. Res. Univ.
Dougherty, John A., M.D.,	Philadelphia,	J. Wm. White.
Sparrow, G. Byron, M.D.,	Youngstown, Ohio,	West. Res. Univ.
Stephen, George Caldwell,	Montreal, Can.,	G. B. Burland.
Welch, Harry E., M.D.,	Youngstown, Ohio,	West. Res. Univ.

Students of the Fourth Year, 5.

THIRD YEAR

Achey, Frederick A.,	Lancaster,	H. E. Muhlenberg.
Aitken, Harry W.,	West Chester,	Isaac Massey.
Albertson, William C.,	Vienna, N. J.,	L. B. Hoagland.
Avison, David, Ph.C. (London),	Camden, N. J.,	University.
Baker, George Fales, B.S. (Univ. of Pa.),	Philadelphia,	William Hunt.
Baylis, John N.,	Bridgetown, N. J.,	University.
Beck, Charles S., Jr.,	Wilkes-Barré,	E. R. Mayer.
Benton, John W.,	Ogdensburg, N. Y.,	J. H. and C.C. Benton.
Bermudez, Salvador,	Leon, Nicaragua,	Judson Daland.
Bevan, Andrew J.,	Rosemont,	J. E. Whiteside.
Bley, Alphonso A. W., Ph.G.,	Philadelphia,	University.
Broughton, William H., Ph.B. (Delaware),	Kingston, Md.,	John Dale.
Brumbaugh, S. Oscar,	Huntington,	A. B. Brumbaugh.
Burns, Samuel W.,	Philadelphia,	University.
Burr, Charles W., B.S. (Univ. Pa.),	Philadelphia,	Judson Daland.
Carey, William A.,	Wenonah, N. J.,	J. William White.
Carle, Charles W.,	Ashley,	A. D. Tewksbury.
Cashman, Elmer W.,	Bendersville,	E. W. Mumma.
Chambers, Geo. H.,	Philadelphia,	E. B. Shapleigh.
Church, Joseph G.,	Girardville,	D. S. Marshall.
Cooke, Snow P., B.A. (Acadia),	Milton, Nova Scotia,	Edw. Farrell.
Crawford, James R., Jr.,	Brownsville,	W. S. Duncan.
Crilly, John C.,	Allentown,	Thomas T. Martin.
Culp, John F.,	Philadelphia,	University.
Curtis, George L., D.D.S.,	Syracuse, N. Y.,	Chas. M. Magee.
Dalbey, Alvin D., A.B. (Central High School),	Philadelphia,	University.
Dale, Frank,	Bellefonte,	University.
Diller, Theodore,	Lancaster,	M. L. Herr.
Dixon, Samuel G.,	Philadelphia,	D. Hayes Agnew.
Donohoe, Michael J., A.B.,	Waterbury, Conn.,	University.
Dorland, William A. N., A.B. (Central High School),	Philadelphia,	University.
Downing, Henry M.,	West Chester,	T. D. Dunn.
Elmer, Albert W., A.B. (Griswold College),	Davenport, Iowa,	L. French.
Emerick, Charles E.,	Centre Hall,	W. A. Jacobs.
Espinosa, Alexandro,	Managua, Nicaragua,	University.

Fisher, John V.,	Williamstown,	P. McGill.
Fitzpatrick, Charles, Jr.,	Chattanooga, Tenn.,	R. J. Levis.
Fledderjohann, Henry E.,	New Bremen, Ohio,	University.
Flexer, John R.,	Allentown,	Thomas T. Martin.
Green, Edgar M., A.B. (Lafayette),	Easton,	Traill Green.
Green, Walter D., A.B. (Princeton),	Trenton, N. J.,	W. W. L. Phillips.
Griffith, Elijah,	Pittston,	A. A. Barton.
Gross, William D., Jr., A.B. (Univ. Pa.),	Philadelphia,	University.
Hammond, Levi J.,	Dover, Del.,	T. C. Frame.
Harmon, John B.,	Altoona,	W. Y. Levengood.
Henderson, William B.,	Lewistown,	J. L. Henderson.
Hersh, Daniel G.,	East Greenville,	J. G. Hersh.
Hewetson, Halle L.,	St. Clairsville, Ohio,	A. H. Hewetson.
Hill, J. Heighe,	Locust Grove, Md.,	J. Horton Kelly.
Hillegass, John P., Jr.,	Pennsburg,	J. G. Hillegass.
Hoagland, Bonn W.,	Philadelphia,	L. B. Hoagland.
Hoban, Charles J.,	Scranton,	W. K. Dolan.
Hoffman, J. Louis,	Cressona,	H. C. Fegley.
Hoffman, Jacob Z., A.B.,	Maytown,	J. L. Zeigler & Son.
Holly, William J., A.B. (Yale),	Philadelphia,	University.
Hopkins, Gerald C.,	Philadelphia,	University.
Houser, Luther M.,	Houserville,	J. Y. Dale.
Humiston, Franklin G., A.B. (Dart.),	Cambridge, Mass.,	University.
Hunt, Charles D.,	Williamsport,	J. L. A. Burrell.
Jameson, William B.,	Petrolia,	W. C. Foster.
Johnson, Edwin W.,	Stockton, N. J.,	John Woolverton.
Jones, Kent C.,	Milton, Del.,	R. D. Jones.
Jones, Oliver B., Jr.,	Philadelphia,	Geo. Yeomans.
Kenney, Edward L., A.B. (Lafayette),	Chicago, Ill.,	J. L. Harvey.
Kerlin, Elijah I.,	Richmond, Ind.,	University.
Kilburn, John H.,	Woodstock, N. Br'k.,	C. P. Connell.
Kimmell, Louis J. C.,	Philadelphia,	D. Hayes Agnew.
Knowles, James H., A.B.,	Milton, Nova Scotia,	Halifax Med. Coll.
Kynett, Harry H., A.B. (Wesleyan Univ.),	Philadelphia,	Lewis D. Harlow.
Lainé, Damaso T.,	Navajas, Cuba,	University.
Lane, Samuel M.,	Orbisonia,	University.
Lee, Thomas G.,	Rochester, N. Y.,	Richard M. Moore.
Lemos, Odorico G. de,	Para, Brazil,	University.
Leopold, Isaac, B.S. (Univ. of Pa.),	Philadelphia,	Judson Daland and W. D. Robinson.
Lichty, Albert M.,	Elk Lick,	T. F. Livengood.
Long, Wilson P.,	Mertztown,	M. S. Long.
Lung, George A., A.B. (University of Rochester),	Philadelphia,	University.
Lyons, Ray,	Lanesboro,	M. L. Miller.
Macias, José J., Ph.B.,	Leon, Nicaragua,	University.
Marin, Luis, B.S.,	Leon, Nicaragua,	Jno. B. Deaver.
Marshall, George M., A.B. (Western Res. Univ.),	Painesville, Ohio,	University.

Martin, Charles B.,	Bart,	John Martin.
Matlack, Ellwood, A.B.,	Philadelphia,	University.
Mazarredo, Federico de,	Cienfuegos Cuba,	John Marshall.
Miller, R. Frank B., A.M. (West- ern University),	Allegheny,	Dr. Dickson.
Morris, Elliston J., A.B. (Univ. Ger- mantown, Pa.),	Germantown,	J. Cheston Morris.
Morris, William L.,	Philadelphia,	J. E. Whiteside.
Morton, Samuel W.,	Linwood,	J. Newton Walker.
Moyer, Sherman G. T.,	Pottsville,	A. H. & G. H. Hal- berstadt.
Murchison, John,	North River, P. E. I.	Halifax Med. Coll.
McCausland, James R., Ph.G.,	Philadelphia,	R. G. Curtin.
McFetridge, William C.,	Philadelphia,	J. H. W. Chestnut.
Negendank, Egmont T.,	Wilmington, Del.,	University.
Neuber, Samuel T., A.B. (Univ. Phila- delphia, Pa.),	Philadelphia,	University.
Nock, Thomas O., Ph.G.,	Camden, Del.,	University.
Novaes, Emygdio Dias,	Quelez, Brazil,	University.
Orbison, J. Harris, A.M. (Prince- ton),	Bellefonte,	University.
Otto, Joseph,	Key West, Fla.,	Guitéras & Sweeting.
Parke, William E., A.B. (Prince- ton),	Parkesburg,	William L. Martin.
Pascoe, George Y., Jr., A.B. (Cen- tral High School),	Philadelphia,	University.
Peters, H. Vance, A.B. (Central High School),	Philadelphia,	J. K. Knorr.
Pownall, Elmer E.,	Bridge Valley,	H. J. Neilds.
Rath, Otto A.,	Fort Wayne, Ind.,	K. K. Wheelock.
Redmond, Henry,	Corpus Christi, Tex.	L. D. Judd.
Reynolds, Leon E.,	Portland, Me.,	Yale College.
Sartain, Paul J., A.B. (Univ. Pa.),	Philadelphia,	University.
Schoales, Charles B.,	Philadelphia,	Jos. D. Schoales.
Schum, Frank L.,	Altoona,	John Fay.
Seymour, Alfred M., A.B.,	Huntington, Conn.,	F. L. Dickinson.
Sharp, Alexander A., A.B. (Dick- inson),	Carlisle,	D. F. Woods.
Shimer, William S., A.B. (Central High School),	Philadelphia,	University.
Shissler, Alfred G.,	Shamokin,	C. W. Weaver.
Shoemaker, Harvey,	Philadelphia,	John B. Deaver.
Shoemaker, Jesse G.,	Philadelphia,	M. Price.
Shoemaker, Samuel B., B.S. (Ha- verford),	Germantown,	University.
Silva, Manuel C. Da,	Rio de Janeiro, Brazil,	University.
Smith, Allen J., A.B. (Penna.),	York,	Kerr & Bacon.
Snodgrass, O. Edmund,	York,	University.
Stevens, Arthur A., A.B. (Cen- tral High School),	Germantown,	University.
Stiles, William E.,	Pittston,	J. J. Walsh.
Tatum, Edward, A.B. (Yale),	New York, N. Y.,	University.

Teller, William H.,	Philadelphia,	University.
Thompson, James B.,	Allegheny City,	Chas. W. Dulles.
Thompson, William O.,	Summit Hill,	E. H. Kistler.
Tomlin, Almer N.,	Goshen, N. J.,	H. Swaim.
Wallace, Charles H.,	New Castle, Del.,	Jno. J. Black.
Warder, Charles B., M.D.,	Philadelphia,	W. H. Warder.
Waterhouse, Charles F., A.B.,	Cincinnati, Ohio,	J. P. Waterhouse.
Ward, E. Tillson, A.B. (Central High School),	Philadelphia,	Joseph Hearn.
Weaver, W. Warren, A.B. (Pa.),	Hanover,	G. P. Weaver.
Welker, Abram T.,	Hillegass,	H. Bobb.
Weller, Elmer K.,	Trexlerstown,	William S. Herbst.
Westcott, Thompson S., A.B. (Uni- versity of Pa.),	Philadelphia,	W. W. Keen.
Whitehead, John,	Trenton, N. J.,	W. Coleman.
White, R. Parks,	Ashland, Ohio,	James W. Craig.
Williams, Walter S.,	Pittsburgh,	James McCann and A. J. Givens.
Yard, John S.,	Trenton, N. J.,	J. J. B. Ribble.
Zentmayer, William,	Philadelphia,	University.

Students of the Third Year, 138.

SECOND YEAR.

Addison, Thomas G., Jr.,	Washington, D. C.,	John W. Bayne.
Agnew, Hulbert, A.B. (Princeton),	Philadelphia,	D. Hayes Agnew.
Allen, Americus R.,	Shippensburg,	S. B. Kieffer.
Andrews, George E., A.B. (Univ. of Rochester),	Granville, Ohio,	R. M. Moore.
Arnold, Ira W.,	Lancaster,	M. L. Herr.
Atlee, William A., Jr.,	Lancaster,	Jno. L. Atlee.
Balliet, Tilghman M., A.B. (Frank- lin and Marshall),	New Mahoning,	University.
Barney, Delbert, A.B. (Lafayette),	Wilkes-Barre,	University.
Bemish, Reuben H.,	Rochester, N. Y.,	Whitbeck & Williams
Berens, T. Passmore,	Philadelphia,	B. Berens, Jr.
Bowen, Cuthbert F., B.A. (Dur- ham and London University),	Philadelphia,	Wm. H. Freeman.
Bowman, David P., B.E.,	Koiner's Store, Va.,	University.
Bradley, Edward T.,	Gallitzin,	Robert Devereaux.
Bradley, Wilmot V.,	New Haven, Conn.,	University.
Brinkmann, Leon,	Philadelphia,	M. Brinkmann.
Caldwell, Charles C.,	West Chester,	Thos. D. Dunn.
Cameron, George A.,	Zion, Md.,	P. B. Housekeeper.
Carlisle, Paris T., Jr.,	Frederica, Del.,	Thomas Cahall.
Cattell, Henry W., A.B. (Lafayette),	Philadelphia,	Trail Green.
Chamorro, Filadelfo, B.S.,	Granada, Nicaragua,	University.
Clarkson, J. A. Coleman, A.B. (Dickinson Seminary),	Altoona,	Jno. Fay.
Cleaver, J. Vale,	E. Bethlehem,	Q. C. Farquhar.
Clewell, Cary K.,	Telford,	J. E. Bauman.
Cooke, Edwin Stanley, A.B. (Cen- tral High School),	Philadelphia,	University.

Crandall, R. Percy,	Brooklyn, N. Y.,	T. V. Crandall and Judson Daland.
Cyphers, Millard F.,	Wilkes-Barre,	University.
Davis, James A., Ph.G.,	Greensburg,	R. B. Hammer.
Dickinson, Edward B., D.D.S.,	Chicopee, Mass.,	University.
Diverty, Henry B.,	South Dennis, N. J.,	University.
Dongion, Giragos,	Dearbeker, Armenia,	University.
Doron, John George, A.B. (Brown),	Mt. Holly, N. J.,	University.
Douglas, Malcolm, Jr.,	Philadelphia,	P. Hooper.
Edgar, Lambert H.,	Philadelphia,	J. M. Edgar.
Ely, Thomas C., Jr.,	Holmdel, N. J.,	T. V. Crandall and Judson Daland.
Farr, William W.,	Philadelphia,	J. C. Wilson.
Fell, Alexander G., B.S. (Princeton),	Wilkes-Barre,	J. A. Murphy.
Ferrer, Adolfo Leon,	Tabasco, Mexico,	University.
Fetters, William A., Ph.G.,	Philadelphia,	University.
Frost, William M., A.B. (Dickinson),	Shamokin,	University.
Fundenberg, George B., Jr., A.B. (Western University),	Pittsburgh,	G. B. Fundenberg.
Gale, John P.,	Woodland, Cal.,	J. W. Clark.
Gallagher, Thomas D. J., A.B. (Georgetown),	Mt. Carmel,	D. J. McKibben.
Glover, George B., A.B. (Emory),	Monticello, Fla.,	Robert Battey.
Grant, Horace S.,	Navarre, Ohio,	Jas. Fraunfelder.
Grigg, Thomas A.,	Tyne Valley, P. E. I.,	University.
Hartswick, Thomas H.,	Clearfield,	J. G. Hartswick.
Hartzell, Charles A.,	Fayetteville,	M. B. Hartzell.
Head, Joseph, D.D.S.,	Germantown,	N. A. Randolph.
Heisler, John Clement, Ph.G.,	Philadelphia,	University.
Henkel, Alfred Davis,	New Market, Va.,	M. A. Henkel.
Huber, William S.,	Lebanon,	Wm. M. Guilford.
Hutchinson, Randall, A.B. (Princeton),	Lawrenceville, N.J.,	University.
Johnson, Theodore M., Ph.G.,	Huntington, Ind.,	University.
Jones, Le Roy H.,	Utica, N. Y.,	Wm. & C. P. Russell.
Keller, Harry M.,	Stroudsburg,	T. C. Walton.
Kintzing, Pearce, B.S. (Lafayette),	Lock Haven,	R. Armstrong.
Kirby, Elwood R.,	Philadelphia,	University.
Knotts, Ira D.,	Davistown,	Spencer Morris.
Lacayo, Alfonso, A.B.,	Leon, Nicaragua,	University.
Lake, Wilson A.,	Green Creek, N. J.,	J. H. Ingram.
Lambach, Frederick,	Princeton, Iowa,	John Knox.
Leidy, Joseph, Jr., A.B. (Central High School),	Philadelphia,	Joseph Leidy.
Lewis, William H.,	Mt. Carmel,	W. W. Williams.
Lord, Jere W., A.B. (Johns Hopkins),	Baltimore, Md.,	University.
Marchand, Jacob F., A.M. (Wash. & Jefferson),	Irwin,	W. D. Hamaker.
Maercklein, Bernhard G.,	Milwaukee, Wis.,	University.
Martin, Peter J. J.,	Easton,	I. Ott.

Maurer, James M., A.B. (Lafayette)	Mt. Carmel,	E. Samuels.
Mial, Leonidas L., A.B. (Univ. of Raleigh, N. C., N. C.),		E. B. Haywood.
Miller, Louis J.,	Huntingdon,	University.
Moyer, Frederick C., Jr., A. B. (Franklin & Marshall),	Freeburgh,	University.
Moylan, Peter F.,	Pittston,	R. H. Hutchins & J. J. Moylan.
McAlister, John B., A.B. (Penna. College),	Gettysburg,	J. B. Scott.
McCauley, Charles A.,	Columbia,	F. Hinkle.
McCauley, John W., A.B. (Union College),	Stanley, N. Y.,	A. D. Allen.
McCright, Robert, Ph.G.,	Philadelphia,	University.
Nickle, S. Pusey,	Port Deposit, Md.,	Robt. E. Bromwell.
Norris, Richard C., A.B. (Dickinson),	Washington, D. C.,	University.
Pfouts, Gilbert B.,	Philadelphia,	James Tyson.
Pyle, William L.,	West Chester,	E. W. Pyle.
Reath, Benjamin B., Jr., A.B. (Univ. of Penna.),	Philadelphia,	Richard H. Harte.
Reeder, Jeremiah V.,	Muncy,	Wood and Wiegand.
Rodgers, Robert, Jr.,	Philadelphia,	J. Howard Evans.
Roessler, George, Ph.G.,	Berlin, Germany,	Henry Beates.
Rudderow, Francis, A.B.,	Philadelphia,	B. J. Rudderow.
Salinas, Sebastian, B.S.,	Leon, Nicaragua,	University.
Schantz, William S.,	Hosensack,	I. S. Moyer.
Schell, Henry A.,	Gallatin, Tenn.,	H. A. Schell.
Smith, Joseph R.,	Wilmington, Del.,	L. H. Dravo.
Snavely, Harry B., Ph.G.,	Lancaster,	S. B. McCleery.
Spencer, Elwood P.,	Dover, Del.,	J. H. Wilson.
Sprissler, Theodore, Ph.G.,	Philadelphia,	University.
Stahl, B. Franklin, Ph.G.,	Philadelphia,	J. H. Grove.
Stein, James,	Girardville,	J. C. Biddle.
Talley, Frank W.,	Wilmington, Del.,	D. W. Maull.
Taylor, William B., A.B. (Univ. of Wooster),	Turtle Creek,	R. S. Sutton.
Townes, William C., Ph.B. (Univ. of Miss.),	Oxford, Miss.,	University.
Trout, John Harry, Ph.G.,	Landisville,	P. M. Kelly.
Turnbull, Thomas, Jr.,	Syracuse, N. Y.,	Cornell University.
Tybout, Richard Raymond,	New Castle, Del.,	Jno. J. Black & D. F. Woods.
Walker, William J.,	E. Bethlehem,	Q. C. Farquhar.
Weston, George D., B.S. (Dartmouth),	Windsor, Vt.,	Lewis D. Harlow.
Witherspoon, John A.,	Columbia, Tenn.,	Robert Pillow.
Wood, Stephen Carroll, A.B. (Yale),	Philadelphia,	Spencer Trotter.
Zuniga, Francisco J., A.B.,	Masaya, Nicaragua,	University.

Students of Second Year, 105.

FIRST YEAR.

Adler, Lewis H., Jr.,	Philadelphia,	L. H. Adler.
Alleman, Horace M., A.B. (Lafayette),	Hanover,	H. Alleman.
Andrews, Warren W., B.S. (Dickinson Seminary),	Lock Haven,	E. G. Walls.
Atwater, Edward P.,	Sydney, Aus.,	Kingsbury & Brene- man.
Barberena, Narciso, B.S.,	Granada, Nicaragua,	University.
Beishlag, William P.,	Philadelphia,	University.
Bell, J. Malseed,	Philadelphia,	W. W. Keen.
Blake, Lewis J., A.B. (Wofford College, S. C.),	Spartanburg, S. C.,	University.
Bolton, Samuel, Jr., A.B. (Univ. at Lewisburg),	Philadelphia,	University.
Boquin, Francisco,	Leon, Nicaragua,	University.
Bowman, John H., B.S. (Dickinson Seminary),	Mifflinville,	J. J. Brown.
Burdick, S. Dimond,	Philadelphia,	Theo. H. Andrews.
Burger, Francis J.,	Lancaster,	A. J. Burger.
Bushong, John W.,	Philadelphia,	University.
Campbell, Thomas,	Searletown, P. E. I.,	Geo. Caruthers.
Canfield, William C.,	Bristol, R. I.,	Herman Canfield.
Carpenter, Herbert B.,	Philadelphia,	University.
Cates, Benjamin B.,	Marysville, Tenn.,	J. W. Cates.
Cawley, Morris F.,	Allentown,	J. I. Cawley.
Clarke, James C., Jr., B.S. (Dickinson),	Philadelphia,	University.
Coldren, William A.,	Van Wert,	A. J. Fisher.
Colter, Frederick G.,	Woodstock, N. B.,	N. R. Colter.
Diefenderfer, Walter B., M.E.,	Auburn,	J.T. & J.S. Carpenter.
Downs, Norton,	Germantown,	R. N. Downs.
Duer, S. Naudain, A.B. (Univ. of Penna.),	Philadelphia,	Edw. L. Duer.
Easter, Daniel M.,	Baltimore, Md.,	University.
Eckman, Philip N.,	West Pittston,	A. J. Connell.
Egbert, Seneca, A.B. (Princeton),	Franklin,	S. Bredin.
Faries, Randolph, A.B. (Univ. of Penna.),	Philadelphia,	J. Wm. White.
Frame, Joseph K.,	Millsboro', Del.,	H. G. M. Kollock.
Frey, Lewis,	Wilkes-Barre,	J. A. Murphy.
Friend, Samuel H.,	Milwaukee, Wis.,	H. M. Brown.
Gentry, Alan F., A.B. (Central High School),	Philadelphia,	University.
Gerlach, C. Rudolf,	Norristown,	Dr. Lembecke.
Gillam, William S.,	Langhorne,	Elliot Richardson.
Gill, Walter Myers,	Allegheny,	B. Kerr.
Goodwin, Eugene B.,	Kenton, Del.,	W. W. Keen & A. Goodwin.
Greenewalt, Frank L.,	Fayetteville,	Lane & Palmer.
Greene, Walton S.,	Aberdeen, Miss.,	J. M. Greene.
Green, John Traill, A.B. (Lafayette),	Easton,	Traill Green.

Grieseimer, Howard,	Reading,	W. Murray Weidman
Grumbly, John A.,	Meyersdale,	S. S. Good.
Guerrero, José B.,	Managua, Nicarag.,	University.
Gummey, Frank Bird,	Germantown,	University
Hall, George Benjamin,	Renovo,	Wm. E. Hall.
Hamill, Samuel M.,	Lemont,	R. H. Hamill.
Hand, William Nelson,	Woodstock, N. B.,	C. P. Connell.
Harding, Frank H.,	Mansfield, Ohio,	R. Harvey Reed.
Hatch, John Leffingwell,	Rochester, N. Y.,	Jos. A. Biegler and Judson Daland.
Hay, Charles McKenzie,	Woodstock, N. B.,	M. T. Bruce.
Hayes, Joseph,	Spring Hill Mines, N. S.,	J. W. Cove.
Heyl, Ashton Bryant,	Philadelphia,	University.
Humphrey, Glennis E.,	Union City,	University.
Hutchison, J. Cooper, B.S. (Lafayette),	Easton,	University.
Jarecki, Edwin,	Erie,	University.
Johnson, Elmer E., A.B. (Muhlenberg),	Norristown,	B. K. Johnson and Judson Daland.
Jones, Charles J.,	Camden, N. J.,	J. Wm. White.
Kalbach, A. Frank, A.B. (Franklin & Marshall),	Philadelphia,	University.
Kelly, John J.,	Parsons,	University.
Kerns, Alvin J., B.S. (Ursinus),	Slatington,	University.
Klapp, Wilbur P.,	Philadelphia,	University.
Kleber, August C., Jr.,	Allegheny,	University.
Knoll, John G. W.,	Buffalo, N. Y.,	A. G. Gumaer.
La Farge, J. Bancel,	Newport, R. I.,	Wm. Pepper.
Landis, Eli Barr,	Lancaster,	S. T. & M. L. Davis.
Le Conte, Robert G., A.B. (Univ. of Penna.),	Philadelphia,	W. W. Keen.
Lenahan, Frank P.,	Wilkes-Barre,	C. W. Spayd.
Mackey, David,	Lewisville,	J. G. West.
Marengo, Constantine, B.S.,	Granada, Nicaragua,	Judson Daland.
Matthews, George S., A.B. (Brown),	Temple,	University.
Miller, Edwin H.,	Camden, N. J.,	University.
Miller, Milo G., A.B. (Western Univ.),	Pittsburgh,	J. N. Dickson.
Mitchell, Andrew J., A.B. (Allegheny),	Fredonia,	M. M. Magoffin.
McFarland, Joseph,	Philadelphia,	George H. Horn.
McMillan, James H., A.B. (Washington University),	St. Louis, Mo.,	University.
Newcomer, Frank S., A.B. (Lafayette),	Frankstown, Md.,	University.
Nixon, John Howard,	Wilmington, Del.,	R. J. McKay.
O'Brien, Harry J.,	St. Paul, Minn.,	C. E. Smith & E. J. Abbott.
O'Reilly, Edward A., A.B.,	St. Josephs,	E. Mulhern.
Park, Charles C.,	Pittsburgh,	Thomas Hazzard.
Parker, George Hoffman,	Bloomsbury, N. J.,	H. Servis.
Parsons, W. Otis,	Rochester, N. Y.,	C. Green.

Pennock, Walter I.,	Oxford,	University.
Perry, Charles F.,	Norristown,	J. Wm. White.
Peters, Nathaniel C.,	Siegfried's Bridge,	C. W. Sieger.
Pierce, William Chandler,	Wilmington, Del.,	University.
Post, Edward T.,	Philadelphia,	James Tyson.
Prevost, Washington Mallet,	Philadelphia,	G. Mallet-Prevost.
Randolph, Philip J. S.,	Philadelphia,	University.
Ray, Frank W., A.B., (Union Coll.)	Columbia, S. C.,	W. L. Pearson.
Rea, William F.,	Philadelphia,	Thos. G. Morton.
Riegel, William A., A.B. (Penna. Coll.),	Catasauqua,	H. H. Reigel.
Riley, Gustavus T.,	Washington, D. C.,	G. P. Fenwick.
Ross, Thomas H.,	Coudersport,	University.
Roth, Emil,	Philadelphia,	John Strobel.
Rothrock, John L., A.B. (Penna. College),	Mifflintown,	University.
Saladé, Louis Audenried, A.B. (Franklin and Marshall),	Tamaqua,	R. N. Ramsey.
Schoch, Lester E.,	Philadelphia,	W. E. Hughes.
Schoch, Will E.,	Easton,	C. H. Groff.
Schroeder, Charles B., A.B. (Lafayette),	Lock Haven,	University.
Seibert, Albert A.,	Pottsville,	A. H. & G. H. Halberstadt.
Sharples, Caspar Wistar, A.B. (Oregon University),	Eugene City, Ore.,	A. Sharples.
Sharpless, William T.,	West Chester,	Isaac Massey.
Shick, William F.,	Easton,	University.
Shurtleff, Harry C.,	Philadelphia,	University.
Spellissy, Joseph M., A.B. (Georgetown University),	Philadelphia,	University.
Stanton, Howard,	Philadelphia,	John H. Packard.
Staveley, A. Livingston, A.B. (Princeton),	Lahaska,	W. R. Staveley.
Stevens, John C., B.S. (Dickinson),	Duncannon,	T. L. Johnston.
Steltz, P. Harry,	Allentown,	J. D. Christman.
Sumner, William G.,	Norwich, N. Y.,	S. M. Hand.
Taillacq, Ricardo,	Cienfuegos, Cuba,	Jno. Marshall.
Tam, John L.,	Georgetown, Del.,	J. T. Thompson.
Thomas, Thomas Brook,	Wilkes-Barre,	W. G. Weaver.
Thompson, Jesse B.,	Hurffville, N. J.,	University.
Thorn, Paul D.,	Kylertown,	Ai Thorn.
Troxell, Jere S., Jr.,	Siegfried's Bridge,	C. W. Sieger.
Ulrich, Robert T.,	Selin's Grove,	P. A. Boyer.
Vanneman, William S.,	Salem, N. J.,	Mayhew Johnson.
Walter, Charles, A.B. (Central High School),	Philadelphia,	James Collins.
Webster, Charles F.,	Philadelphia,	University.
Webster, Cleon L.,	Nashua, N. H.,	University.
Whaley, Benton Harris,	Whaleyville, Md.,	University.
Wheeler, Harry S.,	Philadelphia,	University.
White, Abraham E., A.B. (Lincoln University),	Clinton, Miss.,	N. F. Mossell.

Wilbur, William L., A.B. (Prince-Hightstown, N. J., ton),	Lloyd Wilbur.
Wilson, Arthur L.,	Philadelphia,
Winston, David Y.,	Auburn, Ky.,
Wolff, Bernard B.,	Philadelphia,
Wood, Oran Alphonso,	Blackwood, N. J.,
Yeager, Frank N.,	Berrysburg,
	Students of the First Year, 131.
	C. W. Dulles. University. University. Jno. D. Heritage. E. L. Yeager.

SPECIAL STUDENTS.

Adams, Francis P.,	Philadelphia,	University.
Keim, William Henry,	Philadelphia,	University.
Scott, Charles G.,	Philadelphia,	University.
Van Pelt, William J., M.D.,	Philadelphia,	J. K. T. Van Pelt.

TOTAL.

Students of the fourth year	5
Students of the third year	138
Students of the second year	105
Students of the first year	131
Special Students	4

383

The total number of new matriculates the present session, including those admitted to advanced standing, is 156.

SUMMARY.

Armenia	1	Maine	1	Ohio	11
Australia	1	Maryland	8	Oregon	1
Brazil	3	Massachusetts	2	Pennsylvania	242
California	1	Mexico	1	Pr. Edward's Island	3
Canada	1	Minnesota	1	Rhode Island	2
Connecticut	3	Mississippi	3	South Carolina	2
Cuba	3	Missouri	1	Tennessee	4
Delaware	15	New Brunswick	4	Texas	1
Dist. of Columbia	3	New Hampshire	1	Vermont	1
Florida	2	New Jersey	21	Virginia	2
Illinois	1	New York	13	Wisconsin	2
Indiana	3	Nicaragua	12		
Iowa	2	North Carolina	1	Total	383
Kentucky	1	Nova Scotia	3		

ORGANIZATION OF THE SCHOOL.

This venerable Institution, the oldest of its class in the United States, was founded in 1765, by Dr. JOHN MORGAN, who filled in it the first medical professorship created in America. Through Dr. Morgan, the pupil of HUNTER in London and of CULLEN in Edinburgh, the graduates of this school take a just pride in regarding it as the lineal descendant of the best

medical schools of Great Britain in the last century. To Dr. MORGAN was soon joined another pupil of Cullen, Dr. WM. SHIPPEN, as Professor of Anatomy and Surgery, thus forming another tie of relationship to the celebrated University of Edinburgh, whose methods of instruction were substantially adopted here. In the next year Dr. ADAM KUHN was added as Professor of Botany and Materia Medica, and in June, 1768, a "Commemencement was held" at which medical honors were bestowed, the first in point of time in America. In 1769, Dr. BENJAMIN RUSH was elected Professor of Chemistry, and Dr. THOS. BOND of Clinical Medicine.

To the Faculty thus composed of MORGAN, SHIPPEN, KUHN, RUSH and BOND, have succeeded, at various times, professors whose reputation has been national, such as: BARTON, WISTAR, CHAPMAN, PHYSICK, DEWEES, HORNER, HARE, GIBSON, JACKSON, GEORGE B. WOOD, HODGE, JAMES B. ROGERS, CARSON, the elder PEPPER, FRANCIS GURNEY SMITH and NEILL.

The number of its graduates is over ten thousand.

ADMISSION.

Candidates for admission are required: *First*, to write an *Essay* (not exceeding in length a page of foolscap), as a test of Orthography and Grammar; *second*, to pass an examination in *Elementary Physics* (Part I. of Fownes's *Chemistry*). A Candidate who has received a collegiate degree, or passed the matriculate examination of a recognized college, or who has a certificate covering the *required* subjects from a recognized normal or high school, or a duly organized county medical society that has instituted a preliminary examination,—such as that adopted by the Medical Society of the State of Pennsylvania,—may enter without examination.

Students may report to the Secretary for examination at any time after the third Monday in September. Arrangements may be made for examination at other times throughout the year, upon application to the Secretary.*

Attention is particularly called to the unusual advantages of the Course in Philosophy in the College Department of the University. Students who have pursued satisfactorily the last two years of that course will be exempted from the preliminary examination.

Students who have attended one course in a Medical School (not Homœopathic or Eclectic), are admitted to the Second Year of the University

* Examinations for admission will also be held annually during the last week in June in Boston, Mass., Rochester, N. Y., Raleigh, N. C., Columbia, Tenn., Atlanta, Ga., Mobile, Ala., Cincinnati, O., Chicago, Ill., Detroit, Mich., St. Louis, Mo., St. Paul, Minn., San Francisco, Cal. The names of the examiners will be found on page 62.

course, upon passing a satisfactory examination in *General Chemistry*, *Materia Medica* and *Pharmacy*, and the elements of *General Pathology*. Students who have attended two courses in a regular Medical School are admitted to the third year, upon passing satisfactorily an examination in *General and Medical Chemistry*, *Materia Medica* and *Pharmacy*, *Anatomy*, *Physiology* and the elements of *General Pathology*.

Graduates of regular medical schools in good standing are admitted to the *third* year without an examination. The diplomas of graduates in other schools are not endorsed for registration by the Faculty of this school except after an examination of their bearers similar in all respects to that required of its own graduates. The fee for such examination is thirty dollars.

Graduates of Colleges of Pharmacy and Dental Colleges in good standing are admitted to the *second* year upon passing the entrance examination only.

Examinations for admission to advanced standing for Session 1886-7 will be held Tuesday, September 28th.

COURSE OF STUDY.

The course of study earnestly recommended to students extends over four years, but the course is also arranged for three years, at the end of which the degree may be conferred. For the Fourth Year, almost wholly practical in character, a certificate is granted in addition to the diploma, to those passing a satisfactory examination in the studies of that year.

The FIRST YEAR is largely occupied with work in the various laboratories of Chemistry, Pharmacy, Osteology, Histology, and Physiology, and in Dissection. The first year student may also attend clinical lectures in general medicine and surgery. In the SECOND YEAR, in addition to didactic and clinical teaching, practical instruction is given in Medical Chemistry, Pathological Histology and Physical Diagnosis. Dissection is continued. Throughout the SECOND and THIRD years, the student is required to attend the general medical and surgical clinics at the University and Philadelphia Hospitals, and the clinics in special departments at the former. Special *bedside* instruction in Clinical Medicine, including Physical Diagnosis and Laryngology, in Surgery, and in Gynæcology is given in the third year, as well as opportunities for the practical study of diseases of the eye, ear, throat, and skin, and for acquiring proficiency with the various instruments employed. For this purpose, the third-year class is divided into sections, each of which receives direct personal instruction.

The course of instruction is so arranged as to permit mainly constant introduction of new material, while retaining the repetition of essential subjects aimed at by the old methods. The laboratory instruction is so

co-ordinated with the oral teaching as to illustrate the subjects of the lectures.

Advanced students are encouraged to make original researches in the laboratories of pharmacy, chemistry, physiology, pathology, and experimental therapeutics.

The result of the adoption of the prolonged and graded course on the composition of the classes and on their proficiency has been most gratifying. A proportion of students, much larger than ever before, have had a good education, either in colleges or in academies, and their department has been characterized by increased earnestness and zeal. The annual examinations have steadily advanced in grade, while those for graduation have shown a degree of merit, and the graduation Theses an amount of scientific attainment and literary culture, higher than has ever heretofore been found.

Students of the University may attend, without additional charge, the lectures and recitations in all other departments, provided that the consent of the Dean of the department has first been obtained.

OUTLINE OF THE COURSE.

	Total hours per week.
FIRST YEAR.	
Anatomy—3 lectures per week, 10 hours practical anatomy	13
Topographical anatomy—2 lectures per week	2
Histology—2½ hours laboratory instructions, 1 hour demonstration	3½
Materia Medica and Pharmacy—1 lecture per week, 2 hours laboratory	3
General Chemistry, including Chemical Physics—2 lectures per week, 4 hours laboratory	6
Physiology and Biology—3 lectures per week, 1 hour laboratory	4
General Pathology—1 lecture per week	1
Hygiene—1 lecture per week	1
General Clinics, Medical and Surgical	6
Final Examinations at the end of the Course: General Chemistry, Materia Medica and Pharmacy, and Elements of General Pathology.	

SECOND YEAR.	
Anatomy—3 lectures per week, 10 hours evening dissection	13
Topographical Anatomy—2 lectures per week	2
Medical Chemistry—1 lecture per week, 4 hours laboratory	5
Physiology—3 lectures per week, 1 hour laboratory	4
General Pathology and Morbid Anatomy—2 lectures per week, 1½ hours laboratory	3½
Physical Diagnosis—1 lecture per week, 1 hour practical instruction	2
Therapeutics—2 lectures per week	2
Theory and Practice of Medicine—3 lectures per week	3
Surgery—3 lectures per week	3
Obstetrics—2 lectures per week	2
General Clinics, Medical and Surgical	9

Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children) 5

Final examinations at the end of the Course: Anatomy, Medical Chemistry, and Physiology.

THIRD YEAR.

General Pathology and Morbid Anatomy—2 lectures per week	2
Demonstrations in Morbid Anatomy—1 hour per week	1
Therapeutics—2 lectures per week	2
Theory and Practice of Medicine—3 lectures per week	3
Surgery—3 lectures per week	3
Operative Surgery, Minor Surgery, and Bandaging—1 lecture per week, 2 hours practice	3
Obstetrics—2 lectures per week	2
Operative Obstetrics—1 hour practice for half the term	$\frac{1}{2}$
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	1
*Bedside Instruction in Practical Surgery	1
General Clinics, Medical and Surgical	9
Special Clinics (Nervous Diseases, Diseases of the Skin, Eye, Ear, Gynæcology at both University and Philadelphia Hospitals)	6
Medical Jurisprudence and Toxicology	1

Final examinations at the end of the Course: General and Special Pathological Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children.

FOURTH YEAR.

Clinical Medicine and Physical Diagnosis, including Laryngology—2 hours clinical lecture—1½ hours practical instruction	$3\frac{1}{2}$
Clinical Surgery—2 hours clinical lecture, 1 hour practical instruction	3
Operative Surgery and Venereal Diseases—1 hour practical instruction	1
Nervous Diseases and Electro-Therapeutics—1 hour clinical lecture, 1½ hours practical instruction	$2\frac{1}{2}$
Mental Diseases—1 hour lecture	1
Gynæcology—1 hour didactic lecture, 1 hour clinical lecture, 1 hour practical instruction	3
Diseases of Children—1 hour practical instruction for half the session	1
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 for half the session, 1 hour clinical lecture, 1 hour practical instruction for half the session	2
Clinical and Operative Obstetrics—1 hour practical instruction for half the session	$\frac{1}{2}$
Orthopædic Surgery—1 hour didactic lecture for half the session, 1 hour practical instruction for half the session	1
Medical Jurisprudence and Toxicology—1 hour lecture	1

To all Students who pursue a four years' course, and who pass a satisfactory examination in the studies of the fourth year, will be awarded a certificate in addition to the diploma. The degree of Doctor of Medicine

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

will also be conferred on graduates of other medical schools in good standing who take the third year of the three years' curriculum, or who attend the fourth year, and who pass a satisfactory examination in Morbid Anatomy, Therapeutics, Practice of Medicine, Surgery, and Obstetrics.

TEXT-BOOKS.

TEXT-BOOKS.

- Chemistry*: Fownes's Chemistry; Mutter's Analytical Chemistry.
Materia Medica: H. C. Wood. Mann on Prescription Writing.
Anatomy: Leidy; Gray; Schaeffer's Practical Histology.
Physiology: Kirke.
General Pathology: Rindfleisch's Elements of Pathology, translated by Mercur; Tyson's Cell Doctrine, pp. 127-152.

SECOND AND THIRD YEARS.

- Medical Chemistry*: Greene; Tyson's Practical Examination of Urine; Marshall & Smith's Chemical Analysis of Urine.
Anatomy: Leidy, Gray.
Physiology: Foster.
General Pathology and Morbid Anatomy: Rindfleisch's Elements; Coats's Manual of Pathology.
Therapeutics: H. C. Wood.
Practice of Medicine: Flint or Roberts; Bruen's Physical Diagnosis.

Surgery: Agnew; Ashhurst.

Obstetrics: Playfair's Midwifery.

- Gynecology*: Goodell's Lessons in Gynecology.
Medical Jurisprudence and Toxicology: Reese.

The cost of the necessary text-books is within \$50, distributed over the three years.

COLLATERAL READING.

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

Wormley's Micro-Chemistry of Poisons; 2d edition.

Quain; Allen; Wilson; Stricker. Carpenter.

Green, Pathology and Morbid Anatomy; Orth's Diagnosis in Pathological Anatomy; Formad's Manual of Microscopic Diagnosis, illustrated by Blackburn. Wood & Bache's Dispensatory.

Pepper's System of Practical Medicine; Stille's Therapeutics; Stille's & Maisch's Dispensatory; Duhring on Diseases of the Skin; Tyson on Bright's Disease and Diabetes; Seiler, Diseases of Throat and Nose.

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

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

Thomas on Diseases of Women; Emmet's Practice of Gynecology. Reese's Manual of Toxicology; Taylor's Medical Jurisprudence, by Reese.

ORDER OF LECTURES, DAILY.—FIRST YEAR,

<i>Hour.</i>	<i>Monday.</i>	<i>Tuesday.</i>	<i>Wednesday.</i>	<i>Thursday.</i>	<i>Friday.</i>	<i>Saturday.</i>
9 A.M.	General Chemistry.	General Chemistry.	Chemical Laboratory, two hrs.		Practical Biology. One section two hours.	Philadelphia Hospital, Medical and Surgical Clinics, 10 to 12.
10 A.M.		Chemical Laboratory, two hrs.		Topographical Anatomy.		
11 A.M.	Topographical Anatomy.		Hygiene.	General Pathology.	Materia Medica.	
12 M.	Practical Normal Histology. One section two hours. Others Osteology or Dissection.	Practical Normal Histology. One section two hours. Others Osteology or Dissection.	Practical Normal Histology. One section two hours. Others dissect or attend Clinics, U. H.	Practical Normal Histology. One section two hours. Others Osteology or Dissection.	Practical Normal Histology. One section two hours. Others Osteology or Dissection.	Practical Biology. One section two hours. Others dissect or attend Clinics, U. H.
1 P.M.						
3½ P.M.		Anatomy.	Demonstrations in Histology.	Anatomy.	Anatomy.	
4½ P.M.	Physiology.		Physiology.		Physiology.	
7½ to 10 P.M.	Pharmacy, Laboratory.		Pharmacy, Laboratory.			

U. H. University Hospital.

For the study of Histology, Practical Biology, Osteology and Syndesmology, the class is divided into sections, one of which is occupied at a time. Students not thus engaged, dissect, or attend Clinics.—See SPECIAL ROSTER.

ORDER OF LECTURES, DAILY.—SECOND YEAR.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8½ A.M.						Medical Chem- istry, Labora- tory, two hours.
9 A.M.				Medical Chemistry.	Medical Chem- istry, Labora- tory two hours.	Philadelphia Hosp., Med. and Surgical Clinics.
10 A.M.	Physical Diagnosis.	Physical Diagnosis.	Philadelphia Hospital, Med., Surg. and Gynæ- cological Clinics.	Topographical Anatomy.		
11 A.M.	Topographical Anatomy.	Morbid Anatomy.		Medical Clinic.	Morbid Anatomy.	
12 M.	Practice.	Surgery.	Practical Pathol.	Surgery.	Surgery.	
1 P.M.	Clinic, Diseases of the Ear, U. H.	Practical Pathol. Histology. One section one hour. Others attend Clinic, Skin Diseases, U. H.	Practical Pathol. Histology. One section one hour. Others attend Gynæcol- ogical and Gen- eral Surgical Clinic, U. H.	Practical Pathol. Histology. One section one hour. Others attend Clinic, Diseases of Eye, U. H.	Practical Pathol. Histology. One section one hour. Others attend Clinic, Nervous Dis- eases, U. H.	Practical Pathol. Histology. One section two hours. Others attend Gen. Med. and Surg. Clinic, U. H.
3½ P.M.	Obstetrics.	Anatomy.	Obstetrics.	Anatomy.	Anatomy.	
4½ P.M.	Physiology.	Phys. Diagnosis.	Physiology.	Therapeutics.	Physiology.	Therapeutics.
5½ P.M.		Practice.		Practice.		
7½ to 10 P.M.	Dissection.	Dissection.	Dissection.	Dissection.	Dissection.	Dissections.

U. H. University Hospital.

For the study of Pathological Histology and Physical Diagnosis, the Class is divided into sections, one of which is occupied at a time; those of the second-year students not thus engaged attend Clinics.

ORDER OF LECTURES, DAILY.—THIRD YEAR.

<i>Hour.</i>	<i>Monday.</i>	<i>Tuesday.</i>	<i>Wednesday.</i>	<i>Thursday.</i>	<i>Friday.</i>	<i>Saturday.</i>
10 A.M.	Demonstrations in Morb. Anat., 2 Secs.		Philadelphia Hospital, Medical, Surgical and Gynæcological Clinics.		Autopsies.	Philadelphia Hospital, Medical, Surgical and Gynæcological Clinics.
11 A.M.	Demonstrations in Morb. Anat., 2 Secs.*	Morbid Anatomy.		Medical Clinic.	Morbid Anatomy.	
12 M.	Practice.	Surgery.	Gynæcological 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, Nervous Diseases, U. H. Ward Classes, U. H.	Surgical Clinic, U. H.
3½ P.M.	Obstetrics.	Diseases of Women and Children.	Obstetrics.	Didactic Gynæcology, U. H.	Didactic Dermatology.	Med. Jurisprudence.
4½ P.M.	Operative Surgery and Bandaging, Lecture.	Didactic Ophthalmology, U. H.	Didactic Otolology, until Jan. 1st., U. H. Orthop. Surg., after Jan. 1st.	Therapeutics.	Practical Surgery, Two Sections, two hours.	Therapeutics.
5½ P.M.	Practical Surgery, Two Sections. Oper. Obstetrics, Sections, after Jan. 1st.	Practice.		Practice.	Operative Obstetrics, Sections, after Jan. 1st.	

U. H. University Hospital.

For WARD CLASS instruction the third-year class is divided in sections. See SPECIAL ROSTER.

*After Jan. 1st, sections not thus engaged attend, at this hour, the CLINIC ON DISEASES OF CHILDREN BY PROF. STARR.

ORDER OF LECTURES, DAILY.—FOURTH YEAR.

<i>Hour.</i>	<i>Monday.</i>	<i>Tuesday.</i>	<i>Wednesday.</i>	<i>Thursday.</i>	<i>Friday.</i>	<i>Saturday.</i>
10 A.M.		Mental Diseases.	Philadelphia Hospital, Medical, Surgical and Gynæcol. Clinics.		Autopsies.	Philada. Hospital Clinics. After Jan. 1st, Practical Instruction, Pædiatrics.*
11 A.M.	Clinical Medicine.			Medical Clinic.		
12 M.	Practical Instruction, Skin Diseases, U. H.	Practical Gynæcology. U. H.	Gynæcological Clinic, U. H.	Practical Instruction Orthopædics, until Jan. 1st, U. H. Practical Laryngology after Jan. 1st, U. H.	Clinical Surgery, U. H.	Medical Clinic, U. H.
1 P.M.	Clinic, Diseases of the Ear, U. H.	Clinic, Diseases of the Skin, U. H.	Surgical Clinic, U. H.	Clinic, Diseases of the Eye, U. H.	Clinic on Nervous Diseases, U. H.	Surgical Clinic, U. H.
2½ P.M.				Practical Ophthalmology, U.H.		
3½ P.M.		Practical Instruction Nervous Diseases, U. H.	Electro-Therapeutics, U. H., until Jan. 1st. Prac. Instruct., Otol., U. H., after Jan. 1st.	Didactic Gynæcology, U. H.	Didactic Dermatology.	Medical Jurisprudence.
4½ P.M.	Operative Obstetrics, until Jan. 1st.	Didactic Ophthalmology, U. H.	Didactic Otol., until Jan. 1st, U. H. Orthopædic Surgery, after Jan. 1st.		Venereal Diseases, until Jan. 1st. Operative Surgery, after Jan. 1st.	

U. H. University Hospital.

ROSTER OF BEDSIDE INSTRUCTION AND SPECIAL CLINICS
FOR STUDENTS OF THE THIRD YEAR,
SESSION 1885-6.

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

First Period, from Friday, Oct. 2d, to Tuesday, Nov. 17th, inclusive.

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

Second Period, from Thursday, Nov. 19th, to Thursday, Jan. 14th, inclusive.

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

Third Period, from Friday, Jan. 15th, to Tuesday, March 2d, inclusive.

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

Fourth Period, from Thursday, March 4th, to Friday, April 16th, inclusive.

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

The instruction is given at the University Hospital at 1 o'clock. Professor Osler meets the sections of the Third Class in the Front Ward, Gibson Wing; Prof. Goodell in the Lower Lecture Room; and Prof. Ashhurst in the Front Ward, first floor. The Special Clinics are held in the Upper Lecture Room.

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

1 P.M.

Monday.	Tuesday.	Thursday.	Friday.
	Prof. DUHRING		
Prof. STRAWBRIDGE.	AND	Prof. NORRIS.	Prof. WOOD.
	Dr. STELWAGON.		
Otology.	Dermatology.	Ophthalmology.	Nervous Diseases.

The entire Third Year Class will attend the General Medical, Surgical, and Gynæcological Clinics, held on Wednesday and Saturday, from 12 to 2 o'clock, in the Upper Lecture Room; also Medical Clinic on Thursday, at 11 o'clock, and the Demonstrations in Morbid Anatomy by Prof. Tyson and Dr. Formad at 10 and 11 o'clock on Monday.

SPECIAL ROSTER OF LABORATORY INSTRUCTION IN HISTOLOGY, BIOLOGY, OSTEOLOGY, AND SYNDESMOLOGY, FOR STUDENTS OF THE FIRST YEAR, SESSION 1885-6.

For instruction in these Laboratories the First Year Class is divided into four sections, A, B, C, D, which attend as follows:—

1st Period.		<i>From October 2d to November 17th, inclusive.</i>					
		Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Histology,	Sec. A	12 to 2	12 to 2	12 to 2	12 to 2	12 to 2	—
Osteology,	B	12 to 1	12 to 1	—	12 to 1	12 to 1	—
Biology,	C	—	—	—	—	9 to 11	12 to 2

2d Period.		<i>From November 19th to January 14th, inclusive.</i>					
Histology,	Sec. B	12 to 2	12 to 2	12 to 2	12 to 2	12 to 2	—
Osteology,	C	12 to 1	12 to 1	—	12 to 1	12 to 1	—
Biology,	D	—	—	—	—	9 to 11	12 to 2

3d Period.		<i>From January 15th to March 2d, inclusive.</i>					
Histology,	Sec. C	12 to 2	12 to 2	12 to 2	12 to 2	12 to 2	—
Osteology,	D	12 to 1	12 to 1	—	12 to 1	12 to 1	—
Biology,	A	—	—	—	—	9 to 11	12 to 2

4th Period.		<i>From March 4th to April 16th, inclusive.</i>					
Histology,	Sec. D	12 to 2	12 to 2	12 to 2	12 to 2	12 to 2	—
Osteology,	A	12 to 1	12 to 1	—	12 to 1	12 to 1	—
Biology,	B	—	—	—	—	9 to 11	12 to 2

All students not occupied in the Laboratory of Normal Histology or Osteology dissect from 12 to 2 daily.

GRADUATION.

At the close of the third year, a student who has passed all examinations satisfactorily, receives the degree of Doctor of Medicine on the following conditions:

- I. He must be of age and of good moral character.
- II. He must have passed a satisfactory examination in all the branches of

the curriculum; and his last course of instruction must have been at this School. (A Thesis is no longer required, but students are recommended to prepare Theses in competition for the various Prizes.)

III. After notice of having successfully passed the final examination, he must enter his name on the Register of Candidates for the Degree.

IV. He must be present at Commencement, unless excused by the Faculty.

ADDITIONAL INSTRUCTION.

In addition to the required Course and to the voluntary fourth year, Clinics, both general and special, and Lectures, both Theoretical and Practical, are continued after Commencement until the middle of June. All subjects connected with the fundamental departments of medicine, or with its several subdivisions, as determined by usage, are thoroughly taught in one or other of these courses; and it is strongly urged upon all students, especially those of the second and third years, to continue their studies during the spring and summer, and, by all means, to pursue the studies of the fourth year.

ARRANGEMENT OF SESSIONS.

The Academic Year is divided into two Sessions: the WINTER SESSION, which is preceded by an INTRODUCTORY COURSE of two weeks, and the SPRING SESSION.

The SPRING SESSION 1886 begins Monday, May 10th, and continues until the middle of June.

The INTRODUCTORY COURSE for the Sessions of 1886-7 begins Wednesday, September 15th.

The WINTER SESSION 1886-7 begins on Friday, October 1st, and ends at Commencement, on Monday, May 3d.

For Fees, Expenses, etc., see p. 140.

SCHOLARSHIPS.

A competitive examination of candidates to fill six free scholarships is held annually. (In 1886, on Friday, September 24th, at 12 o'clock, noon.) 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 on the first three books of Caesar, and a written examination in Physics, which may

embrace questions relating to the general properties of matter, Mechanics, Heat, Light, and Electricity.

Fourth. They will be required to pay an examination fee of \$5, which is not returned, but is transferred to the matriculation fee in the case of the successful candidates.

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.

FACILITIES FOR INSTRUCTION.

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

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

The WISTAR AND HORNER MUSEUM, founded nearly one hundred years ago, has been annually augmented, and is unequalled in the United States for the number and variety of its specimens illustrating the normal and morbid anatomy of every part of the human body. It also contains a large number of preparations in comparative anatomy, and an extensive collection of models, used in illustrating the lectures. The Museum is open on Wednesdays and Saturdays, from 9 A.M. to 12 M., throughout the session, to matriculated students.

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

The late distinguished Professor of Obstetrics, Dr. Hugh L. Hodge, enriched the facilities of Instruction in that special branch by the gift of his valuable Cabinet.

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

THE HISTOLOGICAL LABORATORY is under the supervision of the Professor of Anatomy, and the direct guidance of the Demonstrators of Histology. The laboratory is furnished with excellent microscopes, and all apparatus necessary to enable the first course student to become practically familiar

with the most approved methods of microscopical technology, as well as with the Normal Histology of all the tissues and organs. During the spring months it is open for those who desire a course embracing those refinements and minutiae, which of necessity are omitted in the regular winter's work. Especial facilities are afforded for original research; for this purpose the laboratory is open throughout the year, except during July and August.

THE OSTEO-SYNDESMOLOGICAL LABORATORY is under the supervision of the Professor and Demonstrator of Anatomy. The first year student is required, in this Laboratory, to make himself familiar with the skeleton and the articulations, as a part of his instruction in practical anatomy.

THE PHYSIOLOGICAL LABORATORY is under the personal supervision of the Professor of Physiology and the Demonstrator. It is furnished with every form of apparatus likely to be used by the practical physiologist. An elementary practical course in physiology, designed especially for first year students who are deficient in preliminary training in Biology, is continued throughout the Session; while every facility is afforded advanced students and graduates pursuing special studies in that subject. The Laboratory is open throughout the year, except during July and August.

THE PATHOLOGICAL LABORATORY, under the direction of the Professor of General Pathology and Morbid Anatomy, and the Demonstrator of Pathological Histology, was opened in 1874, and attracts, from remote sections of the country, a large number of physicians and students who desire special preparation in Microscopic Technology, Normal and Pathological Histology, and Experimental Pathology. It is furnished with microscopes, and all appliances requisite for practical study and for original researches.

This Laboratory is also supplied with a complete outfit for the investigation of Bacteria in their relation to infectious diseases, and for the study of the lower fungi.

Each student of the second year is provided with a separate table and microscope, with material and reagents, and receives personal instruction in Pathological Histology, in Mycology, and in the microscopy of urine.

Each student of the third year receives advanced practical instruction in Morbid Anatomy, and in the making of autopsies. Weekly demonstrations of the gross appearance of specimens, embracing all known morbid products, mostly in fresh condition, along with the microscopic sections, are features of this course.

The practical work, during the regular winter session, is obligatory on students of both the second and the third year.

Special instruction and guidance in original research are given by the demonstrators to advanced students.

The laboratory is open throughout the year, except during July and August.

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

THE LABORATORY OF EXPERIMENTAL THERAPEUTICS, under the direction of the Professor of *Materia Medica* and Therapeutics, is furnished with all apparatus and instruments necessary for the study of the physiological action of medicines.

THE DEPARTMENT OF PRACTICAL OBSTETRICS is under the care of the Professor of Obstetrics, and the Demonstrator. It includes operations on the cadaver and with the manikin, while lying-in cases are given to advanced students.

THE STILLÉ MEDICAL LIBRARY, founded by Professor Alfred Stillé, 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.

The first floor is arranged for the Operating Room or Infirmary of the Dental Department, and has the necessary waiting-rooms, etc., carefully adapted to the requirements of this department. The entrance is on Spruce Street.

The second and third floors are fitted up as chemical laboratories; on the second is the laboratory of General Chemistry, and on the third that of Medical Chemistry. In addition to the main room, on each story, there are four balance rooms, provided with instruments for attaining accuracy in Chemical research.

The fourth floor is occupied by the Dissecting Room.

CHEMICAL LABORATORIES.—The Working Laboratories for Practical Chemistry are under the supervision of the Professor of Chemistry and the Demonstrator, with assistants. Students of the First Year devote four hours each week to the study of General Chemistry. The course includes chemical manipulations and the detailed study of the chemical reactions of the principal metals, acids, and their combinations, with the general principles of Qualitative Analysis, especially as they relate to the detection and separation of metals and compounds of importance 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.

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 is one hundred and forty feet in length, by forty feet in width. It is lighted by windows on all sides, and by skylights. The most perfect ventilation is thus secured. The tables have stone tops, which cannot absorb moisture 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 Professor and Demonstrators of Surgery. Instruments, splints, and bandages are supplied without expense to the student.

THE UNIVERSITY HOSPITAL.

The University Hospital, constructed according to the best established principles of hospital architecture, is provided with all the appliances pertaining to such institutions of the best class. It is adjacent to the new Medical Hall, and forms an integral portion of the Medical Department. In its various departments, during 1884, there were treated 8776 cases, an increase of more than 1000 over 1883, and representing almost all of the known medical, surgical, and gynecological affections. Owing to its situation within a very short distance of numerous railroads, the Hospital is pre-eminently the refuge of cases of severe injury, and of acute surgery. Attendance on the Clinical Instruction given in its amphitheatres and its wards is a part of the daily duty of the students, and ample opportunities are afforded to the more advanced among them to gain a personal and practical acquaintance with Clinical Medicine, Surgery, Gynecology, and the Specialties. These subjects are taught by the several Clinical Professors.

The new wing in the University Hospital, for chronic diseases, especially of the heart and of the lungs, is completed and thereby unusually good opportunities are afforded for the study of these important affections. This wing has been erected by the liberality of Mr. Henry C. Gibson; and its

hundred beds are rapidly being endowed by friends of the University. The Peter Hahn Ward, endowed by the late Dr. George B. Wood, has been opened for the admission of patients.

The resident physicians of the University Hospital are every year selected by competitive examination from among the graduating class of the University. The next examination will be held Tuesday, April 27th, 1886, at 12 M.

OTHER HOSPITALS AND HOSPITAL CLINICS.

In addition to the official clinical lectures and bedside instruction delivered at the University Hospital, medical students have the opportunity of attending clinical lectures in other Hospitals and in private classes formed for the special study of disease.

Close to the grounds of the University is the PHILADELPHIA HOSPITAL with its thousand beds. Here 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 and Children's Diseases is given, too, at the CHILDREN'S HOSPITAL. To these institutions students are admitted without charge, except at the Pennsylvania Hospital, where a small fee is now required.

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

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

From the preceding summary it is evident that a prolonged residence in Philadelphia 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.

STILLE 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, one of One Hundred Dollars, one of Fifty Dollars, will be awarded to the members of the Graduating Class of 1885-86 for the best Essays upon Medical subjects, provided such Essays are of sufficient merit.

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

A PRIZE of THIRTY DOLLARS is also awarded by the Demonstrator to the member of the Graduating Class who shall present the best record of the anomalies found in the anatomical rooms.

A PRIZE of FIFTY DOLLARS is offered by Dr. Henry Beates, Jr., a graduate of the School, to the candidate receiving the highest average at his final examination.

MORBID ANATOMY PRIZE.—A prize of a Zentmayer's Histological Microscope is annually 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.

The address of the Secretary is Medical Department of the University of Pennsylvania, Philadelphia, Penna. His office is in MEDICAL HALL, where all business is transacted.

AUXILIARY DEPARTMENT OF MEDICINE.

FACULTY.

WILLIAM PEPPER, M.D., LL.D., Provost, and *ex-officio* President.
JOHN J. REESE, 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*.

J. T. ROTHROCK, *Dean*.

MATRICULATES.

Baylis, John N.,
Benton, John W.,
Bowen, Cuthbert Fitzgerald, B.A.,
Bricker, Wm. H.,
Crawford, Jas. R.,
Diverty, H. B.,
Fitzpatrick, Charles F.,
Gale, John P.,
Gill W. M.,
Hatch, John L.,
Humphrey, G. E.,
Kirby, Ellwood E.,
Landis, Eli B.,
Miller, Milo G.,
Morton, Samuel W.,
Park, Charles C.,
Pownall, Elmer E.,
Reeder, J. V.,
Rodgers, Robert, Jr.,
Stahl, B. Franklin,
Turnbull, Thomas, Jr.,
Ward, E. Tillson,
Weller, Elmer K.,

Total, 23.

Bridgeton, N. J.
Ogdensburg, N. Y.
Philadelphia, Pa.
Philadelphia, Pa.
Brownsville, Pa.
South Dennis, N. J.
Chattanooga, Tenn.
Memphis, Mo.
Allegheny, Pa.
Rochester, N. Y.
Union City, Pa.
Philadelphia, Pa.
Lancaster, Pa.
Pittsburgh, Pa.
Linwood, Pa.
Pittsburgh, Pa.
Bridge Valley, Pa.
Muncy, Pa.
Philadelphia, Pa.
Philadelphia, Pa.
Syracuse, N. Y.
Philadelphia, Pa.
Trexlerstown, Pa.

The Auxiliary Faculty of Medicine supplements the customary winter course of medical instruction, by lectures on collateral branches of Science essential to the thorough education of the physician. The course is essentially post-graduate. There can be no matriculation until the student has entered upon his third year of medical study. His second year in this department should be taken in connection with the fourth year of medical instruction for which the University now provides.

The session for 1886-87 will begin on Friday, October 1st, and continue until the early part of May.

The matriculation book will be closed after November 1st, except to such students as show the Dean good reasons for longer indulgence.

FEES.

The lectures are free to the medical students, and medical graduates, of this University. Other matriculates pay fifteen dollars for each professor's course, or thirty-five dollars for all the courses. The graduation fee is ten dollars.

DEGREES.

This Faculty no longer recommends students for the degree of Doctor of Philosophy (Ph.D.); but a graduate in Medicine of this University, or of other Medical Schools on its *ad eundem* list, who has attended two full courses of instruction in this Auxiliary Department, has presented an *original thesis* on one of the subjects taught, and has passed a satisfactory examination, will receive the degree of Bachelor of Science (B.S.), on complying with the following conditions:

(1) When applying for examination the candidate must exhibit his medical diploma to the Dean, and show that he has paid all University dues.

(2) The thesis must be presented to the Dean, and the graduation fee be paid by the 15th day of May.

Candidates must be present at Commencement unless excused by the Faculty.

SPECIAL STUDENTS.

The lectures and laboratories of this Department are open, also, to those not engaged in the Study of Medicine. Admission may be obtained from the Dean, either to the whole course of Lectures, or to Lectures on a single branch. These students receive no degrees, though the Faculty may give certificates of attendance.

PRIZES.

(1) The GEORGE B. WOOD PRIZE, founded by the Alumni Association of the Auxiliary Department of Medicine, is bestowed annually upon the

candidate who passes the best examination, and presents the best original thesis on an experimental subject, satisfactory to the Faculty.

(2) Messrs. R. & J. BECK, opticians, through their manager, W. H. Walmsley, offer 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 accompanied by prepared objects or drawings.

MUSEUM.

The Museum of the Auxiliary Department of Medicine contains three thousand mineral 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.

COURSE OF STUDY.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.—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 compensations.

Life Insurance in its medico-legal relations.

Medical Malpractice.

Poisoning, with special reference to *testing*; modes of procedure in order to determine the presence of poisons in cases of homicide and suicide.

MINERALOGY.—First Year: Instruction by Lectures and Text-book study, giving leading facts and principles as a branch of general education, and also preparing for practical application to Geology. This includes crystallography, physical and chemical properties of minerals, classification and description of all the leading species, with a complete collection to illustrate these teachings. In the Laboratory the student learns blowpipe analysis to determine minerals. Use of the spectroscope is taught. The examination is both written and oral, with practical determinations.

GEOLOGY.—Second Year: Lectures and practical work. This includes lithological classification, stratification or bedding, fossiliferous and unfossiliferous rocks, origin of rocks, denuding agents, dissolved matter extracted by the agency of animals and plants, derivative rocks and their relations to the history of the globe, present positions of rocks, present interior and exterior conditions of the earth, causes of upheaval and contortion, origin of heat required for volcanic energy and metamorphism, changes of climate, mineral springs, geographical distribution of disease realms, soils in relation to malaria, drainage basins and lines, permeability of rocks as related to discharge of rivers, character of river water as depending upon chemical composition of rocks, and outlines of historical geology. The practical work in the laboratory includes plotting from field notes, location of outcrops, construction of sections, reports on districts visited by students, description of strata, and determination of rocks and fossils.

BOTANY.—First Year: Instruction is by Lectures upon structural and physiological botany; and also as time permits, upon properties of plants. Second Year: Instruction by laboratory exercises in vegetable histology and in analytical botany. Such students as are far enough advanced, can also receive instruction in methods of study and in life-histories of the lower forms of plant life.

There is an examination at the end of each year.

Under proper restriction a large herbarium is available to advanced students, for purpose of critical comparison of plants.

HYGIENE.—Sanitary science, especially in the direction of Preventive Medicine, has advanced so rapidly during the past few years, that in this brief course only the more important subjects can be treated of in detail. Particular attention is directed to the practical application of sanitary knowledge, in accordance with the standard of efficient requirement in this branch, justly demanded by the Illinois and other State Boards of Health.

1. Nature, causes, mode of propagation, and prophylaxis of preventable diseases—heredity and other modifying influences which affect their development—avoidance or control of maladies by quarantine, disinfection, isolation, etc.
2. Special prophylactic measures and hygienic management of cholera, typhoid fever, small-pox, glanders, trichiniasis and the disturbances of health produced by parasites.
3. Analysis of air; sanitary meteorology; heating and ventilation; examination of drinking water; drainage and sewerage.
4. Food and drink as conditioning *all* physical and mental manifestations of vitality; impurities, deteriorations and adulterations of food,—their effects upon the human organism,—means of detecting their existence, and obviating their injurious action.
5. Principles of hospital construction; military, naval, school, industrial and personal hygiene.

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

The principal text-books used are:—

- Taylor's *Medical Jurisprudence* (American edition by Reese).
Reese's *Manual of Toxicology*.
Reese's *Medical Jurisprudence and Toxicology*.
Dana's *System of Mineralogy*.
Elderhorst's *Manual of Qualitative Blowpipe Analysis*.
Dana's *Manual of Geology*.
Ganot's *Éléments de Physique*, translated by Atkinson.
Gray's *Text-Book of Botany*, Vols. 1 and 2.
Gray's *Manual of Botany*.
Parkes' *Manual of Hygiene*.

Works of reference:—

- Wharton and Stillé's *Medical Jurisprudence*.
Taylor's *Medical Jurisprudence*.
Tidy's *Legal Medicine*.
Sach's *Text-Book of Botany*.
Le Maout and Decaisne's *General System of Botany, Descriptive and Analytical*.
Cooke and Berkely on *Fungi*.
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 Zoology*.
Gegenbaur's *Elements of Comparative Anatomy*.
Balfour's *Comparative Embryology*.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

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ON LIBRARY AND MUSEUM: EDWARD HARTSHORNE, M.D.*

* Deceased, 1885.

The *Medical Staff* and *Officers* of the Hospital are given on page 63.

The UNIVERSITY HOSPITAL is under the immediate direction of a Board of Managers, constituted as above. It is situated on a lot of ground between 34th and 36th Streets, and Spruce and Pine Streets, given by the City of Philadelphia to the University. The main building and one wing were opened for the reception of patients and for purposes of clinical instruction, in 1874. In 1882, a new wing was added through the liberality of Mr. Henry C. Gibson for patients suffering from Chronic Diseases.

The MAIN BUILDING, besides the offices and the rooms of the officers, has a large clinical Amphitheatre, which will seat six hundred students, and a smaller one for one hundred and fifty. It also has ten rooms for private patients. The wing adjoining has five wards, with a capacity of one hundred and ten patients, and four private rooms. The wing for Chronic Diseases has room for sixty-two patients in its six wards. There is therefore full accommodation for one hundred and eighty-six patients. In the basement are surgical and medical dispensaries, and nine special dispensaries for outdoor patients. In connection with the Orthopædic Dispensary is a workshop, in which braces and other appliances are made.

The hallways are well-lighted and spacious; and can be used as wards, should there be any sudden demand which the capacity of the regular wards could not meet.

The Hospital is also well adapted to purposes of teaching; a large proportion of the instruction given to the students in the Medical School is given here, as will be seen by reference to the rosters.

In 1884, the fourteen hundred patients treated in the Hospital, and the seven thousand three hundred out-patients in the Dispensaries, furnished ample material for Clinical Instruction.

All cases of accident, occurring in the State of Pennsylvania, which are brought to the Hospital within twenty-four hours after their occurrence, are admitted at any hour of the day or night. An ambulance will be sent for them, if notice is given by telephone or messenger.

Charity patients are admitted by the members of the Medical Staff on a written order to the Superintendent; provided that a bed be vacant in the Department to which the member of the Medical Staff is attached.

Paying patients are received at the Hospital on application to the Superintendent, subject to the approval of the proper attending medical officer. The charge in the wards is \$7.00 a week; in the private rooms, of which there are fourteen, the prices range from \$12.00 to \$25.00 a week. The friends of the patients can be accommodated in the Hospital, under certain circumstances, but it is better for them to board in the neighborhood, where rates run from \$4.00 a week upwards.

No patient with acute venereal disease, or mania-à-potu, is admitted as a free patient, but is charged such rates for board as may be agreed upon. There are special departments for mania-à-potu patients.

Visitors are admitted to see patients in the private rooms at all times.

Visitors are admitted to the wards on week-days between 2 and 4 P.M. Under no circumstances are they admitted on Sunday, except in the case of near relatives of patients whose condition is very critical.

There are elected annually from the graduating class of the Medical School three Resident Physicians, who come on duty for one year at intervals of four months.

There were 1409 cases treated in the hospital, and 7367 in the dispensaries during the year 1884. Of the hospital cases there were:

Left over from 1883,	76	
New entries,	1333	
		1409
Pay patients,	289	
Free "	582	
Recent accidents,	538	
		1409

CASES TREATED IN DISPENSARIES.

	Cases.	Visits.
Surgical,	1143	3605
Medical,	1600	5239
Eye,	917	
Nervous,	382	1372
Throat and Nose,	831	3608
Gynæcological,	620	1840
Skin,	445	1880
Venereal,	319	1467
Children's,	525	
Orthopædic,	201	1160
Ear,	384	
	7367	

Prescriptions put up for dispensaries, 10,186.

An Annual Report of the Hospital is published, giving minute statistics of the year. Copies can be had on application to

R. T. CADBURY,
Superintendent.

DEPARTMENT OF DENTISTRY.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST and *ex-officio* President.
CHARLES J. ESSIG, M.D., D.D.S., Professor of *Mechanical Dentistry* and
Metallurgy.
EDWIN T. DARBY, M.D., D.D.S., Professor of *Operative Dentistry* and
Dental Histology.
JAMES TRUMAN, D.D.S., Professor of *Dental Pathology, Therapeutics*
and *Materia Medica*.—SECRETARY.
JOSEPH LEIDY, M.D., LL.D., Professor of *Anatomy*.
———, Professor of *Physiology*.
THEODORE G. WORMLEY, M.D., LL.D., Professor of *Chemistry*.

- ROBERT HUEY, D.D.S., Lecturer on *Operative Dentistry*.
LOUIS JACK, D.D.S., Lecturer on *Operative Dentistry*.

CLINICAL INSTRUCTORS.

- | | |
|-----------------------|-----------------------|
| DR. C. S. BECK, | DR. E. H. NEALL, |
| DR. GEO. W. KLUMP, | DR. H. C. REGISTER, |
| DR. W. G. A. BONWILL, | DR. J. A. WARDELL, |
| DR. W. R. MILLARD, | DR. J. A. WOODWARD, |
| DR. R. R. UNDERWOOD, | DR. H. C. LONGNECKER. |

DEMONSTRATORS.

- WM. DIEHL, D.D.S., Demonstrator of *Operative Dentistry*.
WM. LEWIS CAVE, D.D.S., Demonstrator of *Mechanical Dentistry*.
J. JUDSON EDWARDS, D.D.S., Assistant Demonstrator of *Mechanical*
Dentistry.
JOSEPH W. NOBLE, D.D.S., Assistant Demonstrator of *Operative Den-*
tistry.
LUTHER H. GRAVES, D.D.S., Assistant Demonstrator of *Operative Den-*
tistry.
GEO. G. MILLIKEN, D.D.S., Assistant Demonstrator of *Operative Dentis-*
try.
JOHN MARSHALL, M.D., NAT.Sc.D., Demonstrator of *Practical Chem-*
istry.
JOHN B. DEEVER, M.D., Demonstrator of *Anatomy*.

* This Course is given by Dr. E. T. Reichert. See page 60.

MATRICULATES.

SECOND YEAR.

Abarca, Filadelfo,	Rivas, Nicaragua,	University.
Adams, James E.,	Paris, Illinois,	Ball & Whiteside.
Aguilar, Arturo,	Leon, Nicaragua,	University.
Bennefeld, Albert F.,	Berlin, Germany,	Professors Miller & Paetsch.
Borden, Walter A.,	Allentown, N. J.,	University.
Bordner, Charles M.,	Berrysburg,	A. W. Hafer.
Bradley, Wilmot V.,	New Haven, Conn.,	Elias Strong.
Calves, Antonio D.,	Havana, Cuba,	University.
Campbell, John,	Philadelphia,	Goddard & Fox.
Chambers, William M.,	Philadelphia,	Wm. Chambers.
Cookingham, George T.,	Lee, Mass.,	S. K. Saunders.
Danel, William W.,	Freeport, Ills.,	Kingsley, Allen & Sunderland.
Davis, Charles H.,	New Ipswich, N.H.,	H. W. Watkins.
Dennison, James S.,	Geneva, N. Y.,	C. A. Slocum.
Dumas, Victor,	Santiago, Cuba,	University.
Ensign, Charles L.,	Norwich, N. Y.,	M. O. Randall.
Fuller, Dwight B., Jr.,	Philadelphia,	G. G. Milliken.
Griffin, Frank R.,	Bellefontaine, Ohio,	A. E. Griffin.
Hammer, William J.,	Greensburg,	University.
Hammond, Julian T., Jr.,	Frankford,	University.
Hawke, Wm. Wetherill,	Hopewell, N. J.,	P. J. Wilson.
Hills, J. Bartlett,	Washington, D. C.,	Thos. O. Hills.
Howland, Frank H.,	Worcester, Mass.,	A. A. Howland.
Huber, William S.,	Lebanon,	W. A. Huber.
Hurlburt, H. Duane,	St. Albans, Vt.,	University.
Lamadriz, Estanislao,	Matanzas, Cuba,	University.
Lamoutte, Luis Alfredo,	Ponce, Porto Rico,	University.
Long, W. Laurence,	Honeybrook,	H. C. Longnecker.
McIntyre, Alexander A.,	Summerside, P.E.I.,	T. H. Heckman.
Maercklein, Bernhard G.,	Milwaukee, Wis.,	University.
Maercklein, Reinhold E.,	Milwaukee, Wis.,	B. G. Maercklein.
Mergelkamp, Guillermo,	Trujillo, Peru,	University.
Miller, Louis J.,	Huntingdon,	University.
Nittinger, Alfred,	Philadelphia,	S. D. Strohm.
Paranhos, José,	Porto Alegre, Brazil,	Primo & Moura.
Pereira, Francisco,	Pelotas, Brazil,	University.
Pitts, John R.,	Philadelphia,	University.
Quick, E. Payson,	Philadelphia,	Jacob Quick.
Raupp, Octavio B.,	Porto Alegre, Brazil,	University.
Rees, Chas. Hanson,	Winchester, Ky.,	B. G. Rees.
Richter, Charles H.,	Milwaukee, Wis.,	R. G. Richter.
Robson, Thomas C.,	Philadelphia,	Thos. Robson.
Schwarzschild, Ferdinand,	San Francisco, Cal.,	Univ. of Michigan.
Seelye, Henry G.,	Middlebury, Conn.,	F. E. Howard.
Shannon, George H.,	Watertown, N. Y.,	J. D. Huntingdon.
Smith, Franklin A., Jr.,	Philadelphia,	University.
Sumner, Frederick I.,	Norwich, N. Y.,	C. G. Sumner.
Upp, Charles W.,	Freeport, Ills.,	Kingsley, Allen & Sunderland.

Webb, Albert T.,
Wible, John H.,
Wiggins, Leslie M.,

Freeport, Ills., W. H. Taggart.
Greensburg, Z. L. Waugaman.
Central Norton, N. B., University.
Students of the Second Year, 51.

FIRST YEAR.

Amend, Frederick W.,
Arnold, William F.,
Bentzen, Michael H.,
Bowers, George A.,
Codman, Charles A. E.,
Darrell, Oliver D.,
Deming, Fay H.,
Despecher, Felix J.,
Doherty, Robert P.,
Dunn, Thomas J.,
Duthiers, Georges L.,

Philadelphia, University.
Rochester, N. Y., University.
Bergen, Norway, University.
Nashua, N. H., Geo. Bowers.
Philadelphia, University.
Washington, D. C., H. B. Noble, Jr.
Sheldon, Vt., J. M. Comegys.
Orsay, France, University.
Kingston, N. B., University.
Philadelphia, University.
Port-au-Prince,

Elliott, Walter V.,
Fahnestock, Charles C.,
Ferguson, Frank L.,
Fernandez, y Lombard, Emeterio,
Garesche, Arthur F.,
Gibbons, J. Murray,
Hall, Carroll,
Herbein, Isaac W.,
Hill, William W.,
Howe, John B.,
Hurlock, John,
Johnson, W. Howard,
Jones, William L., Jr.,
Keim, Milton N.,
Meisburger, Louis C. J.,
Milliken, James A.,
O'Malley, John F.,
Outcault, Charles W.,
Pancoast, Samuel A.,
Paris, Louis J.,
Paxson, Alfred,
Payne, Ralph G.,
Pérez, Eduardo A.,
Powel, Milton,
Randall, John W.,
Reap, Joseph C.,
Reh fuss, William F.,
Seip, Howard S.,
Swing, R. Hamill D.,
Tees, Ambler, Jr.,
Uhler, Orandus H.,
Van Deursen, George L.,
Wall, Richard J.,
White, Joseph W.,
Zayas, Fernando Arturo de,

Havti, University.
Mansfield, University.
West Chester, G. G. Cardwell.
Lena, Ills., University.
Jovellanos, Cuba, Franc. Cataneo.
Cardenas, Cuba, Geo. H. Chance.
Brighton, England, S. C. Gibbons.
Philadelphia, University.
Sinking Spring, H. J. Herbein.
Washington, Ga., J. B. Ficklen.
Ithaca, N. Y., F. S. Howe.
Chestertown, Md., J. Jones.
Milton, U. G. Beck.
Philadelphia, University.
Philadelphia, Milton Keim.
Buffalo, N. Y., University.
Philadelphia, G. G. Milliken.
Wilkes-Barre, J. McDougall.
Lancaster, Ohio, M. Palmiter.
Ashtabula, Ohio, Edw. Kelley.
Philadelphia, University.
West Chester, G. G. Cardwell.
Cattaraugus, N. Y., C. J. Ellis.
Guayaquil, Ecuador, University.
Philadelphia, University.
Norwich, N. Y., A. E. Bradley.
Pittston, J. McDougall.
Philadelphia, Thos. Robson.
Allentown, University.
Coatesville, W. H. Shannon,
Philadelphia, Ambler Tees.
Easton, S. P. Uhler.
Paris, Ills., University.
Hummelstown, J. B. Crist.
Philadelphia, University.
Matanzas, Cuba, University.

Students of the First Year, 46.

DEPARTMENT OF DENTISTRY.

Students of the Second Year	51
Students of the First Year	46
Total	97

SUMMARY.

Brazil	3	Hayti	1	Norway	1
California	1	Illinois	5	Ohio	3
Connecticut	2	Kentucky	1	Pennsylvania	38
Cuba	7	Maryland	1	Peru	1
District of Columbia	2	Massachusetts	2	Porto Rico	1
Ecuador	1	New Brunswick	2	Pr. Edward's Island	1
England	1	New Hampshire	2	Vermont	2
France	1	New Jersey	2	Wisconsin	3
Georgia	1	New York	9	Total	97
Germany	1	Nicaragua	2		

COURSE OF STUDY.

The Course extends over two years, and in each year there are two Sessions, the Winter and the Spring. By this arrangement, students are spared the necessity of securing a preceptor during their stay in the city; the Faculty deem attendance during the spring and summer months equivalent to private instruction. *Such attendance, however, is not to be considered in any way a substitute for the Winter Session.*

During the Winter Session the following is the arrangement of studies:

FIRST YEAR.

Hour.	Monday.	Tuesday.	Wednesday	Thursday.	Friday.	Saturday.
9 A.M.	General Chemistry.	General Chemistry.				
10 A.M.	Mechanical Clinic.			Mechanical Clinic.	Mechanical Clinic.	
11 A.M.		Chemical Laboratory.	Chemical Laboratory.			
12 M.						
1 P.M.		Operative Clinic.		Operative Clinic.	Operative Clinic.	
2½ P.M.	Operative Clinic.		Operative Clinic.			Clinic.
3½ P.M.		Anatomy.		Anatomy.	Anatomy.	
4½ P.M.	Physiology.		Physiology.		Physiology.	
5½ P.M.	Mechanical Dentistry.	Operative Dentistry.	Metallurgy.	Operative Dentistry.	Dental Pathology, Therapeutics and Materia Medica.	

The curriculum of the first year is identical for Medical and Dental students as far as Anatomy, Chemistry, and Physiology are concerned.

SECOND YEAR.

<i>Hour.</i>	<i>Monday.</i>	<i>Tuesday.</i>	<i>Wednesday.</i>	<i>Thursday.</i>	<i>Friday.</i>	<i>Saturday.</i>
9 A. M.	Laboratory of Mechanical Dentistry, or Operative Clinic.	Laboratory of Mechanical Dentistry, or Operative Clinic.	Laboratory of Mechanical Dentistry, or Operative Clinic.	Laboratory of Mechanical Dentistry, or Operative Clinic.	Laboratory of Mechanical Dentistry, or Operative Clinic.	Laboratory of Mechanical Dentistry, or Operative Clinic.
10 A. M.						
11 A. M.						
12 M.			Univ. Hosp. Clinics.			
1 P. M.		Operative Clinic.	Operative Clinic.	Operative Clinic.	Operative Clinic.	
2½ P. M.	Operative Clinic.					Clinic.
3½ P. M.		Anatomy.		Anatomy.	Anatomy.	
4½ P. M.	Physiology.		Physiology.		Physiology.	
5½ P. M.	Mechanical Dentistry.	Operative Dentistry.	Metallurgy.	Operative Dentistry.	Dental Pathology, Therapeutics and Materia Medica	

In order to facilitate work in the practical departments, and to give full employment to the student, the morning hours of the first year are devoted equally to dental and chemical laboratory work.

During the second year the student has the entire forenoon of each day for practical dental work. Ample opportunity is afforded for practice in operative and mechanical dentistry.

COURSE OF INSTRUCTION.

The lectures on OPERATIVE DENTISTRY AND DENTAL HISTOLOGY embrace the comparative anatomy of the teeth, the functions and microscopical peculiarities of the dental organs, the development of teeth, their component tissues, a full description of the materials and instruments used in operative dentistry, a thorough elucidation of all dental operations, such as filling, extracting, regulating, the pathological relations of the teeth to the other parts of the system, and a minute description of all special diseases related to dental surgery, or of interest to the dentist. The methods taught are demonstrated in clinics.

The instruction in MECHANICAL DENTISTRY AND DENTAL METALLURGY embraces the proper fitting up of a dental laboratory; the use of tools; the melting, refining, alloying and working of metals and alloys used by the dentist; the chemical and physical properties of materials pertaining to ceramic dentistry, their preparation, and the most approved formulas 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; as well as 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, and are amply illustrated by specimens, models, diagrams, and practical application in the laboratory, under the supervision of accomplished mechanical dentists. Special attention will be directed to the higher branches of plate work, the continuous gum process, and carving teeth.

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.

The lectures in CHEMISTRY 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 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 of 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 laboratory includes exercises in chemical manipulation, the study of the chemical properties of the principal metals, and the reactions of acids and their combinations, and the general principles of qualitative analysis, especially as they relate to the detection and separation of the metals and compounds which are of interest to practitioners in all branches of medicine. Each student is provided with a separate table and apparatus, and is required to perform all the usual chemical manipulations under the direction of demonstrators, as well as to exhibit by formulas, on paper, all reactions involved in his tests.

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

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

The lectures on DENTAL PATHOLOGY include such portions of general pathology as have a bearing upon the special subjects taught. Dentition, and its possible pathological results, receives careful attention, followed by a detailed consideration of all the diseases to which the teeth and surrounding parts are liable, the character—normal and abnormal—of the oral se-

cretions, and the direct and remote relations which the pathological conditions of the mouth sustain to other portions of the system.

The treatment required under each head is explained, and the recognized processes by which to secure a return to normal conditions, are minutely detailed.

MATERIA MEDICA will be taught with special reference to the character and value of those remedies that have any bearing upon dental therapeutics.

CLINICAL INSTRUCTION.

Four hours daily (except Saturday) are spent in actual practice under the supervision of the Demonstrators. 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 operating room, wires are arranged to a number of the chairs for the use of electric pluggers.

INFIRMARY AND LABORATORY.

The Infirmary and Laboratory are open to the students for practice, under the supervision of competent demonstrators. During the Winter Session, a Clinical Lecture is given and operations performed by one of the Professors on Saturday.

THE STILLÉ MEDICAL LIBRARY.

This Library, founded by Professor Alfred Stillé, for the purpose of promoting scientific research and literary culture, contains upwards of four thousand volumes. During the Winter and Spring Sessions it is open to students and graduates of the Dental Department under appropriate regulations.

MUSEUM AND CABINETS.

The WISTAR AND HORNER MUSEUM, founded nearly one hundred years ago, and annually augmented, is unequalled in the United States for the number and variety of its specimens of the normal and the morbid anatomy of the human body. It also contains a large number of preparations in Comparative Anatomy, a rich collection relating to Dentistry, such as the different stages of dentition, abnormal conditions of the teeth, mandibles of the lower animals, etc., and an extensive collection of models, which are used in illustrating the course of lectures. It is open every Wednesday and Saturday from 9 A.M. to 12 M., throughout the sessions. The matriculation fee in this Department confers admission to the Museum.

SESSIONS.

The *Spring Session*, 1886, begins on Monday, May 10th, and ends the 15th of June. The work of this session is entirely practical; no lectures are delivered.

The *Introductory Session* begins on Thursday, September 16th, and is free to those who enter for the winter session.

The *Winter Session*, 1886-87, begins on Friday, October 1st, 1886, and ends on May 1st, 1887.

EXAMINATIONS.

At the close of the first year, examinations in Chemistry and *Materia Medica* are held, which if the student fail to pass, a second examination is afforded him at the beginning of the next winter session.

The final examination is in Anatomy, Physiology, Operative Dentistry, Mechanical Dentistry and Metallurgy, and Dental Pathology and Therapeutics.

Students who have attended one full term in another dental school recognized by the Faculty, will be admitted to the graduating class without examination, upon presentation of the required certificate.

Students holding a medical diploma will be admitted to the Senior Class without examination, but will be required to spend a year in the study of practical Dentistry in the Operative and Mechanical Departments, including the regular winter's course of lectures.

Students who have attended but one course in a medical college will be required to take two winter courses in this Department.

An examination is required for entrance to the Junior year. The requirements of this examination will be a good English education.

Students who have certificates properly attested from colleges, or schools of reputable character, will be accepted without examination; all others must pass an examination in the elements of a good English education.

DEGREES.

At the close of the second year, after passing satisfactorily all examinations, the student will receive the degree of Doctor of Dental Surgery (D.D.S.), under the following regulations:

I. The candidate must be of age, and must have attended two full winter sessions,—the second, in this institution.

II. He must have dissected at least two parts; and have performed thoroughly and to the satisfaction of the Professor of Operative Dentistry all the usual dental operations; and must undertake at least one artificial case, and bring it completed, with the patient, to the Professor of Mechanical Dentistry, thirty days before the close of the term; and must

prepare for presentation to the Professor of Mechanical Dentistry, before the 1st of April, a specimen case to be deposited in the College collection. The operations as well as the work on the artificial case must be performed at the College building.

Students of Dentistry, who wish the degree of Doctor of Medicine also, can take a three years' course; but they must notify the Secretary of the Department of Medicine of their intention before the beginning of the second session. They must then add to the studies of the second year, Medical Chemistry, 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, and Physiology, in addition to the dental branches. If qualified, they receive the degree of D.D.S., and pass 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 of the medical course, 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's *Principles and Practice*; Tomes's *Dental Surgery*; Taft's *Operative Dentistry*; Tomes's *Dental Anatomy*.
- On Mechanical Dentistry and Metallurgy:* Richardson's *Mechanical Dentistry*; Wildman's *Instruction 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's 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*.

For Fees, Expenses, Boarding, etc., see pp. 142, 143.

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.

Further information may be obtained from

JAMES TRUMAN, *Secretary*,
3249 Chestnut Street, Philadelphia, Pa.

The subjoined reports give some conception of the character, and of the mass of work performed in the Operative and Mechanical Departments; but the amount of costly material and of careful attention necessary for the insertion of 4380 gold fillings can be appreciated only by the experienced operator. The packing of seventy-two ounces of gold, used during the session, represents a very large amount of valuable work performed.

The number of patients (4898), exhibits not only a gratifying confidence in the management of these departments, but also the value of the service to a large class of persons of limited means.

OPERATIVE DEPARTMENT.

	Number of Patients	4898	
Gold	Fillings		4380
Tin	"		655
Cement	"		941
Amalgam	"		132
Gutta Percha	"		561
Canal	"		100
Pulps capped	. . . . .		91
" devitalized	. . . . .		47
" extracted	. . . . .		28
Artificial Crowns	. . . . .		38
Pulpitis	. . . . .		11
Treatment Pulp Canals	. . . . .		221
Pericementitis	. . . . .		5
Alveolar Abscess	. . . . .		3
Inflammation of Gums	. . . . .		1
Pyorrhœa Alveolaris	. . . . .		3
Irregularities Corrected	. . . . .		4
Salivary Calculi	. . . . .		102
Teeth and Roots extracted	. . . . .		3241
		Total,	10,564

MECHANICAL DEPARTMENT.

	Number of patients	313	
Full cases		160
Partial "		112
Pirot teeth		42
Repairing cases		12
Regulating "		3
		Total,	392

DEPARTMENT OF VETERINARY MEDICINE.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST, and *ex-officio* President.
RUSH SHIPPEN HUIDEKOPER, M.D., V.S., DEAN OF THE FACULTY,
Professor of *Internal Pathology*, and *pro tempore* Professor of *Veterinary
Anatomy*.
JAMES TYSON, M.D., Professor of *General Pathology and Morbid Anatomy*.
HORATIO C. WOOD, M.D., LL.D., Professor of *Materia Medica, Pharmacy,*
and *General Therapeutics*.
THEODORE G. WORMLEY, M.D., LL.D., Professor of *Chemistry and
Toxicology*.
JOSEPH T. ROTHROCK, M.D., B.S., Professor of *Botany*.
ANDREW J. PARKER, M.D., PH.D., Professor of *Comparative Anatomy
and Zoology*.
ROBERT MEADE SMITH, M.D., Professor of *Comparative Physiology*.
WILLIAM L. ZUILL, M.D., V.S., Professor of *Surgical Pathology and
Obstetrics*.

DEMONSTRATORS.

- HENRY F. FORMAD, M.D., Demonstrator of *Pathology and Morbid
Anatomy*.
WILLIAM B. ROGERS, D.V.S., Demonstrator of *Veterinary Anatomy*.
JOHN MARSHALL, M.D., NAT.SC.D. (Tübingen), Demonstrator of *Prac-
tical Chemistry*.
ALEXANDER GLASS, V.S., Demonstrator of *Therapeutics, Materia Med-
ica, and Pharmacy*.
GARRETT EDWARDS, Farrier, Demonstrator of *Forging and Horseshoe-
ing*.

R. S. HUIDEKOPER, M.D., V.S., *Dean of the Faculty,*
36th and Pine Sts., Philadelphia, Pa.

MATRICULATES.

SECOND YEAR.

Apeldorn, Theodore W.,	Philadelphia.
Birch, William A.,	Philadelphia.
Cullen, Charles M.,	Philadelphia.
Eves, Hiram P.,	Lima.
Formad, Robert,	Philadelphia.
Hare, Hobart A. (M.D.), B.S.,	Philadelphia.
Harger, Simon,	Hecktown.
Hickman, Richard W.,	Bustleton.
Lintz, Charles,	Holmesburg.
Marlin, Edgar,	Philadelphia.
Montgomery, William B.,	Chestnut Hill.
McAnulty, James T.,	Philadelphia.
Parker, Andrew J. (M.D.),	Philadelphia.
Sellers, Albert T.,	Philadelphia.
Vandegrift, John F.,	Langhorne.
Webster, Richard G.,	Media.
Williams, Charles,	Fellowship, N. J.

FIRST YEAR.

Bachman, B. Frank,	Strasburg.
Balzer, Helmuth C.,	Meriden, Conn.
Boon, George M.,	Philadelphia.
Breisacher, Leo, Jr.,	Detroit, Mich.
Burns, Joseph M.,	West Chester.
Earley, Thomas B.,	Philadelphia.
Felton, Howard B.,	Olney.
Flower, Richard,	Ashbourne.
Garrett, Caspar,	Lansdowne.
Gatchel, Enoch M.,	West Chester.
Hartman, Guldin R.,	Philadelphia.
Kearney, George W.,	West Chester.
Lincoln, William R.,	Philadelphia.
Lusson, Louis O.,	Philadelphia.
Maurise, Antoni,	Philadelphia.
Pleibel, Victor,	Philadelphia.
Reefer, Leon. N.,	Meadville.
Schick, Charles E.,	Philadelphia.
Schreiber, Albert F.,	Philadelphia.
Staub, Jacob B., Jr.,	Nicetown.
Tintzman, John Z.,	Philadelphia.
Tully, Edgar W.,	Philadelphia.
Werntz, William B.,	Philadelphia.

SPECIAL STUDENTS.

Lovett, John F.,	Philadelphia.
Ridge, William Hodgson,	Trevoise, Penna.

TOTAL.

Students of the Second year	17
Students of the First year	23
Special Students	2

This Department provides a thorough education in all that pertains to Veterinary Medicine. Its facilities for instruction are unsurpassed in this country, and its Courses extend from the first elements of Medicine to the latest researches in this branch of Science at home and abroad, while at every step the student is drilled under the personal guidance of Professors, in all the practical and technical details of the Profession. Too much stress cannot be laid on the importance of thus combining, at every step, Theory and Practice, inasmuch as it is solely by thorough and extensive training in this way that the practitioner can meet the complex problems of Veterinary Pathology, problems, which owing to the lack of communication between the Physician and the patients, demand a higher degree of trained powers of observation than the usual cases of ordinary medical practice.

The BUILDINGS are erected in what is to be the Botanical Garden of the University, and, with a street frontage of over 600 feet, consist of a spacious Amphitheatre, Dissecting Room, Histological Laboratory, Hospital, with hot and cold and steam baths for horses, Blacksmith shop with eight forges, Pharmaceutical Laboratory, etc., etc. The floors are laid in cement, with the most approved drainage. The Hospital is capable of accommodating over fifty animals.

Candidates for admission are required: *First*, to write an essay (not exceeding a page of foolscap), which may serve as a test in orthography and grammar; *second*, to pass an examination in elementary Physics (Part I. of Fownes's *Chemistry*). Candidates who have either received a collegiate degree, or passed the matriculate examination of a recognized college, or who have a certificate covering the required subjects from a recognized Normal or High School, or a duly organized County Medical Society that has instituted a preliminary examination,—such as that adopted by the Medical Society of the State of Pennsylvania,—may enter without examination.

The Course of Instruction extends over three years, with one session from the first of October to the last of June in each year. The following are the studies:

THE FIRST YEAR:—*Chemistry, Materia Medica and Pharmacy, Physiology, Histology, Botany, Zoology, Veterinary Anatomy, and Forging.*

SECOND YEAR:—*Medical Chemistry, Physiology, Therapeutics, General Pathology and Morbid Anatomy, Veterinary Anatomy, Surgical Pathology, Internal Pathology and the Contagious Diseases, Botany, Zoology, and Practical Farriery.*

THIRD YEAR:—*Therapeutics, General Pathology and Morbid Anatomy, Surgical Pathology and Operative Surgery, Internal Pathology and the Contagious Diseases, Sanitary Police, Obstetrics, and Zootchnics.*

In the Second Year the student will attend clinics, and will serve as aid

in the hospital; in the Third Year he will be placed in charge of sick animals, and be required to prepare clinical reports and make autopsies. He will, also, make regular visits to breeding and dairy farms and to slaughter-houses, in order to familiarize himself with the races of animals, the economical means employed in their care, and the varieties of butcher-meat.

Examinations will be held at the close of each year, in which the student must duly pass before he is allowed to proceed to the studies of the next year. At the close of the Course, and after passing a satisfactory examination, the student receives the degree of *Veterinariae Medicinæ Doctor (V.M.D.)*.

Expenses:—Matriculation Fee (paid once only), five dollars. Tuition Fee, annually, one hundred dollars.

For further information address:

R. S. HUIDEKOPER, M.D., V.S., *Dean of Veterinary Department,*
University of Pennsylvania.

DEPARTMENT OF BIOLOGY.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST, and *ex-officio* President.
JOSEPH LEIDY, M.D., LL.D., Professor of *Anatomy*; Director of the
Biological Department.
JOSEPH T. ROTHROCK, M.D., B.S., Professor of *Botany*.
HORACE JAYNE, M.D., Professor of *Vertebrate Morphology*.
BENJAMIN SHARP, M.D., Ph.D., Professor of *Invertebrate Morphology*.
N. ARCHER RANDOLPH, M.D., Instructor in *Physiology*.
CHARLES S. DOLLEY, M.D., Instructor in *General Biology*.
HORACE JAYNE, M.D., *Secretary*.

MATRICULATES.

FIRST YEAR.

- | | |
|-----------------------|-----------------|
| George Fetterolf, | Philadelphia. |
| Milton J. Greenman, | North East, Pa. |
| Edward H. Hance, Jr., | Germantown. |
| Robert S. Maison, | Philadelphia. |
| Hyland C. Murphey, | Philadelphia. |
| George Petry, | Philadelphia. |
| Frank R. Remont, | Philadelphia. |
| William H. Salter, | Philadelphia. |
| George Sinnamon, | Philadelphia. |
| Marcus A. Weems, | Columbia, Tex. |
| Richard Wilson, | Philadelphia. |

SECOND YEAR.

- | | |
|----------------------|---------------|
| George Q. Horwitz, | Philadelphia. |
| Ida Keller, | Philadelphia. |
| Samuel S. Kneass, | Philadelphia. |
| Charles P. Mercer, | Philadelphia. |
| William C. Posey, | Philadelphia. |
| Joseph Sailer, Jr., | Philadelphia. |
| Joseph P. Tunis, | Philadelphia. |
| John Weiszgerber, | Philadelphia. |
| Jane J. Wetherell, | Philadelphia. |
| Charles B. Williams, | Philadelphia. |

PARTIAL STUDENTS.

- | | |
|---------------------------------|-------------------|
| M. A. Campbell, | Philadelphia. |
| Frank H. Carothers, | San Antonio, Tex. |
| Howard G. Chase, | Philadelphia. |
| Mary G. Connell, | Philadelphia. |
| H. Augusta Kimball, M.D., B.S., | Philadelphia. |
| Thomas Newlin, | Haverford, Pa. |

The aim of this Department is:

1. To conduct the Biological studies of the students in a course in Philosophy for Undergraduates.
2. To provide a course of instruction in Biology for students of both sexes who are preparing to study medicine, or who desire systematic training in this subject.
3. To afford advanced instruction to graduates who are candidates for the degree of Doctor of Philosophy. (See page 119.)
4. To encourage original research in Biology by offering facilities to scientists engaged in investigation, and by giving aid and instruction to advanced students prosecuting special work.

The new LABORATORY building, erected for the use of this Department, contains a lecture-room, two large laboratories for undergraduate Biological work, rooms for the Zoological and Botanical collections and libraries, laboratories for advanced and special work in Botany, Zoology, Histology, Embryology, and Physiology, besides private laboratories for the use of the instructors, and rooms for Photography, with ample space for the Aquaria, Animals, and storage.

Proper and abundant MATERIAL is furnished to students engaged in special work. A supply of the ordinary forms used in the practical laboratory exercises is kept, as far as possible, in the building.

An excellent COLLECTION of skeletons, typical forms, and dissected preparations is formed, and a fine Herbarium, containing about forty-five thousand specimens, is deposited in the building.

A good working LIBRARY, containing important Text-books and complete sets of many valuable Journals, has been provided. The large public libraries of the city are, under regulations, open to students. The Academy of Natural Sciences, with its rich museum and large library, the most complete in Biology in the country, is accessible to students, without charge.

1. COURSE FOR STUDENTS IN THE COLLEGE DEPARTMENT.

Instruction in Biology forms a part of a Course in Philosophy in the College Department. For details of this course, admissions, examinations and degrees, see page 50.

2. GENERAL COURSE IN BIOLOGY.

This course forms an important branch of modern general culture, and also furnishes a peculiarly appropriate and valuable preparation for the study of medicine.

The course extends through two years of two terms each:—

FIRST YEAR.

GENERAL BIOLOGY.—Vegetal Biology. Animal Biology. (Lectures and practical work.) Huxley's and Martin's *Elementary Biology*. Bessey's *Botany*. Brooks's Handbook of *Invertebrate Zoology*. Parker's *Zootomy*. (6*)

MAMMALIAN ANATOMY.—(Lectures and laboratory exercises.) Mivart's *The Cat*. Wilder's *Anatomical Technology*. (4)

BOTANY.—Systematic Botany. (Practical exercises.) Gray's *Botanical Text-book*. Gray's *Manual of Botany*. (4)

SECOND YEAR.

BOTANY.—1. (a) Medical Botany; the plants used in medicine, adulteration of foods and drugs, or (b) Vegetal Morphology. 2. The life-histories of plants. (Practical exercises.) Bessey's *Botany*, Sach's *Text-book of Botany*. (4)

ZOOLOGY.—The outlines of General Zoology and Comparative Anatomy. The classification and distribution of animals. (Lectures.) Claus's *Elementary Text-book of Zoology*. Gegenbauer's *Comparative Anatomy*. (2)

ANIMAL HISTOLOGY.—(Lectures and laboratory exercises on Microscopic Anatomy.) Schäfer's *Essentials of Histology*. (4)

EMBRYOLOGY.—Lectures and laboratory exercises on the development of the Chick. Foster and Balfour's *Elementary Embryology*. (4)

PHYSIOLOGY.—The Elements of Physiology. (Lectures and practical work.) Dalton's *Physiology*.

The instruction in General Biology is in the form of practical laboratory exercises accompanied by explanatory lectures, and comprises the study of the structure, functions and development of a series of plants and animals. The student in this manner gains a general knowledge of the Vital phenomena, manifested in the different forms of living matter, before beginning the special study of either Botany or Zoology. The series studied are, (1) Amoeba, Paramæcium, Vorticella, Bacterium, Yeast-plant, and Protococcus, as unicellular forms of life. (2) Moulds, Chara, Braken-fern and Bean-plant as exhibiting the structure and activities of Plants. (3) These compared with Sponge, Hydra, Starfish, Earthworm, Leech, Cyclops, Crayfish, Cockroach, Clam, Squid, Amphioxus, Skate, Cod, Frog, Snake, Terrapin, Pigeon, and Rabbit as Animals.

The course in Mammalian Anatomy consists of lectures on the methods of anatomical investigation, a detailed description of the anatomy of one of

* The numeral indicates hours per week.

the higher mammals, and comparisons with human anatomy. In the laboratory the class carefully dissects the Cat.

The work in Botany, during the *First Year*, consists in exercises in the determination and classification of plants, and begins in the second term after the student has finished the first half of the course in General Biology, and has acquired a sufficient knowledge of vegetal structure and physiology. In the first term of the *Second Year* some choice is permitted. The student may take up Medical Botany, if intending to study medicine, or may devote his attention to more advanced work in plant structure. During the second term the life-histories of plants, their development, growth, and reproduction are studied.

General Zoology and Comparative Anatomy embrace the study of individuals and colonies; cells and cell aggregates; a short account of the tissues; growth and division of labor; organs, their structure; reproduction, general facts of embryology; metamorphosis, alternation of generation, polymorphism, and heterogony; systems of classification; the Darwinian theory; species and varieties; a succinct account of the various groups of animals, their anatomy, development, and distribution.

Histology is taught, during the first term in the second year, mainly by practical work with the microscope. The structure of animal tissues and organs and the methods of examining and preparing microscopic specimens are thoroughly studied.

Embryology is taught in the second term, and the student is instructed in the processes by which the complex tissues and organs are built up from the simple egg. The instruction consists in lectures on the Embryology of the Chick, with laboratory exercises in the preparation and study of the principal stages of development.

The instruction in the elements of Human and Comparative Physiology embraces the study of the phenomena of nutrition, of food-stuffs and digestion; circulation; respiration; reproduction; muscular action, including locomotion, speech, etc.; and the functional activity of nerve and brain.

3. INSTRUCTION FOR GRADUATE STUDENTS.

Students in the Department of Philosophy, who have selected Botany or Zoology as the main subject in their course for the degree of Doctor of Philosophy, and who have had the requisite training, will, on entering, begin original investigation for the required graduation thesis. If not sufficiently prepared for this work, or if Botany or Zoology, or both, have been selected as subordinate studies, the students are advised to take the General Course in Biology, or such portions of it as may be deemed necessary. The conditions of entrance, fees, examinations, and degrees are set forth in the Department of Philosophy.

4. INVESTIGATION AND ADVANCED INSTRUCTION.

Scientists engaged in the investigation of any subject in Biology can be accommodated in the laboratory by permission of the Faculty. A moderate fee will be charged for the use of the rooms and apparatus, and for attendance. Instruction of advanced students and of those engaged in special work is given by special lectures and by laboratory exercises under the personal direction of the professors. Meetings of the instructors and advanced students are held frequently for the discussion of recent discoveries in the various branches of Biology.

FEES.

The fee for tuition in the full course is one hundred and fifty dollars a year, payable in two instalments, on October 1st and February 1st. Fees for partial courses are payable in advance. There are no extra charges for material used in the practical classes, or for the use of instruments or reagents.

ADMISSIONS, EXAMINATIONS, AND DEGREES.

Candidates for admission to the general course must show that they are able to profit by the instruction.

Students who do not desire to pursue the full course, and who are properly qualified, may take either a special or a partial course in any subject or subjects taught in the Department.

Examinations are held at the close of each college year. The student who has completed the full course in Biology, and has passed satisfactory examinations, is granted a Certificate which admits him to the Medical Department without examination. No degrees are given solely for study in this Department; but Biological students in the Department of Philosophy receive the degree of Ph.D., on the conditions imposed by that Department.

For further information respecting this Department, address the Secretary of the Faculty, Biological Laboratory, Pine and 37th Sts., Philadelphia

DEPARTMENT OF LAW.

FACULTY.

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

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

MATRICULATES.

SENIOR CLASS.

Acker, Ephraim L.,	Norristown,	J. R. Hunsicker.
Adams, John S.,	Philadelphia,	Wm. S. Price.
Audenried, Charles Y.,	Philadelphia,	John G. Johnson.
Biddle, Caldwell K.,	Philadelphia,	E. B. Morris.
Blanchard, John,	Philadelphia,	MacVeagh & Bispham.
Brock, Marcus I.,	Philadelphia,	J. M. & W. P. Gest.
Brunner, Frank A.,	Philadelphia,	William H. Peace.
Bryant, Henry G.,	Philadelphia,	S. B. Huey.
Cahall, Joseph L.,	Bridgeville, Del.,	Hon. B. H. Brewster.
Carver, Henry,	Doylestown,	Elias Carver.
Craig, Charles P.,	New Bethlehem,	Hon. B. H. Brewster.
Croasdale, John P.,	Philadelphia,	E. Hunn, Jr.
Davidson, George B.,	Tompkinsville,	R. P. Dechert.
Develin, James A.,	Philadelphia,	H. C. Terry.
Dewey, Archibald R.,	Philadelphia,	J. Sergeant Price.
Evans, Franklin H.,	Philadelphia,	E. O. Michener.
Foulke, Joseph T.,	Spring House,	E. Hopper.

Freyer, George A.,	Philadelphia,	E. Coppee Mitchell.
Garrison, Lindley Miller,	Camden, N. J.,	Redding, Jones & Carson.
Gillespie, A. Jackson,	Greenville,	E. L. Perkins.
Halbach, John F.,	Lehighton,	J. P. Gross.
Hamberg, Moses P.,	Philadelphia,	A. A. Grace.
Hancock, Henry J.,	Philadelphia,	J. R. Rhoads.
Harding, Butler Kenner,	Philadelphia,	MacVeagh & Bispham.
Hillman, John J.,	Philadelphia,	Chas. W. Hillman.
Hinkson, Joseph H.,	Chester,	J. B. Hinkson.
Hoffman, Charles,	Philadelphia,	S. B. Huey.
Jeitles, James M.,	Philadelphia,	E. Coppee Mitchell.
Kauffman, Ralph,	Mechanicsburg,	Wm. L. Nevin.
Lambader, Frank, Jr.,	Philadelphia,	B. F. Fisher.
Landon, Benson,	Towanda,	D. C. Dewitt.
Laws, James W.,	Philadelphia,	J. W. Coulston.
Lindsay, Eugene J.,	Philadelphia,	Wm. B. Mann.
MacDonald, John,	Philadelphia,	M. J. Mitcheson.
McGovern, Edward F.,	Wilkesbarre,	J. T. Lenahan.
Magee, Joseph G.,	Philadelphia,	Wm. F. Harrity.
Marple, Charles H.,	Bridgeport,	S. S. Hollingsworth.
Miller, John Faber,	Philadelphia,	Jas. H. Little.
Page, Howard Wurts,	Philadelphia,	Page & Allinson.
Price, William Henry,	Philadelphia,	Wm. S. Price.
Schlegelmilch, G. Edward,	Philadelphia,	E. Coppee Mitchell.
Scott, William C.,	Philadelphia,	Crawford & Dallas.
Sergeant, Wm. W.,	Philadelphia,	G. Sergeant.
Simes, Alexander, Jr.,	Philadelphia,	P. F. Rothermel.
Smith, Lewis L.,	Media,	A. Lewis Smith.
Sproul, Frank P.,	Pittsburgh,	Crawford & Dallas.
Stanger, F. Marshall,	Glassboro, N. J.,	F. R. Edmunds.
Steele, James D.,	Philadelphia,	J. Sergeant Price.
Ulrich, John O.,	Tamaqua,	MacVeagh & Bispham.
Umsted, T. Chalmers,	Smyrna, Del.,	E. Coppee Mitchell.
Wilson, Thomas C.,	Berlin, N. J.,	W. H. Sutton.
Wood, T. Stewart,	Philadelphia,	W. C. Craige.
Ziegler, George G.,	Philadelphia,	Hon. T. Greenbank.

JUNIOR CLASS.

Baldrige, Howard H.,	Holidaysburg,	
Biddle, Louis A.,	Philadelphia,	John G. Johnson.
Bond, Wm. Cooper,	Sugar Hill.	
Boswell, Russell T.,	Philadelphia,	J. S. Williams.
Bremer, Charles, Jr.,	Philadelphia,	Wm. L. Nevin.
Brennan, Louis P.,	Philadelphia,	J. M. Pile.
Brown, Charles D.,	Philadelphia,	John A. Brown.
Calmore, Walter W.,	Philadelphia,	J. P. Gross.
Cannon, Erasmus B.,	Philadelphia,	E. P. Smithers.
Church, Alonzo C.,	Wilkes-Barre.	
Clark, C. Steele,	Indiana,	E. Coppee Mitchell.
Corbin, Denard,	Camden, N. J.,	Bergen & Bergen.
Coxe, Henry Brinton, Jr.,	Philadelphia,	F. B. Gowen.
Dallett, Morris,	Philadelphia,	H. T. Coleman.

Deary, Francis J.,	Philadelphia,	P. Archer.
De Witt, Alexander R.,	Philadelphia,	Sharp & Alleman.
Evans, Wm. Rees,	Philadelphia,	Hon. B. F. Hughes.
Finletter, Leonard,	Philadelphia,	W. A. & W. W. Porter.
Fletcher, Robert P.,	Philadelphia,	Jerome Carty.
Foster, Thomas S.,	Philadelphia,	M. Stevenson.
Fries, Harry K.,	Philadelphia,	J. A. Abrams.
Fronefield, W. Roger,	West Chester,	E. Coppee Mitchell.
Garrett, John Lentz,	Chester,	O. B. Dickinson.
Gibbons, Daniel,	Philadelphia,	A. P. Douglass.
Harman, Robert G.,	Wilmington, Del.	
Hartman, John Fred, Jr.,	Philadelphia,	J. M. Collins.
Heckler, Calvin F.,	Frick,	Hon. Henry M. Hoyt.
Hunter, Ernest H.,	Philadelphia.	
Jones, James Collins,	Philadelphia,	H. J. Lukens.
Kirkpatrick, Samuel Huckel,	Frankford.	
Krebs, Frank P.,	Tamaqua,	Hon. B. H. Brewster.
Kuni, Charles, Jr.,	Philadelphia,	Wm. B. Lane.
Lloyd, Horatio G., Jr.,	Camden, N. J.,	F. T. Lloyd.
Lodge, R. Gardiner,	Philadelphia,	M. Stevenson.
Lowrie, Roberts,	Tyrone,	J. S. Gerhard.
McGrath, Robert Hunter, Jr.,	Philadelphia,	Geo. Tucker Bispham.
McLanahan, J. Craig,	Holidaysburg,	E. Coppee Mitchell.
McMorrow, Henry A.,	Philadelphia,	F. S. Brown.
McNeil, Thomas W.,	Unionville,	W. M. Hayes.
Marter, George W.,	Philadelphia.	A. Zane, Jr.
Mershon, Abner H.,	Morrisville.	Hon. A. Briggs.
Miller, B. Davis,	Vincent P. O.	
Mills, Daniel, Jr.,	Philadelphia,	E. Cooper Shapley.
Mitchell, S. Duffield,	West Chester,	Alfred P. Reid.
Moon, Everett,	Fallsington,	McVeagh & Bispham.
Moore, Ziba T., Jr.,	Philadelphia.	
Orlemann, Harry P.,	Philadelphia,	W. H. Staake.
Ott, Albert M.,	Independence, Mo.,	Geo. S. Graham.
Price, Samuel A.,	Chester,	E. A. Price.
Schiedt, Jacob A.,	Philadelphia,	A. L. Hennershotz.
Schofield, Joseph A.,	Philadelphia.	
Siggs, Louis K.,	Philadelphia.	Geo. Tucker Bispham.
Smith, Henry A.,	Philadelphia,	Hon. B. F. Hughes.
Smith, Henry W.,	Philadelphia,	Wm. L. Nevin.
Smith, Wm. L.,	Philadelphia,	E. P. Smithers.
Smithers, Wm. W.,	Philadelphia,	J. R. Morgan.
Snyder, Arthur C.,	Philadelphia,	Hon. A. Briggs.
Stackhouse, J. Burton,	Philadelphia,	Garrison & French.
Starr, Lewis,	Woodbury, N. J.,	I. S. Sharp.
Stockley, Kendall B.,	Philadelphia,	
Sullivan, George J.,	Mobile, Ala.	
Taylor, Joseph T.,	Philadelphia,	F. S. Cantrell.
Tesnow, Henry,	Philadelphia.	
Thompson, Joseph W.,	Phoenixville,	S. W. Pennypacker.
Wilson, Andrew W.,	Indiana,	E. Coppee Mitchell.

Wilson, William C.,	Chester Valley,	B. F. Fisher.
Work, Wilton C.,	Philadelphia,	R. E. Shapley.
Wooters, Wm. W.,	Philadelphia,	Furth & Singer
Wyeth, Stuart,	Philadelphia.	

SPECIAL STUDENTS.

Mayer, Clinton O.,	Philadelphia,	E. C. Mitchell.
Paul, Henry N., Jr.,	Philadelphia,	Hollingsworth & Fraley.

SUMMARY.

Seniors,	52
Juniors,	69
Special,	2
Total,	123

The aim of this Department is to aid students who are preparing for admission to the Bar, as well as others who are desirous of acquiring knowledge in any branch of legal learning. The Conveyancer or the Merchant may attend with profit the particular lectures appropriate to his pursuits.

COURSE OF STUDY.

Students may matriculate in this Department at any stage of their professional preparation. No entrance examination is required.

The Course occupies two years. Each year is divided into two terms, the First beginning on the first of October, the Second on the first of February. Each term continues four months. The course is so arranged that a student entering at the beginning of any October term will complete his studies in two years.

SESSION OF 1886-7.

OCTOBER TERM.	FEBRUARY TERM.
Practice and Pleading at Law.	Practice and Pleading at Law.
Constitutional Law, Insurance.	Suretyship and Guaranty.
Real Estate.	Conveyancing.
Domestic Relations; Executors and Administrators.	Title to Personal Property, Civil Law; Contract of Sale.

SESSION OF 1887-8.

OCTOBER TERM.	FEBRUARY TERM.
Evidence.	Practice and Pleading in Equity.
Contracts, Bills of Exchange and Promissory Notes; Bills of Lading.	Conflict of Laws, Criminal Law.
Equity Jurisprudence.	Equity Jurisprudence.
Agency, Partnership, Corporations, International Law.	Bailment, Common Carriers, Pledges, Chattel Mortgages, Life Insurance.
	Medical Jurisprudence.

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

Moot Courts are held, at which questions, prepared by the Professors, are argued. These Courts meet once a week during each term; and an 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, also, an institution of long standing, to which not only students, but many practising lawyers, belong, gives opportunity for debate and argument that 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.

FEEES.

The Tuition Fee for the full course (except Medical Jurisprudence) is forty dollars a term. Each Professor will issue tickets for his own lectures to students who do not desire to attend the full course, and will fix the fee at his own discretion. Students who take the full course pay, also, a matriculation fee of five dollars. No other charges are made.

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

The students of this Department are also permitted to attend the Lectures given in the other Departments 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 the free use of the University Library, under the usual regulations.

The Library of the Law Association of Philadelphia (one of the largest in the country) is also open to students of law in the University for a fee of three dollars per annum, under proper regulations.

EXAMINATIONS AND DEGREES.

The following is the statute of the University which fixes the qualifications of candidates for graduation:—

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

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

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

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

The Essay required from each candidate must be handed to the Dean of the Faculty by the 15th of February.

Errors in spelling or grammar, 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. The questions used at the written examination in May, 1885, will be found on a subsequent page.

Students are not admitted to advanced standing. Actual attendance on the full course of two years is required for graduation.

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

PRIZES.

The Alumni of this Department have established two prizes, one of seventy-five dollars, called the SHARSWOOD PRIZE, and one of fifty dollars, called the MEREDITH PRIZE, to be competed for by the Graduating Class for the best and the second best graduation essay. They are awarded by the Faculty.

A Faculty prize of fifty dollars is given to the student in either class who passes the best written examination with all the Professors, the answers to the questions proposed to be completed within a limited time.

ADMISSION TO THE BAR.

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

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

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

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, 1885.

PROFESSOR HARE.

1. What were the defects of Articles of Confederation, and wherein did they differ from the Government of the United States as now constituted?
2. What method did the convention which framed the Constitution adopt for laying it before the people, and obtaining their assent, and that of the existing State and National Governments.
3. State the doctrine of implied powers, and by what clause Congress is authorized to carry it into effect.
4. Define the right of eminent domain, and state wherein it differs from taxation. May a locality or an individual be taxed in more than an equal proportion for a purpose which concerns the community; and, if so, on what principle and subject to what limitations?
5. State the operation of the power of eminent domain, as exemplified in the taking of land for streets without compensation, and charging the owners with the benefits.
6. For what purposes may taxes be levied by the general government, and can the decision of Congress as to what constitutes such a purpose be set aside by the courts?
7. May a State tax imports from other States, and subject to what limitations?
8. What does the power of Congress to regulate commerce include, and to what extent is it exclusive of the States?
9. What powers may the States exercise, though operating collaterally, on commerce? State the operation of the principle, as it regards quarantine laws and bridges.
10. What is the obligation of a contract that a State may not impair, and does the prohibition include prospective legislation or apply to the United States?

PROFESSOR MITCHELL.

Real Estate and Conveyancing.

1. What is the test to determine whether a chattel affixed to the realty becomes part thereof? How far does the character of the physical annexation affect the question?

2. What is the test to determine whether a right to take ore or coal from land is a corporeal or an incorporeal hereditament?
3. What is the measure of the quantity of an estate? Give illustrations, and reasons.
4. What interest has a widow in a vested remainder owned by her husband at the time of his death, supposing him to have died intestate?
5. If land be granted to A for the life of B, and A dies, living B, what becomes of the title to the land during the remainder of B's life?
6. Give the difference between words of limitation and words of purchase, and give illustrations of each.
7. Wherein does a determining limitation differ from a breach of condition in the method of bringing an estate to an end?
8. When land is conveyed to husband and wife in equal shares, how do they hold it? and what becomes of the share of the one who dies first?
9. Who are, and who are not, protected by the recording acts against unrecorded deeds of which they have no notice?
10. What defects in legal proceedings will render a judicial sale void? and what are cured by the acknowledgment of the deed or the decree of confirmation?

PROFESSOR PARSONS.

1. Is intercourse the fulfilment of a promise to marry?
2. Why does a husband not take his wife's property upon the determination of a separate use?
3. What are the elements of a will?
4. In a gift to a class after a life-interest, when is the class-legatee ascertained in England or Pennsylvania? and how can the share be vested?
5. What is not, and what is, sufficient to charge a legacy upon land?
6. Who is an executor by name or by description?
7. What was the administrator's dilemma (until it was removed by statute) in reference to pleading, or not pleading, assets?
8. When can a foreign executor or administrator interfere with assets in Pennsylvania without ancillary letters?
9. When is the creditor's claim a lien upon, and when does it form part of, the decedent's estate?
10. When does an imperfect gift operate as a declaration of trust?

PROFESSOR BISPHAM.

1. Mention two or more remedies by act of party without suit.
2. Can a citizen of Virginia sue a citizen of New York in the Circuit Court of the United States for the Eastern District of Pennsylvania, if the defendant is found within said district? Give reasons for your answer.

3. How do you remove a cause from a State to a Federal Court? State the proceedings.

4. Mention some cases in which the Supreme Court of Pennsylvania has original jurisdiction.

5. What is the distinction between trespass and trespass on the case?

6. Give any four forms of personal actions, and the general issue (if any) in each.

7. What is the purpose of a special traverse?

8. What are the three rules for the production of an issue?

9. If a promissory note were placed in your hands for collection, what steps would you take to obtain judgment?

10. What are points reserved? In whose favor should a verdict be directed where points are reserved?

DEPARTMENT OF PHILOSOPHY.

FACULTY.

- WILLIAM PEPPER, M.D., LL.D., PROVOST, and *ex-officio* President.
E. OTIS KENDALL, LL.D., DEAN, and Professor of *Mathematics*.
JOSEPH LEIDY, M.D., LL.D., Professor of *Zoology*.
J. PETER LESLEY, LL.D., Professor of *Geology*.
REV. ROBERT E. THOMPSON, A.M., Professor of *History*.
FREDERICK A. GENTH, PH.D., Professor of *Inorganic Chemistry*.
SAMUEL B. HOWELL, M.D., Assistant Professor of *Geology*.
GEORGE F. BARKER, M.D., PH.B., Professor of *Physics*.
JAMES PARSONS, A.M., Professor of *Law*.
GEORGE A. KÖENIG, PH.D., Professor of *Mineralogy*.
JOSEPH T. ROTHROCK, B.S., M.D., Professor of *Botany*.
THEO. G. WORMLEY, M.D., LL.D., Professor of *Organic Chemistry*.
MORTON W. EASTON, PH.D., Professor of *Comparative Philology*.
EDMUND J. JAMES, PH.D., Professor of *Political and Social Science*.
REV. GEORGE S. FULLERTON, A.M., B.D., Prof. Adj. in *Intellectual and Moral Philosophy*.

EDMUND J. JAMES, PH.D., *Secretary*.

MATRICULATES.

- | | |
|--|---------------|
| Arthur W. Goodspeed, A.B. (Harvard), | Philadelphia. |
| Hannah Augusta Kimball, B.S. (Univ.), M.D.
(Women's College), | Philadelphia. |
| Louis Du Pont Syle, B.A. (Yale), | Philadelphia |
| Jane J. Wetherell, B.S. (Syracuse), | Philadelphia. |

The object of this Department is to supervise advanced studies, and, as far as possible, to afford advanced instruction in the various branches of Literature and Science. Several courses, each covering a period of two years, are open to Graduates of any department of this University, or of institutions of similar standing, and to other persons who can pass a satisfactory examination. The student may or may not be a candidate for the degree of Doctor of Philosophy. In the latter case, residence at the University will not be required; in the former, it is expected, though in special cases and for good reasons the Faculty may excuse candidates from compliance with this requirement. A course may begin at any time.

COURSES OF STUDY.

The following courses are now open:—

MATHEMATICS.—No instruction. Examination for the degree.

ZOOLOGY AND COMPARATIVE ANATOMY.—Laboratory work, with occasional lectures on Principles and Classification. Oral examination on the Classification of the Animal Kingdom (including the Chief Characters of Classes and Orders of Animals), and on the principles of Comparative Anatomy and General Morphology, together with the specific anatomy of some form selected by the professor.

Text-Books: Nicholson's *Manual of Zoology*, Huxley's *Anatomy of Vertebrated and Invertebrated Animals*, Packard's *Zoology*, and Gegenbaur's *Elements of Comparative Anatomy*.

GEOLOGY.—I. Laboratory work—the plotting of geological field notes in map form by contour lines; the locations of outcrops; the construction of vertical and columnar sections; the manufacture of relief models; and the coloring of both maps and models on the two systems of the Pennsylvania and the United States surveys. II. Lectures on Dynamic, Structural, and Chemical or Physical Geology, on Lithology, on Systematic or Historical Geology, and on Palæontology. III. Reports on districts visited by the student, with sketches, sections, full descriptions of strata, and a determination of the fossils.

HISTORY.—No instruction. Examination for the degree.

INORGANIC CHEMISTRY.—Laboratory practice. Examination in the History of Chemistry, Chemical Philosophy, and the Chemistry of all well-established elements and their compounds.

PHYSICS.—No instruction. Examination for the degree.

LAW.—See Post-Graduate course in Law.

MINERALOGY.—Laboratory practice. Oral examinations, *first* (for students who take Mineralogy as a principal study), on Geometrical Crystallography, comprising the development of the Zonal Equation, the transformation of Axes, the linear and spherical methods of Projection, the reduction of Angles to Indices, the methods employed in fixing the Optical Constants, and, by way of illustration, the identification of the less common minerals, present in well-developed crystals; *second* (for students who take Mineralogy as a secondary branch), on the determination of any mineral substance by the blowpipe, the more common species of minerals at sight, and elementary Crystallography, *i. e.*, the systems, their holohedral and hemihedral forms, and the current systems of classification.

BOTANY.—Lectures and laboratory practice. Examination in Phænogamic, Cryptogamic, Structural, or Geographical Botany. Economic Botany, with the general relations of plants to human wants and uses.

ORGANIC CHEMISTRY.—Laboratory practice. Examination on Organic, Physiological, and Toxicological Chemistry.

PHILOLOGY.—Sanskrit, Linguistics, and the Comparative Philology of the Indo-European languages.

POLITICAL AND SOCIAL SCIENCE.—Political Science, Political Economy, Finance, Administration, Legislation, etc.

INTELLECTUAL AND MORAL PHILOSOPHY.—The History of Speculative Philosophy. Logic. Ethics.

FEES.

For Fees, Expenses, etc., see p. 143.

DEGREE.

The Degree of Doctor of Philosophy is conferred upon the following conditions:

1. The candidate must be either a Collegiate Bachelor of Arts or of Science, or must satisfy the Faculty, by examination, that he possesses an equivalent preparation.

2. He must pursue during two years, under the supervision of the Faculty, a course of study in at least three branches of literature or science, one of which shall be designated as the principal branch, and the other two as subordinate branches.

3. He must pursue original investigations in the principal study, must present a satisfactory thesis therein, and must pass an examination in all three branches.

For further information respecting this Department, address the Secretary of the Faculty.

POST-GRADUATE COURSE IN LAW.

MATRICULATES.

SENIORS.

J. Douglas Brown,
Edmund P. Leaming,
Frederick M. Leonard,
E. Clinton Rhoads,
William M. Stewart,

Philadelphia.
Camden, N. J.
Philadelphia.
Philadelphia.
Philadelphia.

JUNIORS.

Robert C. H. Brock,
Lucius S. Landreth,
Robert Ralston,
William Rennyson,

Philadelphia.
Philadelphia.
Philadelphia.
Norristown, Pa.

This Course has for its aim to broaden and deepen the foundation of legal education. The first step required for the student's progress is the thorough training of a Law School. In the drill of an ordinary course at such an institution, he acquires a practical experience in the machinery of litigation, and he also acquires the lawyer's process of handling cases or of reasoning from them by analogy, while, at the same time, he masters the leading principles as they are applied in the main departments of law.

The advanced student starts with this equipment. His task is now that of the true lawyer, to find out the reason for every legal proposition which is established, and also to discover its relative importance in the hierarchy of principles which make up the system of law. The investigation involves researches in two directions: First, the source of each principle must be discovered, and the germ when found must be traced through the changes which it has undergone in the course of its growth or decay. The soundness of a principle or the range of its application can thus be illustrated and tested by experience. Owing to the conservative energy of the English race, pre-eminently exemplified in its lawyers, legal doctrines have maintained their continuity in spite of conquests and revolutions, thus furnishing an opportunity for the study of principles in operation under different institutions.

The material for investigating the sources of our law are abundant. The Anglo-Saxon laws exist in a state of exceptional completeness; the Feudal system has been wrought out almost before our eyes and stands before us in its rigid symmetry. The mediæval trade customs which entered England with commerce have been preserved in municipal statutes; the Pandects are a repository from which common lawyers have pilfered, from Glanville to Story. A lawyer who reads the Digest of Justinian for the first time will be struck by the familiar ideas which he encounters at every turn and which he thought were inspired by the common law until he met them in Justinian's compilation.

The sources of our law have been explored, but they have not been turned to account. A history of legal thought must be written in order to make our precious archives available, and until that desideratum is obtained, the full benefit of experience, which is the only guide for the application of any legal doctrine, will not be at command. In the absence of such a history, the scattered information bearing upon the genesis and evolution of legal tenets must be gathered at a disadvantage.

The second study is to classify the law and reduce it to a system. The Profession shares the aspiration of the lay public for a body of law which everyone can understand. It is this professional craving which accounts for the multitude of text-books professing to abridge different parts of the law, and for the frequent attempts to embody sections of the law in a series

of propositions. The common aim of the bar and of the public is to simplify the law. The profession, however, knows that this can be accomplished in but one way, and that is by mastering the principles which underlie the different phases of the law. Not only must every part be known, but its relation to every other part must be ascertained in order to organize a system. The epitomes, made of different parts, serve to counteract the segregation of law according to the objects to which it is applied, and to correct this retrograde tendency. The principles which are universal, extracted from digests of all the parts, will form a body by themselves, and the rank of each principle will be regulated by its relative importance. The modifications which the principles undergo in special parts of the law will be the only qualifications requiring special mention. The principles, for instance, of patent law, will then be severed from the arts and sciences and form an integral portion of the legal system. The best professional opinion could readily furnish such an analysis of this, as well as of other specialties. The law is not absorbed by the material in which it works; on the contrary, by classifying matter the law brings it under the sway of reason. The law will be simplified because it will be scientific. It will not be petrified by enactment.

COURSE OF STUDY.

The course of study covers two years. The student, however, can begin at the opening of either year, November 1st.

One year of the course is devoted to the study of the Roman law and of the principles that have grown out of it.

The text-books used in this course are Hadley's *Introduction to the Roman Law*, Mackeldey's *Roman Law*, and Holland's *Jurisprudence*. - But these text-books serve simply as an outline of the subject. The works of Austin, Clark, Markby, Hunter, Moyle, Roby, and others in English, besides authors in German and French, are consulted and utilized to fill out the framework of study.

In the analysis of an act, an important element in legal investigation, Aquinas and the Jesuit writers of to-day furnish the only source of information. Gury's *Compendium Morale* is used, though any Catholic manual would serve the purpose.

The year devoted to a study of the Common law is taken up with the Anglo-Saxon law, the Feudal system, and the principles peculiar to the Common law and developed in the course of its history. There is no adequate history of the English law, and the results of German investigations, of great importance during the past fifty years, lie scattered through separate treatises and periodicals, and have not been collected and made accessible to English students. The work of Glasson, *Histoire du droit et des Institutions*

d'Angleterre, comprehends in its first and second volumes a summary of the modern researches into the early periods of our law, both Saxon and Norman. The second volume on the Norman period is used as text-book in connection with Gunderman's *Die Common Law* and Digby's *History of the Law of Real Property*. Kemble's *Anglo-Saxons in England* is the only available work in English for the Saxon period, and is adopted as the text-book for the class.

The primary principles of the Common law have been investigated by Judge Holmes, and his work on the Common law will serve as the guide for a study of them. The comparison of English and Continental theories of law is forced upon the profession in controversies between citizens of different countries where the rules of the various systems compete for the control of the legal relations between the parties. The work of Westlake on Private International Law is the most convenient text-book, though Story, Wharton, Foote, and other writers will be consulted.

ADMISSION AND FEES.

Graduates of any law school of recognized standing and members of the bar are eligible as students in this department. The annual fee for tuition is twenty-five dollars.

EXAMINATION AND DEGREES.

Examinations are held annually in May, and are both oral and written. The written questions put at the last examination are appended.

Graduates of this Course receive the degree of Master of Laws, unless the post-graduate course of law is combined with two other courses of study in the Department of Philosophy. Then the degree of Doctor of Philosophy is conferred.

A thesis upon some topic connected with the course is required to be handed in as early as possible during the second year. It is expected to contain an exhaustive analysis of the subject-matter.

For further information apply to the Dean,

JAMES PARSONS,
1430 South Penn Square,
Philadelphia.

ANNUAL EXAMINATION, NOVEMBER, 1885.

PROFESSOR PARSONS.

State in reply to each question the reason for your answer.

1. What was the mark-system among the Anglo-Saxons, and how did the *comitatus* affect it?

2. What were the *capitula*, and why was there a pledge to obey laws?
3. What saved the Germanic States from the system of ecclesiastical and military government which succeeded among the Celtic or Latin races?
4. What was commendation?
5. What was a *minus jus* and a *jus majus*?
6. What was the difference between a *jurata* and an assise?
7. How does an indictment correspond with the appeal of primitive law?
8. Does the law exact of every man average capacity unless he is exempted by a classified disability?
9. What is the history of privity?
10. How far do the requirements of jurisdiction for divorce in England and in Pennsylvania coincide?

DEPARTMENT OF PHYSICAL EDUCATION.

This Department carries into practical operation the conviction, that during the period of growth the body needs quite as much training as the mind, and that a college which holds out incentives to intellectual progress should not overlook the bodily progress without which all intellectual prizes, when won, are useless. To what other cause than the neglect of physical culture is it due that, in times past, the first scholars in college, generally failed in after life to make good their early promise? Impressed with the belief that those who seek to develop the mind should also exercise a supervision over the body, the University has instituted this Department, and, through the liberality of the City and the zeal of the Alumni, has provided the means, and, what is equally important, the system, for the due care and development of the Physical Education of its students.

The means are supplied in the Athletic Grounds, obtained from the City, lying next to and partly surrounded by the College buildings, and comprising four acres, which have been fenced, graded and improved, a fine quarter-mile track laid, the middle of the lot prepared for cricket, base-ball, foot-ball, etc., a grand stand erected, and a competent person engaged to supervise and restrict the use of the grounds, and to see that the intentions of the Trustees that they are to serve the purpose of Physical Education, as well as of healthful relaxation, shall be thoroughly carried out. The boat-house of the Athletic Association, situated on the Schuylkill, above the dam, is open to all matriculates in the Department of Physical Education upon the payment of a small additional sum.

The University has also fitted up a gymnasium, wherein are to be found all the latest appliances for the proper, systematic and symmetrical development of the body. These are to be used by each student only after undergoing his physical examination, and receiving advice from the Director of this Department as to the particular needs of his body, and as to the weak points which need strengthening and development. This advice is founded upon a careful study not only of his present condition, but of his personal and family history, taking thus into consideration hereditary predisposition to disease, if any exists.

The system consists in direct, personal, individual care of each student, who immediately after entrance to College receives a thorough physical exami-

nation in regard to his general health, strength, and muscular development, which is duly recorded. An extract from this record is sent to his parent or guardian as follows:

DEAR SIR:

The following extract from the University Records represents the general physical condition of
of the Class of

Development	Average Development
Strength	Average Strength
Condition, viz.: Relation of strength to development	Average Condition
Chest Capacity.	Average Capacity
Muscles especially requiring development	
Exercise recommended	
General Advice	

It is hoped that he will follow the line of physical work thus indicated with sufficient persistence to effect some permanent improvement.

[Signed] *Director of Physical Education.*

This examination is repeated at stated intervals, certainly once every year of his college life, and the record will show the improvement or deterioration of each student, and the amount and the quality of exercise which each one demands, both of which must be administered or recommended by an experienced teacher. Merely competitive sports do not of themselves supply these demands. Some men, naturally athletic and fond of exercise, need to be guided and directed, sometimes to be restrained; others, of sluggish temperament or of too studious habits, must be stimulated; all require to have their work, whether voluntary or compulsory, directed by proper methods, so that the result may be a harmonious and symmetrical development of the entire organism.

It is not proposed to make the attendance on this Department compulsory; all that can be hoped for is that its importance will become so manifest to the students themselves that the small demand which it makes upon their time will be responded to with alacrity and zeal.

For further information apply to

J. WILLIAM WHITE, M.D.,
Director of Physical Education,
1810 South Rittenhouse Square.

LIBRARY.

The University possesses one of the largest and most complete libraries of works relating to Finance and Political Economy 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 on these subjects in the English, French, and Italian languages, besides many in German. This has been supplemented by the gift from Mr. McCALMONT, of London, of a collection of about three thousand English pamphlets, covering the period from the close of the seventeenth century to our own time, and bound in chronological order; and also by the bequest of the LIBRARY OF THE LATE HENRY C. CAREY, which includes many works that appeared since Mr. Colwell's death, and is especially rich in statistical literature, European government reports, and the like.

The ROGERS ENGINEERING LIBRARY is composed of standard works in this Department, together with a valuable collection of Reports of American, English, and French Engineering Societies, periodicals, etc.

The Library contains also THE WETHERILL LIBRARY OF WORKS ON CHEMICAL SCIENCE, and THE ALLEN LIBRARIES OF CLASSICAL LITERATURE, BIBLIOGRAPHY, SHAKESPEARE, AND MILITARY SCIENCE.

Besides these, there is a large collection of works on General Literature, some of them the gifts of the early friends of the University, among them BENJAMIN FRANKLIN, Dr. RICHARD PETERS, and LOUIS XVI. The income of the TOBIAS WAGNER LIBRARY FUND is expended in the purchase of books in the department of History. The LIBRARIES OF THE LITERARY AND SCIENTIFIC SOCIETIES are of considerable value.

The entire collection is open to all undergraduates, and as an evidence of the high estimation in which it is held, it may be stated that students from other institutions of learning, have, on a number of occasions, come to Philadelphia for the purpose of pursuing investigations in this library, which the means at hand in their own did not permit.

A card catalogue is now in preparation which will embrace in a single alphabet, references under author, title and subject, to the entire contents of the Library. The subject references are made more than usually copious to the end that the resources of the Library may be utilized in the highest possible degree.

The Library is open every College day from 9 A.M. to 3 P.M., and students are permitted to withdraw, for home perusal, two volumes at a time, for two weeks, subject to a renewal for a like period, if not needed by others. The use of the library for consultation is also freely accorded to graduates, and to strangers under proper regulations.

FEES AND EXPENSES.

TUITION FEES.

The Tuition Fee in the *College Department* is one hundred and fifty dollars a year, except that for the last three years in the Towne Scientific School, and for the last two years in the course in Philosophy it is two hundred dollars a year, and for the course in Music thirty dollars a year.

The Tuition Fee in the *Departments of Medicine, Biology and Philosophy* is one hundred and fifty dollars a year; in the *Departments of Dentistry and Veterinary Medicine*, one hundred dollars a year; in the *Department of Law*, eighty dollars a year; and in the *Auxiliary Department of Medicine*, except to students and graduates of the Department of Medicine, thirty-five dollars for the course.

For time at which these tuition fees are payable, see tabulated statement below. All fees for special or partial courses are payable in advance.

Students in one department may attend lectures given in any other department, by consent of the Dean, without charge, but they shall pay the regular special fees for all practical work.

Graduates of a department may attend the lectures in that Department, but shall also pay regular special fees for all practical work.

Under no circumstances are any changes made in the established fees.

GRADUATION FEE.

In the *College Department* the Graduation Fee is for the Baccalaureate degree twenty dollars, for the Master's degree ten dollars.

The Graduation Fee in the *Department of Dentistry* is thirty dollars; in the *Department of Philosophy*, thirty-five dollars; and in the *Auxiliary Department of Medicine*, ten dollars.

No graduation fee is required in the *Departments of Medicine, of Veterinary Medicine, and of Law*.

CERTIFICATE FEE.

A fee of ten dollars is charged each student receiving a certificate on completion of a special or partial course.

COLLEGE DEPARTMENT.

Freshman Year, and Sophomore Year.

Annual Tuition Fee	{ Course in Arts,	} \$150
	{ Course in Philosophy,	
	{ Course in Science,	
Annual Fee for Department of Physical Culture,		5

Junior Year, and Senior Year.

Annual Tuition Fee	{ Course in Arts,	} \$150
	{ Course in Philosophy,	
	{ Course in Technical Science,	
	{ Course in Finance and Economy,	
	{ Course in Music,	
*Annual Fee for Department of Physical Culture,		5
Deposit required in Chemical Laboratory to cover breakage, balance refunded,		\$20

The Annual Tuition Fees are payable to the Treasurer of the University in two instalments, on October 1st and February 1st.

Graduation Fee, Baccalaureate degree,	\$20
“ “ Master’s degree,	10
Fee for Certificate of Special or Partial Course,	10

MEDICAL DEPARTMENT.

WINTER TERM.

First Year.

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

Second Year.

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

Third Year.

Course fee admitting to all the lectures and practical work assigned to this year, including operating and bandaging (no graduation fee)	\$150 00
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* This fee is not required of students in the course of Music.

Fee for the full third year course to graduates of other schools, including privilege of applying for graduation (no graduation fee)	\$150 00
Material for operating	\$1 a part.

Fourth Year (Voluntary).

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

SPRING SESSION.

Matriculation fee (paid once only)	\$5 00
Tuition fee	30 00

This sum will be credited on account of the fee for the ensuing Winter Term.

The Tuition fee of \$150 each year is on condition of its being paid before November 1st. If any part is left unpaid November 1st, \$10 will be added to the tuition fee.

Under no circumstances are any changes made in the established fees. The only free scholarships granted are those under the regulations named below.

FEEs FOR SPECIAL COURSES.

(Students 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.)

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

Graduates of the School are admitted to the LECTURES free of charge; but they pay the fees for the practical courses.

At the beginning of the first year, each student is required to make a deposit of five dollars with the Professor of Chemistry, to cover "breakage" in the chemical laboratories. Any balance remaining is 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.

Board can be obtained for \$4.50 per week and upwards.

AUXILIARY DEPARTMENT OF MEDICINE.

Matriculation Fee,	\$5
Tuition Fee for the course,	35
Students and Graduates of the Department of Medicine may attend the lectures in this department without charge.	
Graduation Fee,	10

PARTIAL COURSES.

Tuition Fee for any one or more of the five courses, each, . . .	\$15
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DEPARTMENT OF DENTISTRY.

Matriculation Fee,	\$5
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WINTER TERM.

First Year.

Tuition Fee,	\$100
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Second Year.

Tuition Fee,	\$100
Fee for Dissection,	10
Tuition Fee, including fee for the second year in the Department of Medicine,	190
Graduation Fee,	30

Note.—For fee for third year in Medicine see preceding page. Students of the third year in the Medical Department, graduates of this Department of Dentistry, may use the Dental Laboratory and Operative Clinics without charge.

DEPARTMENT OF BIOLOGY.

Matriculation Fee,	\$5
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GENERAL COURSE.

First Year, and Second Year.

Annual Tuition Fee,	\$150
Fee for Certificate,	10

Fees for Partial Courses.

General Biology,	\$90
Mammalian Anatomy,	30
Botany, plant analysis,	30
Histology,	30
Embryology,	30
Zoology and Comparative Anatomy,	30
Botany and Morphology,	75
Physiology,	25

DEPARTMENT OF VETERINARY MEDICINE.

Matriculation Fee,	\$5
Annual Tuition Fee,	100

DEPARTMENT OF LAW.

Matriculation Fee,	\$5
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First Year, and Second Year.

Annual Tuition Fee,	\$80
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A graduation fee is not required.

DEPARTMENT OF PHILOSOPHY.

Matriculation Fee,	\$5
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First Year, and Second Year.

Annual Tuition Fee,	150
Graduation Fee,	35

The cases of Applicants for a degree on examination alone, without instruction or supervision, will be considered separately.

POST-GRADUATE COURSE OF LAW.

First Year, and Second Year.

Annual Tuition Fee,	\$25
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ACCOMMODATIONS.

Good board can be had near the University at from five to seven dollars a week; and a list of recommended boarding-houses can be seen on application to the Rev. Jesse Y. Burk, Secretary of the Board of Trustees, at the University.

EXPENSES.

	Min.	Max.
Board, thirty weeks*	\$150 00	\$210 00
Tuition (according to Department and Year of the Course)	100 00	200 00
Text-books	10 00	50 00
	<hr/>	<hr/>
	\$260 00	\$460 00

* The session in some of the Departments is from five to nine weeks longer.

DEGREES, HONORS, AND PRIZES,
1884-5.

HONORARY DEGREES.

JUNE 15, 1885.

*Master of Arts,
Doctor of Divinity,*

REV. FRANCIS D. HOSKINS.
REV. CHARLES F. B. MIEL.

DEGREES IN COURSE—CERTIFICATES.

JUNE 15, 1885.

Bachelor of Arts—

Harrison White Biddle,
Samuel Laurence Bodine,
George Rosengarten Bower,
James Fry Bullitt,
Mark Wilks Collet,
Howard Lowe Cresswell,
Naudain Duer,
Randolph Faries,
Leonard Finletter,
William Linton Landreth,
Robert Grier Le Conte,
Charles Lester Leonard,
Herman T. Lukens,
William Emott Maison,

Edward de Veaux Morrell,
George Gelbach Emanuel Neuber,
William Woodbridge Noble,
Benjamin Brannan Reath, Jr.,
Joseph Allison Scott,
Henry Sheaffer,
Arthur Donaldson Smith,
Henry Austie Smith,
David Porter Stoever,
William George Thomson,
Samuel Welsh, 3d,
John Rhea Barton Willing,
Lewis Wynne Wister,
Edward Yarnall.

Bachelor of Science—

Richard Downing Baker,
Alexander Johnson Gray,
Llywellen Howard Jenks,
Arthur Gillum Krug,

Lucien Vernon Leach,
Charles Elder Lindsay,
William Merriman Price,
Charles Hopkins Small.

Bachelor of Philosophy—

Miers Busch, Jr.,
William Wilson Carlile,

Roland Post Falkner,
James Collins Jones,
David Milne, A.M.

Bachelor of Laws—

George A. Barrows,
C. Oscar Beasley,

Henry V. Massey,
Webster A. Melcher,

Luke D. Bechtel,
 Burton Binns,
 Ferree Brinton,
 Joseph S. Clark,
 James J. Comly,
 William B. Crawford,
 Wm. S. Darlington,
 John F. Develin,
 Maurice Fels,
 William C. Ferguson,
 John W. Galbraith,
 Benjamin D. Gardiner,
 D. Clare Good,
 Alfred Guillon,
 W. Spence Harvey,
 Chancellor D. Holden,
 Edwin F. Lott,

Percy B. Metzger,
 Hobart Miller,
 Michael J. O'Callaghan,
 Furman S. Phillips,
 Robert Ralston,
 Wm. H. T. Reeves,
 Frank R. Shattuck,
 Samuel F. Snively,
 Clarence Sprout,
 Adelbert E. Stockwell,
 Henry C. Todd,
 Henry C. Thompson, Jr.,
 H. Standley Twells,
 Horace M. White,
 Wm. Henry Woodward,
 W. Hampton Yardley.

Master of Arts—

Harry Clifton Adams, B.A.,
 Frank Schell Ballentine, B.A.,
 David Bell Birney, B.A.,
 Joseph Jastrow, B.A.,

Harold Kennedy,
 George Edward Krauth, B.A.,
 Felix Emanuel Schelling, B.A.,
 Howard Singer Stetler, B.A.,
 Samuel Brown Wylie, B.A.

Bachelor of Sciences Auxiliary to Medicine—

George A. Bodamer, M.D.,
 Howard Bratton, A.M., M.D.,

Hobart A. Hare, M.D.,
 H. Augusta Kimball, M.D.,
 Ernest Wende, M.D.

PROFESSIONAL DEGREES.

Civil Engineer—

Llywellyn Howard Jenks, B.S.,
 Charles Elder Lindsay, B.S.,

William Merriman Price, B.S.,
 Arthur Gillum Krug, B.S.

Mining Engineer—

Alexander Johnson Gray, B.S.,

Lucien Vernon Leach, B.S.

Mechanical Engineer—

Charles Hopkins Small, B.S.,

William Thomas Hildrup, Jr., B.S.

CERTIFICATES.

Department of Arts—

Charles Howard Hagert,

Grant Lee Knight.

Department of Science—

Edward Sinclair Campbell, Jr.,
 Winchester Dickerson,
 Otto Leonardo Kehrwieler,

Harry Spencer Lucas,
 David Rinehart Mehaffey,
 Frederick Gad Myhlertz,
 Frank Roop Smith.

Department of Finance and Economy—

George Bartleson Benners, Norman Ellison,
John Simpson Fernie.

Department of Music—

Jane Miller Wilson, Mary Elizabeth Davey.

MAY 1ST, 1885.

Doctor of Medicine—

Albright, Titus, Alexander, Reid,	Hilltown, Dudley, Ill.,	Vesicular Emphysema. Physiology, Causes, and Sym- ptoms of Sick Headache.
Allyn, Herman B., A.B. (Univ. Pa.),	Philadelphia,	An Inquiry into the Value of certain Remedies in Dys- pepsia.
Ball, Lewis Heisler, Ph.B. (Delaware),	Stanton, Del.,	Diabetes Mellitus.
Beckley, Joseph R., Birney, David Bell, A.B. (Univ. Pa.),	Lebanon, Philadelphia,	Abortion. The Delicacy of the Murexide Test.
Boom, Harry Herbert,	Philadelphia,	Hygienic Consideration of Drinking Water.
Boyd, Robert H. A., A.B. (Lafayette),	Belvidere, N. J.,	The Food and Hygiene of In- fants.
Brader, William B., Bratton, Howard, A.M. (Princeton),	White Haven, Elkton, Md.,	Chronic Lead Poisoning. Typho-malarial Fever.
Butler, William J., Cameron, James, M.D., Cameron, Markley C., Carothers, Edward J., Clark, George A.,	Pittston, Shanghai, China, Pittsburgh, San Antonio, Tex., Green Village,	Typhoid Fever. The Abuse of Opium. Tetanus. Cholera. Stricture of the Orifice of Male Urethra.
Coates, Louis P., M.D., Coburn, Clinton C., Cochrane, Wm. R., Ph.B. (Western Univ.),	Catlett, Va., Germantown, Ky., Philadelphia,	Indigestion. Diphtheria. Accommodation of the Eye.
Cooke, Dudley T., A.B. (Central High School), Day, F. Harvey,	Philadelphia, Wilmington, Del.,	Diphtheria. Antiseptic treatment of Wounds.
Deaver, Harry C., Dupue, Barclay H., Eckels, G. Morris, Ph.G.,	Buck, Harmony, N. J., Mechanicsburg,	Diphtheria. Dyspepsia. Comparative solvent power of Wine and Alcohol.
Edsall, Frank H.,	Hamburg, N. J.,	The Anatomy and Physi- ology of the Retina.
Elmer, Matthew K., A.B. (Princeton), Emery, Francis, E.E.,	Bridgeton, N. J., San Juan, Argen- tine Republic,	Hydrorachis. Parenchymatous Nephritis.
Evans, Elmer E.,	Lititz,	Typhoid Fever.

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|--|---|--|
| Evans, William,
Farquhar, Charles, | Darling,
Olney, Md., | Rhus Poisoning.
Nephritis from cheap Tin-
ware. |
| Freas, H. M., A.B. (Penn'a),
Freeman, Walter J., | Lafayette Hill,
Philadelphia, | Poisoned Wounds.
The Microscope in General
Pathology. |
| Gadd, Sam'l Wesley, Ph.G., | Philadelphia, | Rectal Alimentation by Sup-
positories. |
| Gallagher, W. Moorehouse,
Geissel, Albert E., | Hollidaysburg,
Philadelphia, | Diet.
Relation of Bacillus Tubercu-
losis to Phthisis. |
| Goodell, William C.,
Greenfield, John W., M.D.,
Grimm, Nathan P., | Philadelphia,
Springboro',
West Chester, | Excision of the Hip-joint.
Croupous Pneumonia.
A Brief History of the Asiatic
Cholera. |
| Guiteras, Gregorio M., A.M.
(La Salle), | Matanzas, Cuba, | A new aid in the Diagnosis
of Renal Diseases. |
| Herr, William M.,
Hill, William P.,
Hines, Peter,
Hite, J. Edwin,
Hubbard, Thomas, | Lancaster,
St. Louis, Mo.,
Wilkes-Barre,
Kansas, Ill.,
Ashtabula, Ohio, | Typhoid Fever.
Origin of the Germ Theory.
Cirrhosis of Liver.
Fistula in Ano.
A Collection of Nasal Tumors
and Aspergillus from Nasal
Pharynx. |
| Huston, William O., A.B.
(Westminster), | West Fairfield,
Philadelphia, | Mental Influence in Disease.
Bubonic Plague. |
| Jelovitz, Meier L.,
Johnson, William H.,
Jones, Fremont C.,
Kelley, John A.,
King, Thomas D., A.B.
(Princeton), | Hartford, Conn.,
Ebensburg,
Pittston,
Springfield, Ohio, | Condition of Life.
Diabetes Mellitus.
Lesions of the Cerebrum.
The Influence of the Hypo-
phosphites on Artificial
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| Kittredge, Frank E.,
Kreps, John J.,
Learned, William T., A.B.
(Brown), | Nashua, N. H.,
Clear Spring, Md.,
Fall River, Mass., | Acute Endocarditis.
Acute Bronchitis.
Scarlatina. |
| Lincoln, Mark H.,
Lott, William C., A.B.
(Brown),
Marcy, John W., | Laurelton,
Bridgeton, N. J.,
Camden, N. J., | Fistula in Ano
Experimental Research in
Mechanical Tuberculosis.
The Hypodermic use of
Strychnia in Collapse. |
| Mengel, Matt. S.,
Merkel, Horace E., | Reading,
Minersville, | Epidemic Cholera.
A Clinical Study of Anthra-
cosis. |
| Miller, Asher D.,
Miller, Geo. B. McClellan, | Manor Station,
Philadelphia, | Scrofula.
The Post-Mortem Imbibition
of Poisons. |
| Morrow, Charles H.,
Morton, Thomas S. K.,
Musser, F. Reber,
McAllister, Alexander, | Gloucester, Mass.,
Philadelphia,
Muncy,
Camden, N. J., | The Pancreas.
Eleven Dermoid Cysts.
The Opium Habit.
The History of Acute Yellow
Atrophy of the Liver. |

- | | | |
|---|---|---|
| McClees, William D.,
Nichols, William V.,
Packard, Fred'ck A., B.A.
(Univ. of Penna.), | Columbia, N. C.,
Chester, N. J.,
Philadelphia, | Simple Intermittent Fever.
Alveolar Sarcoma.
Filtration Experiments relating to the Etiology of Septicæmia. |
| Perley, George P., M.D.,
Pierce, David, | Bridgeton, Me.,
Elizabeth, | Menstruation.
Management of Batteries in Electro-therapeutics. |
| Pike, Charles P.,
Plumer, Andrew J., M.D.,
Potter, James T.,
Potts, Chas. S., A.B. (Central High School),
Purcell, McDaniel, | Philadelphia,
Council Bluffs, Ia.,
Philadelphia,
Philadelphia,
Greenwood Department, Va., | Hemorrhoids.
Fatal Lesions of the Head.
Light, and some of its effects.
Arsenic in Glass and the caustic Alkalies. |
| Rhoads, Edward G.,
Rickert, Charles M.,
Riera, John H., | Wilmington, Del.,
Gratz,
Philadelphia, | The Eye as a Means of Diagnosis in Disease.
Epidemic Cholera.
Cyst of the Parovarium.
Osteotomy for the cure of Genu Valgum. |
| Ring, G. Oram, A.B. (Central High School),
Roberts, Thomas S., | Philadelphia,
Minneapolis, Minn., | Typhlitis or Perityphlitis. |
| Robeson, William F., B.S. (Dickinson Seminary),
Rowe, Charles K.,
Rowe, R. B., A.B. (Princet'n)
Schnabel, Edwin D., M.E., | Lewistown,
Dudley, Ill.,
Strasburg,
Hecktown, | A case Illustrating the Value of Massage to the General Surgeon.
Tracheotomy. |
| Scull, William B.,
Shaw, Joseph B.,
Shober, John Bedford, A.B. (Princeton), | Philadelphia,
Trenton, N. J.,
Philadelphia, | Malarial Fevers.
Scarlatina.
Analogy between Diphtheria and Herpetic Tonsillitis. |
| Small, Edward H., A.B. (Princeton),
Stephens, Frank M.,
Stetler, Howard S., A.B. (Univ. of Penna.), | Mercer,
Bentleyville,
Philadelphia, | The Examination of Urine.
Diphtheria.
Filtration Experiments relating to the Etiology of Septicæmia. |
| Stone, Ralph Lane,
Strouse, Frederick M., | Norristown,
St. Paul, Minn., | Vomiting and Nausea of Pregnancy.
Hay Fever.
The Physiological Action of Convallamarin on the Nervous System. |
| Struble, William McD.,
Sutton, Frank S., Ph.B. (Univ. of Cal.),
Swaney, Herbert N.,
Taubel, L. Edward, A.B. (Ursinus),
Taylor, George B., | Trenton, N. J.,
San Francisco, Cal.,
Crossingville,
Philadelphia,
Towanda, | Scarlatina.
Scarlatina.
Experimental hypod. Injection of Corrosive Sublimate and its Histological effect.
Scarlatina.
Post-Mortem Imbibition of Arsenic.
Aseptic Surgery.
Ulcer of the Stomach.
Acute Dysentery. |

Taylor, George Y., A.B. (Princeton),	Burlington, N. J.,	Operative treatment of Pericardial Effusions.
Taylor, John F.,	Brownville,	Etiology and treatment of Chronic Phthisis.
Tull, M. Graham, A.M. (Lafayette),	Philadelphia,	Climatic and other advantages of Morganton, Burke Co., N. C.
Van Pelt, William T.,	Philadelphia,	Thrombosis.
Weaver, Daniel B., A.B. (Yale),	Strasburg,	Ear Diseases in General Practice.
Wells, George M., A.M.,	Philadelphia,	Intestinal Obstruction.
Williams, Thos. D., Ph.G.,	Minersville,	Hæmoptysis.
Wilson, E. Frazer, A.B. (Kenyon),	Mt. Vernon, Ohio,	Tæniæ.
Woodnutt, Clement A.,	Philadelphia,	Sponge Grafting.
Woodruff, Robert A.,	Lewistown,	Nutritive Enemata.
Work, Hubert,	Indiana,	Management of Natural Labor.
Zeigler, S. Lewis, A.M. (Lewisburg),	Lewisburg,	Simple Jaundice.

JUNE 15TH, 1885.

Cotzhausen, Louis v., Ph.G., Philadelphia, Tæniifuges.

Of the foregoing there were from:

Argentine Republic,	1	Minnesota,	2
California,	1	Missouri,	1
China,	1	New Hampshire;	1
Connecticut,	1	New Jersey,	11
Cuba,	1	North Caroline,	1
Delaware,	3	Ohio,	3
Illinois,	3	Pennsylvania,	67
Iowa,	1	Texas,	1
Kentucky,	1	Virginia,	2
Maine,	1		
Maryland,	3	Total	108
Massachusetts,	2		

HONORS.

In the College Faculty, at the examination for Degrees—

In The Arts—

Of the *First Class*, to Mark Wilks Collet, and Herman T. Lukens.

Of the *Second Class*, to James Fry Bullitt, and Edward de Veaux Morrell.

Of the *Third Class*, to Howard Lowe Cresswell, Joseph Allison Scott, Harrison White Biddle, and William Emott Maison.

In The Towne Scientific School—

Of the *Third Class*, to Charles Hopkins Small, and Charles Elder Lindsay.

In The Wharton School of Finance and Economy—

Of the *First Class*, to James Collins Jones.

Of the *Second Class*, to Roland Post Falkner.

Of the *Third Class*, to William Wilson Carlile.

At the annual examination DISTINCTIONS of the *First Class*—

In The Arts to—

Juniors—Howard James Truman.

Sophomores—William Romaine Newbold, George Flowers Stradling.

Freshmen—Horace Clark Richards, Lightner Witmer.

In the Faculty of Medicine for graduation theses—

MAY 1, 1885.

Distinguished Merit, to—

William C. Lott,
Thomas S. K. Morton,

Charles S. Potts,
Thomas D. King.

Honorable Mention to—

Frederick A. Packard,
John B. Schober,
Geo. B. McC. Miller,
Herman B. Allyn,
Frederick M. Strouse,

Howard S. Stetler,
William R. Cochrane,
William C. Goodell,
Albert E. Geissel,
Louis von Cotzhausen.

The following graduates of the Medical Department, Class of 1885, were appointed to Hospitals on competitive examinations. They are alphabetically arranged—

To the University Hospital—

G. M. Guiteras,
F. A. Packard,

E. G. Rhoads.

To the Philadelphia Hospital—

H. B. Allyn,
G. M. Guiteras,
W. D. McClees,
William V. Nichols,
Charles S. Potts,

Andrew J. Plumer,
William F. Robeson,
Thomas S. Roberts,
George B. Taylor,
G. M. Wells.

To the St. Mary's Hospital—

Robert H. A. Boyd,
Matthew K. Elmer,

Wm. T. Learned.

To the Presbyterian Hospital—

David B. Birney,
William C. Lott,

George Y. Taylor.

The following were appointed for those Hospitals, to which no examination for appointment is held—

To the Pennsylvania Hospital—

Thomas S. K. Morton.

To the Children's Hospital—

Thomas S. Roberts,

John B. Schober.

In the Faculty of Dentistry, at the examination for Degrees—

Honorable Mention for averages exceeding 90, to—

Grafton Munroe,	Md.	Ditson P. Carter,	Ohio.
George G. Milliken,	Penna.	Frank W. Fisher,	N. Y.
Chas. T. Milliken,	Cal.	L. Foster Jack, M.D.,	Penna.
Augustus Bruns,	Germany.	Frank C. Knapp,	N. Y.
Louis Shaw,	Penna.	Thaddeus T. Hayward,	Minn.
George H. Wells,	Mass.	William R. Long,	Penna.
Victor S. Jones,	Penna.	William L. Winner,	Penna.
Charles J. Mercer,	Penna.	Edgar C. Bailey,	Ga.
Edwin G. Parker,	N. Y.	Henry M. Stine.	
John A. Schmidt,	N. Y.		

PRIZES.

I. BY THE COLLEGE FACULTY—

1. In the 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, equally to *Crawford Dawes Hening*, and *Howard James Truman*.

2. For the best examination by a member of the Freshman Class on Greek Prose Composition with the accents, to *Horace Clark Richards*, with Honorable mention of *Lightner Witmer*.

3. In Mathematics, Junior Prizes for the best examination on the Lectures on Quaternions, given to the Voluntary Junior Class, 1st Prize to *Crawford Dawes Hening*; 2d Prize to *John Williamson Ziegler*.

4. In History and English Literature, Senior Prize for the best Essay on "Colbert," to *Henry Szlapka*.

5. The Junior Prize for the best Essay on "The Meditations of Descartes," to *Howard James Truman*, with Honorable mention of *George Christian Eisenhard*, *Robert Murray Hogg*, and *Charles Elmer Woodruff*.

6. The Prize for the best English Essay by a member of the Junior Class, on "Wellington," to *Robert Murray Hogg*.

7. The Sophomore Prize for the best Declamation to *Oliver Huckel*, with Honorable mention of *Joseph Sigmund Levin*.

8. The Matriculate Latin Prize for the best entrance examination on the Elements of Latin Prose Composition, 1st to *Lightner Witmer*, 2d, to *Theodore William Kretschmann*.

9. The Matriculate Greek Prize for the best examination on the Elements of Greek Prose Composition, 1st to *Horace Clark Richards*; 2d, equally to *Theodore William Kretschmann* and *Lightner Witmer*.

10. The Prize offered by the Board of Trustees to the Scientific Classes for Improvement in Drawing and for general good conduct, to *James Cornell Biddle, Jr.*, with Honorable mention of *Howard Mellor* and *John Richard Savage, Jr.*

11. The "H. La Barre Jayne Prize," to *Franklin Derstine Hartzell*, with Honorable Mention of *Horace Clark Richards*. Subject: "William Penn."

12. "The Joseph Warner Yardley Memorial Prize," to *George Whitefield Chance*. Subject: "The Conditions of American Labor as affected by Tariff Legislation."

13. "The Van Nostrand Prize," to *Charles Herman Haupt*.

II. BY THE BOARD OF TRUSTEES—

1. "The Henry Reed Prize," to *Mark Wilks Collet*, for his Essay on "Carlyle."

III. BY THE FACULTY OF LAW—

1. "The Sharswood Prize," to *Robert Ralston*. Subject: "The Principles of Sale: their application to the sale of an undivided share."

2. The Meredith Prize," to *Joseph S. Clark*. Subject: "Car Trust Bonds."

3. "The Faculty Prize," divided equally between *Ferree Brinton*, of the Senior Class, and *John Blanchard*, of the Junior Class.

IV. BY THE AUXILIARY FACULTY OF MEDICINE—

"The George B. Wood Alumni Prize," to *Ernest Wende, M.D.*, for his Essay entitled "The Geology of Erie Co., State of New York."

MAY 1st, 1885.

V. BY THE FACULTY OF MEDICINE—

1. The "Medical News Prize" for sufficiently meritorious thesis, was awarded to *Meier L. Jelovitz*, for his thesis on "Bubonic Plague."

2. Alumni Prize of Fifty Dollars, to *Frank S. Sutton*, of California, for his thesis on the "Post-mortem Absorption of Arsenic."

3. The "Morbid Anatomy Prize," of a Zentmayer's Histological Microscope, to *Francis E. E. Emery*, of Argentine Republic, for his thesis on "Parenchymatous Nephritis," with Honorable Mention of the theses of *Thomas Hubbard*, of Ohio; and *Wm. V. Nichols*, of New Jersey.

4. The "Henry M. Beates" Prize of Fifty Dollars, for the highest general average attained in examinations, to *Fred. A. Packard*.

5. "Demonstrators' Prizes," by the Demonstrator of Surgery, Dr. J. Wm. White. The First Prize for proficiency in bandaging and operating, a copy of Agnew's Surgery, to *Edw. G. Rhoads*. Second Prize, a pocket case of instruments, to *Fred. A. Packard*.

6. "Anatomical Prizes" by Dr. John B. Deaver. A Prize of Thirty Dollars to the member of the graduating class who shall present the best record of Anomalies found in the Anatomical Room, to *Thomas D. King*, of Ohio.

7. Of two special Prizes offered by Dr. Spencer Morris, for marked proficiency in Differential Diagnosis and Hygiene, the award to be made by a special competitive examination, the First Prize of Fifty Dollars was awarded to *Fred. A. Packard*. The Second of Twenty Dollars, to *Thomas D. King*, of Ohio.

SUMMARY.

PROFESSORS, LECTURERS, AND INSTRUCTORS.

College Department,	39	
Department of Medicine, including Hospital Service,	73	
" " " (Auxiliary Faculty),	6	
" " Dentistry,	26	
" " Veterinary Medicine,	14	
" " Law,	7	
" " Philosophy,	15	
" " Biology,	7	
Emeritus Professors,	6	
Repeated,		193
		<hr/> 45
Total,		148

STUDENTS.

College Department,	380	
Department of Medicine,	383	
" " " (Auxiliary Faculty),	23	
" " Dentistry,	97	
" " Veterinary Medicine,	42	
" " Law,	123	
" " Philosophy,	4	
" " Biology (excluding College Department),	8	
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Repeated,		1069
		<hr/> 41
Total,		1028

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