

THE REGISTER

Cornell University

1906-1907

ITHACA, NEW YORK
PUBLISHED BY THE UNIVERSITY

JULY, 1907

**PRESS OF
ANDRUS & CHURCH,
ITHACA, N. Y.**

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1906

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
--	1	2	3	4	5	6	--	--	--	--	1	2	3	--	--	--	--	--	--	1
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
28	29	30	31	--	--	--	25	26	27	28	29	30	--	23	24	25	26	27	28	29
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1907

JANUARY							MAY							SEPTEMBER						
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6	7	8	9	10	11	12	5	6	7	8	9	10	11	8	9	10	11	12	13	14
13	14	15	16	17	18	19	12	13	14	15	16	17	18	15	16	17	18	19	20	21
20	21	22	23	24	25	26	19	20	21	22	23	24	25	22	23	24	25	26	27	28
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FEBRUARY							JUNE							OCTOBER						
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10	11	12	13	14	15	16	9	10	11	12	13	14	15	13	14	15	16	17	18	19
17	18	19	20	21	22	23	16	17	18	19	20	21	22	20	21	22	23	24	25	26
24	25	26	27	28	--	--	23	24	25	26	27	28	29	27	28	29	30	31	--	--
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MARCH							JULY							NOVEMBER						
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17	18	19	20	21	22	23	21	22	23	24	25	26	27	17	18	19	20	21	22	23
24	25	26	27	28	29	30	28	29	30	31	--	--	--	24	25	26	27	28	29	30
31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

APRIL							AUGUST							DECEMBER						
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7	8	9	10	11	12	13	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	--	--	--	--	25	26	27	28	29	30	31	29	30	31	--	--	--	--

1908

JANUARY							FEBRUARY							MARCH						
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5	6	7	8	9	10	11	2	3	4	5	6	7	8	8	9	10	11	12	13	14
12	13	14	15	16	17	18	9	10	11	12	13	14	15	15	16	17	18	19	20	21
19	20	21	22	23	24	25	16	17	18	19	20	21	22	22	23	24	25	26	27	28
26	27	28	29	30	31	--	23	24	25	26	27	28	29	29	30	31	--	--	--	--

CALENDAR.

FIRST TERM—1906-1907.

- Sept. 18 Tuesday Entrance examinations begin.
- Sept. 25 Tuesday { ACADEMIC YEAR BEGINS. Matriculation of
New students. University Scholarship ex-
aminations begin.
- Sept. 26 Wednesday MATRICULATION of new students.
- Sept. 26 Wednesday { REGISTRATION of students in the Medical
College in New York City.
- Sept. 27 Thursday REGISTRATION of matriculated students.
- Sept. 28 Friday { INSTRUCTION begins in all departments of the
University at Ithaca. The President's an-
nual address to the students at 12:00 M.
- Nov. 29 Thursday THANKSGIVING DAY.
- Dec. 1 Saturday { The latest date for announcing subjects of
Theses for Advanced Degrees.
- Dec. 6 Thursday { Registration in the College of Agriculture for
Winter Courses.
- Dec. 21 Friday The Christmas recess begins.
- Jan. 3 Thursday Work resumed.
- Jan. 10 Thursday The Ninety-four Memorial Prize Competition.
- Jan. 11 Friday FOUNDER'S DAY.
- Jan. 30 Wednesday First term closes.

SECOND TERM—1906—1907.

Feb. 2 Saturday	REGISTRATION for second term.
Feb. 22 Friday	WASHINGTON'S BIRTHDAY.
Feb. 27 Wednesday	Winter Courses in Agriculture end.
Mar. 23 Saturday	Easter recess begins.
Apr. 1 Monday	{ The latest date for presenting Woodford Ora- tions.
Apr. 2 Tuesday	Work resumed.
Apr. 15 Monday	{ The latest date for receiving applications for Fellowships and Graduate Scholarships.
May 1 Wednesday	{ The latest date for presenting Theses for Ad- vanced Degrees.
May 3 Friday	The Woodford Prize Competition.
May 24 Friday	The Eighty-six Memorial Prize Competition.
May 30 Thursday	DECORATION DAY.
June 12 Wednesday	{ COMMENCEMENT of Medical College in New York City.
June 13 Thursday	Instruction ends.
June 16 Sunday	Baccalaureate sermon.
June 18 Tuesday	Class Day.
June 19 Wednesday	{ Alumni Day and Annual Meeting of the Trustees.
June 20 Thursday	THIRTY-NINTH ANNUAL COMMENCEMENT.

- SUMMER SESSION—1907.

July 4 Thursday	Summer Session begins.
Aug. 14 Wednesday	Summer Session ends.

FIRST TERM—1907-1908.

Sept. 16 Monday	Entrance examinations begin.
Sept. 24 Tuesday	{ ACADEMIC YEAR BEGINS. Matriculation of New students. University Scholarship ex- aminations begin.
Sept. 25 Wednesday	{ REGISTRATION of students in the Medical College in New York City.
Sept. 25 Wednesday	MATRICULATION of new students.
Sept. 26 Thursday	REGISTRATION of matriculated students.
Sept. 27 Friday	{ INSTRUCTION begins in all departments of the University at Ithaca. President's annual address to the students at 12:00 M.
Nov. — Thursday	THANKSGIVING DAY.
Dec. 2 Monday	{ The latest date for announcing subjects of Theses for Advanced Degrees.
Dec. 5 Thursday	{ Registration in the College of Agriculture for Winter Courses.
Dec. 21 Saturday	The Christmas recess begins.
Jan. 3 Friday	Work resumed.
Jan. 10 Friday	The Ninety-four Memorial Prize Competition.
Jan. 11 Saturday	FOUNDER'S DAY.
Jan. 29 Wednesday	First term closes.
Feb. 1 Saturday	REGISTRATION for second term.

FOUNDATION AND ENDOWMENT.

Cornell University was incorporated by the legislature of the State of New York on the 27th of April, 1865, and opened on the 7th of October, 1868. The existence of the University is due to the combined wisdom and bounty of the United States, the State of New York and Ezra Cornell.

By an act of Congress, approved July 2, 1862, it was provided that there should be granted to the several states public lands, "thirty thousand acres for each senator and representative of congress," from the sale of which there should be established a perpetual fund "the interest of which shall be inviolably appropriated, by each state which may take and claim the benefit of this act, to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectfully prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." The act forbade the use of any portion of the aforesaid fund, or of the interest thereon, for the purchase, erection or maintenance of any building or buildings; but the several states claiming and taking the benefit of the provisions of the act were required, by legislative assent previously given, "to provide, within five years at least, not less than one college" for carrying out the purposes of the act.

The share of the State of New York was nine hundred and ninety thousand acres. The scrip was delivered to the comptroller, who was authorized, by the act passed May 5, 1863, to receive it and with the approval and concurrence of other state officers to dispose of the whole or any portion of it for cash, or for stocks of the United States or of the states, or some other safe stocks yielding not less than five per cent. Under this act eight thousand acres were sold at eighty-three cents and sixty-eight thousand acres at eighty-five cents producing together sixty-four thousand four hundred and forty dollars. But as other states were offering their script at a much lower rate, sales soon ceased. Furthermore there was the greatest uncertainty in regard to the disposition which the legislature might ultimately make of the fund that was expected to accrue from the sale of the land scrip.

Meantime Ezra Cornell was dreaming of a project which he had

come to formulate in the memorable words ; " I would found an institution where any person can find instruction in any study." By a union of his own resources with the proceeds of the land grant he saw a way to the realization of his purpose. This union was effected by the act of April 27, 1865, establishing Cornell University, and appropriating to it the proceeds of the sale of the public lands granted by congress to the State of New York ; and the founder's broad conception of a university was reconciled with the narrower purpose of the act of congress donating public lands to the states establishing colleges for the benefit of agriculture and the mechanic arts, by providing in the charter that " such other branches of science and knowledge may be embraced in the plan of instruction and investigation pertaining to the university, as the trustees may deem useful and proper." In the same liberal spirit it was provided in regard to the board of trustees, that " at no time shall a majority of the board be of one religious sect or of no religious sect " ; in regard to professors and other officers, that " persons of every religious denomination, or of no religious denomination shall be equally eligible to all offices and appointments " ; and in regard to students, that the university should admit them " at the lowest rate of expense consistent with its welfare and efficiency," and more particularly that it should " annually receive students, one from each assembly district of the state free of any tuition fee in consideration of their superior ability, and as a reward for superior scholarship in the academies and public schools of this state."

Ezra Cornell's direct donation to the university was five hundred thousand dollars, two hundred acres of land with useful buildings, and several smaller gifts for special purposes. His largest contribution, however, came in the shape of profits eventually made by the university on the land scrip which he purchased from the state. Of the New York scrip no further sales had been made by the comptroller prior to the autumn of 1865, when Ezra Cornell purchased one hundred thousand acres for fifty thousand dollars upon condition that all the profits which should accrue from the sale of land should be paid to Cornell University. By act of the legislature passed April 10, 1866, the state had authorized the comptroller to sell the scrip remaining unsold, that is to say, scrip for eight hundred and thirteen thousand nine hundred and twenty acres, to the trustees of Cornell University at a price of not less than thirty cents per acre ; and in case the trustees should not agree to make the purchase, the legislature had further authorized the sale " to any person or persons," on the terms above named, provided that proper security should be given that " the whole

net avails and profits from the sale of scrip " should be paid over and devoted to the purpose of Cornell University. The trustees were not in condition to make the purchase. After some delay Mr. Cornell agreed to take the scrip at thirty cents an acre, with an addition of thirty cents if he should realize that sum on the sale of the land, making the following stipulation in a letter to the comptroller regarding any profits that might accrue in excess of the purchase money.

"I shall most cheerfully accept your views so far as to consent to place the entire profits to be derived from the sale of the lands to be located with the college land scrip in the treasury of the state, if the state will receive the money as a separate fund from that which may be derived from the sale of the scrip, and will keep it permanently invested, and appropriate the proceeds from the income thereof annually to the Cornell University, subject to the direction of the trustees thereof for the general purposes of said institution, and not to hold it subject to the restrictions which the act of congress places upon the funds derived from the sale of college land scrip, or as a donation from the government of the United States, but as a donation from Ezra Cornell to the Cornell University."

The terms proposed by Mr. Cornell were accepted, and the agreement with the state was made August 4, 1866. The sixth paragraph of the agreement distinguishes clearly between the "College Land Scrip Fund"—being the receipts from the state's sale of the land scrip—and the "Cornell Endowment Fund," which was to be constituted by the profits made by Mr. Cornell in the management of the lands and by its other gifts to the University. Mr. Cornell sold scrip for three hundred and eighty-one thousand nine hundred and twenty acres, at prices varying from eighty-five cents to one dollar per acre, the total receipts being three hundred and fifty-seven thousand seven hundred and forty-eight dollars and sixty-one cents. With the remaining scrip for five hundred and thirty-two thousand acres he located five hundred and twelve thousand three hundred and forty-three and sixty-five hundredths acres; and of the land thus located he sold one hundred and eleven thousand and forty-six and eighty six-hundredths acres for four hundred and seventy thousand three hundred and sixty-four dollars and eighty-eight cents. The residue of the land he carried until October, 1874, when a new agreement was made, with the consent of the proper state officers, in virtue of which "the Cornell University" was to take the place and assume the duties and obligations of Ezra Cornell, in his contracts with the state of November, 1865, and August, 1866, accepting from him a conveyance of his entire interest, and all his rights under such contracts, and of all the

lands located by him with college scrip, and paying at once in cash to the comptroller the full amount of Cornell's bond to the state principal and interest, and henceforward assuming the burden of the care, management, and sale of such lands." The university thus took the place of Ezra Cornell in his contracts with the state ; but subsequently the legislature by an act passed May 18, 1880, directed the comptroller, upon the request of Cornell University, to assign, transfer, pay and deliver to the latter " all money, security, stocks, bonds and contracts, constituting a part of or relating to the fund known as the Cornell Endowment Fund, now held by the state for the use of said university," and a short time thereafter such transfer was made. From the lands handed over by Mr. Cornell—four hundred and one thousand two hundred and ninety six and seventy-nine hundredths acres—the Board of Trustees, through the agency of their Land Committee (of which Henry W. Sage was long chairman), have already realized a net return of about four million eight hundred dollars. The absolute ownership by the university of the Cornell Endowment Fund was, on May 19, 1890, established by the decision of the Supreme Court of the United States, affirming a decision of the New York Court of Appeals.

The College Land Scrip Fund amounts to six hundred and eighty-eight thousand five hundred and seventy-six dollars and twelve cents. By chapter 78 of the laws of 1895 it was turned into the treasury of the state and a certificate of indebtedness for an interest thereupon of five per cent. annually was issued to Cornell University by the State, conformably to the conditions of the act of congress of July 2, 1862, under which the donation of public land was made.

The original charter of Cornell University set limits to the amount of property it could hold : but by an act passed May 12, 1882, the clause in the charter restricting the holdings of the university was amended so as to remove every limitation, the precise language of the amendment being as follows :

" The corporation hereby created [' Cornell University '] may take and hold real and personal property to such an amount as may be or become necessary for the proper conduct and support of the several departments of education heretofore established or hereafter to be established by its board of trustees, and such property, real and personal, as has been or may hereafter be given to said corporation by gift, grant, devise, or bequest in trust or otherwise, for the uses and purposes permitted by its charter, and in cases of trusts so created the several trust estates shall be kept distinct, and the interest or income shall be faithfully applied to the purposes of such trust in accordance with the provisions of the act or instrument by which the respective trusts were created."

BOARD OF TRUSTEES.

The PRESIDENT of the University,-----			Ithaca
The GOVERNOR of New York State,-----			Albany
The LIEUTENANT-GOVERNOR of N. Y. State,	}	Ex officio	Albany
The SPEAKER of the Assembly,-----			Albany
The STATE COMMISSIONER of Education,---			Albany
The COMMISSIONER of Agriculture,-----			Albany
The PRESIDENT of the State Agricultural Soc.,			Albany
The LIBRARIAN of the Cornell Library,-----			Ithaca
CHARLES EZRA CORNELL, A. B., LL. B.,-----					Ithaca
*SAMUEL D. HALLIDAY, A. B.,-----	(B.) --		Ithaca
*-----	(B.) --		-----
*CHARLES E. TREMAN, B. L.,-----	(A.) --		Ithaca
*ROBERT H. TREMAN, B. M. E.,-----	(B.) --		Ithaca
*GEORGE B. TURNER, B. S.,-----	(A.) --		Auburn
*MYNDERSE VAN CLEEF, B. S.,-----	(B.) --		Ithaca
FRANKLIN C. CORNELL,-----	(B.) --		Ithaca
HENRY HERMAN WESTINGHOUSE,-----	(B.) --		New York
-----	(B.) --		-----
ROGER B. WILLIAMS, A. M.,-----	(B.) --		Ithaca
JOHN DEWITT WARNER, Ph. B.,-----	(A.) --		New York
HARRY L. TAYLOR, A. B., LL. B.,-----	(A.) --		Buffalo
WALTER CRAIG KERR, B. M. E.,-----	(B.) --		New York
C. SIDNEY SHEPARD, A. B., LL. B.,-----	(B.) --		New Haven
HIRAM W. SIBLEY, Ph. D., LL. B.,-----	(B.) --		Rochester
RUTH PUTNAM, B. Lit.,-----	(A.) --		New York
HENRY WOODWARD SACKETT, A. B.,-----	(A.) --		New York
STEWART L. WOODFORD, LL. D.,-----	(B.) --		New York
-----	(B.) --		-----
JOHN HENRY BARR, M. M. E.,-----	(A.) --		Syracuse
HENRY RUBENS ICKELHEIMER, B. L.,-----	(B.) --		New York
ROBERT TUTTLE MORRIS, M. D.,-----	(A.) --		New York
HENRY B. LORD,-----	(B.) --		Ithaca
ANDREW D. WHITE, LL. D., L. H. D., D. C. L.,	(B.) --		Ithaca
ANDREW CARNEGIE, LL. D.,-----	(B.) ¹ --		Pittsburg, Pa.
GEORGE C. BOLDT,-----	(B.) --		New York
CHARLES H. BLOOD, Ph. B., LL. B.,-----	(A.) ² --		Ithaca
FRANK H. HISCOCK, A. B.,-----	(B.) --		Syracuse
JAMES HARVEY EDWARDS, C. E.,-----	(A.) --		East Berlin, Ct.
GEORGE R. WILLIAMS, LL. B.,-----	(B.) --		Ithaca
FRANK E. DAWLEY,-----	(G.) ³ --		Fayetteville
EMMONS L. WILLIAMS,-----	<i>Secretary-Treasurer.</i>		
CHARLES D. BOSTWICK, A. B., LL. B.,-----	<i>Assistant Sec.-Treas.</i>		

Term of office (5 years) expires in 1907, the next group of six in 1908, etc., etc.,
 (1) B., elected by Board. (2) A., elected by Alumni. (3) G., elected by the New York State Grange for 1907-1908.

EXECUTIVE COMMITTEE OF THE BOARD OF TRUSTEES.

SAMUEL D. HALLIDAY,-----	<i>Chairman.</i>
The PRESIDENT of the University,	HENRY B. LORD,
The LIBRARIAN of the Cornell Library,	CHARLES E. TREMAN,
CHARLES H. BLOOD,	ROBERT H. TREMAN,
CHARLES EZRA CORNELL,	MYNDERSE VAN CLEEF,
FRANKLIN C. CORNELL,	ANDREW D. WHITE,
SAMUEL D. HALLIDAY,	GEORGE R. WILLIAMS,
ROGER B. WILLIAMS.	
EMMONS L. WILLIAMS,-----	<i>Secretary.</i>
CHARLES D. BOSTWICK,-----	<i>Assistant Secretary.</i>

STANDING COMMITTEES OF THE BOARD OF TRUSTEES.

Committee on Buildings :

R. H. TREMAN, the PRESIDENT, the TREASURER, R. B. WILLIAMS.

Committee on Grounds :

F C. CORNELL, the PRESIDENT, C. H. BLOOD.

Finance Committee :

G. R. WILLIAMS, H. B. LORD, S. D. HALLIDAY, the PRESIDENT.

Committee on Appropriations :

The PRESIDENT, H. B. LORD, G. B. TURNER.

Auditing Committee

H. B. LORD, M. VAN CLEEF, R. B. WILLIAMS.

DEPARTMENTS AND FACULTIES.

1. **THE UNIVERSITY.**—Cornell University comprehends the following departments, to-wit: the Graduate Department, the College of Arts and Sciences, the College of Law, the Medical College, the New York State Veterinary College, the New York State College of Agriculture, the College of Architecture, the College of Civil Engineering, the Sibley College of Mechanical Engineering and Mechanic Arts. The New York State College of Agriculture and the New York State Veterinary College are administered by Cornell University, and their work is organically connected with that of the University.

2. **THE FACULTIES.**—The Faculties of Cornell University are: (a) a General Faculty, designated the University Faculty; and (b) Special Faculties as follows: the Faculty of Arts and Sciences, the Faculty of Law, the Faculty of Civil Engineering, the Faculty of Mechanical Engineering, the Faculty of Architecture, the Faculty of Agriculture, the Faculty of Veterinary Medicine, and the Medical Faculty.

3. **THE UNIVERSITY FACULTY.**—The University Faculty consists of the President, who is *ex-officio* the presiding officer, and the Professors and Assistant Professors of the University, including the Professors and Assistant Professors of the New York State Veterinary College and of the New York State College of Agriculture. It is the function of the University Faculty to consider questions which concern more than one Special Faculty, questions of University policy, and questions relating to the administration of the discipline of the University. The Graduate Department is under the immediate charge of the University Faculty.

4. **THE SPECIAL FACULTIES.**—Each Special Faculty is composed of the President, who is *ex-officio* the presiding officer, and all Professors, Assistant Professors, and Instructors who teach in the department or departments under the charge of that Faculty; but Instructors shall not have the right to vote. Subject to the right of revision by the University Faculty on all matters affecting general University policy, it is the duty of each Special Faculty to determine the entrance requirements for its own students; to prescribe and define courses of study for them; to determine the requirements for such degrees as are offered to students under its jurisdiction; to enact and enforce rules for the education of its students; and to recommend to the Trustees such candidates for degrees as may have completed the requirements.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

THE UNIVERSITY FACULTY.

[*Arranged in groups in the order of seniority of appointment.*]

- JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., PRESIDENT,
41 East Avenue
- THOMAS FREDERICK CRANE, A.M., Litt.D., Dean of the University Faculty, and Professor of the Romance Languages and Literatures,
9 Central Avenue
- GOLDWIN SMITH, D.C.L., LL.D., Professor of English History, Emeritus,
Toronto, Canada
- THE REV. CHARLES BABCOCK, A.M., Professor of Architecture, Emeritus,
1 Sage Avenue
- GEORGE CHAPMAN CALDWELL, B.S., Ph.D., Professor of Chemistry, Emeritus,
11 Central Avenue
- HIRAM CORSON, A.M., LL.D., Litt.D., Professor of English Literature, Emeritus,
Cascadilla Cottage
- ISAAC PHILLIPS ROBERTS, M.Agr., Professor of Agriculture, Emeritus,
Palo Alto, Calif.
- THE REV. CHARLES MELLEN TYLER, A.M., D.D., Sage Professor of the History and Philosophy of Religion and of Christian Ethics, Emeritus,
The Oaks
- FRANCIS MILES FINCH, A.B., LL.D., Professor of the History and Evolution of the Law, Emeritus,
3 Fountain Place
- AUSTIN FLINT, M.D., LL.D., Professor of Physiology, Emeritus,
118 East 19th Street, New York City
- BURT GREEN WILDER, B.S., M.D., Professor of Neurology and Vertebrate Zoology,
60 Cascadilla Place
- JAMES LAW. F.R.C.V.S., Director of the State Veterinary College, and Professor of Principles and Practice of Veterinary Medicine, Veterinary Sanitary Science, and Veterinary Therapeutics,
The Circle
- JOHN HENRY COMSTOCK, B.S., Professor of Entomology and General Invertebrate Zoology,
43 East Avenue
- WATERMAN THOMAS HEWETT, A.B., Ph.D., Professor of the German Language and Literature,
[*Absent on Leave—Second Term*]
- EDWARD LEAMINGTON NICHOLS, LL.D., Ph.D., Professor of Physics,
[*Absent on Leave—Second Term*]
- LIBERTY HYDE BAILEY, M.S., Director of the New York State College of Agriculture, and Professor of Rural Economy,
Sage Place

- JAMES MORGAN HART, A.M., J.U.D., Litt.D., Professor of the English Language and Literature, *1 Reservoir Avenue*
- JEREMIAH WHIPPLE JENKS, A.M., Ph.D., LL.D., Professor of Political Economy and Politics, *2 South Avenue*
- LUCIEN AUGUSTUS WAIT, A.B., Professor of Mathematics, *Rockledge*
- IRVING PORTER CHURCH, C.E., Professor of Applied Mechanics and Hydraulics, *9 South Avenue*
- GEORGE LINCOLN BURR, A.B., LL.D., Litt.D., Professor of Mediæval History, *11 Central Avenue*
- CHARLES EDWIN BENNETT, A.B., LL.D., Professor of Latin, *1 Grove Place*
- ERNEST WILSON HUFFCUT, B.S., LL.B., Director of the College of Law, and Professor of Law, [*Absent on leave—Second Term*]
- SIMON HENRY GAGE, B.S., Professor of Histology and Embryology, *4 South Avenue*
- ROLLA CLINTON CARPENTER, M.S., C.E., M.M.E., Professor of Experimental Engineering, *125 Eddy Street*
- CHARLES LEE CRANDALL, C.E., Professor of Railway Engineering and Geodesy, *408 Hector Street*
- GEORGE WILLIAM JONES, A.M., Professor of Mathematics, *113 Stewart Avenue*
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1905—1906.

(On the Dean Sage Preachership Foundation.)

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ADMISSION AND CLASSIFICATION.

CONDITIONS OF ADMISSION.

Candidates must be at least *sixteen* years of age, or if women, *seventeen*. In the College of Law the minimum age is *eighteen* years. The minimum age of those entering as specials is given on page 57. Applicants must have certificates of good moral character, and students from other colleges or universities are required to furnish from those institutions certificates of honorable dismissal.

Candidates for admission must file their credentials at the Registrar's office and obtain permits for examination. The results of the examinations may be ascertained from the Registrar.

ENTRANCE EXAMINATIONS.

Examinations in all the subjects required for admission to the University are held, *at Ithaca* and *in New York City*, in September, at the beginning of the first term (in 1907, September 17-21). For examinations in June see below and page 53.

Students who have tried entrance examinations and failed to pass are not entitled to the privilege of admission on school certificates or Regent's credentials.

The certificates issued as the result of the examinations to be held in June by the College Entrance Examination Board *at Ithaca* and various other places will be accepted under the same conditions as if such examinations were held by this University. For further particulars see page 53 and address Secretary College Entrance Examination Board, Post Office Sub-Station No. 84, New York City.

Permits to take the September examinations must be secured from the Registrar at Ithaca or from the Secretary of the Cornell Medical College in New York City. The permits should be obtained at least twenty-four hours before the date of the examination to be taken. They will be sent by mail upon application.

Permits to take the examinations held June 17-23, 1907, and the times and places at which they are held must be secured from the Secretary of the College Entrance Examination Board, Post Office Sub-Station No. 84, New York City. See also pages 34 and 54.

Students deficient in any of the subjects required for admission, who may be admitted to the University by the Faculty concerned, in

spite of such deficiencies, *must make up all deficiencies within one year* and they will not in that case be permitted to remove them by attending University instruction in those subjects but are required to take the necessary instruction outside the University.

No examination of candidates for admission will be held at any other times or places. The exact dates and hours for each September (in 1907, September 17-21) entrance examination may be secured from the Registrar. Specimen copies of September examination papers will be sent on application to the Registrar.

The following table shows the equivalent subject as given under the College Entrance Examination Board.

Cornell University Subject.	Equivalent College Board Subject.
1. English.	a,b. English.
2. Ancient History (to 814 A.D.)	a. Ancient History.
3. Modern History (from 814 A.D.)	b. Mediæval and Modern Hist.
	d. American Hist. and Civil
4. American History (inc. Civil Gov.)	Gov.
5. English History.	c. English History.
6. Plane Geometry.	c. Plane Geometry.
7. Elementary Algebra.	a. Elementary Algebra.
8. Solid Geometry.	d. Solid Geometry.
9. Advanced Algebra.	b. Advanced Algebra.
10a. Plane Trigonometry.	e. Plane Trigonometry.
10b. Spherical Trigonometry.	e. Spherical Trigonometry.
11a. Elementary German.	a. Elementary German.
11a and b. Advanced German.	b. Intermediate German.
12a. Elementary French.	a. Elementary French.
12a and b. Advanced French.	b. Intermediate French.
13a. Elementary Spanish.	Spanish.
13a and b. Advanced Spanish.	—————
14. Latin Grammar.	a,i. Latin Grammar.
14a. Caesar	b. Caesar—Gallic War, Books I—IV.
14b. Elementary Prose Com- position.	a,ii. Elementary Prose Com- position.
14c. Cicero.	c. Cicero—6 Orations.
14d. Virgil.	d. Virgil—Aeneid, Books I—VI.
15. Greek Grammar.	a,i. Greek Grammar.
15a. Xenophon.	b. Xenophon, Anabasis, Books I—IV
15b. Elementary Prose Com- position.	a,ii. Elementary Prose Com- position.
15c. Homer.	c. Homer, Iliad, Books I—III.
16. Physics.	Physics.
17. Chemistry.	Chemistry.
18. Botany.	Botany.
19. Geology.	—————
20. Zoology.	Zoology.
21. Drawing.	Drawing.

Candidates for admission to the University, instead of passing the entire examination at one time, may present themselves in different years under the following condition :

For the purposes of the division between two years the examinations in June given by the College Entrance Examination Board and those in September given by the University in the same year may count as one series, the applicant, at his option, taking a part in June and a part in September.

SUBJECTS FOR ADMISSION.

The subjects that may be offered for admission are named in the following lists :—

Elementary Subjects.

The following elementary subjects (see pages 37-40) are required for admission to all colleges :

- | | |
|-----------|---------------------|
| English. | Plane Geometry. |
| History.* | Elementary Algebra. |

Advanced Subjects.

In addition to the elementary subjects, an applicant must offer from the following list the advanced subjects (see pages 37-40) required by the college to which he seeks admission. The figure following each subject indicates its relative weight :

- | | |
|---------------------------|--|
| Advanced Mathematics (6). | Latin (18). |
| Solid Geometry (2). | Latin Grammar and Caesar (6). |
| Advanced Algebra (2). | Elementary Latin Prose Composition and Cicero (6). |
| Plane Trigonometry) | Virgil (6). |
| Spher. Trigonometry } (2) | Greek (12). |
| German (12). | Greek Grammar, Xenophon (6). |
| Elementary German (6). | Elementary Greek Prose Composition and Homer (6). |
| Advanced German (6). | Physics (6). |
| French (12). | Chemistry (6). |
| Elementary French (6). | Botany (6). |
| Advanced French (6). | Physiography (6). |
| Spanish (12). | Zoology (6). |
| Elementary Spanish (6). | Drawing (6). |
| Advanced Spanish (6). | |

One of the following: (1) American (including Civil Government), (2) English, (3) Ancient (to 814 A. D.), (4) Mediæval and Modern European (from 814 A. D.)

REQUIREMENTS FOR ADMISSION.**College of Arts and Sciences.**

For admission to the College of Arts and Sciences an applicant must offer the Elementary Subjects and also one of the following groups of Advanced Subjects :

A. Latin (18), Greek (12).

B. Latin (18); and either German (12), or French (12), or Spanish (12).

C. One of the following : Advanced Mathematics (6), Physics (6), Chemistry (6), Botany (6), Physiography (6), Zoology (6) ; and also two of the following : German (12), French (12), Spanish (12).

College of Law.

For admission to the College of Law an applicant must offer the Elementary Subjects and also 30 units from the list of Advanced Subjects. For admission on Regents' credentials and school certificates, see under College of Law.

Medical College.

For admission to the Medical College an applicant must offer a Cornell Medical Student's certificate issued by the Regents of the State of New York. For further details, see under the Medical College.

New York State Veterinary College.

For admission to the New York State Veterinary College an applicant must offer a Veterinary Student's certificate issued by the Education Department of the State of New York.

New York State College of Agriculture.

For admission to the College of Agriculture an applicant must offer the Elementary Subjects and also 30 units from the list of Advanced Subjects, including 12 units either in French or in German.

College of Architecture.

For admission to the College of Architecture an applicant must offer the Elementary Subjects and also 30 units from the list of Advanced Subjects, including Mathematics, except Spherical Trigonometry (6), Physics (6) and French (12) or German (12). For entrance French is preferred.

College of Civil Engineering.

For admission to the College of Civil Engineering an applicant must offer the Elementary Subjects and also one (30 units) of the following groups of Advanced Subjects :

A. Advanced Mathematics (6) and any two of the following languages : German (12), French (12), Spanish (12).

B. Advanced Mathematics (6); and German (12); and French (6) or Spanish (6); and any other 6 units from the Advanced Subjects.

C. Advanced Mathematics (6); and French (12); and German (6) or Spanish (6); and any other 6 units from the Advanced Subjects.

D. Advanced Mathematics (6); and German (12); and any 12 units in Latin.

**Sibley College of Mechanical Engineering and the
Mechanic Arts.**

For admission to the Sibley College of Mechanical Engineering and the Mechanic Arts an applicant must offer the Elementary Subjects and also one (30 units) of the following groups of Advanced Subjects :

A. Advanced Mathematics (6) and any two of the following languages : German (12), French (12), Spanish (12).

B. Advanced Mathematics (6); and German (12); and French (6) or Spanish (6); and any other 6 units from the Advanced Subjects.

C. Advanced Mathematics (6); and French (12); and German (6) or Spanish (6); and any other 6 units from the Advanced Subjects.

D. Advanced Mathematics (6); and German (12); and any 12 units in Latin.

ELEMENTARY SUBJECTS.**I. English.**

1. One hour of examination is assigned to answering questions upon the books marked *A*. Two more hours are occupied with writing longer papers upon subjects taken from the books marked *B*.

The books prescribed for 1907 and 1908 are : *A*, Shakespeare, *The Merchant of Venice*, *Macbeth* ; *The Sir Roger de Coverley Papers* in the *Spectator* ; Irving, *Life of Goldsmith* ; Coleridge, *The Ancient Mariner* ; Scott, *Ivanhoe*, *Lady of the Lake* ; Tennyson, *Gareth and Lynette*, *Elaine*, *The Passing of Arthur* ; Lowell, *The Vision of Sir Launfal* ; George Eliot, *Silas Marner*. *B*, Shakespeare, *Julius Caesar* ; Milton, *Lycidas*, *Comus*, *L'Allegro*, *Il Penseroso* ; Burke, *Conciliation with America* ; Macaulay, *Essay on Addison* and *Life of Johnson*.

The examination is not designed to test the candidate's familiarity with the history of English literature or with the minutiae of the books prescribed, but to test his ability to express himself readily and easily in accordance with the usages of ordinary prose composition. To this end the candidate is urgently advised :

a. To train himself in writing concise paragraphs in answer to questions upon the most striking narrative and descriptive incidents in the books of the *A*-list.

b. To study more systematically the contents of the books of the *B*-list, endeavoring to retain a knowledge of each book as an organized whole. This result will be best secured by writing numerous essays or compositions of considerable length upon the general purport of each book.

c. To cultivate—in all his writing—the habits of correct grammar and spelling (including proper names characteristic of the books read), of correct sentence-structure, punctuation, and paragraphing.

d. To avoid most carefully the error of believing that the mere oral memorizing of the contents of the books prescribed is the kind of preparation desired. The candidate is expected to learn from these books the art of expressing himself.

In every case the University examiner will treat mere knowledge of the books as less important than the ability to write good English.

(Candidates evincing superior ability in the entrance examination in English are permitted to enter Course 2a without taking Course 1). See under English Department.

No candidate seriously deficient in English will be admitted to the University.

Regents' credentials (see p. 53) will not be accepted in 1907 in place of the entrance examination, unless they cover three of the following five subjects according to the Syllabus of 1900; first year English, second year English, third year English, fourth year English, and English Reading; for one or more of these years, however, may be substituted an equivalent number of years of the Syllabus of 1905. In 1908 and 1909, the first two years of the Syllabus of 1905 must be offered, together with a third year from either Syllabus. In 1910 the full four years of the Syllabus of 1905 must be offered.

School certificates are not accepted in place of the entrance examination in English. But candidates coming from schools the certificates of which have been accepted in other subjects may obtain exemption from the one-hour examination in books marked *A*, by submitting specimens of school work upon these books. Printed directions to this end should be procured from the Registrar, not later than the first of January.

Graduates of high schools and academies of approved standing and holders of a Regents' diploma or any sixty academic count Regents' certificate are admitted to the three year course in the College of Law without an examination in English.

The Cornell medical student's certificate issued by the Regent's admits to the Medical College. See also under Medical College.

HISTORY

At least one of the four following subjects must be offered :

2. Ancient history, with special attention to Greek and Roman history, but including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages down to the death of Charles the Great (814 A.D.).

3. Medieval and modern European history, from the death of Charles the Great to the present time.

4. American history and civil government.

5. English history.

The preparation in history is meant to require one year of historical work wherein the study is given five times per week, or two years of historical work wherein the study is given three times per week. Should *two* subjects, instead of *one*, be offered, each must have received at least half the amount of study above specified.

The examination in history will be so framed as to require comparison and the use of judgment on the pupil's part, rather than the mere use of memory. The examination will presuppose the use of good text-books, collateral reading, and practice in written work. Geographical knowledge will be tested by requiring the location of places and movements on an outline map, or otherwise.

(The requirement in History is based on the recommendations of the Committee of Seven of the American Historical Association.)

6. Plane Geometry.

The usual theorems and constructions contained in the best text-books on this subject, including the general properties of plane rectilinear figures, the circle and the measurement of angles, similar polygons, areas, regular polygons and the measurement of the circle.

Also the solution of original exercises, including loci problems, and the mensuration of lines and plane surfaces.

(A knowledge of the metric system of weights and measures is assumed in all the examinations in mathematics.)

7. Elementary Algebra.

As much as is contained in the better American and English text-books on this subject, including in particular :

The four fundamental operations with rational algebraic expressions, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, including the extraction of square roots of polynomials and of numbers, fractions, including ratio and proportion, fractional and negative exponents, and arithmetic and geometric series.

Also the solution of equations of the first degree (both numerical and literal) involving one or more unknown numbers, the solution of quadratic equations, and of the easier cases of equations involving one or more unknown numbers that can be solved by the methods of simple or quadratic equations.

It is assumed that pupils will be required throughout the course to solve numerous problems which will involve putting questions into equations, and to fully discuss their solutions. Some of these should be practical problems chosen from mensuration, physics, etc. ; the use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

ADVANCED SUBJECTS.**8. Solid Geometry (2 Units).**

The usual theorems and constructions contained in the best text-books on this subject, including the relations of planes and lines in space ; the properties and measurement of prisms, pyramids, cylinders, and cones ; the sphere and the spherical triangle.

Also the solution of original exercises, including loci problems, and the mensuration of surfaces and solids.

9. Advanced Algebra (2 Units).

As much as is contained in the better text-books on this subject, including in particular :

(1). A somewhat more extended treatment (together with a thorough review) of the more important topics included in Elementary Algebra ; for example, complex fractions, highest common factor, fractional and negative exponents, radicals, the theory of quadratic equations (including maximum and minimum, and simultaneous quadratic equations), ratio, proportion, the progressions, and the binomial theorem for a positive integral exponent.

(2). Permutations and combinations, inequalities, mathematical

induction, irrational and complex numbers, with graphical representation of sums and differences of the latter, elementary treatment of determinants, including the use of minors and the solution of linear equations, undetermined coefficients, partial fractions, logarithms, (not including logarithmic series), and elementary tests for the convergence of infinite series, series of differences, including interpolation.

Also the solution of numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions nor multiple roots.

Special attention should also be paid to applications under each topic, and emphasis should be placed upon accuracy and precision.

10. Trigonometry (2 Units.)

Plane Trigonometry. The definitions and relations of the six trigonometric functions as ratios; circular measurement of angles; proofs of the principal formulas, especially those for the sine, cosine, and tangent of the sum or difference of any two angles whatever, and of double angles and half angles; also the product expressions for the sum of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas, the use of inverse functions, and the solution of right and oblique triangles, together with simple applications.

Spherical Trigonometry. The derivation of the important formulas, and the solution of right and oblique spherical triangles, together with the proper interpretation of ambiguous cases.

(The above requirements in mathematics are based largely upon those of the College Entrance Examination Board.)

Special Directions.—Of the preparatory work in Mathematics two things are specially demanded.

(1). That it shall have developed in the student a certain degree of mathematical maturity, and familiarized him with the subject matter and methods of mathematical work.

(2). That it shall have furnished him with those specific facts, an accurate and ready knowledge of which is indispensable in the further prosecution of his professional study.

The first of these demands is fairly well satisfied in the case of students who have conscientiously performed the mathematical work required for a Regent's diploma or for a diploma from one of our better high schools. A careful review of this part of the student's work, given immediately before entering the University, would give him a

broader and more comprehensive knowledge, would make clear to him the reasons for many things which he did not understand when he first went over them, and would equip him with better and more rapid methods of work.

On the other hand, most students who fail in their university mathematics fail because they are poorly equipped in the second requirement above mentioned. For example : they cannot perform the ordinary operations of algebra either rapidly or accurately, they do not know the theory of quadratic equations, they are lost among trigonometric formulas, and they blunder when they use logarithms. Instead of spending their time and energy upon their new work, they must spend much of it in studying up those things with which they ought to be familiar, and, thus handicapped, they cannot keep up the pace set by men who are properly prepared, and they cannot do the work that must be done to fit them for the professional work that follows.

It is not sufficient that the student *should once have known* his preparatory mathematics ; he must know them *at the time when he begins his work here*. It seems absolutely essential, therefore, that these subjects be very carefully reviewed just prior to entrance.

11. German (12 Units).

The examination in advanced German covers the examination in the elementary requirement in that subject. The attention of teachers preparing students in German is called to the valuable report of the "Committee of Twelve" of the Modern Language Association of America, published by D. C. Heath & Co., Boston. Mailing price, sixteen cents.

Elementary German (6 Units).—(a) The examination will require an accurate knowledge of the principles of grammar and especially of the declension of articles, adjectives, pronouns, and nouns ; the conjugation of verbs ; the prepositions and their government ; the uses of modal auxiliaries ; the elementary rules of syntax and word order. The proficiency of the applicant will be tested by questions on the above topics and by the translation into German of simple English sentences. (b) Translation at sight of a passage of easy prose containing no rare words. It is believed that the requisite facility can be acquired by reading not less than two hundred duodecimo pages of simple German.

Practice in pronunciation, in writing German from dictation, and in the use of simple German phrases in the class room is recommended.

Advanced German (6 Units).—[Equivalent to Intermediate German of the College Entrance Examination Board.] ; (a) Advanced

Grammar. In addition to a thorough knowledge of accidence, of the elements of word formation, and of the principal uses of prepositions and conjunctions, the candidate must be familiar with the essentials of German syntax, and particularly with the uses of modal auxiliaries and the subjunctive and infinitive moods. The proficiency of the applicant will be tested by questions on these topics, and by the translation into German of easy connected English prose. (b). Translation at sight of passages from standard classical authors. It is believed that the requisite facility can be acquired by reading, in addition to the amount mentioned under elementary German, at least five hundred pages (a total, with the elementary requirement, of seven hundred pages) of classical and contemporary prose and poetry. It is recommended that not less than one-half of this reading be selected from the works of Lessing, Schiller, and Goethe.

It is recommended that the candidate acquire the ability to follow a recitation conducted in German and to answer in that language questions asked by the instructor.

For examination no specific authors or works are designated. An examination in pronunciation and the writing of German from dictation may be included. All applicants for admission are required to present a statement from their teacher, mentioning the text-books used and the authors read, including the number of pages translated from German into English and from English into German.

12. French (12 Units.)

The examination in advanced French covers the examination in the elementary requirement in that subject. The attention of teachers preparing students in French is called to the valuable report of the "Committee of Twelve" of the Modern Language Association of America, published by D. C. Heath & Co., Boston. Mailing price, sixteen cents.

Elementary French (6 Units).—(a) The translation at sight of ordinary nineteenth century prose. It is important that the passages set be rendered into clear and idiomatic English. It is believed that the power of translating at sight ordinary nineteenth century prose can be acquired by reading not less than four hundred duodecimo pages from the works of at least three different authors. Not more than one half of this amount ought to be from works of fiction. This number of pages is to include not only prepared work, but all sight reading done in class. (b) The translation from English into French of sentences or of a short connected passage, to test the candidate's familiarity with elementary grammar. Elementary grammar is un-

derstood to include the conjugation of regular verbs, of the more frequent irregular verbs, such as aller, envoyer, tenir, pouvoir, voir, vouloir, dire, savoir, faire, and those belonging to the classes represented by ouvrir, dormir, connaître, conduire, and craindre; the forms and positions of personal pronouns, the uses of other pronouns and of possessive, demonstrative, and interrogative adjectives; the inflection of nouns and adjectives for gender and number, except rare cases; the uses of articles, and the partitive constructions.

Pronunciation should be carefully taught and pupils be trained to some extent to understand spoken French. The writing of French from dictation is recommended as a useful exercise.

Advanced French (6 units): [Equivalent to Intermediate French of the College Entrance Examination Board.] (a) The translation at sight of standard French. It is important that the passages set be rendered into clear and idiomatic English. It is believed that the necessary proficiency in translation at sight can be acquired by reading, in addition to the elementary work, not less than six hundred duodecimo pages (a total, with the elementary requirement, of 1,000 pages) of prose and verse from the writings of at least four standard authors. A considerable part of the amount read should be carefully translated into idiomatic English. (b) The translation into French of a connected passage of English prose. Candidates will be expected to show a thorough knowledge of accidence, and familiarity with the essentials of French syntax, especially the uses of tenses, moods, prepositions, and conjunctions. Careful attention should be paid to pronunciation and the use of spoken French.

For examination no specific authors or works are designated. An examination in pronunciation and the writing of French from dictation will be included. All applicants for admission are required to present a statement from their teacher mentioning the text-books used and the authors read, including the number of pages translated from French into English and from English into French.

13. Spanish (12 units).

Elementary Spanish (6 units). (a) The rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives and pronouns, and the elementary rules of syntax. (b) Exercises containing illustrations of the principles of grammar. (c) The reading and accurate rendering into good English of from 200 to 250 duodecimo pages of graduated texts, with translation into Spanish of easy variations of the sentences read. (d) Careful drill in pronunciation and writing Spanish from dictation.

Suitable texts for the elementary work are : Moratín's *El Si de las Niñas*; Caballero's *La Familia de Alvareda*; Alarcón's *El Capitán Veneno*, and Valera's *El Pájaro verde*.

Advanced Spanish (6 Units).—(a) The reading in addition to the elementary work, of from 400 to 500 pages of modern prose from different authors (a total with the elementary requirement of 600 to 750 pages.) (b) Practice in translating Spanish into English, and English variations of the text into Spanish. (c) Continued study of the elements of grammar and syntax. (d) Mastery of all but the rare irregular verb forms and of the simpler uses of the modes and tenses. (e) Writing of Spanish from dictation and memorizing of easy short poems.

Suitable texts for the advanced work are Galdós's *Doña Perfecta*; Valera's *Pepita Jimenez*; Alarcón's *El Final de Norma*; Valdés's *José* and Padre Isla's version of *Gil Blas*.

14. Latin (18 Units.)

Candidates are examined in the entrance requirements adopted by the College Entrance Examination Board. These are :

a. i. LATIN GRAMMAR : The inflections; the simpler rules for composition and derivation of words, syntax of cases and the verb; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive; so much prosody as relates to accent, versification in general, and the dactylic hexameter.

ii. ELEMENTARY LATIN PROSE COMPOSITION : Translation into Latin of detached sentences and very easy continuous prose based upon Caesar and Cicero.

b. CAESAR : Any four books of the *Gallic War*, preferably the first four.

c. CICERO : Any six orations from the following list, but preferably the first six mentioned : The four orations against Catiline, Archias, The Manilian Law, Marcellus, Roscius, Milo, Sestius, Ligarius, the fourteenth Philippic.

d. VIRGIL : The first six books of the *Æneid*.

15. Greek (12 Units).

Candidates are examined in the entrance requirements adopted by the College Entrance Examination Board. These are :

a. i. GREEK GRAMMAR : The inflections of nouns and verbs; the principles of the syntax of nouns and of verbs; the structure of sen-

tenses in general, with particular regard to relative and conditional sentences, and to indirect discourse ; versification so far as applied to the dactylic hexameter.

ii. **ELEMENTARY GREEK PROSE COMPOSITION** : Consisting principally of detached sentences to test the candidate's knowledge of grammatical construction.

The examination in grammar and prose composition will be based on the first two books of Xenophon's *Anabasis*.

b. **XENOPHON** : The first four books of the *Anabasis*.

c. **HOMER** : The first three books of the *Iliad* (omitting II, 494-end).

16. Physics (6 Units.)

Students offering physics for entrance must show an acquaintance with the more important phenomena and with the principles involved in the explanation of them. They must, in addition to a year's work with the text-book, have completed a year of laboratory practice and must be prepared to work simple numerical problems upon the laws of falling bodies ; upon the pendulum ; upon properties of liquids and gases, including the determination of density ; upon thermometry and calorimetry, including specific heats and heats of fusion and liquefaction ; upon the relations of current and electromotive force and resistance ; upon velocity, wave length, and resonance in sound ; upon refractive indices, focal lengths, and the size and position of images in optics. The student must understand and be able to use the metric system in measurement and computation.

The laboratory work offered must be chiefly quantitative in character, and must consist of at least forty exercises or experiments of the character given in Nichols' "Outlines of Physics," or other works similar to this in grade and method. The laboratory work prescribed above must have been performed by the student individually, in evidence whereof he must present his laboratory note book at the time of examination. He must, moreover, be prepared to describe intelligently the method pursued and the results obtained in the experiments which he has performed.

Applicants for credit in entrance physics should forward to the Department of Physics, Cornell University, Ithaca, N. Y., a note book containing the student's own record of his laboratory experiments written up in the laboratory at the time the experiments were performed. To every note book presented there must be attached a statement signed by the teacher similar in form to that given below :

“I hereby certify that the accompanying note book is the original record of the Experiments performed by.....in the Physical Laboratory of the..... School.”

With this note book the applicant should send a card giving the nature and extent of the course in physics that he has pursued. These cards may be obtained from the Department of Physics upon application.

If the entrance examination is to be taken, the note book and card should be submitted at the time of the examination.

Charges should be prepaid on note books forwarded to the Department of Physics.

These books will be returned to the candidate upon application at any time within one year after the examination.

Entrance credit in Physics does not carry with it University credit in any course in Physics.

Credit toward a University degree for work done in elementary physics in institutions other than those of collegiate rank will be given only to such students as pass successfully an examination set by this Department. The examination will cover substantially the same ground as the University course in the subject and may not be taken unless application for admission to the examination is received by the Department at least one week before the examination, and permission to enter the examination has been obtained from the Department. Such application must be accompanied by the student's note book in the subject and by a card, signed by his teacher, giving the nature and extent of the course in physics that the student has pursued.

The examination will be held in September on the date set for the examination in entrance Physics.

17. Chemistry (6 Units.)

Students offering chemistry for entrance should have completed a course substantially equivalent to that outlined in the Report of the College Entrance Examination Board. This course comprises: “The chief physical and chemical characteristics, the preparation and the recognition of the following elements and their chief compounds: *Oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur*, phosphorus, silicon, potassium, *sodium*, calcium, magnesium, *zinc*, copper, mercury, silver, aluminum, *lead*, tin, *iron*, manganese, chromium.

“More detailed study should be confined to the italicized *elements* (as such) and to a restricted list of compounds, such as water, hydrochloric acid, carbon monoxide, carbon dioxide, nitric acid, ammonia,

sulphur dioxide, sulphuric acid, hydrogen sulphide, sodium hydroxide.

“Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flames, acids, bases, salts, oxidation and reduction, crystallization, manufacturing processes, familiar substances (illuminating gas, explosives, baking powder, mortar, glass, metallurgy, steel, common alloys, porcelain, soap.

“Combining proportions by weight and volume; calculations founded on these and Boyle's and Charles's laws; symbols and nomenclature (with careful avoidance of special stress, since these are non-essential): atomic theory, atomic weights and valency in a very elementary way; nascent state; natural grouping of the elements; solution (solvents and solubility of gases, liquids and solids, saturation); strength (=activity) of acids and bases; conservation and dissipation of energy; chemical energy (very elementary); electrolysis. Chemical terms should be defined and explained, and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but are to be taught only so far as is necessary for the correlation and explanation of the experimental facts.

“It is recommended that the candidate's preparation in chemistry should include :

a. Individual laboratory work, comprising at least forty exercises. By this is meant that the experimental work actually performed by the student in the laboratory must amount to not less than ninety actual hours. If these hours are spent in sessions of three consecutive forty-five minute periods or exercises, then forty such periods or exercises constitute the minimum requirement for the laboratory work.

In no case will credentials be accepted when the laboratory work amounts to less than ninety hours of actual laboratory practice.

It is advised that careful attention be given to the quality of the note book record. The note book must show that the student is able to interpret chemical phenomena correctly. A mere statement of observations and perfunctory conclusions is to be avoided.

b. Instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations.

c. The study of at least one standard text-book, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.”

The course quoted above includes also the subjects of ionization, mass action and equilibrium. It is, however, undesirable to accord

these topics more than mere mention in the elementary course. Moreover, the instruction should not be extended to cover the elements of qualitative analysis, for the time usually at the disposal of the teacher for the presentation of elementary inorganic chemistry is no more than sufficient to properly cover that subject.

The text book used should be similar in scope and treatment to the "Elementary Chemistry" by Clarke and Dennis, and the laboratory work offered should be substantially equivalent to that given in the laboratory manual by the same authors. Applicants for credit in entrance chemistry should forward to the Department of Chemistry, Cornell University, Ithaca, N. Y., a note book containing the student's own record of his laboratory experiments, written up in the laboratory at the time the experiments were performed. To every note book presented there must be attached a statement signed by the teacher, similar in form to that given below :

"I hereby certify that the accompanying note book is the original record of the Experiments performed by ----- in the Chemical Laboratory of the ----- School."

With this note book the applicant should send a card giving the nature and extent of the course in chemistry that he has pursued. These cards may be obtained from the Department of Chemistry upon application.

If the entrance examination is to be taken, the note book and card should be submitted at the time of the examination.

Charges should be prepaid on note books forwarded to the Department of Chemistry.

These books will be returned to the candidate upon application at any time within one year after the examination.

Entrance credit in Chemistry does not carry with it University credit in any course in Chemistry.

Credit toward a University degree for work done in elementary chemistry in institutions other than those of collegiate rank will be given only to such students as pass successfully an examination set by this Department. The examination will cover substantially the same ground as the University course No. 1 in the subject and may not be taken unless application for admission to the examination is received by the Department at least one week before the examination, and permission to enter the examination has been obtained from the Department. Such application must be accompanied by the student's note book in the subject and by a card, signed by his teacher, giving the nature and extent of the course in chemistry that the student has pursued.

The examination will be held in September on the date set for the examination in entrance Chemistry.

Botany (6 Units).

The student should aim to acquire a knowledge of the general laws and fundamental principles of plant nutrition, assimilation, growth, etc., as exemplified by plants chosen from the different groups, as well as the general comparative morphology and the broader relationship of plants.

The following brief synopsis will suggest the topics and methods of study :

Study protoplasm in plants representing different groups, as *spirogyra*, *mucor*, *nitella*, and in the tissues of some of the higher plants, in order to demonstrate that this substance, though occurring in widely different plants, is fundamentally the same, and reacts in a similar manner to treatment with certain simple reagents.

Study absorption and osmose in plant cells, employing such plants as *spirogyra*, *mucor*, the cells of some higher plant as the beet, and in the root hairs of a seedling plant; test the effect of salt solutions in plasmolyzing the cells of these plants, then the restoration of turgescence in the same cells, and the movement of the protoplasmic membrane to demonstrate the part it plays in the process of absorption in plants.

Study nutrition by comparison of soil and water culture in seedlings; study also root pressure; turgidity in plant parts and cell masses; transpiration; the path of movement of liquids in higher plants, and the general structure correlated with these processes; study nutrition of parasites (*carnation rust*, *dodder*), of mushroom.

Study the movement of gases in carbon assimilation as shown by *spirogyra*, *vaucheria*, *elodea*, etc., in respiration as shown in germinating seeds; study forms of chlorophyll bodies and the formation of starch, noting the parts of the plant where these processes take place, and using for comparison, *spirogyra*, *zygnema*, *vaucheria*, *oedogonium*; liverworts like *riccia*, *marchantia*, *cephalozia*; mosses like *funaria*, *minum*; and a few of the higher plants, including *lemna*.

Study growth of seedlings with reference to increase in length and diameter, direction of growth; irritability shown by movement of parts in response to stimuli. (The topics as above arranged, as far as possible represent progression of function, and the study of the lower plants throws great light on the processes in the higher forms, and at the same time familiarizes the student with a few of these lower forms).

Study general morphology, reproduction and fruiting in the different groups. Examples are suggested as follows: Among the algae,—spirogyra, vaucheria, oedogonium, coleochete; among the fungi,—mucor, saprolegnia, puccinia (wheat rust), one of the erysipheae (powdery mildews), mushrooms; among the liverworts,—riccia, marchantia, cephalozia: among the mosses,—funaria, mnum, or polytrichum; among fern plants,—a fern, equisetum, selaginella, isoetes; among gymnosperms,—one of the pines; among angiosperms,—one of the monocotyledons and a dicotyledon. (In this study it will be found useful in dealing with the lower plants to use the same plant as often as possible for the different topics, since fewer new names will be introduced and the student can concentrate the mind upon processes and structures. The plants suggested are chosen for a purpose since they represent progression of form and structure. The student should study all the stages suggested from the actual material, using text books only as aids).

In the algae, liverworts, mosses, and ferns the organs of reproduction can usually be easily studied by beginners if material is preserved at the proper stages in advance; or it may be grown as wanted. In the higher plants the study of the reproductive organs is attended with difficulty. Here and in other difficult topics the studies should be supplemented by demonstrations on the part of the teacher, and by collateral reading.

Study the special morphology of the higher plants by careful examination of types in the families of angiosperms. The following are suggested,—ranunculaceae, cruciferae, leguminosae, rosaceae, umbelliferae, compositae, labiatae, cupuliferae, salicaceae, liliaceae, araceae, cyperaceae, geraniaceae, orchidaceae.

As a part of the examination, careful notes and drawings must be presented as evidence that the work on the several topics outlined above has been faithfully and successfully accomplished. Those who wish to prepare an herbarium in addition, may present the same as partial evidence, but weight will be given to this only when the herbarium is prepared with a view of illustrating some definite problem either of relationship or of ecological study, as plant distribution in relation to soil, topography of the country, plant formations, etc.

19. Physiography (6 Units.)

To meet the requirements in physiography it will be necessary to devote to the study at least five periods a week for one year. Of this time, not less than two periods a week must be given to laboratory and field work. The preparation of the candidate should include the

study of a standard text book on Physical Geography of Physiography, covering substantially the subjects defined in detail in a syllabus for Physiography for high schools, prepared by the Board or Superintendents of the Department of Education of the City of New York in 1904 under the titles, *The Earth as a Planet, The Air, The Sea and the Land*. The examination will test not merely the knowledge of the text-book itself, but also the range and thoroughness of the work done with reference books. Carefully written digests of the parts read in the reference books, if certified to by the teacher, may be offered in evidence of the amount of work done with them.

Much stress will be placed upon that part of the examination testing the laboratory and field work ; and evidence of good work in this connection will be necessary in order to pass the subject. Note books, certified to by the teacher, may be presented as evidence of work done in the field and laboratory.

20. Zoology (6 Units.)

The examination in Zoology will consist of two parts as follows :

a. Invertebrate Zoology.—The candidate must have devoted the equivalent of five periods a week for at least one-half year to the study of invertebrate zoology ; and the greater part of this work must have been laboratory practice in the observation of living forms and in dissection. His laboratory notes and drawings, endorsed by the teacher, will be required at the time of the examination as evidence of the nature of this part of the work. This laboratory practice should include a study of at least thirteen of the forms named in the following list ; amœba, paramœcium, hydra, sea anemone, star-fish, sea-urchin, earth-worm, clay-fish, lobster, spider, millipede, centipede, locust, (grasshopper), dragon-fly, squash-bug, butterfly, bumblebee, clam, snail and squid.

b. Vertebrate Zoology.—To meet the requirement there should be submitted drawings and notes in evidence of the dissection of the viscera of forms representing groups as follows : Mammal (dog, cat, monkey, rabbit, rat or opossum) ; Bird (common fowl, pigeon, or other convenient form) ; Reptiles (serpent, and either a turtle or an alligator) ; Batrachians (salamander, toad or frog and a tadpole) ; "Fishes" (sturgeon, amia, or gar ; cat-fish, sucker, carp, or other soft-rayed fish ; bass, perch, or other spiny-rayed fish ; shark or ray ; lamprey or hag ; lancelet (amphioxus), and a simple tunicate, *i.e.* boltenia or molgula.)

Particular attention should be paid to the brain, the heart and the respiratory apparatus. The muscles of the arm and leg should be

dissected upon a mammal, a bird, and a reptile, and the differences pointed out. There must be prepared a skeleton (which need not be mounted) of a mammal, bird or fish; and skulls of at least five other vertebrates. (In preparing these remember that the hyoid goes with the skull). The skulls, with proper labels, must be submitted at the examination.

Two mammals should be compared in respect to their habits, food, mode of locomotion, etc.; likewise two birds, two reptiles, two amphibians, and two "fish."

Besides the practical work above indicated, the student must gain from lectures, or from text-books designed for high schools or colleges, a comprehensive knowledge of the members of the classes or groups represented by the forms studied as described above. This knowledge must include their geographical distribution, habits, and relation to human beings, whether beneficial or injurious, directly or indirectly; the relations of the young to the parent in respect to oviparity and viviparity and the exceptions to the general rules; the form and structure of the red blood corpuscles and the exceptions to the general rules. In case some point of information in your note book is derived from a text-book or a cyclopedia, give an exact reference to the source of information.

21. Drawing. The entrance requirement in drawing includes simple plane and solid geometrical figures, simple still life and groups or pieces of machinery, and a fair knowledge of the rules of perspective and light and shade as applied in freehand sketching. The preparation may also include the drawing of simple pieces of architectural ornament, decoration, and simple plant forms, etc. This requirement represents about 300 hours of actual work.

Applicants offering drawing for entrance must present samples of their work and a teacher's statement showing time and proficiency, but, for the present, applicants who have passed the examination in drawing given by the College Entrance Examination Board or the Regents' examination in advanced drawing will be credited with entrance drawing.

ADMISSION WITHOUT EXAMINATION.

(For the specific entrance subjects required for admission see pages 36 and 37 and under college concerned.)

I. On Regents' Credentials.

Diplomas and sixty count (old style) academic certificates issued by the Regents of the University of the State of New York are ac-

cepted in place of examinations in all the subjects required for entrance which are covered by such credentials, including upon the recommendation of the University departments concerned, the subjects of French, German, Spanish, Physics, Chemistry, Botany, Geology and Zoology. A statement from the teacher giving in detail the work done and the proficiency attained in these subjects, must be submitted by the holder of the credentials. A Regents' diploma will admit to the University only when the subjects satisfy the entrance to the college concerned.

No other credentials, including pass cards and certificates (for exceptions see under Veterinary and Medical Colleges), issued by the Regents are accepted unless they are presented by the holder of a Regents' diploma or sixty count (old style) academic certificate.

The "Equivalent" Academic Diploma and "Equivalent" sixty count (old style) academic certificate will not be considered except for admission to Law but will satisfy in full admission to that college.

Students who have tried entrance examinations and failed to pass are not entitled to the privilege of admission on school certificates or Regents' credentials.

If a student fail in any subject in the University that depends upon an entrance subject, for which Regents' credentials have been accepted, the credits for that entrance subject may be cancelled.

To secure exemption on Regents credentials from the entrance examinations in English see page 37.

Application for credit in all subjects for which credit is desired must be made at the time of the admission of the applicant, and not be postponed to any later date in his course, and no credential will be considered after end of first term.

Diplomas, certificates, and statements should be sent by mail to the Registrar before the opening of the term.

II. On School Certificates.

(For the specific entrance subjects required for admission, see pages 36 and 37 and under college concerned.)

The following rules and regulations have been adopted by the University Faculty of Cornell University on the subject of admission by certificate :

1. Certificates of work done in public and private schools, in or out of the state, will not be accepted in lieu of examinations, unless the applicant has completed a full course in the school, and has been duly graduated after at least one year in the school, and the University authorities are satisfied regarding the standing of the school.

2. The application for the admission of a student by certificate must be made by the principal of a school and not by the candidate himself.

3. The application from the principal must be accompanied by full and specific information with regard to the completeness and thoroughness of the studies and course in which instruction is given. In case a catalogue or circular is published, a copy thereof should also be furnished.

4. Admission by certificate is in all cases provisional. If a student fail in any subject in the University that depends upon an entrance subject for which a certificate has been accepted, the credit for that entrance subject may be cancelled. Certificates from schools whose students prove to be imperfectly fitted will ultimately not be considered.

5. Subjects in which an examination has been passed for admission to the school, may be included in the certificate, but in all cases the full information called for by the blank should be given.

6. *No school certificate will be accepted in place of the entrance examination in English (see pages 37, 38, and 64.)*

7. The committee having charge of the acceptance of certificates may meet at any time during the collegiate year, but the certificate should be forwarded as soon after the graduation of the student as is possible, and at least as early as the first of September.

8. The University does not engage in advance to accept the certificates of any school, and the previous acceptance of such certificates merely raises the presumption that similar certificates may be accepted again, but does not establish a permanent right to such acceptance.

9. Application for credit in all subjects for which credit is desired, must be made at the time of the admission of the applicant, and not be postponed to any later date in his course, and no certificate will be considered after end of first term.

10. Students who have tried entrance examinations and failed to pass are not entitled to the privilege of admission on school certificates or Regents' credentials.

III. On the Certificates of the College Entrance Examination Board.

(For specific entrance subjects required for admission see pages 36, 37, and under college concerned.)

The certificates issued as the result of the examinations to be held in June by the College Entrance Examination Board at Ithaca and

various other places will be accepted under the same conditions as if such examinations were held by Cornell University. See pages 33 and 34.

Students who have tried entrance examinations and failed to pass are not entitled to the privilege of admission on school certificates or Regents' credentials.

In June, 1907, the entrance examinations of Cornell University will be the equivalent examinations of the College Entrance Examination Board, of which Cornell University is a member. These examinations will be held June 17-22, 1907. See also page 33.

All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y., and must be made upon a blank form to be obtained from the Secretary upon application.

Applications for examination at points in the United States east of the Mississippi River (also at Minneapolis, St. Louis, and other points on the Mississippi River) must be received not later than Monday, June 3, 1907.

Applications for examination at other points in the United States or in Canada must be received not later than Monday, May 27, 1907.

Applications for examination at points outside of the United States and Canada must be received not later than May 14, 1907.

Application received later than the date named will be accepted when it is possible to arrange for the examination of the candidates concerned, *but only upon payment of five dollars in addition to the usual examination fee.* Candidates filing belated applications do so at their own risk.

The examination fee is five dollars for all candidates examined at points in the United States and Canada, and fifteen dollars for all candidates examined at points outside of the United States and Canada.

Candidates for admission to Cornell University who are examined at Ithaca, N. Y., in English alone, will in 1907 be required to pay an examination fee of only one dollar. If, however, the applications of such candidates are not received by the Secretary of the College Entrance Examination Board on or before June 3, 1907, an additional fee of five dollars must be paid.

A list of the places at which the examinations are to be held in June, 1907, will be published about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary not later than February 1.

For further particulars see page 33 and address Secretary of College

Entrance Examination Board, Post Office Sub-Station No. 84, New York City.

IV. Admission on New York City Credentials.

The certificates issued as the result of the examinations to be held by the City Superintendent of Schools of Greater New York are accepted for graduates of high schools in all the subjects required for entrance which are covered by such credentials.

Blank forms may be obtained from the Registrar, and all credentials must be filed not later than September 1st.

V. As Special Students.

Persons of the requisite age may be admitted as special students, without examination, provided they give evidence of ability to do creditably special work in the University are recommended to the Faculty concerned by the professor in charge of the department of study in which they desire to take a large part of their work, and have not already been admitted to the University, nor, having applied for admission, been rejected. By Faculty action, the recommendation of a special student is to be referred to a committee for provisional acceptance before final ratification by the Faculty concerned. Such students may graduate in any of the courses, on condition of passing all the required examinations, including those for admission. Students are not permitted to make up deficiencies in entrance subjects by attending university instruction in those subjects, but are required to take the necessary instruction outside of the University. Special students are subject to the same regulations in regard to examinations and number of hours as students in the other courses.

Candidates for admission as special students should apply to the Registrar for application blanks and should then correspond directly with the college concerned, in order to secure a recommendation.

Special students in the College of Arts and Sciences are admitted at the age of twenty three years.

Special students in the College of Law are admitted at the age of twenty years.

Special students in the College of Agriculture are admitted at the age of eighteen years.

Special students in the College of Architecture and Sibley College are admitted at the age of twenty-one years.

Special students in Sibley College will be expected to work with regular classes whenever practicable, and to pursue a regular mechanic arts course, such as is considered by the Director to be suitable for artisans and other optional students, not candidates for a degree.

The College of Civil Engineering admits as special, students of the age of twenty-one, only graduates of other institutions pursuing advanced work, when the applicants are not candidates for a degree.

VI. ADMISSION TO ADVANCED STANDING.

An applicant desiring to transfer from another college or university should consult directions as stated under college concerned and forward at as early a date as possible the following necessary credentials to the Registrar : 1. An honorable dismissal. 2. An official detailed statement of entrance examinations. 3. An official detailed statement of the studies pursued for which credit is desired. 4. The exact number of terms of attendance and amount of work completed. 5. A catalogue of the institution marked showing each subject, including entrance.

VII. ADMISSION TO THE GRADUATE DEPARTMENT.

Applications for admission to the Graduate Department are to be addressed to the University Faculty. See page 73.

Tuition for one full year at least must be paid before the master's degree is conferred, and tuition for three full years at least must be paid before the degree of doctor of philosophy is conferred, unless one or more years of graduate study at another university have been accepted. This rule does not apply to graduate students in Agriculture.

RESIDENCE AND GRADUATION.

REGISTRATION EACH TERM.

At the beginning of every term each student must obtain a Certificate of Registration from the Registrar of the University, and no student, after having been once admitted to the University, will be allowed to register after the close of the Registration Day, except by special permission of the Faculty concerned.

REGISTRATION OF STUDIES.

Students in all undergraduate courses register at the beginning of the collegiate year at the Registrar's office for the work of the entire year. No credit will be allowed for work not so registered. Changes in registration will not be allowed later than one week after Registration Day in the first term except by special permission of the Faculty concerned.

CREDIT.

One University hour of credit is one lecture or recitation each week for a period of a half-year term.

In all courses, two and a half hours of laboratory work, and, in the technical courses, three hours of drafting or shop work, are regarded as the equivalent of one recitation or lecture.

The pass mark is 60 or over. A mark of 41 to 59 inclusive is a condition. Below 41 a failure.

PAYMENTS TO THE UNIVERSITY.

Annual Tuition Fees.

(FOR FREE TUITION SEE PAGE 60).

<i>College.</i>	<i>Regulars.</i>	<i>Specials.</i>
Graduate Department (General).....	\$100	—
Graduate Department (Arch.)	125	—
Graduate Department (Technical)	150	—
College of Arts and Sciences	100	\$125
College of Law	100	125
Medical College	150	150
Veterinary College..... (For free)	100	125
College of Agriculture... (see page 60)	100	125
College of Architecture.....	125	125
College of Civil Engineering	150	150
Sibley College.....	150	150

The \$100 tuition is payable \$55 at beginning of first term and \$45 at beginning of second term ; the \$125, \$70 and \$55 ; the \$150, \$85 and \$65 ; in the Medical College in New York City, the entire fee is paid at the beginning of the year.

Students upon registering become liable for the tuition fees for the term.

The tuition of any student withdrawing within twenty days after the first registration day for reasons satisfactory to the Treasurer and Registrar, may be returned and the charge cancelled.

Any student who withdraws from the University for reasons satisfactory to the Treasurer and Registrar, on or before November 15th or March 15th, may have refunded one-half of the tuition fee for the current term.

Students registering after December 1st shall pay for the balance of the first term two thirds of the tuition fee for the first term. Students registering after April 1st shall pay for the balance of the second term two-thirds of the tuition fee for the second term.

Tuition is free to the students with State Scholarships ; to New York State students in the State Veterinary College ; to students pursuing the prescribed course in Agriculture and intending to complete that course ; and to special and graduate students in Agriculture taking at least two-thirds of their entire work in the College of Agriculture.

Any student who has received free tuition under the above regulations and who desires to change, to a course for which tuition is charged, must first pay to the Treasurer of the University the tuition fees for the full time spent in the free tuition course.

Other Fees.

A matriculation fee of \$5 is charged all students on entering the University.

Each student who is required or allowed to use the Gymnasium or Armory is charged a fee of \$2 per term, which said fee entitles him to the use of a locker.

Students taking work in Sibley College are charged \$10 per half-year for material used in shops and Sibley College Laboratories.

A fee of \$7.50 per half-year, to cover cost of materials used, is required of all students in Agriculture, except those in the first two years of the regular course.

A fee of \$10 to cover expenses of graduation, degree, etc., is charged to each person taking the baccalaureate degree. This fee must be paid at least ten days before Commencement. The amount will be refunded should the degree not be conferred.

The fee charged for an advanced degree is \$20, and it must in all cases be paid at least ten days before Commencement. The amount will be refunded should the degree not be conferred.

Every person taking laboratory work or practicums in chemistry, physics, zoology, botany, or entomology, must deposit with the Treasurer security for the materials to be used in the laboratory or in the practicums. Supplies in the chemical and physical departments are furnished at New York City list prices. Students residing in University buildings must pay their room bills one half-year in advance. All the members of the University are held responsible for any injury done by them to its property.

EXPENSES.

The expenses of text-books, instruments, etc., varies from \$25 to \$75 per annum.

The cost of living in Ithaca, including board, room, fuel and lights, varies from \$4 to \$10 per week. By the formation of clubs, students are sometimes able to reduce their expenses to \$3.50 per week for room and board, and occasionally to even less than that amount.

A fair estimate of the yearly expenses is from \$300 to \$500, but much depends on the personal tastes of the student.

The cost of board, rent of furnished room, fuel, and lights in Sage College or Sage College Cottage, which are exclusively for women, varies from \$5 to \$6.50 a week. A student occupying alone one of the best rooms pays \$6.50 a week. If two occupy such a room together, the price is \$5.75. Those occupying less desirable rooms, with two in a room, pay \$5 a week each. Both buildings are warmed by steam, lighted by electricity, and in most cases, the sleeping apartment is separated from the study.

The responsibility for the conduct of the students living in Sage College and the Cottage rests with the Warden of Sage College.

Letters of inquiry in regard to board and rooms at the Sage College and the Cottage should be addressed to Mr. G. F. Foote, Business Manager of Sage College, Ithaca, N. Y.

GRADUATION.

The First Degree.

The degrees of Bachelor of Arts, Bachelor of Laws, Bachelor of the Science of Agriculture, Doctor of Veterinary Medicine, Doctor of Medicine, Bachelor of Architecture and the corresponding degrees of Civil Engineer and Mechanical Engineer, are conferred after the satisfactory completion of the respective courses.

The single degree of Bachelor of Arts will be conferred on students in the College of Arts and Sciences.

All these courses, except the courses in Law and Veterinary Medicine, require four years for their completion, except in special cases as stated elsewhere under college concerned.

The courses in Law and Veterinary Medicine require three years each for their completion.

Advanced Degrees.

The advanced degrees of Doctor of Philosophy, Master of Arts, Master of Science in Agriculture, Master of Science in Architecture, Master of Civil Engineering, and Master of Mechanical Engineering are conferred by the Graduate Department. See page 74.

SCHOLARSHIPS AND PRIZES.

STATE SCHOLARSHIPS.

Under the law of the State the Commissioner of Education is empowered to award annually a number of free scholarships in Cornell University equal to the number of Assembly districts in the State. These scholarships entitle the holder to free tuition for four years.

For particulars in regard to the Scholarships, application should be made to the Commissioner of Education at Albany, N. Y.

Holders of State Scholarships are notified that failure to register before the close of registration day of each term involves the severance of their connection with the University and consequently the forfeiture of their scholarships. The President of the University is required by law to send immediate notice of such vacancies to the Commissioner of Education and the Commissioner fills vacancies forthwith.

The law provides that "any State student who shall make it appear to the satisfaction of the President of the University that he requires leave of absence for the purpose of earning funds with which to defray his living expenses while in attendance, may, in the discretion of the President, be granted such leave of absence, and may be allowed a period not exceeding six years from the commencement thereof for the completion of his course at said University." Under this provision of the charter, the President of the University will, for the purposes indicated therein, grant leave of absence after an applicant has been regularly admitted to the University. The Scholarship will then be kept good; but will not be extended for more than *four* years from its date, unless application is made after at least one year from the time of entrance, in case of applicants who have acquitted themselves creditably in the University during this period. Those holding scholarships are therefore advised, if possible, to enter the University at once, and to postpone asking for leave of absence until after one year in the University has been completed.

UNIVERSITY UNDERGRADUATE SCHOLARSHIPS.

Pursuant to the action of the Trustees there will annually be thrown open to competition for all members of the freshman or first year class who registered in courses leading to first degrees, at a special

examination held at *Ithaca* at the beginning of the freshman year, eighteen scholarships of the annual value of \$200 each.

Students of high ability from the State of New York will have the additional advantage of being able to secure State Scholarships, as there is nothing in the University statutes to prevent a student from holding both a State Scholarship and a University Scholarship.

The name of every successful competitor for these scholarships is inserted in the annual Register of the University, together with the name of the school at which the competitor was fitted for college, and the name of the principal of the school; and these names remain in the Register so long as the scholarship is retained.

The statute in regard to scholarships is as follows:

1. Thirty-six undergraduate scholarships each of the annual value of \$200, have been established by the University.

2. These Scholarships are named as follows: The Cornell Scholarships; the Lord Scholarships; the McGraw Scholarships; the Sage Scholarships; the Sibley Scholarships; the President White Scholarships; the Horace Greeley Scholarships; the John Stanton Gould Scholarships; the Stewart L. Woodford Scholarships.

3. These Scholarships are given for the first two years of any course on the basis of excellence in special examinations held at the beginning of the freshman year.

4. Recipients of the above scholarships must be free from entrance conditions.

5. No scholarship will be awarded to any candidate who is reported markedly deficient in any subject in which he is examined, and the right is reserved to fill fewer than eighteen scholarships in the absence of a sufficient number of duly qualified candidates.

These scholarships will be awarded on the basis of examinations in three of the six groups mentioned below.

[(a) and (b), however, may not be taken by the same candidate and every candidate must take either (b) or (c) or (d).]

(a). Algebra through quadratic equations, and plane geometry.

(b). Solid geometry, advanced algebra, plane and spherical trigonometry.

(c). Greek.

(d). Latin.

(e). French.

(f). German.

The above examinations cover substantially the same ground as the entrance examinations in the respective subjects. See pages 39, 40, 41, 42, 43, 44, 45 and 46.

6. The holder of a University Undergraduate Scholarship shall forfeit the right to the same in case said scholar shall during incumbency change the course registered in at the time of receiving the award unless the records of entrance examinations shall show that, at the time of the holder's admission to the University, all the subjects required for admission to the course last chosen were passed, and all candidates must state before the scholarships are awarded what course they intend to pursue.

7. All persons shall be debarred from the competition for these Scholarships, who shall have participated in any previous competition for the same or shall have been in the previous year or years registered as a student in this University or in any other University or College.

8. These Scholarships will be forfeited at any time in case two-thirds of the Faculty present at any meeting, notice having been given at the meeting immediately before, shall decide that the holders have been guilty of negligence, or failure to maintain a high standard of scholarship, or of conduct of any kind that is unbecoming students holding such Scholarships.

9. Whenever any of these Scholarships shall for any reason become vacant, the vacancy shall be filled as the Faculty may determine.

10. The moneys due on these Scholarships are paid at the office of the Treasurer of the University in two equal payments, on the 15th of February, and the 15th of June, upon the certificate of the chairman of the Scholarship Committee that the record of the holder is satisfactory.

The Frank William Padgham Scholarship. The Frank William Padgham Scholarship was founded in 1892, by Amos Padgham of Syracuse, N. Y., in memory of his son, Frank William Padgham, a graduate of Sibley College of the class of 1888, and entitles the holder to free tuition and fees in the regular course in the Sibley College of Mechanical Engineering. It cannot consequently be held in connection with a New York State Scholarship. The scholarship will be awarded to the candidate, who has had his preparatory education [wholly or in part in the public schools of Syracuse, N. Y., and having been admitted to the regular course in Sibley College of Mechanical Engineering shall pass the best examination in a competitive examination of studies selected from those required for admission to the Sibley College of Mechanical Engineering. These subjects are : 1. Advanced Mathematics, 2. Advanced German, 3. Advanced French, 4. Physics, 5. Chemistry. Of these five subjects the candidate must take three, including Advanced Mathematics, and one modern language. The

examination for the Padgham Scholarship is held at the same time as the University Undergraduate Scholarship examinations, but is a special examination and the candidate must declare his intention to enter the Padgham Scholarship examination and state his qualifications therefor, to the Registrar, who will issue the usual permit to enter the Scholarship examination.

This special undergraduate scholarship cannot be held in connection with a New York State Scholarship.

The Alumnae Scholarship is an undergraduate scholarship of \$100 for the present University year, and a like sum for each year hereafter so long as the sum is raised by the Associate Alumnae by annual subscription. The scholarship is to be given under the following conditions :

1. It shall be awarded to a self-supporting woman who has already spent at least one year in the University as a student.
2. The basis of award shall be excellence of scholarship as shown by the University records, and a need of financial aid.
3. The nomination of the scholarship shall be made by a committee of the Alumnae, who, after consultation with the Dean of the University Faculty and the Registrar as to the standing of the applicants, shall decide as to which one of them will be most benefited by the financial aid of the scholarship.
4. The approval of said nomination by the President of the University shall constitute an appointment.

The Boardman Senior Law Scholarship. A senior law scholarship of the value of one hundred dollars, the gift of Judge Douglass Boardman, the first Dean of the College, is awarded annually by the Faculty of Law in June to the Junior who during the preceding two years, has, in the judgment of the Faculty, done the most satisfactory work in the College of Law. It is available during the Senior year and is payable in the same way as other University Scholarships.

State Grange Scholarships in Agriculture.—At its 31st annual meeting, held at Cortland, February 4, 1904, the New York State Grange resolved to “appropriate annually \$200 to be given to members of the Order in the form of four scholarships to any of the agricultural courses in Cornell University.” The scholarships are each of a value of \$50, to be awarded to two men and two women who attain the highest standing in competitive examination. The candidate should apply to the Master of the Pomona Grange in his home county, or to the Deputy in counties that have no Pomona.

PRIZES.

(A special pamphlet on Prizes may be obtained from the Registrar.)

The Woodford Prize, founded by the Hon. Stewart Lyndon Woodford and consisting of a gold medal of the value of one hundred dollars, will be given annually for the best English oration, both matter and manner being taken into account.

The '86 Memorial Prize is an undergraduate prize in declamation to be awarded at a public contest held in May of each year, being the income of a sum of money left as a memorial by the class of 1886, and amounting to eighty-six dollars annually.

The '94 Memorial Prize is an undergraduate prize in debate to be awarded at a public contest held in January of each year, being the income of a fund established by the class of 1894 and amounting to about twenty-five dollars annually.

The Shakespeare Prize. The Shakespeare Prize, founded in 1887 by Mrs. Alfred Smith Barnes, of Brooklyn, consists of about fifty dollars, being the annual income from her gift of one thousand dollars.

The Guilford Essay Prize, founded in 1902 by the late James B. Guilford, to promote "a high standard of excellence in English prose composition," consists of about \$150, being the annual income from his bequest of about \$3,000.

The French Prize, founded in 1902, by Professor Hiram Corson, in memory of his wife, Mrs. Caroline Rollin Corson, consists of a gold medal of the value of fifty dollars, to be awarded annually for the best competitive essay on a subject in French Literature or Philology. In accordance with the wish of the founder, the prize is never to be given in money.

The Browning Prize. The Browning Prize, founded in 1902 by Professor Hiram Corson, consists of a gold medal of the value of fifty dollars, to be awarded annually for the best competitive essay on Robert Browning. In accordance with the wish of the founder, the prize is never given in money.

Prizes in German. An annual prize of one hundred dollars for three years has been offered by an eminent scholar interested in German literature, for the best essay upon the works of some representative German author.

The Luana L. Messenger Memorial Prize. This prize of \$50 was established by Mr. Hiram J. Messenger, '80, as a memorial to his mother, and is awarded annually to the student writing the essay giving evidence of the best research and most fruitful thought in the field of human progress or the evolution of civilization during some period in human history or during human history as a whole.

The Sherman-Bennett Prize was founded in 1905 from a fund bequeathed for that purpose to William J. Bryan of Lincoln, Nebraska, by Mr. Philo Sherman Bennett of New Haven, Connecticut. The prize consists of the income of \$400, and is to be awarded annually for "the best essay discussing the principles of free government."

The John Metcalf Polk Memorial Prizes. These prizes, established by Dean W. M. Polk, are awarded annually to students in the Medical College.

The Horace K. White Prizes. These prizes, established by Horace K. White, Esq., of Syracuse, are awarded annually to the most meritorious students in the graduating class of the New York State Veterinary College, as follows: to the first in merit, fifteen dollars; to the second in merit, ten dollars.

Sibley Prizes in Mechanic Arts. Under the gift of the late Hon. Hiram Sibley, made in 1884, the sum of one hundred dollars will be annually awarded to those students in the Sibley College who shall, in the opinion of the Faculty of that institution, show the greatest merit in Sibley College work.

The Fuertes Medals, founded by Professor E. A. Fuertes and consisting of two gold medals, each of the value of one-half the amount of the income provided by the endowment fund.

The Sands Memorial Medal, founded by the family of the late Charles Goodwin Sands of the class of '90, is awarded to students of Architecture for all designs of exceptional merit presented in the regular competitions.

The Brown Memorial Medal to be awarded to students in Architecture was founded by Mr. John Hartness Brown in memory of his brother Clifton Beckwith Brown, of the class of 1900, who was killed on the field of battle at San Juan Hill.

The Central N. Y. Chapter A. I. A. Prize is a prize of twenty dollars given annually by the Central New York Chapter of the American Institute of Architects to the winner of first place in special competition in senior design.

GRADUATE DEPARTMENT

Courses appropriate for graduate students and leading to advanced degrees are provided in the various departments, as indicated in the list of courses of instruction, and in the description of the departments and colleges. An inspection of these courses will show that the amount of instruction offered is greatly in excess of the amount of which any person can take advantage while an undergraduate student. Many of the courses are open to undergraduates who have prepared themselves by taking the necessary preliminary electives, but a large number of courses are specially adapted to the wants of graduate students. No sharp line of demarcation separates the two classes, but in all cases the necessary prerequisite work must have been taken. In nearly or quite every branch of study the advanced courses of lectures and the seminars and laboratories afford abundant opportunities for carrying on profitable work of a high grade during two or three years after the baccalaureate degree has been taken. The facilities thus afforded commend themselves specially to graduates of those colleges elsewhere which do not offer a large range of electives during the undergraduate course.

LABORATORY AND SEMINARY FACILITIES.

In the graduate work the aim is to surround the student with an atmosphere of earnest devotion to the cause of the advancement of knowledge, and to excite a truly scholarly spirit. The greater part of such work is carried on in the numerous well-equipped laboratories and seminars, in which the student, with the aid and under the intimate personal guidance and direction of the professor, is encouraged in the prosecution of original investigation of an advanced nature.

Graduate students have access to the alcoves of the library, as well as to the special collections in the seminary rooms, and thus have exceptional opportunities for prosecuting advanced work. The great library building, with its rich collections, affords an attractive and inspiring environment.

FELLOWSHIPS AND GRADUATE SCHOLARSHIPS.

Applications for fellowships and graduate scholarships should contain a full statement of the branches of study which the candidate intends to carry on, if appointed; and if any literary or scientific

work has been produced which could be put in evidence, specimens should accompany the application. Those candidates who are graduates of other colleges or universities should submit recommendations from the instructors best acquainted with their ability and attainments in the special subjects which they desire to pursue. It should be borne in mind by such applicants that information cannot be too exact or detailed in the case of students not personally known to the appointing body.

The Statute in regard to Fellowships and Graduate Scholarships is as follows :

1. There have been established at this University the following Fellowships and Graduate Scholarships :

(a). Eight University Fellowships, denominated respectively, the Cornell Fellowship ; the McGraw Fellowship ; the Sage Fellowship ; the Schuyler Fellowship ; the Sibley Fellowship ; the Goldwin Smith Fellowship ; the President White Fellowship ; and the Erastus Brooks Fellowship.

(b). Five University Fellowships.

The above thirteen University Fellowships have been assigned to the following Departments or groups of Departments : Mathematics, Chemistry, Physics, Civil Engineering, Neurology and Physiology and Vertebrate Zoology (including Anatomical Methods and Human Anatomy and Microscopy, Histology and Embryology) with Invertebrate Zoology and Entomology, Botany and Geology and Physical Geography, Architecture, Agriculture and Horticulture and Veterinary Science, English, Germanic Languages, Romance Languages, one each ; Mechanical and Electrical Engineering, two.

(c). Two President White Fellowships, denominated : first, the President White Fellowship of Modern History ; second, the President White Fellowship of Political and Social Science.

(d). Three Susan Linn Sage Fellowships in Philosophy.

(e). Two Fellowships in Political Economy.

(f). Two Fellowships in Greek and Latin.

(g). One Fellowship in American History.

The President White Fellowships in History and in Political and Social Science have an annual value of \$600 each ; the others have an annual value of \$500 each.

(h). Six Graduate Scholarships in the Susan Linn Sage School of Philosophy, each of the annual value of \$300.

(i). Ten Graduate Scholarships, each of the annual value of \$300, have been assigned to the following Departments or groups of Departments : Mathematics, Chemistry, Physics, Civil Engineering, Latin

FELLOWSHIPS AND GRADUATE SCHOLARSHIPS. 71

and Greek, Archæology and Comparative Philology, Neurology and Physiology and Vertebrate Zoology (including Anatomical Methods and Human Anatomy and Microscopy, Histology and Embryology), with Invertebrate Zoology and Entomology, Botany and Geology and Physical Geography, English History, one each.

(j). The Oliver Graduate Scholarship in Mathematics, founded November, 1896, in memory of Professor James Edward Oliver, has an annual value of \$300 and is awarded under the same conditions as other graduate scholarships.

2. All candidates for Fellowships and Graduate Scholarships must be graduates of this University, or of some other institution having equivalent courses of instruction, and must be of high character and marked ability in some important department of study.

3. Fellows and Graduate Scholars will be selected by the University Faculty on the recommendation of the department in which the applicants desire to carry on the principal part of their work.

4. All applications must be filed with the Registrar on or before the 15th of April of the collegiate year preceding the one for which the applications is made. Blank forms for application may be obtained from the Registrar.

5. The Term of each Fellowship and Graduate Scholarship is one year; but the term may be extended to two years, providing the extension does not increase the number of Fellows and Graduate Scholars beyond that named in paragraph 1 of this act.

6. The moneys due on Fellowships and Graduate Scholarships are paid at the office of the Treasurer of the University in two equal payments, on the 15th of January, and the 1st of June.

7. In view of the fact that practical University instruction will be of use in training said Fellows and Scholars for future usefulness, each holder of a Fellowship or Graduate Scholarship shall be liable to render service to the University in the work of instruction or examination to the extent of four hours per week through the collegiate year. The distribution and assignment of this service shall be determined by the head of the department in which the Fellow or Scholars doing their principal work. It is expected that the President White Fellows in History and Political Science will do a large part of their study in the President White Library, and to this end it is required that, except when, with the consent of the Librarian of the University, they are excused or assigned to other duties by the Professors of History and Political Science, said Fellows shall be in attendance in the Library not less than four hours each per day.

8. No person shall hold at one time more than one Fellowship or

Graduate Scholarship, except in the case hereafter specified under paragraph 12 of this statute, and any Fellow or Scholar may be dispossessed of the income of the Fellowship or Graduate Scholarship by action of the University Faculty, if guilty of any offense, or of any course of conduct, which in the opinion of said Faculty shall render the holder unworthy of retaining such Fellowship or Graduate Scholarship ; but final action in such cases by the Faculty shall be by ballot, and shall require a two-thirds vote.

9. Vacancies in Fellowships and Graduate Scholarships that occur after October 1st, in order to be filled, shall require a three-fourths vote of the Faculty present.

10. All persons elected to Fellowships and Graduate Scholarships are required, upon accepting their appointments, to file a bond of the face value of such Fellowship or Graduate Scholarship (with two sureties to be approved by the Treasurer), to pay the University in case of their resignation before the expiration of the time for which they were appointed, any sums which they may have received.

11. In all cases where Fellowships and Graduate Scholarships are not awarded, or when from any cause the income of one or more Fellowships or Graduate Scholarships may cease to be paid, or when the aggregate sum paid shall be less than the amount contemplated by this act, the surplus thus accruing shall be added to the principal of the loan fund for needy and meritorious students.

12. Either or both of the President White Fellowships in History and Political Science may, in the discretion of the University Faculty, be made a Traveling Fellowship for the purpose of study and investigation, the holder thereof making from time to time to said Faculty such reports of progress as may be required. In the case of a student of very exceptional ability and promise in the fields of either of these Fellowships, the two Fellowships may, in the discretion of said Faculty, for the sake of enabling very thorough research, be combined for a single year into one.

Special Fellowship in Architecture. See under College of Architecture.

Honorary Fellowships.

A class of Fellowships termed Honorary Fellowships were established in 1898. These Fellowships are open only to persons already holding the Doctor's degree. Holders of such Fellowships are to receive no emoluments and are not to be charged tuition. These Fellowships are to be conferred only upon persons actually in attendance at the University.

Admission.

Graduates in the several courses of this University, or of other institutions in which the requirements for the baccalaureate degree are substantially equivalent, may upon the recommendation of the Committee on Graduate Work and Advanced Degrees, be admitted to the graduate department. Such applicants may further be admitted to candidacy for the Master's and Doctor's Degree on recommendation of the same committee, in case the previous course of study and preparation in the major and minor subjects to be pursued, is accepted as adequate by the departments concerned. Graduate students who are not candidates for a degree, as well as those who are, are required to work under the direction of a special committee of the University Faculty, appointed for the purpose of supervising and directing their work. Tuition fees, except in Agriculture, are charged in all cases, including candidacy for degrees *in absentia*.

Applications for admission to the graduate department are to be addressed primarily to the Dean of the University Faculty. Full details should be forwarded of the candidate's previous course of study, the degree desired, and the special preparation already had in the major and minor subjects to be pursued.

The applicant would naturally communicate also with the professors in whose departments he intends to study, as they must ultimately approve of his application.

In acting upon an application for graduate work, the first question to be decided is whether the degree already taken by the applicant is substantially the equivalent of one of the degrees given at this University, so that the applicant may be admitted to the graduate department. Full information upon this point is therefore required, including a general statement of the character of the course pursued, with special reference to the amount of mathematics and languages. Blank forms of application may be obtained from the Dean of the University Faculty.

After this point has been decided, the second question is whether the applicant is qualified to enter upon advanced work in the special departments of study in which the advanced degree is desired. In order to decide this question, a specific and detailed statement is to be made of the previous course of study and preparation in the major and minor subjects to be pursued. This statement is then submitted to the departments concerned for approval.

Official evidence of all the above statements must ultimately be presented.

After the status of the applicant is determined by the general com-

mittee, he is then put under the supervision of the special committee conducting the work which he desires to pursue. The special committee is made up of the professors in charge of the work in the major and minor subjects. It has been decided by the faculty that instructors are not eligible for membership on the special committees nor on the committees conducting examinations. The chairman of the special committee, after consultation with the other members of the committee, is assumed to represent their views of action, and to be the regular channel of communication between candidates and the general committee; conveying or indorsing, for instance, petitions from candidates, and forwarding recommendations for changes in the announcements of major and minor subjects, or additions suggested to the membership of the special committee itself, either for the guidance of the work of candidates or to complete the number of examiners.

The function of the general committee is to decide matters of precedent or procedure or policy, securing faculty action where necessary, and to be the channel of communication between the special committee and the University Faculty.

Advanced Degrees.

Courses of graduate study leading to advanced degrees are provided in the following departments: Semitic Languages, Classical Archæology and History of Art, Comparative Philology, Greek, Latin, Germanic Languages, Romance Languages, English, Philosophy, Science and Art of Education, History and Political Science, Mathematics, Physics, Chemistry, Botany, Entomology and General Invertebrate Zoology, Physiology and Vertebrate Zoology and Neurology, Anatomical Methods and Human Anatomy, Microscopy and Histology and Embryology, Geology and Paleontology and Mineralogy and Physical Geography, Agriculture, Horticulture, Veterinary Science, Architecture, Civil Engineering, including Bridge, Railroad, Sanitary, Hydraulic and Geodetic Engineering, and in Mechanical Engineering, including Electrical, Steam and Marine Engineering, Naval Architecture, and Railway Mechanical Engineering.

Candidates for advanced degrees must present themselves for examination in one major and two minor subjects (except for the Master's degree for which one major and one minor are required), which must have been determined upon, with the approval of a committee of the University Faculty, as early as October 15 of the year in which the degree is expected to be given, if it be the Master's degree, or of the year preceding that in which the degree is expected to be given, if it be the Doctor's degree.

The above date is the limit for the acceptance of applications and for the selection of majors and minors, in the case of applicants who desire to receive credit for attendance during the whole of the academic year then entered upon.

The work of candidates for advanced degrees in the general courses must be devoted to those subjects (one major and one or two minors) which may be comprised within the limits of one department of instruction, or may extend to two or three ; with the provision, however, that, except in case of special permission to the contrary granted by the University Faculty, the subjects shall be so related to one another as to imply a definite aim on the part of the student. The subject of the thesis required must be filed with the Registrar, with the written approval of the special committee in charge of the work of the candidate, and be announced to the University Faculty as early as December 1 of the year in which the degree is expected to be given, and the paper in its completed form must be presented to the special committee as early as May 1. Theses accepted are to be bound and delivered to the Registrar on or before the Friday preceding Commencement.

The degree of Master is intended to represent a year of faithful work of an advanced character performed by a student who has previously taken a degree fully equivalent to that which is given in this University at the completion of four years of undergraduate work. The degree of Doctor is intended to represent not a specified amount of work covering a specified time, but long study and high attainment in a special field, proved in the first place, by the presentation of a thesis which displays the power of independent investigation, and in the second place, by passing corresponding examinations upon the ground covered by the three subjects chosen at the beginning of the candidacy and approved by the University Faculty.

Successful candidates for the degree of Master must deposit one bound copy of the thesis in the University Library.

Successful candidates for the degree of Doctor must print their theses and deposit fifty copies in the University Library. In the title page of each of these copies shall appear the statement that the thesis was presented to the University Faculty of Cornell University for the degree in question and the name of the author must be given in full and if the thesis is a reprint, the place and date of original publication must also be given. Unless the printed copies be previously deposited in the University Library, a type-written copy of the thesis must be bound and delivered to the Registrar on or before the Friday preceding the Commencement at which the degree is conferred.

The type-written copy is to become the permanent property of the University.

A text-book, presumably written and published without reference to the degree for which it was presented, will not be accepted in lieu of a thesis.

The final examinations for these degrees may be both oral and written, and in the non-technical courses are to be in charge of a committee of not less than three members, except for the Master's degree, where two members may suffice. These examinations occur in the second week before Commencement, except in the case of candidates who take their examination in a year subsequent to that in which the required amount of resident study was completed. In case of necessity, the examinations may be held during the week next preceding that now fixed for holding them.

In the final examination for advanced degrees, the examination of the thesis shall regularly precede the further examination of the candidate. In the case of students who take the examination in the year subsequent to that in which the required amount of study has been completed, the special committee is authorized to arrange such examinations at any time during the University year; provided that two weeks' notice be given to the chairman of the general committee.

The special requirements for these degrees are as follows :

The Master's Degree.

Hereafter, in place of the degrees of Master of Arts, Master of Philosophy, Master of Letters, and Master of Science, the one degree of Master of Arts is to be conferred. See pages 74 and 75.

The degree of Master of Arts is conferred on graduates of a four year course in any college of this University, and on graduates of other universities and colleges whose requirements for the degree of Bachelor of Arts are equal to those of this University upon the following conditions :

In order to become a candidate the applicant must have pursued a course of study equivalent to that required for graduation in this University in the College of Arts and Sciences. Graduates of a four year course in any college of this University may under the usual rules become candidates for the degree of Master of Arts.

The candidate is expected to spend at least one year at the University pursuing a course of study marked out by the University Faculty

He must present a thesis and pass the requisite special final examinations. Before the degree is conferred one copy of the thesis must be bound and deposited in the University library.

Candidates for the Master's Degree whose major subject is in a department under the direction of the College of Agriculture, the College of Architecture, the College of Civil Engineering, or of Sibley College, are required to register for the corresponding Master's Degree, that is, M.S. in Agr., M.S. in Arch., M.C.E., or M.M.E.

The degree of Master of Science in Architecture is to be conferred as heretofore on those who have taken the corresponding baccalaureate degree here, or at some other college or university where the requirements for the said baccalaureate degree are equal to those of this University, in case the candidate has spent at least one year at the University, pursuing an accepted course of study; and has passed the required special final examination as above.

The degree of Master of Civil Engineering, Master of Mechanical Engineering, or Master of Science in Agriculture is conferred, after at least one year of resident study, on candidates who have received the corresponding first degree, upon presenting a satisfactory thesis and passing the required special final examination as above. In special cases graduates of this University, on the recommendation of the special committee that would have charge of their work, may, by vote of the University Faculty in each case, become candidates for the degree of M.C.E., M.M.E., and M.S. in Agr., after two years of professional practice and study *in absentia*.

Candidates for degrees *in absentia* are to appear in person at the University to be examined, and to receive the diploma at Commencement.

The time spent in study for the Master's degree, whether the degree be taken or not, may be counted in the time required for the Doctor's degree, provided the special committee in charge of the work approve, certifying the work done as suitable to such Doctor's degree.

The Degree of Doctor of Philosophy.

Hereafter, in place of the degrees of Doctor of Philosophy and Doctor of Science, the one degree of Doctor of Philosophy is to be conferred.

The Degree of Doctor of Philosophy is conferred on graduates of a four year course in any college of this University, and on graduates of other universities and colleges whose requirements for the degree of Bachelor of Arts are equal to those of this University, upon the following conditions :

1. In order to become a candidate, the applicant must have pursued a course of study substantially equivalent to that required for graduation in this University in the College of Arts and Sciences. Graduates

of a four year course in any college of this University may under the usual rules become candidates for the degree of Doctor of Philosophy.

2. The candidate is expected to spend at least three years at the University, pursuing a course of study marked out by the University Faculty. Graduate work in a university elsewhere may, by a special vote of the University Faculty, be accepted ; but at least one year's residence at this University is in all cases required.

3. He must present a thesis of such a character as shall display power of original and independent investigation, and must pass the requisite special final examinations. Before the degree is conferred a bound type-written copy of the thesis must be deposited in the University Library, unless the required number of printed copies be already deposited. The diploma for the degree shall be withheld until the required number of copies be so deposited. [See also pages 75 and 76.]

The work of graduate students is expected to be in large measure independent of the regular courses of instruction. The special announcement of each department and college will, however, indicate the courses which are available as a basis for graduate work.

COLLEGE OF ARTS AND SCIENCES.

FACULTY.

- JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President.
- WALTER FRANCIS WILLCOX, LL.B., Ph.D., LL.D., Dean, and Professor of Political Economy and Statistics.
- GOLDWIN SMITH, D.C.L., LL.D., Professor of English History, Emeritus.
- GEORGE CHAPMAN CALDWELL, B.S., Ph.D., Professor of Chemistry, Emeritus.
- HIRAM CORSON, A.M., LL.D., Litt.D., Professor of English Literature, Emeritus.
- THE REV. CHARLES MELLEN TYLER, A.M., D.D., Sage Professor of the History and Philosophy of Religion and of Christian Ethics, Emeritus.
- BURT GREEN WILDER, B.S., M.D., Professor of Neurology and Vertebrate Zoology.
- THOMAS FREDERICK CRANE, A.M., Litt.D., Dean of the University Faculty, and Professor of the Romance Languages and Literatures.
- JOHN HENRY COMSTOCK, B.S., Professor of Entomology and General Invertebrate Zoology.
- WATERMAN THOMAS HEWETT, A.M., Ph.D., Professor of the German Language and Literature.
- EDWARD LEAMINGTON NICHOLS, B.S., Ph.D., Professor of Physics.
- JAMES MORGAN HART, A.M., J.U.D., Litt.D., Professor of the English Language and Literature.
- JEREMIAH WHIPPLE JENKS, A.M., Ph.D., LL.D., Professor of Political Economy and Politics.
- LUCIEN AUGUSTUS WAIT, A.B., Professor of Mathematics.
- GEORGE LINCOLN BURR, A.B., LL.D., Litt.D., Professor of Mediæval History.
- CHARLES EDWIN BENNETT, A.B., Litt.D., Professor of Latin.
- SIMON HENRY GAGE, B.S., Professor of Histology and Embryology.
- GEORGE WILLIAM JONES, A.M., Professor of Mathematics.

- JAMES EDWIN CREIGHTON, A.B., Ph.D., LL.D., Sage Professor of Logic and Metaphysics.
- EDWARD BRADFORD TITCHENER, M.A., D.Sc., Ph.D., LL.D., Sage Professor of Psychology.
- GEORGE FRANCIS ATKINSON, Ph.B., Professor of Botany with special reference to Comparative Morphology and Mycology.
- RALPH STOCKMAN TARR, B.S., Professor of Physical Geography.
- NATHANIEL SCHMIDT, A.M., Professor of the Semitic Languages and Literatures.
- GEORGE PRENTICE BRISTOL, A.M., Professor of Greek.
- CHARLES DE GARMO, Ph.D., Professor of the Science and Art of Education.
- LOUIS MUNROE DENNIS, Ph.B., B.S., Professor of Inorganic Chemistry.
- JOSEPH ELLIS TREVOR, Ph.D., Professor of Physical Chemistry.
- JOHN ROBERT SITLINGTON STERRETT, Ph.D., LL.D., Professor of Greek.
- CHARLES HENRY HULL, Ph.D., Professor of American History.
- FRANK ALBERT FETTER, A.B., Ph.D., Professor of Political Economy and Finance.
- WILLIAM RIDGELY ORNDORFF, A.B., Ph.D., Professor of Organic and Physiological Chemistry.
- WILDER DWIGHT BANCROFT, A.B., Ph.D., Professor of Physical Chemistry.
- ERNEST MERRITT, M.E., Professor of Physics.
- HENRY SHALER WILLIAMS, Ph.D., Professor of Geology and Director of Geological Museum.
- CHARLES VANPATTEN YOUNG, A.B., Professor of Physical Culture and Director of the Gymnasium.
- JAMES McMAHON, A.M., Professor of Mathematics.
- JOHN HENRY TANNER, B.S., Ph.D., Professor of Mathematics.
- FRANK ARTHUR BARTON, M.E., Captain U. S. Army, Professor of Military Science and Tactics.
- FREDERICK BEDELL, Ph.D., Professor of Applied Electricity.
- RALPH CHARLES HENRY CATTERALL, Ph.D., Professor of Modern European History.
- WILLARD WINFIELD ROWLEY, B.L., D.Sc., Professor of Botany with special reference to Comparative Histology and Systematic Botany.
- FRANK THILLY, A.B., Ph.D., Professor of Philosophy.
- GEORGE SYLVANUS MOLER, A.B., B.M.E., Assistant Professor of Physics.

- HERBERT CHARLES ELMER, A.B., Ph.D., Assistant Professor of Latin.
- WILLIAM ALEXANDER HAMMOND, A.M., Ph.D., Assistant Professor of Ancient and Mediæval Philosophy and Æsthetics, and Secretary of the University Faculty.
- GILBERT DENNISON HARRIS, Ph.B., Assistant Professor of Paleontology and Stratigraphic Geology.
- ADAM CAPEN GILL, Ph.D., Assistant Professor of Mineralogy and Petrography.
- FREDERICK CLARK PRESCOTT, A.B., Assistant Professor of the English Language and Literature, and Secretary of the Faculty of Arts and Sciences.
- EVERETT WARD OLMSTED, Ph.D., Assistant Professor of the Romance Languages.
- WILLIAM STRUNK, Jr., A.B., Ph.D., Assistant Professor of the English Language and Literature.
- BENJAMIN TRUMAN KINGSBURY, Ph.D., M.D., Assistant Professor of Physiology.
- CHARLES LOVE DURHAM, M.A., Ph.D., Assistant Professor of Latin.
- EMILE MONNIN CHAMOT, Ph.D., Assistant Professor of Sanitary Chemistry and Toxicology.
- ERNEST ALBEE, A.B., Ph.D., Assistant Professor of Philosophy.
- ISAAC MADISON BENTLEY, B.S., Ph.D., Assistant Professor of Psychology.
- HEINRICH RIES, Ph.D., Assistant Professor of Economic Geology.
- HENRY AUGUST SILL, Ph.D., Assistant Professor of Ancient History.
- CLARK SUTHERLAND NORTHUP, A.B., Ph.D., Assistant Professor of the English Language and Literature.
- JOHN IRWIN HUTCHINSON, A.B., Ph.D., Assistant Professor of Mathematics.
- VIRGIL SNYDER, A.M., Ph.D., Assistant Professor of Mathematics.
- GEORGE WALTER CAVANAUGH, B.S., Assistant Professor of Chemistry in its Relations to Agriculture.
- JOHN SANDFORD SHEARER, B.S., Ph.D., Assistant Professor of Physics.
- ERNEST BLAKER, A.B., Ph.D., Assistant Professor of Physics.
- GUY MONTROSE WHIPPLE, Ph.D., Assistant Professor of the Science and Art of Education.
- OTHON GOEPP GUERLAC, Licencié ès Lettres, Assistant Professor of French.

HOLLIS ELLSWORTH DANN, Assistant Professor of Music.

JAMES ALBERT WINANS, A.M., Assistant Professor of Oratory and Debate.

ALBERT BERNHARDT FAUST, Ph.D., Assistant Professor of German.

WILLIAM BENJAMIN FITE, Ph.D., Assistant Professor of Mathematics.

JAMES GEORGE NEEDHAM, B.S., M.S., Ph.D., Assistant Professor of Limnology.

PAUL RUSSELL POPE, A.B., Ph.D., Assistant Professor of German.

ARTHUR WESLEY BROWNE, M.S., Ph.D., Assistant Professor of Inorganic and Analytic Chemistry.

LANE COOPER, A.B., Ph.D., Assistant Professor of the English Language and Literature.

HUGH DANIEL REED, B.S., Ph.D., Assistant Professor of Neurology and Vertebrate Zoology.

WILLIAM ALBERT RILEY, B.S., Ph.D., Assistant Professor of Entomology.

ALEXANDER DYER MACGILLIVRAY, Ph.D., Assistant Professor of Invertebrate Zoology.

GEORGE ABRAM EVERETT, A.B., LL.B., Assistant Professor of Elocution and Oratory.

EDWIN WALTER KEMMERER, A.B., Ph.D., Assistant Professor of Political Economy.

ORA MINER LELAND, B.S., (C.E.), Assistant Professor in Astronomy.

ELIAS JUDAH DURAND, A.B., D.Sc., Instructor in Botany and Assistant Curator of the Cryptogamic Herbarium.

BLIN SILL CUSHMAN, B.S., Instructor in Chemistry.

ELLEN BRAINARD CANFIELD, Instructor in Sage College in charge of the Gymnasium.

KARL MCKAY WIEGAND, B.S., Ph.D., Instructor in Botany and Assistant Curator of the Phanerogamic Herbarium.

EUGENE PLUMB ANDREWS, A.B., Instructor in Archæology and Curator of the Museum of Casts.

GEORGE MAXWELL HOWE, A.B., Ph.D., Instructor in German.

BENTON SULLIVAN MONROE, A.M., Ph.D., Instructor in English.

ARTHUR LYNN ANDREWS, M.L., Ph.D., Instructor in English.

LOUIS LEAMING FORMAN, Ph.D., Instructor in Greek.

CHESTER MURRAY, Ph.B., Instructor in the Romance Languages.

JOHN CALVIN WATSON, A.B., Ph.D., Instructor in Latin.

PAUL FREDERICK GAEHR, A.B., A.M., Instructor in Physics.

- HENRY WILKES WRIGHT, A.B., Ph.D., Instructor in Philosophy.
 GEORGE ROBERT OLSHAUSEN, Ph.D., Instructor in Physics.
 EDWARD GODFREY COX, A.M., Ph.D., Instructor in English.
 WILLARD JAMES FISHER, A.B., Instructor in Physics.
 OTIS AMSDEN GAGE, Ph.B., Instructor in Physics.
 JOSEPH QUINCY ADAMS, JR., A.M., Ph.D., Instructor in English.
 RALPH CUTHBERT SNOWDON, A.B., Instructor in Chemistry.
 HALDOR HERMANNSSON, Instructor in Scandinavian Languages.
 HERBERT GROVE DORSEY, B.S., M.S., Instructor in Physics.
 CLARENCE ALBERT PIERCE, B.S., M.S., Instructor in Physics.
 EUGENE CARSON CRITTENDEN, A.B., Instructor in Physics.
 LEE FRED HAWLEY, A.B., A.M., Instructor in Chemistry.
 THOMAS G DELBRIDGE, A.B., Instructor in Chemistry.
 BERT S BUTLER, A.B., Instructor in Physical Geography.
 PERCY HODGE, A.B., B.S., Instructor in Physics.
 CHAUNCEY WILLIAMS WAGGONER, B.S. in E.E., A.M., In-
 structor in Physics.
 ROSWELL CLIFTON GIBBS, A.B., Instructor in Physics.
 LEROY CLINTON ROBERTS, Instructor in Physics.
 ARTHUR GORDON, A.B., A.M., Instructor in French.
 NEAL DOW BECKER, LL.B., A.B., Instructor in Elocution and
 Oratory.
 FREDERICK LEIGHTON, A.B., Instructor in Physics.
 HENRY LEIGHTON, Instructor in Geology.
 FRANCIS ROBERT SHARPE, B.A., Instructor in Mathematics.
 WALTER BUCKINGHAM CARVER, Ph.D., Instructor in Mathe-
 matics.
 FRITZ PAULS, Ph.D., Instructor in German.
 ARTHUR RANUM, A.B., Instructor in Mathematics.
 FLOYD KARKER RICHTMEYER, A.B., Instructor in Physics.
 GEORGE COOKE ROBERTSON, A.B., Instructor in Chemistry.
 GORRELL ROBERT WHITE, A.B., Instructor in Chemistry.
 CHESTER WHITNEY WRIGHT, A.B., Ph.D., Instructor in Eco-
 nomics.
 GEORGE PENDLETON WATKINS, A.B., Ph.D., Instructor in
 Statistics.
 PETER IRVING WOLD, B.S., E.E., Instructor in Physics.

ASSISTANTS.

- FRED CLARKSON FOWLER, Mechanician in the Department of
 Physics.
 ROBERT SHORE, Assistant to the Professor of Botany and Head
 Gardener.

- ABRAHAM ABBEY FREEDLANDER, A.B., Assistant in Modern European History.
- EFFIE ALBERTA READ, A.B., Assistant in Histology and Embryology
- ANDREW CURTIS WHITE, Ph.D., Reader in Greek.
- MORTIMER JAY BROWN, Assistant in Chemistry.
- DONALD REDDICK, A.B., Assistant in Botany.
- HURON HERBERT SMITH, B.S., Assistant in Botany.
- ALBERT HAZEN WRIGHT, A.B., A.M., Assistant in Neurology and Vertebrate Zoology.
- FRANK HERBERT BAKER, Assistant in Physical Culture.
- JEAN MARIUS GÉLAS, Assistant in Physical Culture.
- EARL VINCENT SWEET, A.B., Assistant in Histology and Embryology.
- BURTON JUSTUS RAY, A.B., Assistant in Chemistry.
- JOHN WILLIAM TURRENTINE, Ph.B., M.S., Assistant in Chemistry
- JOSEPH HERSCHEL COFFIN, B.S., A.M., Assistant in Psychology.
- GEORGE RUHLEN, Jr., Assistant in the Department of Military Science.
- JOHN BERDAN SHEPARD, Assistant in the Department of Military Science.
- FREDERICK SANFORD SLY, Assistant in the Department of Military Science.
- WILLIAM EDWIN SWIGERT, Assistant in the Department of Military Science.
- STUART BALL WILKES, Assistant in the Department of Military Science.
- MAXIMILIAN CLAUDE ALBRECH, A.B., Assistant in Chemistry.
- CLAUDE WILBUR EDGERTON, B.S., Assistant in Botany.
- JOSEPH JULIUS FRANK, A.B., Assistant in Chemistry.
- JOHN ALEXANDER BLACK, A.B., Assistant in Chemistry.
- BURTIS J FINCH, Assistant in Physical Culture.
- LUDWIG REINHOLD GEISSLER, B.L., Assistant in Psychology.
- PAUL HAYHURST, A.B., Assistant in Entomology.
- GEORGE EDWARD FRAZER, Assistant in Physical Culture.
- JAKE FRIED, Assistant in Military Science and Tactics.
- HENRY GORDON BURNHAM, A.B., Assistant in Chemistry.
- FRANCIS EDWARD GALLAGHER, A.B., Assistant in Chemistry.
- OSCAR DIEDRICH VON ENGELN, Assistant in Geology.
- RALPH CHAPMAN RODGERS, M.E., Assistant in Physics.
- SEYMOUR MORTON HERRICK, B.S.A., Assistant in Chemistry in New York State College of Agriculture.

BENSON BRUSH CHARLES, A.B., Assistant in the Department of Semitic Languages and Literatures.

GEORGE DUDLEY BILLS, Jr., Assistant in Military Science and Tactics.

EMORY ELMER BRANDOW, Assistant in Physical Culture.

IRVING OTTO CHORMANN, A.B., Assistant in Chemistry.

NATHAN WATSON COIL, A.B., Assistant in Botany.

CLYDE FIRMAN CRAIG, A.B., Assistant in Mathematics.

ALBERT VERGIL FRANKLIN, Assistant in Military Science and Tactics.

MARION WALTER FISK, Assistant in Military Science and Tactics.

ALBERT BENNETT CUDEBAC, Assistant in Military Science and Tactics.

WILLIAM POLLOCK FRASER, A.B., Assistant in Neurology and Vertebrate Zoology.

WILLIAM ABBY FRAYER, A.B., Assistant in Mediæval History.

HORACE WADSWORTH GILLETT, A.B., Assistant in Chemistry.

A H OLIVE, Assistant in Chemistry.

GEORGE ATWATER RANKIN, Assistant in Chemistry.

WILLIAM BACHELOR RAPLEY, Assistant in Military Science and Tactics.

GEORGE HOLLAND SABINE, A.B., Ph.D., Assistant in Philosophy.

FRED F SHETTERLY, Assistant in Chemistry.

JAMES MALCOLM SWAINE, B.S. in Agr., M.S. in Agr., Assistant in Neurology and Vertebrate Zoology.

H WALCH, Assistant in Histology and Embryology.

ALBERT A GIESECKE, Assistant in Politics.

JOHN CURTIS KENNEDY, Assistant in Political Economy and Finance.

ROBERT R KERN, Assistant in Political Economy and Finance.

A A SOMERVILLE, Assistant in Physics.

WILLIS DAVID STEPHENS, Mechanician in Physics.

W M STEMPEL, Assistant in Physics.

ORIN TUGMAN, A.M., Assistant in Physics.

FRED A MOLBY, A.B., Assistant in Physics.

GEORGE WILLIAM NASMYTH, A.B., Assistant in Physics.

SPECIAL LECTURERS.

Besides the instruction regularly given by the resident officers of the University, a large number of lectures are delivered by non-resident lecturers on special subjects of importance. For this branch of instruction the services of eminent specialists are sought, and the number of lectures given by each lecturer varies according to the nature of the subject treated.

WILLIAM POEL, *London, England*

Shakespeare and the Conditions Under Which His Plays Were
First Produced.

HERBERT L. BRIDGMAN, A.M., *Brooklyn*

Journalism : A Plain Talk to Young Men.

RANSFORD S. MILLER, A.B., *Tokyo, Japan*

Japanese Political Parties and Leaders of To-day.

P. RAMANATHAN, K.C., C.M.G., *Colombo, Ceylon*

The Spirit of the East contrasted with the Spirit of the West.

REV. ARTHUR H. SMITH, A.M., *Shantung Province, China*

The Chinese Situation.

LUDWIG FULDA, Dr.Phil., *Germany*

Schiller and the New Generation.

WILLIAM ANGUS KNIGHT, LL.D., *St. Andrew's, Scotland*

Ruskin as an Art Critic and Ethical Teacher.

DOUGLAS HYDE, B.A., LL.D., *Ireland*

The Galic Movement.

The Poetic Literature of Ireland.

HENRY E. KREHBIEL, *New York City*

How to Listen to Music.

REQUIREMENTS FOR ADMISSION AND GRADUATION.

ENTRANCE SUBJECTS.

The subjects that may be offered for admission are named in the following lists :—

Elementary Subjects.

The following Elementary Subjects are required for admission to all colleges of the University :

English,
History,*

Plane Geometry,
Elementary Algebra.

Advanced Subjects.

In addition to the Elementary Subjects, an applicant must offer from the following list the Advanced Subjects required by the college to which he seeks admission. The figures following each subject indicate its relative weight :

Advanced Mathematics (6).
Solid Geometry (2).
Advanced Algebra (2).
Plane Trigonometry } (2).
Spher. Trigonometry }
German (12).
Elementary German (6).
Advanced German (6).
French (12).
Elementary French (6).
Advanced French (6).
Spanish (12).
Elementary Spanish (6).
Advanced Spanish (6).

Latin, (18).
Latin Grammar and Caesar (6).
Latin Composition and
Cicero (6).
Virgil (6).
Greek (12).
Greek Grammar, Xenophon (6).
Greek Composition, Homer (6).
Physics (6).
Chemistry (6).
Botany (6).
Geology or Physiography (6).
Zoology (6).
Drawing (6).

REQUIREMENTS FOR ADMISSION.

For admission to the College of Arts and Sciences an applicant must offer the Elementary Subjects and also one of the following groups of Advanced Subjects :

*One of the following : (1) American (including Civil Government), (2) English, (3) Ancient (to 814 A. D.), (4) Mediæval and Modern European (from 814 A. D.)

A. Latin (18), Greek (12).

B. Latin (18), and either German (12), or French (12), or Spanish (12).

C. One of the following : Advanced Mathematics (6), Physics (6), Chemistry (6), Botany (6), Geology or Physiography (6), Zoology (6), and also two of the following : German (12), French (12), Spanish (12).

Students admitted to the College of Arts and Sciences without satisfying the specific subjects in the above groups, must make up such deficiency during the freshman year by attending the University instruction in such subjects if given. The credit thus obtained will be counted toward entrance and not toward graduation.

[*For details as to subjects and methods of admission see pages 33-58*].

For admission to the freshman class, communications should be addressed to the Registrar. See pages 35-58.

For admission to advanced standing from other colleges and universities, and as special students, communications should be addressed to the Registrar. See pages 57-58.

For admission to graduate work and to candidacy for advanced degrees, communications should be addressed to the Dean of the University Faculty. See page 73.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS.

[*Applying to all candidates for the degree after June, 1906, except those registered in the college during the year 1904-1905 and allowed on petition to graduate under the earlier system.*]

Terms and Hours.

1. The requirements for the degree of Bachelor of Arts shall be residence for eight terms¹, and, in addition to the prescribed work in the departments of Physical Culture and of Military Science and Tactics, the completion of one hundred and twenty hours of elective work.

2. A student who receives at entrance twelve or more hours of entrance credit in addition to the requirements for admission may be regarded as having satisfied one term of residence. Under no circumstances shall surplus entrance credit be accepted as the equivalent of more than one term.

3. A student who has satisfied the entrance requirements of this College, and has afterwards completed in two or more summer

¹ The academic year is divided into two terms.

sessions at least twelve hours of work in courses approved by the departments concerned, may be regarded as having thus satisfied one term of residence. Under no circumstances shall work done in summer sessions be accepted as the equivalent of more than one term or be counted for more than twelve hours towards graduation.

4. A student admitted to the College of Arts and Sciences from another College of Cornell University or from any other institution of collegiate rank shall be regarded as having completed the number of terms and of hours to which his records entitle him, and will receive all the privileges of students who have completed the same number of terms and hours by residence in the College. In order, however, to obtain the degree of Bachelor of Arts he must have been in residence at least two terms in the College of Arts and Sciences, and in that College only.

5. A student must register for at least twelve hours each term and may not receive credit in any term for more than eighteen hours of the required one hundred and twenty.

6. If the head of a department in the College of Arts and Sciences certifies that a course in another college is essential to the prosecution by a student of courses offered in his department, the student may, upon approval by the Faculty, be allowed to elect such course. But any student who avails himself of the foregoing privilege shall have the number of hours that he may take in any other college under the provisions of paragraph 7 correspondingly reduced, and under no circumstances will he be allowed to take more than thirty hours under the provisions of this paragraph.

7. A student who has satisfied at least six terms of residence, no one of them under the provisions of paragraphs 2 or 3, and who has a credit of at least ninety hours, may, with the permission of the Faculties concerned, be registered both in the College of Arts and Sciences and also in any other college of Cornell University.

Studies.

8. Before a student may be registered as a junior he must have completed sixty hours of work which shall include in English and History six hours, in one or more languages other than English six hours, in Philosophy and Mathematics six hours, and in Physics, Chemistry, Geology, Physical Geography and the biologic sciences six hours, of which hours the student is required to take at least twelve, and advised to take more in his freshman year. Each six hours may be entirely in one division (for example, Philosophy six hours) or partly in one and partly in another (for example, Philosophy three hours and Mathematics three hours).

9. Each student shall choose at the beginning of his junior year one of the following groups :

- | | |
|-----------------------------------|---|
| 1. Ancient Languages. | 7. Physics. |
| 2. Modern Languages. | 8. Chemistry. |
| 3. English and Oratory. | 9. Botany. |
| 4. Philosophy and Education. | 10. Zoology and Entomology. |
| 5. History and Political Science. | 11. Physiology, Histology and Embryology. |
| 6. Mathematics and Astronomy. | 12. Geology and Physical Geography. |

In the group thus chosen he must complete during his junior and senior years at least twenty hours of work. In selecting these twenty hours the student must obtain the advice and approval of some one professor or assistant professor within the group, who shall be chosen by the student himself. But a senior in this college who is registered also in some other college of Cornell University is excused from ten of these twenty hours.

(For the present, however, a student specializing in chemistry and taking the four years' course outlined by the Department of Chemistry may be exempted from paragraph 8 of the above requirements.)

List of Courses Open to Freshmen.

Semitics, 1 ; *Greek*, 1, 2, 3 ; *Latin*, 1, 2, 3, 4a, 4b, 4c, 5 ; *Germanic Languages*, 1, 2, 2a, 3, 4, 5, 6, 7, 8 ; *Romance Languages*, 1, 2, 3, 12, 24, 30, 40, 42 ; *English*, 1, 2, 6, 21 ; *History*, and 15 ; *Mathematics*, 2, 6, 7, 8, 9, 10 ; *Physics*, 1, 5, 6, 10 ; *Chemistry*, 1, 5, 6, 7 ; *Botany*, 1, 2, 5 ; *Entomology, etc.*, 1, 2, 3, 4, 5 ; *Vertebrate Zoology and Neurology*, 2, 3, 3a, 4, 6, 7 ; *Geology*, 1 ; *Physical Geography*, 1a, 1b.

Related Courses in Another College.

Courses mentioned under this heading in the Announcement of Courses in the College of Arts and Sciences are open to students in that college only under the provisions of paragraph 6 or paragraph 7 of the requirements for the degree of Bachelor of Arts. (See page 88.) These courses include a few offered by members of the Faculty of Arts and Sciences in another college, and exclusively for its students.

Thesis.

If a senior elect to write a graduating thesis, it must represent some phase of his principal line of work during the latter years of his course.

The subject must receive the written approval of the professor in charge of the study to which it relates, and a memorandum of the title and of such approval must be left with the Registrar not later than the fifteenth day of October. The thesis must have the character of a scholarly dissertation on the subject chosen ; and if accepted it will entitle the writer to credit. The copy of the thesis presented to the Faculty shall become the property of the University. A standard form and size for theses, eight by ten and one-half inches, has been adopted.

DEPARTMENTS OF INSTRUCTION.

[Unless otherwise indicated, each course runs through the year. Courses enclosed in brackets will not be given in 1906-1907, but may be expected in 1907-1908.]

SEMITIC LANGUAGES AND LITERATURES.

The work in this department falls under three heads.

The Languages. An elementary course in Hebrew will be given each year. The advanced work in this language is so arranged as to cover in three years the leading writers of the Old Testament and some parts of the Mishnaic and Talmudic literature. General students with linguistic interests, and those preparing to teach, are advised to begin their study of the Semitic languages with the Arabic, which will also be offered each year. Aramaic and Egyptian will alternate with Assyrian and Ethiopic. In a Semitic Seminary a part of each year will be given to epigraphical studies.

The Literatures. A course of lectures on the most important literary productions of the Semites will be given annually. *For this course a knowledge of the Semitic languages is not required.* The lectures will be devoted in part to a discussion of questions of authorship, date, literary composition and historical value, and in part to a translation and elucidation of the texts themselves. Much attention will be bestowed on the Old Testament. Thus an opportunity will be afforded students who are not familiar with Hebrew to become acquainted with the results of scientific Bible-study. The Hebrew apocrypha and pseudepigrapha, the Mishnah and the Talmud, the Quran and the Arabic poets, the Babylonian Gilgamesh epic and the Book of the Dead will be discussed in a similar manner.

The History. In a series of lectures covering four years, an outline will be presented of the political and social history of Babylonia, Assyria, Persia, India, Armenia, Syria, Arabia, Ethiopia, Egypt, and the Caliphates of Damascus, Baghdad, Egypt, North-Western Africa and Spain. The classes are required to prepare papers, to present written reports on special topics for discussion, and to pass frequent examinations.

The following courses will be given in 1906-1907 :

1. Hebrew. Grammar (Harper, Gesenius-Kautzsch). Exercises in composition. Genesis ; Ruth. Open to Freshmen. M., W., F.,
2. *Goldwin Smith 134.* Professor SCHMIDT.

2. **Arabic.** Grammar (Socin, Wright-DeGoeje). Selections from historical writers, poets, and the Quran. Not open to Freshmen, T., Th., 3. *Goldwin Smith 134.* Professor SCHMIDT.

3. **Ethiopic.** Grammar (Dillmann-Bezold). The Parables of Enoch. Selections from Ethiopic manuscripts. Open only to graduates. T., Th., 4. *Goldwin Smith 127.* Professor SCHMIDT.

4. **Sumerian.** Grammar (Hommel). Hommel's Sumerische Lesestuecke; Prince's Sumerian Lexicon. Open only to graduates. F., 4-6. *Goldwin Smith 127.* Professor SCHMIDT.

5. **Egyptian.** Grammar (Erman). Hieroglyphic texts. Study of squeezes in the Eisenlohr collection. Open only to graduates. W., 4-6. *Goldwin Smith 127.* Professor SCHMIDT.

6. **Semitic Literature.** General introduction to the Bible, including Apocrypha and Pseudepigrapha, and special introductions to each book. This course of lectures presupposes no knowledge of Semitic languages or Greek and is designed to give in brief compass the results of scientific inquiry concerning the origin, date, composition and character of the Jewish and Christian Scriptures. Not open to Freshmen. M., W., 3. *Goldwin Smith 134.* Professor SCHMIDT.

7. **Semitic Seminary.** Critical study of the Hebrew text and the principal versions of the Book of Job. Examination of the metrical systems of Grimme, Ley and Sievers. Interpretation of Aramaic inscriptions in the Corpus Inscriptionum Semiticarum and of Arabic inscriptions in Berchem's Corpus Inscriptionum Arabicarum. Open only to graduates. M., 4-6. *Goldwin Smith 127.* Professor SCHMIDT.

8. **Comparative Semitic Philology.** Study of Genesis i-iv in Hebrew, Aramaic, (Targumic, Samaritan, Syriac,) Arabic, and Ethiopic, first term. Origin of the cuneiform signs, and of the alphabet, second term. Open only to graduates. F., 3. *Goldwin Smith 127.* Professor SCHMIDT.

9. **History of Egypt.** First term: From the earliest times to the fall of the Lagidæ. Second term: From the Roman conquest to the present day. Lectures, illustrated by stereopticon views; essays on special topics, discussions, and examinations. Not open to Freshmen. T., Th., 2. *Goldwin Smith 134.* Professor SCHMIDT.

GREEK.

[Including Archaeology and Linguistics.]

The courses of study in this department have been arranged with distinct reference to the belief that a choice of Greek as a subject of study during the first two years of the college course should not necessarily imply an intention on the part of the student to specialize in Greek.

A course in elementary Greek is provided for the benefit of students who have not taken Greek in their preparatory course, and have found it desirable to acquire at least a rudimentary knowledge of the subject, and who are willing to incur the labor incident to doing two years' work in one. The purpose of the course is to attain in one year of extraordinary effort a reading knowledge of Attic prose, and all other objects are made secondary to this.

The work of the freshman year is directed toward cultivating the ability of reading easily and at sight. Authors of the simplest style have therefore been selected—Lysias and Plato as representatives of the purest Attic type, and the *Odyssey* of Homer, of the Epic. The first term of the year will include, in connection with the reading of Lysias, a thorough review of the fundamentals of accidence and syntax, and exercises in Greek composition will be required throughout the year.

The work of the sophomore year aims at giving the student some acquaintance with the scope and meaning of Greek literature as the embodiment of Greek thought. In order to enable the student to read a larger amount of literature a course in cursory reading in easy authors is provided.

The work adapted to specializing study falls under three distinct heads:

1. The literature. Reading courses accompanied by lectures are offered, of which are given this year a junior course in Herodotus, a course in Aristophanes, a course in Plato, a course in Pausanias, a course in Tragedy, and a course in the rapid reading of Sophocles, Euripides, and Aeschylus. Besides these the study of some one Greek author is taken up in alternate years in the Seminary.

2. The antiquities. Course 24 treats of the entire equipment and environment of ancient Greek life, its usage and occupations, its ideas and institutions. Courses 22 and 23 are given in alternate years and give a consecutive account of Greek Literature down to the time of Justinian. Courses 27 and 28 are intended to supplement the study of Epic and Tragic poetry, by which Greek art was inspired. Greek vase-painting, reliefs, etc., depict the stories told by Homer, Aeschylus, Sophocles, and Euripides, and give an archæological commentary which illustrates, enlivens, and makes still more charming both Epic and Tragic poetry. Modern poetry draws so largely on Greek mythology that these courses will be found valuable to students of modern literatures. The department of Classical Archæology offers also courses in Greek art and archæology, and in epigraphy.

3. The language. Two courses in Advanced Prose Composition will

give maturer students an opportunity for its practice in the writing of Greek under the direct personal supervision of a teacher, and for instruction in special questions of syntax and style. All students who intend to become specialists in Greek are advised to take these courses, if possible, both in the junior and senior years. The Teachers' Course in Greek is also adapted to the need of undergraduates who expect to teach the classics. Lectures on Greek Grammar from a historical point of view are given in alternate years and are intended for seniors and graduates. The course in Modern Greek should be taken by all who intend to specialize in archæology, or who plan to continue their studies in Greece.

The exercises of the philological seminary are especially adapted to the needs of graduate students, and introduce the student to the original sources of information concerning the language and its history, and accustom him to methods of independent investigation in matters of textual criticism and literary interpretation. The seminary room in the library building has been equipped with a reference library of over two thousand volumes and will be used as a regular study-room and laboratory by the more advanced students.

The **Museum of Classical Archæology** contains a collection of casts which furnishes ample material for the illustration of the history of Greek and Roman sculptural art. The museum is also equipped with a fine collection of Greek coins, with a full set of the British museum electrotypes, with a collection of Greek vases representing the periods of Greek ceramic art, and with various plans, models and reconstructions.

Course 20, the shorter course of lectures in Greek sculpture in the museum, will give the student a knowledge of the general history of the development of Greek art, such a knowledge as will enable him to view the treasures of the larger museums of this country and of Europe intelligently. The three hour course will give more opportunity for independent investigation. This course will be attractive to all who desire a somewhat more definite and intimate acquaintance with the work of the best Greek sculptors, and to those who would value the ability to recognize the beauties, spirit, and meaning of ancient art.

The courses in Greek Archæology and in Pausanias are planned to be of profit to those who would be glad to acquire, for a knowledge of the Greek language and literature, or of Greek history, a background of acquaintance with the Greek people in their artistic and industrial activities, or of the land, the cities and the temples of Greece. The course in Pausanias presupposes ability to read Greek prose readily.

The Archæological Seminary is intended primarily for those who desire specializing work in Greek architecture and Greek epigraphy. Courses 15, 18, 19 and 21 will prepare for the examinations for the fellowships of the American School of Classical Studies in Athens. Courses 25, 27 and 28 are culture courses; they will be of value not only to students of Greek, but will enable students of English to read English literature with more understanding and pleasure.

Courses Primarily for Undergraduates.

1. **Elementary Greek.** Forman's First Greek Book. The essentials of the grammar. Simple exercises in composition. The reading of Xenophon's Anabasis, books I-IV. Selections from the New Testament. M., T., W., Th., F., 8, *Goldwin Smith 137*. Dr. FORMAN.

This course is designed for, and may be elected by, all students who wish to acquire, by extraordinary effort in one year, the ability to read Attic prose. Except by special permission open only to Freshmen. 12 hours' credit will be allowed on completion of this course which is continuous through the year. No credit will be allowed for the first term alone.

2. **Plato, Homer.** First term. Selections from some of the simpler dialogues of Plato as introduction to Greek philosophical literature. Second term. Selections from the Odyssey. T., Th., S., 10, *Goldwin Smith 137*. Dr. FORMAN.

Open to Freshmen who have presented Greek at entrance.

3. **Lysias, Herodotus.** The study of selected speeches of Lysias illustrative of normal Attic prose and of the simple style in oratory. In the second term Herodotus' story of the Persian wars will be read. M., W., 10, *Goldwin Smith 137*. Professor BRISTOL.

This course may be elected by anyone who is taking or who has taken course 2. It affords an opportunity for Freshmen to take five hours of Greek. It may be elected for either term or for the entire year.

4. **Plato, Aeschylus.** The reading in Plato will be mainly in the Republic, and will continue up to Thanksgiving. The rest of the term will be devoted to the Prometheus Bound. First term. M., W., F., 9, *Goldwin Smith 137*. Professor BRISTOL.

Open to students who have taken course 2.

5. **Euripides, Sophocles.** The Iphigenia in Tauris and Oedipus Tyrannus will be read. Each play will be illustrated by lantern views of the ancient monuments relating thereto. Introduction to the Attic drama. Second term. M., W., F., 9, *Goldwin Smith 134*. Professor STERRETT.

Open to students who have passed in course 2.

6. **Greek Composition.** This course is based on a systematic and practical study of Greek grammar, and leads to course 35. S., II, *Goldwin Smith 137*. Dr. FORMAN.

Open to students who have passed in course 2.

6B. **Hellenikos Syllogos.** The work will consist of conversation, essays, declamations and dramatic representations. One hour, at a time to be arranged. Dr. FORMAN.

Open to students who have passed in course 2.

7. **Herodotus.** Reading of book I with special reference to local history, topography, and antiquities. First term. M., W., F., 10, *Goldwin Smith 134*. Professor STERRETT.

Open to students who have passed in 2, 4, and 5, and to those who have passed in 2 and are taking 4.

[8. **Demosthenes.** Selected speeches will be studied to illustrate the life and work of Demosthenes as lawyer, statesman, and artist in prose. T., Th., II, *Goldwin Smith 137*. Professor BRISTOL.]

Open to students who have passed in courses 2, 4, and 5, or in 2 and 3, or in 2 and are taking 4.

9. **Reading Course in the Larger Greek Literature.** Through specimen readings the student will obtain a first hand acquaintance with writers from Homer to the time of Constantine. T., Th., II, *Goldwin Smith 137*. Dr. FORMAN.

Courses for Undergraduates and Graduates.

[10. **Elegiac and Lyric Poetry.** First half-year the elegiac and iambic poets. Second half-year the melic poets in Hiller's *Anthologia Lyrica*. T., Th., II, *Goldwin Smith 134*. Professor STERRETT.

Open to seniors and graduates.

11. **The Tragedy.** Aeschylus, *Agamemnon*; Sophocles, *Oedipus Coloneus* and *Antigone*; Euripides, *Hippolytus* and *Bacchae*. T., Th., II, *Goldwin Smith 134*. Professor STERRETT.

Open to seniors and graduates.

[12. **The Orations of Thucydides:** Studied (1) as a product of early Greek Oratory, (2) as an exposition, in concrete connection, of the principles of universal politics. One hour. Open to graduates. Dr. FORMAN.]

[13. **Aristophanes.** The *Acharniaus*, *Knights*, *Clouds*, *Wasps*, *Birds*, *Frogs*. Study of the development of Greek comedy and its scenic representation. W., F., 9, *White 5*. Dr. FORMAN.]

Open to seniors and graduates.

The Republic of Plato. Reading of the Greek text. T., Th., S., 9. See Philosophy, course 46 (page 132).

Aristotle's Ethics. Reading of the Greek text. M., 11 (or other hour to be arranged. See Philosophy, course 45 (page 32).

15. **Pausanias.** A reading course in the sources of the knowledge of Greek topography, with special reference to Athenian topography. Supplemented by illustrated lectures and by readings from Thucydides, Herodotus and Xenophon. Each member of the class will be expected to own a text of Pausanias, Thucydides and Herodotus. T., Th., 9, *Goldwin Smith 35*. Mr. ANDREWS.

16. **New Testament Greek.** First half-year. Reading of selections from the Septuagint, with general introduction to the language of the New Testament. Second half-year. The Gospel according to Mark, with reading of parallel passages from Matthew and Luke. Each member of the class should be provided with Conybeare and Stock's "Selections from the Septuagint" and Westcott and Hort's "New Testament in Greek." W., F., 8, *Barnes Hall Library*. Dr. A. C. WHITE.

17. **Modern Greek.** The literary language as found in Athenian newspapers, and the spoken idiom as presented in Gardner's Practical Method of Modern Greek. W., F., 10, *Goldwin Smith 35*. Mr. ANDREWS.

18. **Greek Archaeology.** Lectures and readings. Mycenæan art and civilization, Greek terra cottas, coins, bronzes, gems and vases. Greek architecture, with special reference to the buildings on the acropolis of Athens. The coins and vases in the Museum of Classical Archaeology will be used as material for study. Lectures, illustrated by lantern slides. W., F., 9, *Goldwin Smith 35*. Mr. ANDREWS.

19. **History of Greek Sculpture.** Lectures in the Museum of Casts. M., W., F., 11. Mr. ANDREWS.

20. **Outline History of Greek Sculpture.** Lectures in the Museum of Casts. T., Th., 10. Mr. ANDREWS.

21. **Archaeological Seminary.** Greek epigraphy. First half-year. Greek epichoric alphabets and dialectical inscriptions. Second half year, Attic inscriptions. The large collection of paper impressions of inscriptions will be used. M., 3-5, *Goldwin Smith 35*. Mr. ANDREWS.

22. **Greek Literature.** Lectures. A history of the development of the poetical literature in connection with the political and social history of the people. W., F., 9, *Goldwin Smith 134*. Professor STERRETT.

This course is open to all students of the College of Arts and Sciences except Freshmen.

[23. **Greek Literature.** A lecture course covering the history of

the prose literature of the classical period, and of the post-classical literature in general. W., F., 9, *Goldwin Smith 134*. Professor STERRETT.]

Open to all students of the College of Arts and Sciences except Freshmen.

[24. **Physical and Historical Geography of Greece.** The first term will be devoted to a discussion of the Physical geography, the fauna and flora, the population in ancient times, the characterization of the ancient Greeks, the modern state, the modern Greeks, their lineage, and the traces of ancient Greece in the modern customs, manners, and usages. The second term will be devoted to a systematic study of the historical geography and topography. In this term the stereopticon will be used as occasion requires. T., Th., 10, *Goldwin Smith 134*. Professor STERRETT.]

Open to all students of the College of Arts and Sciences except Freshmen.]

25. **Greek Life.** The land and the people. Home life and private antiquities. Public life and social institutions. A study of the private life of the Greeks with illustrations (by lantern views, photographs, etc.) from ancient monuments and remains. T., Th., 10, *Goldwin Smith 134*. Professor STERRETT.]

Open to all students of the College of Arts and Sciences except Freshmen.

Greek Politics. M., W., 9. See History Course 2.

[27. **Myths of the Epic Cycle.** The entire cycle of myths relating to events before, during, and after the Trojan war will be illustrated by lantern views of extant monuments, vase-paintings, bas-reliefs, sculpture in the round, gems and coins. First half-year. W., F., 12, *Goldwin Smith 134*. Professor STERRETT.]

Open to all students of the College of Arts and Sciences except Freshmen.

[28. **Myths of the Theban and Dionysiac Cycles.** A lecture course illustrated by lantern views as in course 27. Second half-year. W., F., 12, *Goldwin Smith 134*. Professor STERRETT.]

Open to all students of the College of Arts and Sciences except Freshmen.

35. **Advanced Greek Composition.** Open by special permission only to properly qualified students. S., 12, *Goldwin Smith 137*. DR. FORMAN.]

Courses Primarily for Graduates.

14. **Advanced Reading Course.** The aim of this course is to enable students to acquire a knowledge of the entire works of some

one author, or of a particular field of literature. The following outline cycle of reading is based on the work done in previous years: in 1906-'07, Epinician and Idyllic poetry will be read (all of Pindar, Bacchylides, Theocritus, Bion, Moschus); in 1907-'08, tragic poetry will be read (all the plays of Sophocles, three (or four) of Aeschylus, two (or one) of Euripides; twelve tragedies in all). M., 2-4, *Goldwin Smith 125*. Professor STERRETT.

Open to graduates and only by special permission to seniors.

36. **The Iliad of Homer.** A course primarily for teachers.

The three divisions of the work are:

(a) The reading of selected parts of the poem.

(b) The study of the language of the poem and its relation to the Attic dialect; the analysis of the verse and the history of its development; the principles of interpretation; the value of archaeology for understanding the subject matter; aims and methods in translating the principal English translations.

(c) The teaching of Homer; the end to be kept in view; difficulties in practice; the best books and other helps for the teacher.

First term, and second term up to the Easter vacation only.

T., Th., 12, *Goldwin Smith 137*. Professor BRISTOL.

The course is open to graduates and to seniors.

Seminary in Greek and Roman history. Th., 4-6, or at another hour, as may be arranged. See History course 5.

[36. **Historical Grammar of Greek.** The Greek dialects, and their relations to kindred tongues and to one another, Development and normalizing of these forms in literary use. History of the Greek alphabets. Historical treatment of sounds and inflections. M., W., 10. *White 3. B.* Professor BRISTOL.]

Open to graduates and to properly qualified Seniors.

40. **Greek Seminary.** In 1906-1907 the work will deal with the more recent theories in regard to Homeric questions. Papers will be prepared and discussed by the members of the Seminary. W., 2-4, and an additional hour at the pleasure of the instructor. *Seminary Room*. Professor STERRETT.

Open to graduates.

41. **Introduction to the Study of Language.** Language as speech. The elements of phonetics. The analysis of sounds in English, Greek, and Latin. The life and growth of language. Changes in form and meaning. The languages of the Indo-European family. Their classification and relations to one another, with special reference to Greek, Latin, and English. The origin and early history of the alphabet. Outline history of linguistic science, and of the "com-

parative method" in language study. First term. M., W., F., II, *Goldwin Smith 137*. Professor BRISTOL.

42. **Linguistic Study of the Germania of Tacitus.** The Germania will be studied as the earliest extended account of the peoples of Teutonic stock and of their life and habits. Introductory to this and supplementing it the following topics will be taken up: Linguistic evidence in the determination of questions of race and culture; linguistics and archeology; the earliest civilization of the "Indo-European" people: pre-history as evidenced by language. Second term. Two hours, Monday, 7:30 P. M. Professor BRISTOL.

These courses are designed for students of either ancient or modern languages who wish to know something of the general principles of the science of language and of the history of that science. Further for students of history who may be interested in questions on the border line of history and linguistics. They are open to graduates and to properly qualified seniors. Either course may be elected alone if desired.

[43. **Comparative Grammar.** The phonology and morphology of the Indo-European family of languages. Historical and comparative treatment of sounds and inflections with special reference to Greek, Latin and Germanic. Three hours.]

44. **Elementary Sanskrit.** Perry's Primer and Lanman's Reader. The course is designed to meet the needs of students in classical and in Germanic philology. Two hours a week. Time to be fixed after consultation. Professor BRISTOL.

[45. **Vedic Sanskrit.** The reading of selected hymns. Study of Vedic language and religion. Once a week.]

LATIN.

The reading courses are as follows:

Course 1, the regular freshman reading course, open to all students who have presented Latin at entrance.

Course 8, the regular sophomore reading course, open to those who have had course 1.

Courses 16 and 17, the regular junior and senior reading courses, open to those who have had courses 1 and 8, or 1 and 11 (12).

Courses 2 and 3, intended primarily for freshmen who are taking course 1.

Courses 11 and 12, sophomore electives, intended primarily for those who are taking course 8, but open to all who have taken course 1.

Courses 1, a, b, must be taken to make up an entrance deficiency in

Cicero or Virgil, but are open also to all students prepared to take them.

The composition courses and the undergraduate and graduate lecture courses are open to students under the restrictions mentioned in connection with each course.

Course 4c, must be taken by all students conditioned in Latin composition at entrance, except those who are taking course 1.

Courses primarily for Undergraduates.

1. Livy, Book I; Cicero, De Senectute; Horace, Selections from the Odes and Epodes; Latin Writing.

Section 1. M., W., F., 9, *Goldwin Smith 124.* Assistant Professor DURHAM.

Section 2. M., W., F., 10, *Goldwin Smith 124.* Dr. WATSON.

Section 3. M., W., F., 11, *Goldwin Smith 124.* Dr. WATSON.

Section 4. M., W., F., 11, *Goldwin Smith 128.* Assistant Professor DURHAM.

[2. **Sight Translation: Caesar, Civil War; Plautus, Trinummus.**

Courses 2 and 3 are given in alternate years.]

3. Sight Translation: Cicero's Letters; Plautus, Menæchmi.

Section 1. T., 11, *Goldwin Smith 124.* Dr. WATSON.

Section 2. W., 12, *Goldwin Smith 124.* Assistant Professor DURHAM.

Section 3. F., 12, *Goldwin Smith 124.* Assistant Professor DURHAM.

Section 4. S., 10, *Goldwin Smith 124.* Dr. WATSON.

Especially recommended as collateral work for those who are taking course 1, but open to all students.

4a. **Cicero, Selected Orations.** T., Th., S., 12, first half year. *Goldwin Smith 124.* Dr. WATSON.

4b. **Virgil's Aeneid, Books I.-VI.** T., Th., S., 12, second half year. *Goldwin Smith 124.* Dr. WATSON.

4c. **Latin Composition.** M., 12, throughout the year, *Goldwin Smith 124.* Dr. WATSON.

Students who have an entrance condition in Cicero, Virgil, or Latin Composition are required to make up that deficiency by taking the corresponding part (a, b, or c) of course 4. Open, by permission, also to qualified students who do not present Latin at entrance.

5. Cicero, De Senectute; Horace, Selections from the Odes.

M., W., F., 10, second half year, *Goldwin Smith 128*. Assistant Professor ELMER.

Open to all qualified students. This course has been specially established for those desiring to begin their study of Latin at the opening of the second semester.

6. **Tacitus, Germania and Agricola.** T., Th., S., 9, second half year, *Goldwin Smith 124*. Dr. WATSON.

Open only to those students who have had at least one-half year of Latin in the University.

8. **Terence, Phormio ; Catullus ; Horace, Satires and Epistles ; Tacitus, Germania and Agricola ; Latin Writing.** T., Th., S., 9, *Goldwin Smith 128*. Assistant Professor DURHAM.

Open to students who have completed course 1.

11. **Selections from Cicero's Letters ; Cicero, De Oratore, Book I.** W., F., 11, *Goldwin Smith 120*. Assistant Professor ELMER.

Open to students who have completed course 1.

[12. **Selections from Cicero's De Officiis ; Cicero's Second Philippic.** Assistant Professor ELMER.

Open to students who have completed course 1.

Courses 11 and 12 are given in alternate years.]

16. **Selections from the Republican Literature ; Plautus, two plays. Lucretius. Lectures on the History of Roman Literature.** T., Th., S., 9, *Goldwin Smith 120*. Professor BENNETT.

Open to students who have completed courses 1 and 8, or 1 and 11 (12.)

[17. **The Literature and History of the Early Empire ; Suetonius, Pliny the Younger, Tacitus. History of Roman Literature. Capes' Early Empire.** Professor BENNETT.

Open to students who have completed courses 1 and 8, or 1 and 11 (12).

Courses 16 and 17 are given in alternate years.]

21. **Intermediate Course in Latin Writing.** Open to students who have completed course 8, or 11 (12). M., 11, *Goldwin Smith 120*. Assistant Professor ELMER.

26. **Teachers' Training Course.**

a. Study of the evidences for the pronunciation of Latin ; Hidden quantities ; Peculiarities of orthography ; Theoretical consideration of Latin syntax ; Lectures on problems connected with the teaching of Latin in secondary schools. W., F., 12, *Goldwin Smith 120*. Professor BENNETT.

b. **Cæsar.** This course is intended primarily for prospective teachers in preparatory and high schools. The first four books of the

Gallic War will be carefully studied with reference to all the points that should be emphasized in elementary instruction. M., 12, *Goldwin Smith 120*. Professor BENNETT.

Course 26b can be taken only in connection with course 26a.

The general aim of courses 26a and 26b is to prepare students who are intending to teach to enter upon their work with confidence.

These courses are open only to students who have had courses 1 and 8, or 11 (12), and have taken or are taking course 16 or 17. Special students in Latin are also admitted.

[27. **Roman Antiquities.** First term and until Easter recess: Topography and Architectural Remains of the City of Rome. A systematic consideration of the constitution of the Roman family, status of women, marriage, children, education, slavery, the Roman house and its furniture, food, dress, baths, games and amusements, books, trade, travel, religion, death, burial, etc. Lectures, illustrated by lantern views, photographs, and material in the Museum of Casts. Easter recess until end of second term: The Political and Legal Antiquities of the Romans. Professor BENNETT.

Open to students of the sophomore, junior, and senior years. See also under History and Political Science, course 3.

Courses 26a and 26b alternate with course 27.]

34. **Cicero, in Verrem (Fourth Oration of the Actio Secunda).** This course requires no prepared translation for the classroom work. The professor in charge will himself translate the oration, with full comments on subject-matter, style, difficulties, etc. The members of the class will endeavor merely to read the original Latin as Cicero himself would have read it. The especial aim of this course will be to develop in students the ability to understand and to appreciate the Latin without translating. Open to seniors and juniors. (The hour can be changed to suit the convenience of students who have conflicts.) Th., 11, *Goldwin Smith 124*. Assistant Professor ELMER.

[35. **Virgil, Aeneid VII-XII.**

Courses 34 and 35 are given in alternate years.]

Courses for Graduates and Undergraduates.

36. **Latin Pro-Seminary.** Textual and exegetical study of the works of Catullus.

The primary object of the pro-seminary is to prepare students for membership in the graduate seminary. It will also serve to introduce to the principles of scientific textual criticism and interpretation students who may not be intending to take graduate courses.

Open to graduates and seniors; but the number of the Pro-Seminary is limited to ten. M., 3, *Greek and Latin Seminary*. Assistant Professor DURHAM.

[37. **Latin Pro-Seminary, Virgil.** After a course of introductory lectures on the history and development of Latin epic poetry from the earliest times down to Statius, the work of the Pro-seminary will be devoted to a textual and exegetical study of selected portions of Virgil. Each student will prepare a paper embodying the results of original investigation of some topic suggested by the work of the year. Open to graduates and seniors; but the number of the Pro-Seminary is limited to ten. M., 4-6, *Greek and Latin Seminary Room*. Assistant Professor ELMER.

For the general objects which the pro-seminary has in view, see under course 36. Courses 36 and 37 are given in alternate years.]

[38. **Latin Epigraphy** Introductory lectures and interpretation of selected Latin inscriptions. For seniors and graduates. T., Th., 12. *Goldwin Smith 124*. Assistant Professor DURHAM.]

39. **Advanced Course in Latin Writing.** For students who have completed Course 21 or an equivalent elsewhere. S., 11. *Goldwin Smith 124*. Assistant Professor ELMER.

40. **German Philological Reading.** Reading of Schanz, *Geschichte der römischen Litteratur*. For seniors and graduates. S., 12, *Goldwin Smith 128*. Assistant Professor DURHAM.

The object of the course is to familiarize students of Latin, Greek, and Comparative Philology with the style, vocabulary, and character of modern German philological investigation. Students desiring to take this course are requested to confer with the instructor before Commencement, in order that the necessary books may be ordered in due season.

Courses for Graduates.

41. **Latin Seminary.** The work of the seminary for 1906-1907 will consist of the textual and exegetical study of Horace, combined with the reading of all of Horace's works.

The object of the seminary is to familiarize its members with the methods and habits of independent investigation. The work, therefore, as far as possible, is thrown into the hands of the students themselves. The seminary is open to graduates. Students who intend to take this course should confer with the instructor before Commencement, in order that the necessary books may be ordered from abroad in due season. The textual and exegetical work will come T., 2-3:30; the reading, Saturday at 10, *Greek and Latin Seminary Room*. Professor BENNETT.

[42. **History, Scope, and Aim of Latin Study.** This course will present the history of classical study since the Renaissance, will outline the various fields of investigation, stating the present state of knowledge in each, along with the chief problems still awaiting solution, and will give a very full bibliography. Open to graduates. Professor BENNETT.

Not given in 1906-7.]

43. **Historical Latin Syntax.** Lectures on the original force and historical development of the cases, and upon the subjunctive mood, with reference especially to its primitive meaning and its development in subordinate clauses. Open to graduates. T., Th., 10, *Goldwin Smith 120*. Professor BENNETT.

[44. **Historical Grammar of the Latin Language.** Open to graduates. T., Th., 10, *Morrill 3*. Professor BENNETT.

Courses 43 and 44 are not given in 1906-7.]

Roman History. M., W., F., 11. See History course 1.

Latin Paleography. T., 3. See History, course 12b.

Latin Medieval Fiction. Two hours a week. See Romance Languages 24 (page 115).

THE GERMANIC LANGUAGES.

The aim of the first two courses in German, besides preparing the student for progressive and independent work is to afford those who have not a full classical training, some grammatical and linguistic discipline, an insight into the relations between German and English, and a certain degree of literary culture.

In course 1 German Grammar and Hewett's Reader are used, accompanied by exercises in writing German, and in translation at sight. Later in the year easy novels or plays are studied.

Easy narrative and descriptive prose is read, the object being to impart facility in translation in connection with accurate grammatical knowledge, and at least one classical drama. Special attention is paid to advanced syntax and etymology, the force of prefixes and suffixes, the composition of words, synonyms and sight translation.

The later work, in the form of lectures and recitations, includes the advanced study of the German literature and language. Courses are given, varying from year to year, embracing the works of the leading authors and the literature of different periods. Classes are also formed in composition and conversation, and recent dramatic literature and the writings of living novelists are read. Systematic instruction is further provided in Gothic, Old Norse, Modern Danish, Netherlandish, in Old and Middle High German, also in the history of the

German language and in the comparative grammar of the Germanic languages.

In the German Seminary attention will be paid in successive years both to German literature and philology. The Seminary in German literature is open to students who have had the elementary courses in German and at least one full course in German literature. For the Seminary in philology, preliminary courses in Gothic and Middle High German, also in the general principles and facts of language are desirable. Investigation, the careful examination of authorities, and special reports constitute distinctive features of this work. All graduate students will participate in both these Seminaries. Later, independent research in chosen fields according to the special gifts and tastes of individual students will follow. Broad as well as accurate culture will be sought in the case of all graduate students.

Courses for those intending to be teachers are also given on classroom methods and theories of instruction in the modern languages. The department is equipped with a rare collection of lantern slides for illustrative purposes. The seminary room in the general library building has a valuable library for consultation, containing the leading collections of German literature, philological journals and books of reference. The acquisition of the Zarncke library, which contains one of the largest single collections of books for the study of German literature and philology in America, has materially enlarged the resources of the seminary and leaves little to be desired.

A series of lectures in German by eminent scholars upon German life, literature and art will be given during the year.

Course 1 is for beginners in German, and for those who have not already passed the entrance examination in Elementary German.

Course 2 is open to those who have had Course 1, or have passed the entrance examination in Elementary German. Course 2 cannot be taken by those who have passed the entrance examination in Advanced German.

Course 3 is intended to accompany courses 2 or 5 and 7.

Courses 3-14, are open, under the restrictions hereafter noted, to those only who have had at least the equivalent of Courses 1 and 2.

Courses 5 and 7 are for students who have completed successfully courses 1, 2 and 3.

Course 1, and, under certain restrictions, Courses 2, 3, 4, 5, 6, 7, and 8, are open to Freshmen, whose previous study qualifies them for this work.

Courses primarily for Undergraduates.

1. **Elementary Course in German.** Grammar, Hewett's German Reader. The principles of German pronunciation, inflexions, rules of syntax, re writing of easy exercises in German, and memorizing familiar poems.

Section 1—M., W., F., 10, *Goldwin Smith*. Assistant Professor POPE.

Section 2—M., W., F., 11, *Goldwin Smith*. Assistant Professor POPE.

2. **Second Year.** Elster's *Zwischen den Schichten*, Schiller's *Wilhelm Tell* and Lessing's *Minna von Barnhelm*.

Section 1—M., W., F., 9, *Goldwin Smith*. Dr. HOWE.

Section 2—M., W., F., 10, *Goldwin Smith*. Dr. HOWE.

Section 3—T., Th., S., 10, *Goldwin Smith*. Assistant Professor POPE.

This course includes the reading of narrative and descriptive prose, which will impart facility in translation, also the careful reading of selections from the easier and more attractive classical literature. Advanced grammar, syntax, the use of the moods in main and dependent sentences, the derivation and composition of words, the force of prefixes and suffixes, and synonyms will be studied.

2a. **German 1 and 2.** This course is offered to students exceptionally well prepared in other subjects to enable them to complete the entire elementary German in one year, thus qualifying them to enter earlier upon the study of advanced German literature or to pursue special reading in German, in history or in science. Daily except S., 9, *Goldwin Smith*. Assistant Professor POPE. Upon completing successfully this course, students will be credited with two full courses of three hours each. Students who have previously finished German 1 can enter this course in February, at the beginning of the second half-year. The course of study will be the same as that announced for German 1 and 2.

3. **Elementary German Composition.**

Section 1. M., W., 12, *Goldwin Smith* Dr. HOWE.

Section 2. T., Th., 12, *Goldwin Smith*. Dr. HOWE.

Section 3. F., S., 11, *Goldwin Smith*. Dr. HOWE.

Open to students who have had Course 1.

Designed to accompany course 2, and to prepare the student for advanced reading.

Courses for Undergraduates and Graduates.

4. **Advanced German Composition.** T., Th., S., 12, *Goldwin Smith*. Second half year. Dr. PAULS. This course will be conducted

in German. Open only to students who have had Courses 1-3, and 14, and to others by special permission of the instructor. Candidates for Teachers' Certificates must have had the equivalent of Courses 3 and 4.

5. **Intermediate Advanced Course**, mainly prose. Freytag's *Verlorene Handschrift* and *Rittmeister von Alt-Rosen*. For students who have received credit in German 1 and 2. Special attention will be paid to an exact, idiomatic and fluent translation as a preparation for advanced courses in German and for later readings in history and science. This course will be accompanied by a review of select points and chapters in German grammar. First half year. See Course 6.

Section 1—M., W., F., 10. *Goldwin Smith*. Assistant Professor FAUST.

Section 2—T., Th., S., 10. *Goldwin Smith*. Assistant Professor FAUST.

Section 3—M., W., F., 11. *Goldwin Smith*. Dr. PAULS.

6. **Intermediate Advanced Course**. Narrative and historical prose. Second half year.

Section 1—M., W., F., 10. Assistant Professor FAUST.

Section 2—T., Th., S., 10. Assistant Professor FAUST.

Section 3—M., W., F., 11. Dr. PAULS.

7. **Rapid Reading**. Numerous works giving a wide acquaintance with modern writers will be read. The aim of this course will be primarily to impart facility in translation, and at the same time familiarize the student with representative writers of the nineteenth century. Open to students who have had courses 1-6 or their equivalents. T., Th., 10. First half year. *Goldwin Smith*. Dr. HOWE. See Course 8.

8. **Rapid Reading**. Continuation of Course 7. Second half year. T., Th., 10 *Goldwin Smith*. Dr. HOWE.

9. **German Literature in the first half of the Nineteenth Century**. The novel, criticism, and drama. Later Romanticism will be mainly studied, including the reading of Heine, Kleist and Uhland, and the study of the political, social and art ideas of the time. "Young Germany," and the Revolutionary movement in its relation to literature.

For students who have had courses 1-7 or their equivalents. First half year. T., Th., S., 9, *Goldwin Smith*. Assistant Professor FAUST.

10. **German literature in the second half of the Nineteenth Century**. The development of the modern novel and drama. Continuation of course 9. Readings from representative authors, reports

and lectures. Second half-year. T., Th., S., 9. *Goldwin Smith*, Assistant Professor FAUST.

11. **Goethe's Faust.** Part I and selections from Part II, supplemented by lectures. Open to students who have courses 1-6 and one full reading course in German literature. Second half-year. M., W., F., 9. Assistant Professor FAUST.

12. **Literature of the Eighteenth Century.** Mainly Goethe, with lectures upon the period of the "Storm and Stress" Reading of selections from *Dichtung und Wahrheit*, *Götz von Berlichingen* and *Egmont*. This course will be accompanied by lantern views illustrating the literary history of the time. Open to students who have had courses 1, 4, 5 and 6 or their equivalents. First half-year. M., W., F., 9. *Goldwin Smith*. Professor HEWETT.

[13. **Goethe's Classical Dramas and Poems**, with a study of his life. Open to students who have had courses 5-6 or their equivalents. First half-year, M., W., F., 10. *Goldwin Smith*. Professor HEWITT.]

14. **Lectures on the History of German Literature and Antiquities from the beginning to the Reformation.** This course will be illustrated by lantern views of German antiquities, art and life. Open to students who have had courses 1-4, 5, 6, and two full courses in German literature or their equivalents. First half-year. M., W., F., 10. *Goldwin Smith*. Professor HEWETT.

Courses primarily for Graduates.

15. **Lectures in German on German Literature from the Period of the Reformation.** Open to students who have had courses 1-4, 5, 6, 14, and one full reading course in German. Second half-year, T., Th., S., 11. *Goldwin Smith*. Dr. PAULS.

[16. **Outline Course in History of German Literature from the beginning to the Reformation.** For students in general Courses. Recitations and readings. This course is recommended to all advanced students of German literature as affording a concise survey of the various periods of German literature and the relations and sequence of different authors. Open to students who have had courses 1-10 or their equivalents. First half-year. T., Th S., 9. *Goldwin Smith*. Assistant Professor FAUST. Omitted in 1906-7.]

17. **Elementary German Conversation.**

Section 1, M., 12. *Goldwin Smith*. Dr. PAULS.

Section 2, F., 12. *Goldwin Smith*. Dr. PAULS.

Open to students who have had courses 1-3.

18. **Advanced German Conversation.** Experimental course. The recent Reform method of instruction in the modern languages

used in Germany will be adopted. The number of students in this course will be limited to twenty-five. Open only to students who have had courses 1, 2, 3, and one full course in German literature, by special application to the instructor. This course will be especially useful to teachers. It must be taken in connection with one full reading course, and if possible, with German Composition. First half-year. T., Th., S., 11. Dr. PAULS.

19. **Teacher's Course.** A general review of German grammar, historical and comparative syntax, synonyms, etymology, characteristics of German style, development of poetical forms, meter. Theories of instruction in the modern languages. First half-year. T., Th., S., 8. *German Seminary.* Professor HEWETT. Open to students who have had courses 1-4, 17, and two full reading courses in German literature. Courses 13 and 15 may be counted for Teachers' Certificate.

20. **Elementary Middle High German.** The popular epics: Nibelungenlied and Kudrun; German prose in the twelfth and thirteenth centuries. First half-year. M., W., F., 11. *Goldwin Smith.* Assistant Professor FAUST.

21. **Advanced Middle High German.** Lectures and readings from the Court Epics; Hartmaun von Aue, Gottfried von Strassburg and his relations to French sources and to the later Arthurian legends, as contained in the writings of Tennyson, Morris and Matthew Arnold. Second half-year. For graduates and advanced students. T., Th., S., 12, *Goldwin Smith.* Dr. PAULS.

22. **Old High German and Old Saxon.** Braune's *Althochdeutches Lesebuch.* Early forms of German verse. T., Th., S., 10. *Goldwin Smith.* First half-year. Dr. PAULS. For graduates and advanced students of German literature. Admission upon special application.

23. **Historical and Comparative Grammar of the Germanic Languages,** including phonology and morphology. Lectures and discussions. This course will be based on Streitberg's *Urgermanische Grammatik* (2nd ed.), Kluge's *Vorgeschichte der altgermanischen Dialekte* in Paul's *Grundriss*, Bd. 1, (2nd ed.) For graduate and advanced students who have had Gothic, Old or Middle High German or Early English. Second half-year, M., W., F., 10. *Goldwin Smith.* Dr. PAULS.

24. **Old Norse.** Recitations and lectures; continuation of course 20. For graduate and advanced students of the Germanic languages. First half-year. M., W., F., 12, *German Seminary.* Mr. HERMANSSON.

An advance course embracing the Sagas and lectures on Old Norse literature will be given in the second half-year if a sufficient number of students apply

25. **Modern Danish.** A course in the modern literature of the North of Europe. Recitations and lectures. Second half-year. M., W., F., 12. *German Seminary.* Mr. HERMANNSSON.

26. **Reading and Discussion of Current Reviews, and Criticisms of Recent Works.** S., 9. *German Seminary.* First half-year. Dr. HOWE. Second half-year. Assistant Professor FAUST.

The first half-year will be devoted to current publications in literature, the second half-year to philology and the discussion of the educational reviews.

[**Gothic with Lectures on General Germanic Philology.** M., W., F., 9. See English Course 17. Not given 1906-7. (Page 24.)

This course is recommended to all properly equipped students.]

Introduction to the Study of Language. First term. M., W., F., 11. See Linguistics, Course 41. (Page 10.)

Candidates for the doctor's degree in Germanics are advised to include Course 1, under Comparative Philology, as a part of their preparation for examination.

General Lectures upon German institutions, art and life, the history of German Universities, and the works of special authors will be given before the German department by members of the Faculty and others. These will be given in the evening, at times to be announced during the year.

It is advised that students who expect to teach German should have at least one course in historical German, either Middle High German or the German of the sixteenth century. One or more advanced courses in Greek or Latin and in Old English are recommended.

The Deutscher Verein, a club composed of the members of the German Department, graduate students, and others interested in the study of German literature will meet twice a month for social intercourse, practice in speaking German, lectures, and discussions. Music and dramatic entertainments constitute regular features of these gatherings. *Goldwin Smith.* 8 P. M.

THE ROMANCE LANGUAGES.

Instruction in French during the first year is essentially the same for all courses. In the second year the object of study is more literary than grammatical; three hours a week are devoted to reading advanced French and to the study of the history of the literature, with special reference to its principal schools or movements.

The instruction in the department is so planned that a student who pursues French for three or four years has an opportunity to study every period in French literature from the mediæval to the modern. Special instruction is also provided for graduates and other advanced students in French philology, Old-French, and Provençal.

There are three courses offered in Spanish, an elementary course of grammar and reading the first year, followed the second year by a course in modern Spanish literature and the third year by a course in such classical authors as Cervantes, Calderón, and Lope de Vega.

The courses in Italian are of two years. The grammar is rapidly studied the first term, and reading begun in the second. In the second year more advanced works are read; selections from Dante, Petrarch, and Boccaccio, with lectures on the history of the literature. Advanced instruction is also given in Spanish and Italian philology.

The library, in which a seminary room has been provided for the department, is well furnished with materials for the special study of French literature of the XVIIth century and of the Romantic school, and of Italian literature of the time of Dante and of Petrarch, while means are not wanting for the study of other periods, and of the other Romance literature and philology.

Course 1 is for beginners in French, and for those who have not already passed the entrance examination in Elementary French.

Course 2 is open to those who have had the equivalent of course 1, or have passed the entrance examination in Elementary French. Course 2 cannot be taken by those who have passed the entrance examination in Advanced French (equivalent to the Intermediate French of the College Entrance Examination Board.)

Course 3 is intended as an introductory course to all of the more advanced courses in French, and is recommended also to all students who, though not intending to specialize in French, desire to improve their practical knowledge of the language and to gain a general idea of French literature.

Courses 6, 10, 14, 16, 18, are open, under the restrictions hereafter noted, to those who have had at least the equivalent of courses 1, 2, 3.

Course 1, and under certain restrictions, courses 2, 3, 10, 14, 30, 40, 42, are open to Freshmen whose previous study qualifies them for this work.

Courses 1, 30, 40, beginning courses in French, Italian, and Spanish, are continuous through the year, and credit will not be given for the first term only.

French.

Courses Primarily for Undergraduates.

1. **French Grammar and Reading.** Fraser and Squair's Abridged French Grammar. Guerlac's Standard French authors.

Section 1—M., W., F., 9. *Goldwin Smith 281.* Mr. MURRAY.

Section 2—M., W., F., 10. *Goldwin Smith 277.* Assistant Professor GUERLAC.

Section 3—T., Th., S., 9. *Goldwin Smith 290.* Mr. GORDON

Section 4—T., Th., S., 10. *Goldwin Smith 290.* Mr. GORDON.

Section 5—T., Th., S., 11. *Goldwin Smith 281.* Mr. MURRAY.

2. **Second Year's French.** Anatole France's *Le Livre de mon Ami*, Bowen's *Modern French Lyrics*, Edmond About's *Le Roi des Montagnes*, Bouvet's *French Composition*.

Section 1—M., W., F., 10. *Goldwin Smith 290.* Mr. GORDON.

Section 2—M., W., F., 12. *Goldwin Smith 277.* Assistant Professor GUERLAC.

Section 3—T., Th., S., 10. *Goldwin Smith 277.* Assistant Professor GUERLAC.

3. **Third Year's French.** The Romantic School in French Literature. Crane's *Le Romantisme Français*. Also General Outline of French Literature with collateral reading. Composition and conversational work.

Section 1—M., W., F., 11. *Goldwin Smith 283.* Assistant Professor OLMSTED.

Section 2—T., Th., S., 9. *Goldwin Smith 277.* Mr. MURRAY.

Open to those who have had courses 1, 2, or advanced entrance French. This course is intended as preliminary to all advanced courses in French.

6. **French Literature of the Seventeenth Century.** Prose and verse of the classic writers of the century, including reading of plays by Corneille, Racine and Molière. M., W., F., 9. *Goldwin Smith 290.* Professor CRANE.

Open to those who have had advanced entrance French and one other course of French in the University.

10. **Elementary French Conversation and Composition.** The course is carried on entirely in French. It is intended for students who have had at least two years of French and who wish to train their ear and tongue to the practice of the language. The work consists of drill in composition and conversation, frequent themes, short talks by the students on French literature, and a rapid course in French history and institutions. M., W., F., 11. *Goldwin Smith 277.* Assistant Professor GUERLAC.

Open to those who have had advanced entrance French, and who, in the judgment of the instructor, are capable of pursuing the course with profit.

12. **Advanced French Conversation and Composition.** T., S., 11. *Goldwin Smith 277.* Assistant Professor GUERLAC.

Open to those who, in the judgment of the instructor, are capable of pursuing the course with profit.

14. **Rapid sight reading.** Conducted in French. The object of the course is to impart facility in the reading and understanding of French as French without translating. T., Th., 10. *Goldwin Smith 283.* Assistant Professor OLMSTED.

Open to those who have had three years of French, and who can read and understand French readily.

16. **Lectures in French.** La poésie française aux XIX^e et XX^e siècles, de Victor Hugo à nos jours. Th., 11. *Goldwin Smith 277.* Assistant Professor GUERLAC.

Open to those who have had three years of French, and who, in the judgment of the instructor, are capable of pursuing the course with profit.

Courses for Undergraduates and Graduates.

18. ***Origin and Development of the French Language and Literature down to the Sixteenth Century.** Lectures. F., 10. *Goldwin Smith 281.* Mr. MURRAY.

Open to those who have had three years of French, and entrance Latin.

20. **French Language and Literature of the Sixteenth Century.** W., F., 10. *Goldwin Smith 278.* Assistant Professor OLMSTED.

Open to those who have had, in addition to advanced entrance French, two other courses of French in the University, and who have some knowledge of Latin. This course is intended primarily for Seniors and graduate students.

22. **French Phonetics, Old French Texts, etc.,** Two hours per week to be arranged by consultation. *French Seminary Room, Library.* Mr. MURRAY.

Open to those who have had, in addition to advanced entrance French, two other courses of French in the University, and entrance Latin. This course is intended primarily for seniors and graduate students.

24. **Latin Mediaeval Fiction,** as an introduction to Mediaeval Fiction, especially of the Romance Nations. The subject for 1906-7 will be the great collections of Latin stories (*Gesta Romanorum*, etc.) and Latin versions of Oriental story-books. The work will be based

on Ulrich's *Proben der lateinischen Novellistik des Mittelalters*, Leipzig, 1906, and the introduction to Crane's *Exempla* of J. de Vitry, London, 1890. Two hours per week of lectures and reading to be arranged by consultation. *French Seminary Room, Library*. Professor CRANE. Open to graduate and advanced undergraduate students. A reading knowledge of easy Latin is necessary.

Course for Graduates.

26. **Old French Texts** for advanced students. In 1906-'07 the Romances of the Breton Cycle will be read and studied. Two hours per week to be arranged by consultation. *French Seminary Room, Library*. Mr. MURRAY.

Open only to graduate students who have had course 17 or its equivalent.

Italian.

Courses Primarily for Undergraduates.

30. ***Italian Grammar and Reading**. T., Th., S., 10. *Goldwin Smith 281*. Mr. MURRAY.

This course cannot be taken in the same year with course 40. It is open to those who have had advanced entrance French and entrance Latin.

32. ***Italian Reading**. Selections from Dante, Petrarch and Boccaccio. T., Th., 9. *French Seminary Room, Library*. Professor CRANE.

Open to those who have had course 30.

Course for Graduates.

34. **Romance Seminary**. Early Italian Lyrical Poetry in its relations to Provençal Poetry and to the Lyrical Poetry of Dante and Petrarch. The work will be based on Monaci's *Crestomazia italiana* and Savj-Lopez and Bartoli's *Altitalienische Chrestomathie*. S., 9-11, *French Seminary Room, Library*. Professor CRANE. Open only to graduate students.

Spanish.

Courses Primarily for Undergraduates.

40. **Spanish Grammar and Reading**.

Section 1—M., W., F., 11. Goldwin Smith 281. Mr. GORDON.

*Courses starred may be changed to a different hour at the convenience of the instructor and those desiring to take them.

Where courses are continuous, extending through the year, students should register for the same for both terms.

Section 2—M., W., F., 12. Goldwin Smith 283. Assistant Professor OLMSTED.

Section 3.—T., Th., S., 8. Goldwin Smith 283. Mr. GORDON.

This course cannot be taken in the same year with course 30. It is open to those who have had advanced entrance French, German, or Latin.

42. **Modern Spanish Literature.** Palacio Valdés, Pérez Galdós, Alarcón, Echegaray, Becquer, etc. T., Th., 12. *Goldwin Smith 283.* Assistant Professor OLMSTED.

Open to those who have had course 40.

44. **Spanish Classics of the Sixteenth and Seventeenth Centuries.** T., Th., 11. *Goldwin Smith 278.* Assistant Professor OLMSTED.

Open to those who have had courses 40 and 42, or their equivalent.

ENGLISH.

The aims of the Department are threefold : I. Training in composition. II. Study of the growth of the language. III. Study of the literature. In all the courses there is much reading of texts. In Courses 1-9, the aim of the reading is chiefly rhetorical ; in Courses 11-17, grammatical ; in Courses 21 and above, interpretative. In all the literature courses, essays, reports, and other exercises in writing are required.

Courses not marked a, b are continuous throughout the college year ; courses marked a, b may be taken for either term. Course 41b however, may not be taken without course 41a.

Courses 9, 11, 12, and at least three (including 21) of the literature courses are required of students who desire to be recommended to high-school teacherships of English.

Baccalaureate Theses. Seniors who have given evidence of their ability to do advanced work in literature or in language may be permitted to write baccalaureate theses. Permission should be obtained from the head of the Department before the end of the junior year, and the thesis subject must be approved before October fifteenth of the senior year. Credit will be given, under the general Faculty regulation, for the completion of a satisfactory thesis.

I. Composition.

Candidates evincing marked ability in the Cornell entrance examination in English are admitted to Courses 2 and 6a without taking Course 1. Students admitted upon examination by the College Entrance Examination Board, and students admitted upon Regents' diplomas without entrance examination, may obtain the like privi-

lege by submitting to a test in writing, upon familiar topics, some of which will be connected with the entrance books. The test will include not only exercises in composition, but also questions upon paragraphing and upon the technique of narration, description, and exposition. Held Monday, September 24, 1906, at 11 A. M., in *Goldwin Smith 163*, and lasting two hours, this test will not be treated as a University examination; no report will be made to the Registrar. The list of successful candidates will be posted on the bulletin boards by 9 A. M., on Tuesday, September 25.

1. **English Composition.** Open to all students who have fulfilled the entrance requirement in English in the College of Arts and Sciences. Studies and regular practice in the technique of composition. A number of illustrative specimens, selected from masters of prose style, will be read by the class, and will serve, so far as is practicable, as models for themes and essays. Constant use will be made of Hart's *Essentials of Prose Composition*. Three hours.

The class will be divided into eight sections as follows:

Section a—M., W., F., 12, *Goldwin Smith 162*. Dr. ADAMS.

Section b—T., Th., S., 9, *Goldwin Smith 164*. Assistant Professor COOPER.

Section c—M., W., F., 10, *Goldwin Smith 162*. Dr. COX.

Section d—M., W., F., 11, *Goldwin Smith 162*. Dr. ADAMS.

Section e—T., Th., S., 11, *Goldwin Smith 160*. Assistant Professor PRESCOTT.

Section f—M., W., F., 9, *Goldwin Smith 162*. Dr. COX.

Section g—M., W., F., 10, *Goldwin Smith 160*. Dr. ANDREWS.

Section h—T., Th., S., 10, *Goldwin Smith 162*. Dr. MONROE.

Details of administration are in charge of Assistant Professor PRESCOTT.

2a. **Prose.** First term only. Three hours. A careful study of De Quincey, Carlyle, Macaulay, Burke, and other standard authors, with especial attention to diction. Practice in short papers and long themes.

The class will be divided into four sections, as follows:

Section a—T., Th., S., 9, *Goldwin Smith 160*. Dr. ANDREWS.

Section b—M., W., F., 12, *Goldwin Smith 163*. Assistant Professor COOPER.

Section c—T., Th., S., 11, *Goldwin Smith 162*. Dr. COX.

Section d—M., W., F., 10, *Goldwin Smith 164*. Dr. MONROE.

The work of the course is in charge of Professor HART.

6a. **Argumentative Composition.** First term only. Open to students who have had Course 1. A study of the principles of argu-

mentative writing, with practice in composition. T., Th., S., 12, *Goldwin Smith 160*. Assistant Professor PRESCOTT.

7b. **The Short Story.** Second term only. Open—except by special permission—only to students whose record in Course 1 shows that they are likely to pursue the course with profit. A study of selected specimens; weekly reports; frequent exercises in story-writing. T., Th., S., 9, *Goldwin Smith 160*. Dr. ANDREWS.

9. **Rhetoric.** Primarily for the training of high-school teachers of English, but serviceable to all advanced students. A study of the general features of English prose and English poetry, with practice in writing and correcting papers. Open to students who have maintained good rank in Courses 1 and 2. Good rank in Course 9 will entitle the student to count these hours toward the number requisite for a certificate in the Department of the Science of Education. M., W., F., 9. *Goldwin Smith 160*. Professor HART.

II. Language.

Courses 11 and 12 are a general introduction to the history and present state of the language; both are required of students who wish to be recommended to high-school teacherships of English. In each course there is enough text-reading to illustrate the periods of literature. Course 11 is required for further study of the literature anterior to the Elizabethan period, and is recommended in preparation for Course 17. Both courses are serviceable for the general student of languages.

11. **Old and Middle English.** Open to students who have had Course 1; to others, by special permission. Readings and lectures. M., W., F., 11, *Goldwin Smith 164*. Dr. MONROE.

12. **The Development of Standard English.** Open to students who have had Course 11. Readings in Chaucer, Dunbar, Malory, and some early modern writers. Lectures on the rise of standard English and on the history of English inflections and syntax. T., Th., S., 10, *Goldwin Smith 164*. Assistant Professor NORTHUP.

16a. **Introduction to English Philology.** First term only. Counts as three hours. Open to seniors and graduates who have had Course 11 or its equivalent. A reading knowledge of French and German is also required. Lectures on the more important branches of scholarship connected with the study of the English language and literature and on the chief books and methods to be examined. Assigned readings, reports, and discussions. W., 2:30-4:30. *English Seminary Room*. Assistant Professor NORTHUP.

[17. **Old English Philology.** For students engaged in the syste-

matic study of the language. A knowledge of German is required for admission; some knowledge of Greek and Latin is also desirable. Students are also advised to take Course 11 in preparation. The phonology and inflections, first of Gothic, then of Old English. Text-books, Wright, Gothic Primer; Bright, Anglo-Saxon Reader. Lectures on the relations of English to cognate languages. M., W., F., 9, *English Seminary Room*. Assistant Professor STRUNK.]

Note.—Students in Indo-European or in Germanic philology may withdraw at the completion of the Gothic portion of the course.

III. Literature.

In general the courses above 21 are open, with the permission of the instructor in charge, to students who have had Course 21 or its equivalent. For special qualifications see Courses 24, 25b, 44, 49.

Not more than two courses may be taken in the same year, except by permission of the head of the Department.

A. General English Literature

21. **Modern Literature.** Open to all students who have fulfilled the entrance requirement in English. A general survey of English literature from the Renaissance to modern times.

The class will be taught in five sections, as follows:

Section a—T., Th., S., 10, *Goldwin Smith 163*. Assistant Professor STRUNK.

Section b—T., Th., S., 11, *Goldwin Smith 164*. Assistant Professor NORTHUP.

Section c—T., Th., S., 12, *Goldwin Smith 163*. Dr. ADAMS.

Section d—T., Th., S., 9, *Goldwin Smith 162*. Dr. MONROE.

Section e—M., W., F., 11, *Goldwin Smith 160*. Dr. ANDREWS.

Details of administration are in charge of Assistant Professor STRUNK.

25b. **Old English Readings.** Second term only. Open to students who have completed the Old English of Course 11. Designed to give greater familiarity with representative literature in Old English, especially the poetry. Reading of selected texts. M., W., 10, *Goldwin Smith 164*. Dr. MONROE.

41a. **The Predecessors of Shakespeare in the Drama.** First term. A reading of the playwrights immediately preceding Shakespeare, and a study of Elizabethan society and playhouses. Lectures and reports. T., Th., S., 11, *Goldwin Smith 163*. Dr. ADAMS.

41b. **Shakespeare's Contemporaries and Successors in the Drama.** Second term. Open only to students who have had 41a.

Readings, lectures, and reports. T., Th., S., 11, *Goldwin Smith 163*.
Dr. ADAMS.

37a. **Shakespeare.** First term. A study of Shakespeare's life and work, with reading of representative plays. M., W., F., 10, *Goldwin Smith 163*. Assistant Professor STRUNK.

37b. **English Poetry, Spenser to Milton.** Second term. Devoted chiefly to Spenser, Sidney, Shakespeare, Herrick, and Milton, with briefer consideration of minor writers. M., W., F., 10. *Goldwin Smith 163*. Assistant Professor STRUNK.

57b. **Shakespeare. Advanced Course.** Second term only. Counts as three hours. Open to students who have maintained good rank in 37a. Intended to provide opportunity for more thorough study. T., Th., 2:30-4:30, *Goldwin Smith 162*. Assistant Professor STRUNK.

47a. **Lyric Poetry.** First term only. The study of representative shorter lyric poems, from the time of Spenser to the present day, with regard to form, expression, and spirit, independently of biographical considerations. This course will include an introduction to the study of metre. T., Th., 9, *Goldwin Smith 163*. Assistant Professor STRUNK.

38b. **English Prose, 1660-1750.** Second term only. A study of the prose of Dryden, Defoe, Addison, Steele, and Swift. M., W., F., 10. Room to be assigned. Assistant Professor PRESCOTT.

[33a, b. **English Prose and Poetry, 1742-98.** Dr. ANDREWS.]

43. **The Development of the English Novel.** Lectures, discussions, and reports on collateral reading. T., Th., S., 10, *Goldwin Smith 160*. Dr. ANDREWS.

34a. **Romantic Poetry.** First term. A study of typical poems of Bowles, Coleridge, Wordsworth, and Southey, with some attention to the "impassioned prose" of DeQuincey. Lectures, readings, and papers. M., W., F., 11. Room to be announced. Assistant Professor COOPER.

34b. **Romantic Poetry.** Second term. A study of Byron, Shelley, Keats, and Scott. A continuation of Course 34a; yet may be elected independently. M., W., F., 11. Room to be announced. Assistant Professor COOPER.

36a. **Victorian Poetry.** First term. A study of the leading works of Browning, Tennyson, Matthew Arnold, William Morris, and Swinburne. Lectures, readings, reports, and discussions. M., W., F., 9, *Goldwin Smith 164*. Assistant Professor NORTHUP.

36b. **Victorian Prose.** Second term. A study of representative works of Carlyle, Thackeray, Dickens, George Eliot, and Matthew

Arnold. Lectures, readings, reports, and discussions. M., W., F., 9, *Goldwin Smith 164*. Assistant Professor NORTHUP.

48. **American Literature.** The colonial period will be treated in outline; the nineteenth century more fully. Extended treatment will be given to Poe, Emerson, and Hawthorne. M., W., F., 11, *Goldwin Smith 163*. Assistant Professor PRESCOTT.

B. Comparative English Literature.

Under this heading are here comprised such courses as aim at treating with some fulness the relations between English and other European literatures. See also Romance Languages, Course 7, Latin Mediaeval Fiction.

[39. **Early Liturgical Drama, Miracle Plays, Moral Plays, etc.** M., W., F., 10. Professor HART.]

49. **Fourteenth Century Literature.** Readings, chiefly in Chaucer and *Piers Plowman*; lectures. Open to students who have some reading knowledge of French and Latin and have had Course 11. M., W., F., 10, *Goldwin Smith 159*. Professor HART.

24. **English Translations of Greek and Latin Classics.** Open to students who have maintained good rank in Course 1. Course 21 is not required. Counts as three hours. Rapid reading in the best of the more accessible translations; with emphasis upon Greek masterpieces, the *Iliad* and the *Odyssey*, selected plays of Sophocles, and selected dialogues of Plato. Translations from the Latin will be chosen for the bearing of the originals on modern literature. Papers and discussions. Room and hours to be announced. Assistant Professor COOPER.

44. **The Principles of Literary Criticism.** Candidates must satisfy the instructor concerning the extent of their previous reading. Counts as two hours. A study, in part historical, of the most important theories of poetry. Papers, reports, and discussions. Room and hour to be announced. *Goldwin Smith*. Assistant Professor COOPER.

[54. **Epic Poetry.** Comparison of ancient, medieval, and modern epic poems, so far as they may be accessible in modern English. Assistant Professor COOPER.]

32b. **Ballad Literature.** Second term only. English and Scottish popular ballads; study of the ballad as a form of literature; investigation of the theories of its origin and development; comparison of kindred ballads of other nations. T., Th., S., 11, *Goldwin Smith 162*. Dr. COX.

52. **Celtic.** The influence, linguistic and literary, of the Celts upon English. T., Th., 12, *Goldwin Smith 162*. Dr. COX.

IV. Graduate Study.

The Department does not offer any graduate courses, in the strict sense of that term. Graduate study, however, may be pursued in connection with any one of the regular undergraduate courses, except 1, 2a, 21.

In addition the several instructors will direct and supervise special graduate research as follows :

Professor HART: Readings in the Old English Bede, for Linguistic and for Historical Study.

Assistant Professor STRUNK: Phonology, Inflections, and Metre of Old English, Relations to Modern English and to German, Readings in Elene or in Beowulf.

Assistant Professor PRESCOTT: American Literature, 1783-1825.

Assistant Professor NORTHUP: Middle English Literature (Prose and Verse). The Arthurian Legends, their Origin and Treatment in the Chronicles, in the Romances, and in Modern Poetry.

Dr. ADAMS: Problems in the Tudor-Stuart Drama.

Dr. ANDREWS: English Literature, 1742-1798.

Assistant Professor COOPER: The Poetry of Wordsworth, Coleridge, Byron, and Other Writers of the Early Nineteenth Century.

Dr. COX: Chap Books and Broadside Ballads of the Sixteenth-Seventeenth Centuries.

Dr. MONROE: Layamon's Brut, especially in its Connection with the Arthurian Legend. The Transition Period from Chaucer to Spenser.

This list of subjects is not fixed and prescribed, but may be changed to meet the needs of the individual student. Each student is expected to plan, under advice, his own course of study and research.

The English Club.

For the purpose of stimulating interest in literary matters outside the curriculum proper, there is an organization known as the English Club, which meets every second week during the academic year to consider topics connected for the most part with recent and current authors. In 1905-6 evenings were given up to the discussion of such writers as Izaak Walton, Tennyson, Clough, and James Whitcomb Riley. The meetings, which are informal, are conducted by undergraduates. Although membership is open to the whole University, those taking work in the Departments of English and Oratory are relied on particularly to support the club.

Prizes.

For the Guilford, Shakespeare, and Browning prizes see the Uni-

versity pamphlet on Prizes : Regulations and Conditions Governing Prize Competitions. Copies may be obtained of the Registrar.

The topics for the Browning competition in 1906-7 are : The Influence of Shelley on Browning ; The Interpretation of Browning's Childe Roland ; An Analysis of Browning's *Fifine at the Fair* ; A Study of Browning as a Letter Writer ; The Women of Browning and of Tennyson ; Browning's Natural Science.

ORATORY

Office of the Department, Goldwin Smith 133.

The work of this department is adapted to the training of public speakers, rather than of public readers or elocutionists. While the development of a speaker can be completed only by practical experience, it is the aim in the courses outlined below to give to students such a training as will not need radical modification to enable them to meet successfully the speech demands of business, professional, and political life. So far as practicable the conditions under which students speak are made those of actual experience.

The term "Oratory" is retained as the well-established name of the department, and as expressing an ideal ; but the bombastic, insincere style of composition and delivery that has marked much "college oratory" is discouraged.

The principle upon which instruction is based, is that right speaking depends upon right thinking. Attention is given first, therefore, to securing good mental action, rather than to the technique of delivery. Delivery is treated, not as an end in itself, but as a means of informing, convincing, and persuading audiences. Public speech is presented as enlarged private speech, and the aim is to bring the young speaker into the mental attitude of a purposeful conversation,—keenly alive to the full meaning of his words as he utters them and with a strong sense of communication. When the student has been brought into this normal condition, his delivery becomes expressive without the use of rules or of imitation. After the student realizes the nature of public speech and has gained some self command, the study of technique is introduced to a limited extent.

Training is offered in voice and action, but the exercises are limited to those elementary forms that may fairly be considered free from quackery. While it is believed that the agents of expression can be improved by technical drill, it is held that the best results come from mental drill, from clear thinking and quickened imagination. Gesture training is based upon the natural impulse to express through action, rather than upon an arbitrary system of movements.

Oral reading (plain reading as distinguished from stage reading) receives attention. Skill in reading is cultivated not only for its practical value, but also because oral interpretation is a superior method for the study of literature.

This department aims to make its work, not only practical, but educational in the best sense. And its work finds its educational justification in the fact that it furnishes the opportunity for self-expression so much needed under the lecture system of instruction. Individuality is emphasized. The student is called upon to express his own ideas and to impress them upon his fellows. The endeavor is to develop and improve each student's own style, rather than to make all conform to a fixed standard. Imitation is discouraged.

The work of the class room is supplemented by individual instruction given by appointment. No fees are charged in connection with the work of the courses.

The prizes administered by this department are noted below. They are open to students of all the colleges of the University. The aim is to administer these prizes so that they shall stimulate to thorough work and not to the affectation that too commonly characterizes "prize speaking."

Students electing work in the department of Oratory are advised to take as much English Composition as is practicable. English 6a is particularly recommended.

1. Public Speaking. First half year. An elementary course prescribed for admission to all the other courses of the department. A study, theoretical and practical, of the nature of public speech; methods of work. The aim is to help the student to a simple, direct manner of speaking. Original speeches and interpretation of selections. Open to students who are not deficient in Entrance English; but special application must be made by freshmen, who will generally be required to take English 1 while pursuing this course.

M., W., F., 9, *Goldwin Smith C.* Assistant Professor EVERETT and Mr. BECKER.

M., W., F., 12, *Goldwin Smith C.* Assistant Professor EVERETT.

T., Th., S., 12, *Goldwin Smith C.* Assistant Professor EVERETT.

Supplementary to this course and Oratory 1a, personal instruction will be given by appointment, throughout the year. Assistant Professor EVERETT, and Messrs. BECKER and FRAYER.

The '86 Memorial Prize in declamation is awarded annually in connection with the courses in public speaking. For conditions governing this prize, see special pamphlet on prizes.

1a. Public Speaking. Second half-year. Open to those who have completed Course 1, of which it is a continuation. M., W.,

F., 9, 12; T., Th., S., 12. Assistant Professor EVERETT and Mr. BECKER.

1b. **Public Speaking.** Either half-year. Delivery of speeches before the sections of Courses 1 and 1a. Individual instruction and criticism. Open by special permission to those who have had Courses 1 and 1a. Credit, one hour for one term.

1c. **Public Speaking for Engineers.** The course in Public Speeches, adapted to the needs of engineers. Extemporaneous speeches, reading and debating. (Engineering students whose work permits are advised to take Courses 1 and 1a). Hours, subject to change, M., W., 12, *Goldwin Smith 156*. Mr. BECKER.

2. **Reading.** Interpretation of selected passages of prose and verse. Open to those who have done satisfactory work in Course 1. Credit, one hour. Two hours, to be arranged. *Goldwin Smith 156*. Assistant Professor WINANS.

2. **Brief-Writing and Debate.** First half-year. Credit, two hours. S., 11-1, *Goldwin Smith 156*. Mr. BECKER.

In the field of extemporaneous debate the University offers the '94 Memorial Prize, for conditions governing which see special pamphlet on prizes.

3a. **Debate.** Second half year. The principles of argumentation applied to the oral discussion of questions of present interest. Weekly debates preceded by briefs. Open to those who have passed Courses 1 and 3, or 1 and English 6a. Credit, two hours. S., 11-1, *Goldwin Smith 156*. Mr. BECKER.

4. **Extempore Speaking.** First half-year. Weekly addresses thoroughly outlined. Exercises based upon assigned topics in the fields of American history and politics and current events. Open to a limited number who have done satisfactory work in Courses 1 and 1a. Credit, two hours. Two sections. M., 3-5; S., 10-12, *Goldwin Smith 156*. Assistant Professor WINANS and Mr. BECKER.

4a. **Extempore Speaking.** Second half-year. Two hours until Easter. Open to those who have done satisfactory work in Course 4. Credit, one hour. M., 3-5. Assistant Professor WINANS.

5. **Formal Oratory.** First half-year. Study of the written speech. The writing of orations with careful criticism. Practice in delivery. Open to those who have done satisfactory work in Courses 1 and 1a. This course affords special training for those who wish to enter the competition for the Woodford prize in oratory. T., Th., 12, *Goldwin Smith 156*. Assistant Professor WINANS.

6. **Masters and Masterpieces of Oratory.** Second half-year. Lectures, readings and reports. Open to students who have done sat-

isfactory work in Course I. T., Th., 12, *Goldwin Smith 156*. Assistant Professor EVERETT.

[7, **Teacher's Course.** Weekly discussions of methods and books. Observations and practice. Limited to a very few students who have shown special efficiency in other courses of the department. Two hours credit. Assistant Professor WINANS. Not given in 1906-7]

THE SAGE SCHOOL OF PHILOSOPHY.

The Department of Philosophy is known as "THE SUSAN LINN SAGE SCHOOL OF PHILOSOPHY." This school owes its existence to the generosity of the late Henry W. Sage, Chairman of the Board of Trustees from 1875 to 1897. At a meeting of the Board held Oct. 22, 1890, Mr. Sage signified his intention of adding to the endowment of the Susan Linn Sage philosophical professorship, which he had established in 1886 in memory of his wife, a further gift of \$200,000 to the Department of Philosophy. His object was to provide permanently at Cornell University for philosophical instruction and investigation of the most varied kind and of the highest order. To that end he stipulated that the Trustees should, whenever it was needed, supplement the proceeds of his endowments with appropriations from the general funds of the University. The gift was made and the legislation went into effect in September, 1891.

There are ten members of the instructing corps: a professor of logic and metaphysics, a professor of psychology, a professor of moral philosophy, an assistant professor of ancient and mediæval philosophy, an assistant professor, an instructor, and an assistant in philosophy, an assistant professor and two assistants in psychology. Thus all sides of philosophy are represented in the courses of instruction.

The endowments of the School of Philosophy enable it to secure whatever material facilities are required for the successful prosecution of philosophical studies and research. There is already a full equipment in various lines, and additions will be continually made as required. All the more important philosophical journals published both at home and abroad, are received by the library. The library is also well supplied with philosophical works; and books not on hand are ordered when needed. In the library building there is a large seminary room set apart for the exclusive use of advanced students in philosophy. This room contains complete sets of the more important philosophical journals, and a carefully selected collection (which is being constantly enlarged) of books necessary for special study and independent research.

The Psychological Laboratory (Morrill Hall) consists of a suite of eleven rooms, occupying a space of approximately 140 x 45 feet. Seven rooms are supplied with the direct current from the University circuit, five have gas, and three water. Every room is connected with every other by an elaborate system of telegraph wires, so that two or more rooms can be employed in a single investigation. Two rooms are devoted to work in psychological optics (one of them a dark room, 18x24 feet); and one each to acoustics, haptics, investigations into taste and smell, and chronometrical registration. A large lecture-room is used for experimental drill-work and demonstration. There are further a work-shop and storeroom, a small room for special research work, and an office and seminary. The laboratory is especially rich in acoustical and haptical apparatus, while it is adequately supplied with the instruments necessary in other lines of investigation. The equipment is undergoing continual improvement, and apparatus needed for thesis work is at once procured. A skilled mechanic is in the service of the Department.

The Philosophical Review, now in its sixteenth year, marks another function of the School, namely, the publishing of the results of investigation. It appears once in two months, each number containing from 112 to 128 pages. A large part of the material of the *Review* is contributed by the professors, fellows and graduates in the Sage School of Philosophy. It is found that the *Review*, which stands thus in the closest connection with the School, is an effective stimulus to students, whose constant intercourse with the members of the staff engaged in writing and planning for it enables them to keep abreast of current philosophical problems and discussions. The *Review* also furnishes advanced students with a ready medium of publication. The results of original investigations which have been accepted for doctor's degrees are, in some cases, published in it.

While much of the instruction is intended for undergraduates, the larger part of it is adapted to the needs of graduates of this and other institutions who are preparing themselves for positions as teachers, professors, etc. A student who has made a special study of philosophy during his junior and senior years may still take a graduate course of three years' work in psychology, or metaphysics, or ethics, as his major subject. For the encouragement of higher studies and research in every branch represented by the School of Philosophy there have been established, for award to distinguished graduates of this and other Universities, six scholarships of the annual value of \$300 each, and three fellowships of the annual value of \$500 each, both scholarships and fellowships being tenable for one year, but subject to

renewal in exceptional cases, (A full account of these scholarships and fellowships will be found on pages 65-66). The instruction of these advanced students is carried on in the seminars and laboratory, where the students are fellow-workers with their teachers, who seek to guide them, partly by direct suggestion, and partly by precedent and example. It is believed, too, that students will receive much instruction, as well as enjoyment and benefit, from the close personal intercourse which it is an object to the School to cultivate between graduates and the members of the philosophical faculty. Students taking the graduate courses are in this way very effectively trained for the work of teaching; and it may be mentioned that most of the men who have completed their courses have received appointments as instructors or professors of philosophy in different parts of the country.

The following courses are offered in 1906-7.

Psychology.

Courses Primarily for Undergraduates.

1. **Elementary Psychology.** T., Th., S., 11. First term. *Goldwin Smith A.* Professor TITCHENER.

This course is intended as an introduction to Psychology. The topics of sensation, affection and attention are discussed in detail, and some time is devoted to the psychology of the abnormal (dreaming, hypnosis, insanity) and to comparative psychology. The course ends with lectures on the more complex mental processes: emotion, action and association. The lectures are supplemented throughout by experimental demonstrations. Titchener's *An Outline of Psychology* is used as text-book.

NOTE.—This course may be continued in the second term either as Course 2 or as Courses 4 and 4a.

2. **Experimental Psychology.** Laboratory work, qualitative and quantitative. M., W., F., 3, or other hours to be arranged. *Psychological Laboratory, Morrill Hall.* Professor TITCHENER, Assistant Professor BENTLEY, Mr. COFFIN and Mr. GEISLER.

This course may be entered either in the first or in the second term. The entering work consists of qualitative experiments upon sensation, affection, attention and action, perception and idea, and the association of ideas. Text-book: Titchener's *Experimental Psychology*, pt. i. The work of the following term is quantitative; verification of Weber's Law in the various departments of sense, determination of stimulus limens, the psychophysics of selective and volitional action (compound reaction experiments), etc. Text-book: Titchener's *Experimental Psychology*, pt. ii.

NOTE.—Students in their second year, who have completed Course 1, may enter this course in the second term for qualitative work (one, two or three hours).

3. **Psychology of the Abnormal Mind.** T., Th., 9, First term. *Psychological Laboratory.* Assistant Professor BENTLEY.

The course opens with a brief review of the functions of the higher nervous centres and their relation to the mental states and processes. Subsequent lectures discuss the principal types of mental abnormality and derangement, paying especial attention to the more serious disorders of insanity, and to the general relation of abnormal to normal psychology.

4. **General Psychology.** T., Th., 9. Second term. *Psychological Laboratory.* Assistant Professor BENTLEY.

The lectures of this course cover the whole field of psychology. They are arranged as follows: first the various subdivisions of psychology (individual and social, normal and abnormal, analytical and genetic) are defined; and, secondly, the more complex processes and states of the normal human mind are treated in systematic order.

NOTE.—Students in their second year, who have completed Course 1, may enter this course in the second term.

3a, 4a. **Supplementary Study in Abnormal or General Psychology.** S., 9. First or second term. *Psychological Laboratory.* Assistant Professor BENTLEY.

The work will consist of discussion of collateral readings assigned in Course 3 or 4, reports on current literature, and informal criticism of psychological systems.

Courses for Undergraduates and Graduates.

5. **Reading of German Psychology.** Second term. T., 5 (or other hour, to be arranged). *Psychological Laboratory.* Professor TITCHENER.

The aim of this course is to assist toward the accurate and idiomatic rendering of German psychological literature. Fechner's *Elemente der Psychophysik*, vol. i, ed. of 1889, will be translated in class.

Students who desire to read and translate a psychological monograph in French, German or Italian, during the first term of the year, are requested to communicate, as early in the term as possible, with Professor TITCHENER or Assistant Professor BENTLEY.

6. **Systematic Psychology.** Lectures, essays, and experimental illustrations. M., W., F., 9. *Psychological Laboratory Lecture Room.* Professor TITCHENER, Assistant Professor BENTLEY and Mr. COFFIN.

The complete course occupies two years. It is given in four terminal sections: (1) sensation; (2) the simpler sense complexes; qualitative, temporal and spatial ideas; (3) the affective processes and attention; (4) action and the intellectual processes (memory, association, imagination, etc.). The work of each term is complete in itself, and the course may be entered at any point.

There will be no text-book, but members of the class will be expected to be familiar with Wundt's *Outlines of Psychology* and Kuelpe's *Outlines of Psychology*, and with selected portions of James' *Principles of Psychology*, Stout's *Analytic Psychology*, Ebbinghaus' *Psychologie*, and Wundt's *Physiologische Psychologie*.

7. Laboratory Exercises in Psychology. Hours to be arranged. *Psychological Laboratory*. Professor TITCHENER, Assistant Professor BENTLEY, Mr. COFFIN and Mr. GEISSLER.

The exercises will consist either in the repetition of certain classical experiments in psychology, carried out in greater detail and with more accuracy than is possible in Course 2, or in the original investigation of simple problems suggested by the experiments of Course 2 or the lectures of Course 6. The course may occupy from one to five hours a week, at the option of the student.

Courses primarily for Graduates.

8. History of Psychophysics. Second term. One or two hours, to be arranged. *Psychological Laboratory*. Assistant Professor BENTLEY.

The course is open to students who have taken or are taking Course 6. The lectures deal with the history of psychophysics, as defined by Fechner, devoting special attention to the works of Fechner, Wundt, Helmholtz, Hering, G. E. Mueller and Delboeuf.

[8a. **Experimental Aesthetics.** Second term. One or two hours, to be arranged. *Psychological Laboratory*. Assistant Professor BENTLEY.

The course is open to students who have taken or are taking Course 6. The lectures deal with the history of experimental aesthetics, as defined by Fechner, devoting especial attention to the recent monographic literature.]

NOTE.—This course will not be given in 1906-7. Experimental work may be taken, during 1906-1907, in Courses 7 and 9.

9. Advanced Laboratory Work. M., W., F., 10-1; T., Th., S., 2-6. *Psychological Laboratory* Professor TITCHENER, Assistant Professor BENTLEY, Mr. COFFIN and Mr. GEISSLER. Consultation hours by arrangement.

10. **Seminary in Psychology.** One or two hours weekly, by arrangement. *Psychological Seminary Room, Morrill 16.* Professor TITCHENER and Assistant Professor BENTLEY.

The subjects of discussion, historical and critical, will for the most part be chosen with reference to thesis subjects for advanced degrees. Theses need not necessarily be experimental; but students who graduate without undertaking original research in the laboratory must have taken Courses 2, 3, 4, and 6, or their equivalents.

Philosophy and Ethics.

Primarily for Undergraduates.

11. **Logic.** Second Term. T., Th., S., 11, *Goldwin Smith 225.* Professor CREIGHTON and Dr. SABINE.

This course will deal in an elementary way with the general character of the thinking process, its laws of development, and the methods by which thought actually proceeds to solve the problems presented to it. A considerable amount of attention will also be given to the analysis of logical arguments and the detection of fallacies, both in the Deductive and Inductive processes of reasoning. Creighton's *Introductory Logic* will be used as a text book.

12. **Introduction to Philosophy.** Lectures and discussions. First Term. M., W., F., 10, *Goldwin Smith 225.* Professor THILLY.

The object of this course is to present to the student the fundamental problems of philosophy, together with a critical study of their most important solutions. It is intended to give the beginner an idea of the aims and meaning of philosophy, to call to his attention the questions at issue to-day, and to lay before him the different answers that are being made to them.

13. **History of Philosophy.** Lectures. Prescribed reading, and occasional essays. M., W., F., 12, *Goldwin Smith 221.* Professor CREIGHTON.

This is an elementary course, and is intended primarily for the general student who wishes to know something of the history of thought, and the influence which philosophical ideas have exerted in the development of civilization. The lectures will give a general account of the history of philosophical speculation from its origin among the Greeks to the present time. An attempt will be made to present the various philosophical systems in their relation to the science and general civilization of the ages to which they belong, and to estimate their social and political significance. After a rapid survey of philosophy during the Greek, Roman, and Medieval periods, the greater part of the year will be devoted to the theories and problems of mod-

ern times. It is proposed to give a considerable amount of time during the later part of the course to a study of the speculative problems of the present century, and especially to an examination of the philosophical meaning and importance of the notion of Evolution or Development. Reading will be assigned from time to time, but there will be no class text-book.

14. **General Ethics.** Lectures and discussions. First term. M., W., F., 9, *Goldwin Smith 221*. Professor THILLY.

The moral consciousness will be examined and the fundamental conceptions of morality discussed in this course.

Among the subjects treated will be the following: The nature and methods of Ethics; theories of conscience; analysis of conscience; the ultimate grounds of moral distinctions; the teleological conception; hedonism; energism; critique of hedonism; the highest good; optimism and heroinism; free will and determinism. Thilly's *Introduction to Ethics* will be used as a text-book.

15. **Moral Ideas and Practice.** Lectures and discussions. Second term. M., W., F., 9, *Goldwin Smith 221*. Professor THILLY.

This course will give a general outline of the ancient, medieval and modern conceptions of life, and examine the fundamental virtues and duties. Among the main topics considered will be the Greek ideal, the primitive Christian ideal, the medieval ideal, the modern ideal; the duties pertaining to bodily, economic and mental life; self control; the love of honor; justice; charity; veracity.

16. **The Relations of Philosophy and Literature during the Nineteenth Century.** Lectures. Second term. S., 10, *Goldwin Smith 221*. Professor CREIGHTON.

This course will trace the general influence of philosophical conceptions, and particularly of German Idealism, upon certain British and American writers of the nineteenth century. The opening lectures will discuss the general relations of philosophy and literature, also outline and contrast the leading philosophical conceptions of eighteenth and nineteenth century thought. Coleridge will then be made the starting point, and Wordsworth, Carlyle, Emerson, Arnold, and Browning will be successively treated from this special point of view.

17. **The Theory of Evolution: Its History and Significance.** Lectures. F., 12. *Goldwin Smith 227*. Dr. WRIGHT.

These lectures are intended primarily for undergraduates. They do not presuppose acquaintance with the history or special terminology of philosophy. The lectures will trace the history of the theory of evolution from the first appearance of the concept among the Greeks

to its formulation in modern times by Darwin. It is then proposed to discuss the recent modifications of the theory, and to indicate the application of the evolutionary method to the various sciences, special attention being directed to its bearing on ethics, sociology, and religion. In conclusion, an attempt will be made to estimate the significance of the evolutionary point of view for a theory of the world as a whole.

For Undergraduates and Graduates.

[18. **Types of Metaphysical Theory.** First term. Lectures and discussions. T., Th., 12. Professor CREIGHTON.]

This course was given in 1905-1906 and will be repeated in 1907-1908.

19. **Problems of the Philosophy of Religion.** Readings and discussions. First term. T., Th., 12. *Goldwin Smith 231.* Dr. WRIGHT.

In this course certain leading problems of the philosophy of religion will be discussed. Especial consideration will be given to the philosophical basis of theism. An attempt will also be made to interpret several great historical religions, including Christianity as representing different stages and aspects of the development of the religious consciousness.

20. **The History of Ethics.** Lectures, essays, and discussions M., W., 11, *Goldwin Smith 220.* Assistant Professors HAMMOND and ALBEE.

A history of ethical reflection, with special reference to the development of theories of morals in their relations to one another and to the general influences of their time. The first term will be occupied with the study of the moral theories and ideals of the peoples of Ancient Greece and Rome and of the Middle Ages. The second term will be given to the careful examination of modern theories, with special reference to the development of English ethics.

21. **Advanced Ethics.** W., F., 10., *Goldwin Smith 231.* Professor THILLY and Dr. SABINE.

Some of the more important English writers of different schools will be studied by the students and will be fully discussed in class. The object is to acquaint the student with the dominant conceptions in English ethics and to assist him in reaching a constructive result.

22. **Empiricism and Rationalism.** Lectures, discussions, and essays. T., Th., 10, *Goldwin Smith 231.* Dr. WRIGHT.

In this course the empirical movement as represented by Locke, Hume, and Mill, and the rationalistic movement as represented espe-

cially by Descartes, Leibnitz, and Wolff, will be studied with reference to their distinctive methods. The course is open to students who have taken, or are taking, Course 13 or an equivalent. The books needed will be Locke's *Essay* (Bohn edition, 2 vols.), Hume's *Treatise of Human Nature* (Clarendon Press), and Leibnitz's *Philosophical Works* (Duncan's translation, Tuttle, Morehouse & Taylor, New Haven.)

23. **The Critical Philosophy of Kant.** Lectures, discussions, and essays. T., Th., 11, *Goldwin Smith 220*. Assistant Professor ALBEE.

This course will presuppose a knowledge of the History of Philosophy. The greater part of the year will be devoted to the careful study of the *Critique of Pure Reason*, Müller's translation (published by the Macmillan Co.) being used in class. Frequent references will be given to standard commentaries and to the more recent literature on the subject. Toward the end of the year, the attempt will be made to show as clearly as possible the relation in which the three *Critiques* of Kant stand to each other. Instruction will be given mainly by lectures, but there will be opportunity for frequent discussions, and outside reading will be assigned from time to time.

24. **German Pessimism, with special reference to Schopenhauer and E. von Hartmann.** Lectures, discussions, and essays. First term. M., W., F, 10, *Goldwin Smith 220*. Assistant Professor ALBEE.

In this course, instruction will be given mainly by lectures, but the student will be expected to read Schopenhauer's *World as Will and Idea*, and von Hartmann's *Philosophy of the Unconscious* (translations of both published by Triebner & Co.). While these two representative works will be treated somewhat in detail in the lectures, the attempt will be made to show the ethical and social significance of modern Pessimism, and toward the end of the course the philosophy of Nietzsche will be examined.

25. **Supplementary Study in the Theory of Evolution.** Lectures and discussions. Second term. T., Th., 12, *Goldwin Smith 231*. Dr. WRIGHT.

This course is open to students who have had Course 13 or Course 17, or who have pursued advanced studies in biology. After a résumé of the present state of biological theory, the application of the evolutionary method to the various sciences will be treated in some detail, and, finally, the philosophical bearings of the theory will be made the subject of special study. Together with other required reading, Spencer's *First Principles* will be critically reviewed.

Courses primarily for Graduates.

26. **Problems and Methods in Recent Philosophy.** Lectures. T., Th., 12, *Goldwin Smith 220*. Assistant Professor ALBEE.

The object of this course is to examine in detail the problems and methods involved in current philosophical investigation, as a basis for a positive treatment of some of the fundamental problems of the present day.

[27. **The Philosophy of Lotze.** Lectures and discussions. One hour. *Goldwin Smith*. Assistant Professor ALBEE.

This course given in 1905-06, will be repeated in 1907-8.]

[36. **Logical Theory.** Lectures, examination of prescribed authors and discussions. Two hours. Professor CREIGHTON.]

28. **Ethical Seminary.** S., 11-1, *Goldwin Smith 231*. Professor THILLY.

The subject for 1906-1907 will be recent important German literature in Ethics.

29. **Seminary in Logic and Metaphysics.** F., 10, *Goldwin Smith 231*. Professor CREIGHTON and Dr. SABINE.

During the academic year 1906-1907 this seminary will be devoted to a study of the principles and applications of Hegel's System of Philosophy.

Philosophical Conferences.

A general conference of the professors, fellows, and scholars for the discussion of current philosophical literature will be held fortnightly.

Ancient and Medieval Philosophy and Aesthetics.**Courses Primarily for Undergraduates.**

40. **Introduction to Aesthetics.** An elementary course on the philosophy of art. Lectures, assigned readings and examinations. T., Th., 11, *Goldwin Smith 227*. Assistant Professor HAMMOND.

The aim of this course is to give a historical survey of the more important theories of Aesthetics, to explain the nature of the æsthetic judgment and its significance for life, and to discuss some of the philosophical problems connected with the various forms of beauty and art: literature, industrial and decorative art, and the fine arts.

[**Experimental Aesthetics.** Second term. S., 9 (or other hour, to be arranged). See Psychology, Course 8a.]

41. **The Philosophy and Culture of the Renaissance.** Lectures. First term. S., 10, *Goldwin Smith 227*. Assistant Professor HAMMOND.

The lectures of this course will deal with the Philosophy of Humanism from 1300 to 1600.

Courses for Undergraduates and Graduates.

42. History of Ancient and Medieval Philosophy. Lectures and text-book. T., Th., 10, *Goldwin Smith* 220. Assistant Professor HAMMOND.

In this course will be treated the history of philosophical ideas from the early Greek cosmogonies down to the time of the Renaissance. The conditions under which occidental philosophy was developed and fostered from its beginnings in Greek literature, and the relations of those conditions to Oriental influence, will form the subject of the introductory lectures. It will be the aim of the course to discuss the various systems and fragments of systems from Thales to the Neo-Platonists, and also the later influences of these systems in Rome, more particularly the ethical systems of Epicureanism and Stoicism. The course will then deal with the various movements of speculative thought in the Middle Ages. These philosophical ideas will be discussed in connection with the contemporaneous conditions of science and culture, and as the historical antecedents of modern intellectual life.

43. Platonism. Lectures on the Philosophy of Plato and reading in the Dialogues. S., 11, *Goldwin Smith*, 227. Assistant Professor HAMMOND.

In the lectures of this course, Plato's philosophical system will be explained and the history of its influence on literature and culture discussed. In connection with the lectures, the following dialogues will be read: Apology, Crito, Protagoras, Gorgias, Phædo, Republic, and parts of the Laws. The course is intended for students of literature as well as of philosophy.

The History of Ethics. Lectures, essays, and discussions. M., W., 11, *Goldwin Smith* 220. Assistant Professors HAMMOND and ALBEE.

See under Philosophy and Ethics, Course 20.

44. The Republic of Plato. Reading of the Greek text. T., Th., S., 9. *Goldwin Smith* 231. Assistant Professor HAMMOND.

This course is intended for students of Greek Literature as well as of Greek Philosophy. The Republic will be read in its entirety, the main attention being devoted to the content. The text used will be that of Teubner, and Pater's *Plato and Platonism* (The Macmillan Co., New York) is recommended as a commentary.

33. **Rapid Reading of German Philosophy.** S., 12. *Goldwin Smith 220.* Assistant Professor HAMMOND.

The primary aim of this course is to aid students in acquiring facility in translation and a knowledge of German philosophical terminology. Paulsen's *Immanuel Kant, sein Leben and seine Philosophie* will be translated.

Courses Primarily for Graduates.

45. **Thomas Aquinas:** Selections from the *Summa Theologica*. T., Th., 12, *Goldwin Smith 231.* Assistant Professor HAMMOND.

This course is intended for students who desire to study at first hand the *Summa Theologica*. In connection with the reading of the text the members of the class will study the general system of Thomism and the completion of Medieval Philosophy.

38. **Aristotle's Ethics.** Reading of the Greek text. M., 11 (or other hour to be arranged.) *Goldwin Smith 231.* Assistant Professor HAMMOND.

In this course the Nicomachean Ethics books I-IV and X will be read and interpreted. The course is intended for such students of Greek as wish to read rapidly through an Aristotelian treatise and for such students of philosophy as wish to examine Aristotle's ethical ideas in the original.

46. **Seminary in Ancient and Medieval Philosophy.** W., 3-5. *Goldwin Smith 231.* Assistant Professor HAMMOND.

In this Seminary, which is open to graduates and seniors, students will be directed in thesis work, or in any special investigations they may be carrying on within the department of Ancient and Medieval Philosophy. Once a week, in the hours above named, the members of the seminary will read the *De animi* or the *Poetics* of Aristotle.

THE SCIENCE AND ART OF EDUCATION.

State Certificates..

The State Education Department offers the following alternatives for the certification of teachers :

1. A certificate upon graduation good for three years, and renewable for life without examination for those who successfully complete an approved course in the Science and Art of Education while in the University.

2. A certificate upon graduation good for two years, but renewable only upon state examinations in professional subjects constituting a full equivalent for the university courses required in the first alterna-

tive. This is valid only for high schools, and other schools in villages not employing a superintendent.

The details for the two alternatives are as follows :

(1.) The University work prescribed for students wishing to qualify without examination for the New York State College Graduate Certificate is as follows :

1. Psychology, general and educational, 90 hours ; 2. History and Principles of Education, 90 hours ; 3. Method in Teaching, 60 hours ; 4. Observation, 20 hours.

Students who have successfully completed the foregoing will be awarded the certificate at graduation. To secure from the Cornell Department of Education its unqualified recommendation for this certificate which is good for three years and renewable for life without examination at the end of that period, students must have completed the following courses or their equivalent : Psychology 1, Education 1, 2, 3, 4 and 5.

(2) The subjects for state examination for those who do not comply with the above requirement are as follows : Psychology, general and educational ; History and Principles of Education ; Method in Teaching. Detailed syllabi outlining the work and prescribing study and readings in these subjects are furnished by the State Education Department at Albany, N. Y., and will be sent upon request. Students at the University may procure copies through the department.

Equipment.

The work of the department is facilitated by a museum and a laboratory situated in Goldwin Smith Hall, rooms 251 and 248 respectively. These rooms are open to students of the department, and, upon application to the professors in charge, to superintendents, teachers and all others interested in educational work.

The educational museum contains collections illustrating the work done in various school grades, statistical charts, a very full assortment of school text-books, and other material appropriate to its purpose.

The educational laboratory has a collection of apparatus for demonstration and of instruments of precision for research in connection with school hygiene, the experimental study of school children, and the psychological phases of education in general. This equipment is being constantly enlarged and apparatus needed for special investigations is at once procured.

Courses.

Course 4, preceded by Psychology 1, should be taken in the Sophomore year.

Course 3 should be taken in the first term, Course 1 in the second term, of the Junior year.

Courses 5 and 6 may be taken in either the Junior or Senior year.

Courses 2, 7, 8, 9 or 10 are preferably deferred until the Senior year.

Courses Primarily for Undergraduates.

1. Principles of Education. (Including general method). Second half-year. Lectures, discussions and text-book study. M., T., W., Th., 2. *Goldwin Smith* —. Professor DEGARMO.

This course is designed to be an introduction to the general theory of education, both in its individual and its social aspects. It presupposes that the student has had course 3 in the History of education. The following are some of the leading topics: personality and environment as the presuppositions of education; the educative institutions of society; relation of democracy to education; individual development; the school as a social institution; the doctrines of interest and formal discipline; the course of study; nature and educational value of the several studies; methods of class room teaching and management.

2. Lectures on Secondary Education.

(a) **The Development of Secondary Schools; also Lectures on Education by Prominent Schoolmen and Others.** First half-year. Lectures, discussions and readings. Two hours credit. M., 3, *Goldwin Smith* —. Professor DEGARMO.

Comparative study of rise and development of literary, scientific, and technical secondary schools in Germany, France, England, and the United States.

The Lectures on Education by non-university lecturers will be given once a month, and will be supplemented by prescribed reading sufficient to warrant the credit given.

(b) **The Period of Adolescence and Methods in High School Science.** Second half-year. Lectures and reading. M., W., 3. *Goldwin Smith* —. Assistant Professor WHIPPLE.

The first portion of this course is a study of the physical and mental characteristics of the adolescent with their significance for secondary instruction, including such topics as physical growth, modifications in sensory life, the development of the sex instinct, the hygiene of

sex, religious conversion, social organizations, adolescent crimes and insanities, the problem of coeducation, etc.

The second portion of the course treats of the attitude of the adolescent toward nature, and of the problems arising in the teaching of science in the high school. Attention is paid both to the history of the development of scientific method at large and to methods within the special sciences, particularly mathematics, physics, chemistry and biology.

3. **History of Education.** First half-year. Lectures, discussions, text-book and prescribed readings. M., T., W., Th., 2, *Goldwin Smith* — Professor DEGARMO.

This course makes a general survey of the history of education, and will follow in the main the topics and readings prescribed in the syllabus of the New York State Education Department for the guidance of college graduates. Special emphasis is laid upon the following topics: the education of the Greek people; the rise and development of humanism; the rise and development of science and scientific methods in education; the doctrines of educational reformers; the development of modern systems of education. Monroe's "Text-book in the History of Education."

4. **Psychological Basis of Education.** Second half-year. Lectures and prescribed reading. M., T., W., Th., 2, *Goldwin Smith* — Assistant Professor WHIPPLE.

This course meets the state requirement for educational psychology, and should be taken, if possible, in the Sophomore year.

The lectures present a complete system of functional psychology as applied to education, covering the relation of mental to nervous activity, and the large groups of psychophysical functions, volition, cognition and emotion. Particular reference is given to such topics as nervous plasticity, habit, the nature of educational training and discipline, the psychology of temperament, attention and interest, association, apperception, perception, observation, memory, imagination, conception, judgment and reasoning. Where feasible, psychological experiments that apply to the work in hand are described or demonstrated.

5. **School Hygiene.** First half-year. Lectures, prescribed reading and demonstrations (two hours credit), W., 3-5, *Goldwin Smith* 248. Assistant Professor WHIPPLE.

Construction of school buildings, situation, heating, ventilation, sanitation, followed by the hygiene of instruction, fatigue, school diseases, defects of sight and hearing, hygiene of reading, writing and other studies.

Occasional demonstrations of an experimental type. Students who are particularly interested in this phase of the work and who are competent for experimental investigation may register for systematic work, with credit, in course 14. For this work students should have taken course 4, and should afterward take course 6.

6. The Education of Defectives and the Feeble-Minded. Second half-year. Lectures, prescribed reading and papers. Th., 3, or hour to be arranged. *Goldwin Smith 251.* Assistant Professor WHIPPLE.

An historical, statistical and critical survey of the methods employed in the education of the blind, deaf and dumb, the feeble-minded, and abnormal and backward children generally. Course 5 forms a natural introduction to this work.

Methods of Modern Philanthropy. T., Th., 11. See History and Political Science. Course 55 (page —.)

7. **Teacher's Course in Latin.** See course 26, page 103.

8. **Teacher's Course in Greek.** See course 36, page 100.

9. **Teacher's Course in English.** See course 9, page 119.

10. **Teacher's Course in German.** See course 19, page 111.

Courses Primarily for Graduates.

Graduate students selecting education for their major will be expected to take from one half to two-thirds of their work in the studies that are fundamental to an adequate mastery of educational theory and practice. These fall naturally into two groups, the philosophical and the social. The philosophical studies include psychology, ethics, and the history of philosophy; the social studies include political, social and economic science.

11. Philosophy of Education. Lectures, discussions and study of educational sources. Th., 3-5. *Goldwin Smith* —. Professor DEGARMO.

This is a course in advanced educational theory. It follows in the main Professor MacVannel's outline in the *Philosophy of Education*, and embraces such topics as the following: evolution and idealism as bases of education; personality and environment; the individual and society; moral institutions; democracy and education; the course of personal development; the school as a social institution; the course of study.

12. Experimental Study of School Children. First half year. Lectures, demonstrations and reports. T., Th., 2. *Goldwin Smith 248.* Assistant Professor WHIPPLE.

An examination of the literature dealing with anthropometric and

psychological tests of school-children with reference to purpose, methods and results. The lectures will be accompanied by demonstrations of the more important tests, while students who wish practice in conducting school tests may register for experimental work in Course 14. This course will be given in alternate years with Course 13.

[13. **Mental Development.** Lectures, prescribed reading and essays. T., Th., 2, *Goldwin Smith 251*. Assistant Professor WHIPPLE.

A study of the growth of the individual mind with special reference to the periods of childhood and adolescence. In the treatment of such factors as heredity, reflex and instinctive action and the doctrine of recapitulation, some attention will be paid to the evolution of mind in the animal kingdom. Ability to read either French or German is required. This course will be given in alternate years with course 12.]

14. **Seminary for Experimental Investigation.** Hours and work to be arranged. *Goldwin Smith 248*. Assistant Professor WHIPPLE.

15. **Seminary for the Science and Art of Education.** T., 3-5. *Goldwin Smith 251*. Professor DEGARMO and Assistant Professor WHIPPLE.

The work of the seminary will consist of reports and theses upon educational problems, partly of a social and partly of a psychological nature. These reports and theses will involve study from original sources. At each meeting a portion of the time will be given to reviews of important new books and of the current periodical literature, including especially *The Educational Review*, *the School Review*, *The Pedagogical Seminary*, *the Teacher's College Record*, *The Elementary School Teacher*, and the more important European educational magazines.

MUSIC.

The aim of the courses in Music is to provide a means of general musical culture and appreciation rather than technical and theoretical training. Listening to and participating in the rendition of the best music, under favorable conditions and with proper guidance, is judged to be the best means of cultivating a correct musical taste and developing intelligent and permanent interest in the art of music.

Attendance is required of all students in music at the series of lectures and lecture recitals to be announced.

Announcement concerning the series of chamber concerts to be given during the year will be made early in the first term together with details concerning the works to be performed at the Festival Concerts in the Spring of 1907.

1. **Elementary.** Open to all students showing sufficient aptitude to pursue the subject with profit. Ear and vocal training, elementary theory, including terminology, scales, intervals and triads, sight reading, familiarization with larger instrumental compositions by means of the piano player, and the study of standard church music.

Attendance is required at the morning service at Sage Chapel, for which service the members of the class constitute the regular choir.

Individual examinations for admission will be held at the opening of the first term. Two hours. T., 7:15 P. M., *Goldwin Smith C. Th.*, 4:45 P. M., *Sage Chapel*. Assistant Professor DANN.

2. **Advanced.** Preparation and public presentation of the best choral works, sacred and secular. This course is offered as advanced work to students possessing good voices and the ability to read at sight music of moderate difficulty.

Students in this course constitute the Advanced Choir at the Sunday Vesper Service at Sage Chapel. They also form a part of the Festival Chorus in the study and public performance of the larger choral compositions to be given at the Fourth Annual Musical Festival in May, 1897.

Individual examinations for admission will be held at the opening of the term. Two hours. M., 7:15 P. M., *Goldwin Smith C. Th.*, 4:45 P. M., *Sage Chapel*. Assistant Professor DANN.

3. **Orchestra.** Ensemble study of standard works including compositions for chorus and orchestra. This course is offered as advanced training for students who play some orchestral instrument sufficiently well to participate creditably in the study and performance of the works to be performed. The orchestra, assisted by professional musicians, will give two or more concerts during the year, accompany the Advanced Choir at the Sunday Vesper Service at Sage Chapel, and participate in the performance of complete works given by the choir during the year.

Only a limited number can be admitted. Places will be filled by competition, which will be held at Sage Chapel at the opening of the term. Two hours. Hours to be arranged. Mr. GEORGE L. COLEMAN.

HISTORY AND POLITICAL SCIENCE.

By action of the Board of Trustees, in view of the gift to the University by ex-President Andrew D. White of his valuable historical library, the departments of History and Political Science have been named THE PRESIDENT WHITE SCHOOL OF HISTORY AND POLITICAL,

SCIENCE. The work of these departments is carried on by six professors, one assistant professor, an instructor, seven assistants, five fellows and one scholar.

HISTORY.

A.—Ancient History

The work of this department embraces an introductory course, intended for Freshmen and Sophomores, intermediate courses intended chiefly for upper-classmen, and advanced courses primarily for graduate students. The introductory course, which was devoted last year to Roman history, will be devoted this year to the history of Greece, which will be considered throughout in its relation to the general history of Mediterranean civilization. Of the intermediate courses one will present during the first term the history of the Roman Empire from Augustus to Justinian and another in the second term will deal with Greek political institutions and ideas, chiefly as interpreted by Aristotle in the *Politics*. To upper-classmen in Arts and seniors in the College of Law is offered an introductory course in Roman Law. Undergraduates acquainted with Greek may join a practice class in the reading and criticism of selected passages from the Greek historians and other sources for Greek history. For graduate students and properly qualified seniors there is provided in the seminary in Greek and Roman history an opportunity to engage in the critical study of special periods or problems. The work of the seminary this year will be devoted, in the first term, to the sources for the history of Sicily, and in the second, to those for the Second Punic War. To graduate students and properly qualified seniors there is also offered, during the second term, a course on the Greek historians. Lectures on the life and antiquities of the Greeks and Romans are offered by the departments of Greek and Latin, and courses on the history of the oriental nations are given by the professor of Semitic Languages and Literatures.

B.—Medieval History.

The history of Christendom from the eve of the Middle Ages to the end of the sixteenth century is treated in a course of three hours weekly, open to all students except freshmen. For riper students a course of two hours deals with the culture of the Middle Ages and the early Renaissance, and another is devoted to the culminating period of the Renaissance and the Reformation. To advanced students there is also offered a two-hour lecture course on the history of intellectual and religious liberty in Christendom. For training in historical

research in this field, a practice-course familiarizes the student with the Latin of the chroniclers, and another teaches him to read the manuscripts and interpret the documents of the time. As further introduction to the mature study of history, a course of one hour weekly deals with the sciences auxiliary to history, giving especial attention to historical geography; while a seminary meant less strictly for students of this period of history, but open only to seniors and graduates, is devoted to historical method, examining first the scope, the materials, and the processes of history, and then addressing itself to the illustration of these by a critical study of some episode or period, in free use of the resources of the library.

C.—Modern European History.

In English history a general course, intended for freshmen and sophomores, covers the history of the nation.

In the general history of modern Europe, a course intended primarily for juniors covers the period from the beginning of the 17th century to the present time. Special periods will be dealt with in more advanced courses and in weekly seminaries devoted to training in research.

D.—American History.

The most general courses offered in this department afford a brief comprehensive survey of our history to the outbreak of the Civil War. They require the use and criticism of the leading secondary authorities and the study of a limited number of selected sources. These are introductory courses designed to prepare undergraduates for further work involving the use, in special courses devoted to selected periods or topics, of a wider range of primary authorities. The subjects of such courses are changed from time to time. The seminary of the department enjoys the exclusive use of a well equipped room in the University Library, conveniently adjacent to the history stacks. Guidance in the preparation of theses is given as individual need may require.

POLITICAL SCIENCE.

The Political Science group, in the President White School of History and Political Science, consists of the three departments of political economy and politics, political economy and statistics, and political economy and finance. Each one of these departments treats portions of the subjects of economics and of social philosophy, while each cultivates more particularly one field, as indicated in the titles. All the courses given in the three departments are combined in the follow-

ing announcement. These, if pursued systematically, should not only contribute largely to a modernized "general education" that makes for broader life and better citizenship, but should also aid in preparing for business, law, journalism, the ministry, philanthropic administration, and various kinds of governmental and corporate service.

Of the several fundamental courses offered, the only ones open to freshmen are 39a, 39b (not given in 1906-7), which are designed to give an introduction to the subjects of politics, history, and social science, and to the modes of thought characteristic of this field of study.

Open to sophomores, and introductory to the three lines of study, politics, social science, and economics, respectively, are the three courses 31, 41, and 51.

The courses in Political Institutions and Comparative Politics, 31a and 31b, by a study of the nature of the state and by a somewhat detailed comparison between the systems of leading foreign governments and that of the United States, with especial reference to the practical workings of these systems rather than to the mere letter of the constitutional law, aim to give the student a needed knowledge of these governments, possibly to suggest at times needed reforms in our own political practices, and especially to develop habits of thinking in an unprejudiced way on political questions.

The course in Elementary Social Science (41) aims to show the significance for the student of economics and social life of the theories of evolution. Attention is centered upon the social group rather than upon the individual. The family, as the simplest and most important social group, is first studied in its historical development and its present organization and life. The study advances from this to the elementary study of more complex and ill defined social groups, such as races and the several classes of social dependents. Emphasis is laid upon the statistical method as an aid in the study of social groups and the measurements of social forces.

The general course in Political Economy (51) should be taken, preferably in the sophomore year, by all purposing to pursue advanced studies in Political Science. For most such courses it is an absolute prerequisite. The course covers broadly both the theoretical and the practical fields, the Monday lectures dealing primarily with the relations of government to business in such a way as to show the practical importance in both public and private life of a knowledge of the principles of economics.

A large number of courses are open generally to more advanced students in many lines of legal, political, social and economic

thought, provided that they have taken the essential prerequisite subjects.

The importance of great cities in modern life demands that special emphasis be laid upon municipal problems ; and in course 35 an effort is made to deal with these problems in a practical way for the general student.

A knowledge of the general principles of International Law is so essential to the understanding of modern political questions that an effort to meet this need is made in courses 32, 33 and 34, which present these principles with some of their more important applications in modern times.

The course in Anthropology and Ethnology is divided into two parts, the first part to which the first semester and a half will be devoted will consist in a study of the general principles of Anthropology and Ethnology, and of the development of primitive social institutions, followed by a brief study of the origin and distribution of races, and of their physical and psychic characteristics. The second part of the course will be devoted to a study of the native peoples of our new possessions and of their social and cultural institutions. The course is recommended as an important foundation study for students intending to pursue advanced studies in history and the social sciences.

The two courses in statistics (48 and 49) are designed as an introduction to this method of studying social groups and social life. Emphasis is laid upon the results reached by statistical methods in simple fields where the chances of error in observation or interpretation are fewest. Special attention is given therefore, in course 48, to the statistics of population and to vital statistics. The methods of the United States Census Office in these fields will be presented in detail and a critical analysis made of the results of the Twelfth Census.

The course in industrial Statistics and Commercial Geography (49), which runs through the second term, is designed as a continuation of course 48, but in special cases it may be taken by students who have not had the former course. Its aim is to study the statistics of Agriculture, Manufactures and Commerce, with especial reference to the United States. Much attention will be given to the interpretation of the statistics of Agriculture and Manufactures gathered by the United States Census Office.

In connection with courses 48 and 49 two hours of laboratory work will be required of each student. The statistical laboratory is furnished with many of the modern appliances to facilitate statistical work.

Modern Philanthropy develops in a special field the subject dealt

with in course 41, combining social philosophy with its practical application.

Particular attention is called in the study of Political Economy, especially in the courses in Economic Legislation (34), and in Money, Credit and Banking (37), and in the Monday lectures to the class in Elementary Political Economy (51), to the intimate relation existing between economic society and the state; the influence of economic conditions upon government on the one hand, on the other the powerful influence of the state as a factor in determining economic conditions. The study of present economic questions that are subjects of legislation, and the comparative study of the laws of other states and countries, serve both to throw light on the subject discussed and also to explain why laws on economic subjects seem often so imperfect, as well as to show how complex is the nature of the task of the conscientious, trained legislator. It is hoped to make the student see that the study of economic principles is intimately connected with the tasks of everyday life.

Other courses represented are on the history and description of economic institutions: on the practical social questions connected with transportation; on the work and administration of benevolent institutions, public and private; and on taxation and fiscal problems. In the laboratory exercises and research work connected with politics, economic legislation, statistics, finance and philanthropy a useful preparation is given for many kinds of social and governmental work.

For graduates and for other advanced students in this group of studies, large opportunities are presented for the pursuit of special studies.

The advanced student in economics is led to trace the growth of economic conceptions in connection with the social conditions and philosophic thought of each period and a special course is given on the contemporary discussions of theory.

Research courses in any of the subjects within these departments may be carried on by competent students under the personal supervision of the head professors in charge.

The General Seminary (80), in which all three of the departments unite, is the culmination of the work and is the largest opportunity for students in political science in Cornell University.

In the study of all these practical subjects the aim is to gain a clear understanding of the history and facts involved, a close acquaintance with the sources and materials available, and the habit and power of considering them in a fair-minded way. More importance is attached

to the interpreting of studies in the light of the personal experience of the student than to the acceptance of doctrines as final conclusions.

Courses in History and Political Science.

Students intending to devote themselves especially to History and Political Science are advised to give as much as possible of their time in the early years of their course to the study of languages, because in much of their later work ability to read Latin, French and German will be found indispensable.

For students devoting themselves to the general field of History and Political Science the following order of studies is suggested :

<i>First Year</i>	<i>Hours</i>	<i>Second Year</i>	<i>Hours</i>
Greek, Latin, French, German (any two) -----	6	Modern Language -----	3
History -----	6	History -----	6
Natural Science -----	3	Politics -----	2
		Economics -----	3
		Philosophy or Geography --	3

<i>Third Year</i>	<i>Hours</i>	<i>Fourth Year</i>
History -----	6	Students are advised in this year to devote themselves to not more than two fields of study (one in History, one in Political Science), taking as many as possible of the advanced courses.
Politics, Economics, Social Science, at least -----	8	

For students devoting themselves mainly to History the following order of studies is suggested :

<i>First Year</i>	<i>Hours</i>	<i>Second Year</i>	<i>Hours</i>
Greek, Latin, French, German (any two) -----	6	Modern Languages -----	6
History -----	6	History -----	6
Natural Science -----	3	Economics -----	3

<i>Third Year</i>	<i>Hours</i>	<i>Fourth Year</i>
History -----	9	Specialization in some one field of History under direction of the professor in charge.
Politics -----	3	
Social Science -----	2	
Philosophy or Geography ----	3	

For those devoting themselves mainly to Political Science the following order of studies is suggested :

<i>First Year.</i>	<i>Hours</i>	<i>Second Year.</i>	<i>Hours</i>
French and German	6	Modern Language	3
History	3	History	3
Natural Science	3	Politics	3
American Politics or Economic History	2	Economics	3
		Social Science	3
		Economic History or Ameri- can Politics	2
 <i>Third Year.</i>	 <i>Hours</i>	 <i>Fourth Year.</i>	 <i>Hours</i>
History	3	History	3
Statistics and Commercial Ge- ography	3	Specialization in some one field of Political Science un- der direction of the profes- sor in charge.	
Finance	2		
Economic Legislation	2		
Advanced Economics	2		
Municipal Government, Ethnol- ogy, or Economics	2		
Roman Law or International Law	2		

A. Special Lectures. A course of lectures on topics of general interest in History and Political Science, offered at the request of some of the technical colleges, by members of the Faculty of the President White School and by other special lecturers. Topics in different fields of public thought and activity will be treated, such as the great legal codes and the great law-givers, the principles of politics of which the various manifestations may be traced in different ages and countries, and present day social and political problems, so as to illustrate the essential unity underlying these various fields of study and to meet in some degree the demand for general lectures in the field of the humanities from those whose studies lie primarily in other lines. While all will be welcomed at the lectures, no credit will be given to students in the College of Arts and Sciences. *Goldwin Smith Amphitheatre*, T., Th., 12, from Thanksgiving to the Easter recess.

Ancient History.

Courses Primarily for Undergraduates.

1. **Greek History.** This course will present the history of the Greek nation as part of the history of the Mediterranean world and of the development of European civilization. Lectures, text-book, quizzes and examinations. Open to all students but intended pri-

marily for Freshmen and Sophomores. Upper-classmen will receive credit for only two hours. The course may be divided and the work of either term taken without that of the other. M., W., F., 11, *Goldwin Smith 236*. Assistant Professor SILL.

2. **The Roman Empire.** The history of the civilized world under the rule of the Roman emperors, from Augustus to Justinian. Not open to Freshmen. First half-year. T., Th., 9, *Goldwin Smith 236*. Assistant Professor SILL.

3. **Greek Politics.** This course offers an historical introduction to political science. It will deal with those features of Greek political life which are of permanent interest—such as democracy, tyranny, the struggle between social classes, imperialism, and federalism,—and with Greek political theories, so far as they have had permanent influence on political thought. Not open to Freshmen. Second half year. T., Th., 9, *Goldwin Smith 236*. Assistant Professor SILL.

4. **Roman Law.** An introduction to the Roman law of property and obligations, intended especially for upper-classmen in Arts who expect to study law, and for seniors in the College of Law. First half-year. M., W., F., 12, *Goldwin Smith 236*. Assistant Professor SILL.

5. **Greek Historical Readings.** A class for those who, having offered Greek at entrance or taken the course in elementary Greek, would like to devote an hour a week to reading selected passages from the Greek historians and other sources for Greek history. The passages read will be discussed with a view to practice in historical method. Open to all students except Freshmen. Saturdays at 9, or as may be arranged. *Goldwin Smith 236*. Assistant Professor SILL.

Courses Primarily for Graduates.

6. **Greek Historiography.** A study of the ancient Greek historians, their methods and their results. Open also to qualified seniors. Second half year. M., W., 12, *Goldwin Smith 236*. Assistant Professor SILL.

7. **Seminary in Greek and Roman History.** Open also to qualified seniors. T., 4-6 or as may be arranged. *Greek and Latin Seminary Room*. Assistant Professor SILL.

Medieval History.

Courses Primarily for Undergraduates.

8. **Europe, 300-1600 A. D.** A general survey of the history of Christendom from the eve of the Middle Ages to the end of the sixteenth century, with especial attention to the life of society and the

progress of civilization. Lectures and examinations. Not open to Freshmen. M., W., F., 9, *Goldwin Smith 245*. Professor BURR.

9. **The Culture of the Middle Ages and Early Renaissance.** Lectures upon the course of intellectual development and activity from the disruption of the Roman Empire in the West throughout the medieval period and through the beginnings of the Italian Renaissance, with especial attention to the influence of classical literature and traditions. Occasional discussions or reports upon assigned topics. Open to students who are doing advanced work in the classics and to those who have taken Course 8 in History. T., Th., 11, *European History Seminary Room*. Miss LOOMIS.

10. **Renaissance and Reformation, 1453-1565.** A mature study of the culminating period of this critical age of transition, with especial attention to the beginnings of modern life and thought. Lectures, examinations, and exercises in research. Open to those who have had course 8 or its equivalent. T., Th., 9, *Goldwin Smith 245*. Professor BURR.

Courses for Undergraduates and Graduates.

11. **The Rise of Tolerance.** A study of the history of intellectual and religious liberty in Christendom. Lectures and discussions. Open to graduates and to such upperclassmen as have had Course 10 or its equivalent. F., S., 12, *Goldwin Smith 245*. Professor BURR.

12. Courses 12a and 12b are meant especially for students who, having familiarized themselves with medieval history by taking one or more of the above courses, now wish preparation for first-hand research in this field. They presuppose some knowledge of Latin—as much, say, as is needed to read Caesar or Livy.

12a. **Medieval Life.** The reading of some medieval writer, with a view to acquaintance with medieval life and facility in the reading of historical Latin. In 1906-7 the subject of study, belonging to the closing years of the period and illustrating the transition from medieval to modern life, will be the earlier correspondence of Martin Luther (1507-1520). Th., 4, *European History Seminary Room*. Professor BURR.

12b. **Paleography and Diplomatics.** The reading of manuscripts and the interpretation of documents (especially those of the Middle Ages). Attention is devoted chiefly to the paleography of Latin and of the languages using the Latin alphabet. The course is one of actual study of the manuscripts and facsimiles in the University's possession. Th., 3, *European History Seminary Room*. Professor BURR.

13a. **The Sciences Auxiliary to History.** A glance at the aims, the methods, the literature, and the use to history of the more important auxiliary sciences—Anthropology, Ethnology, Archeology, Philology, Epigraphy, Paleography, Diplomatics, Sphragistics, Numismatics, Heraldry, Genealogy, Chronology, Geography. First half-year. S., 9, *European History Seminary Room*. Professor BURR. Not open to underclassmen.

13b. **Historical Geography.** A fuller study of this most indispensable of the auxiliary sciences. Second half-year. S., 9, *European History Seminary Room*. Professor BURR. Not open to underclassmen, and meant only for those who have already much knowledge of history.

Course Primarily for Graduates.

14. **Historical Method.** A seminary, open only to seniors and graduates and meant especially for those looking forward to the teaching of history or to historical research. *a.* History : its nature, its purpose, its materials, its methods. *b.* The critical study of some period, event, or phase of history. For the year 1906-7 the topic will be: Protestantism and Individualism, 1525-1535. W., 3-5, *European History Seminary Room*. Professor BURR.

The attention of students especially interested in this period of history is also called to the courses in the early history of the modern languages and literatures (pp. 109, 110, 112, and 115) and to the courses on the history of philosophy, morality, and ethics (pp. 132, 133, and 134), especially to that on Thomas Aquinas (p. 138) and to that on the philosophy and culture of the Renaissance (p. 136).

Modern European History.

Students are requested to consult with Professor Catterall before registering.

Course 15 is intended for underclassmen and covers the history of the nation in a general way

Course 16 is intended for upperclassmen and covers the period from the beginning of the 17th century to the present.

Special periods in the history of Europe are dealt with in more advanced courses and in seminaries devoted to training in research.

Courses Primarily for Undergraduates.

15. **English History.** A course on the national development and the European relations of England, Scotland and Ireland. Lectures, text-book, quizzes and examinations. M., W., F., 12, *Goldwin*

Smith A. This course is intended especially for underclassmen, Seniors and Juniors electing it will receive but two hours credit. Professor CATTERALL.

16. **Modern European History, 1600 to 1900.** Lectures, with syllabus, reports and examinations. M., W., F., 11. *Goldwin Smith 242.* Open only to those who have had course 8 or course 15. Professor CATTERALL.

Courses for Undergraduates and Graduates.

17a. **History of Prussia from 1600 to the present.** First semester. Lectures, reports and examinations. T., Th., 11, *Goldwin Smith 242.* This course is intended for upperclassmen and graduates. Prerequisite, course 8, 15 or 16. Professor CATTERALL.

17b. **History of Russia from the beginning of the Romanoff dynasty to the present.** Second semester. Lectures, reports and examinations. T., Th., 11, *Goldwin Smith 242.* This course is intended for upperclassmen and graduates. Prerequisite, course 8, 15 or 16. Professor CATTERALL.

[17c. **History of the French Revolution, 1789-1796.** Lectures, reports and examinations. T., Th., 11, *Goldwin Smith 242.* Professor CATTERALL. To be given in 1907-8.]

[17d. **History of Europe from 1796 to the Present.** First semester: The Era of Napoleon. Second semester: Europe from 1815 to the present. Lectures, reports and examinations. T., Th., 11, *Goldwin Smith 242.* This course may be divided and the work of either term taken without the other. To be given in 1908-9. Professor CATTERALL.]

18. **Undergraduate Seminary.** A seminary for the study of French texts dealing with the French Revolution. The principal object is to secure facility in the reading of French historical works. Open to Graduates, Seniors, and, by permission, to Juniors. T., 4-6. *European History Seminary Room.*

Course Primarily for Graduates.

19. **Seminary.** The subject for study during the period 1906-7 will fall within the period of the French Revolution. Open to graduates, and, by permission, to seniors. M., 4-6. *European History Seminary Room.*

American History.

22. **American History from the Period of Discovery to 1815.** The Dominating Influence of Europe. Lectures with text-books, assigned readings, and reports. First half-year. Daily except S., 10, *Goldwin Smith 234.* Professor HULL.

23. **History of the United States since 1815.** The Dominating Influence of the West. Lectures with text-books, assigned readings, and reports. Second half-year. Daily except S., 10, *Goldwin Smith 234*. Professor HULL.

25. **Selected Topics in the Constitutional History of the United States.** Lectures, readings and reports. First half-year. M., W., F., 9, *Goldwin Smith 234*. Professor HULL.

Open to those who have taken course 20 or 21 of 1905-6, or an equivalent course elsewhere.

26. **Economic History of the United States.** Lectures, assigned readings, and reports. Second half-year, M., W., F., 9, *Goldwin Smith 234*. Professor HULL.

29. **Seminary.** Two hours to be arranged. First meeting T., October 2, 1906, 2 P.M., *American History Seminary Room*. Professor HULL.

Open to graduates and, by permission, to qualified seniors.

Baccalaureate Theses. Seniors who have taken work successfully in American History and whose reports give evidence of their ability to do advanced work, may be permitted to write baccalaureate theses in this department. It is desirable that permission be obtained before the end of the junior year, as the thesis subject must be approved before October fifteenth of the senior year. Appropriate credit may be given for the completion of a satisfactory thesis.

Political Science.

Courses primarily for undergraduates.

[39a. **American Politics.** A brief discussion of the development of the leading political institutions of the United States under the influence of various physical and social forces is followed by an account of their actual working under various conditions of political parties, slavery and freedom, war, international complications, etc., and a concise discussion of two or three of our later political policies, such as those regarding immigration, the Monroe doctrine, and expansion. The aim of the course is to give a glimpse into the nature, actual practice, and significance of politics, as illustrated primarily in American history and institutions, and especially to aid students in their later work by suggesting ways of viewing all political, historical and social questions. Open to all students. Professor JENKS. Not given in 1906-7.]

[39b. **Dependencies of the United States.** A brief sketch of the policy of the United States regarding the acquisition of territory and its government before the Spanish-American War.

A more detailed account of the later territorial acquisitions—the Philippine Islands, Guam, Porto Rico, Samoa, and the Hawaiian Islands,—touching upon their history, natural resources, population, civilization, government and their attitude toward the United States as well as the policy of our government toward them. A brief discussion of the situation regarding Cuba and Panama and its probable effects upon political and economic conditions in the United States. Professor JENKS. Not given in 1906 7].

51. **Elementary Economics.** For those wishing a general survey of the field of economic thought, as well as for those preparing to carry on further studies in the political sciences. Three hours a week throughout the year. Discussions twice a week on assigned questions, research problems and text-book. Lectures M., 11, *Goldwin Smith A.*, on The Relation of Politics to Business. Discussion sections; Section 1, T., Th., 8; section 2, T., Th., 10; section 3, W., F., 10; sections 4, 5, 6, 7, W., F., 11. Professor JENKS, Assistant Professor KEMMERER, Mr. WRIGHT, Mr. WATKINS and Mr. KERN.

41. **Elementary Social Science.** An introductory course upon the relation of evolutionary theories to the social sciences and upon the non-economic aspects of certain social problems, such as the family, race relations, immigration, labor questions and crime. T., Th., S., 9, *Goldwin Smith 256*. Professor WILLCOX and Mr. WATKINS.

31a. **Political Institutions.** The Principles of Politics. Nature and historical development of political institutions. Outline of the constitutional and administrative laws of the United States and of Great Britain studied with special reference to their practical working. Lectures, text-book, and discussions twice a week, with Library work on material collateral to the lectures once a week for two hours. First term, M., W., 10. Library hours to be arranged. Credit three hours. *Goldwin Smith 256*. Professor JENKS.

31b. **Comparative Politics.** Sketch of the constitutional and administrative laws and of the political institutions of the leading nations of Continental Europe, with especial reference to their relations to present political problems in the United States. A continuation of the course preceding, and preferably follows that, though it may be elected independently. Lectures, text-book and discussions twice a week, with Library work once a week for two hours. Second term, M., W., 10. Library hours to be arranged. Credit three hours. *Goldwin Smith 256*. Professor JENKS.

Courses for Undergraduates and Graduates. '

55. **Methods of Modern Philanthropy.** Problems of charities, the pauper, feeble minded, insane, and dependent children, and the

best methods of dealing with them. Problems of crime, the causes of crime, jails, prisons, reformatories, and preventive agencies. At the last will be considered the preventive and educational measures now developing for the betterment of social conditions.

Visits will be made to the Willard State Hospital, the Elmira Reformatory, the George Junior Republic, and several of the local institutions. The three trips out of town requiring full days will be made on Fridays or Saturdays, the others will be in the afternoons, and students must arrange their work to make these trips possible.

The course is not technical, but it serves as an introduction to professional charity work. Certified students of the course are granted advanced standing in the New York C. O. S. School of Philanthropy.

Not open to students below Juniors. Second term three hours, M., W., F. 12, *Goldwin Smith 264*. Professor FETTER.

(Seniors may take additional one or two hours as 55A, below.)

The Education of Defectives and the Feeble-Minded. W., 3.

See Science and Art of Education, Course 6, (page 142.)

48. **Elementary Statistics.** An introductory course in statistical methods of studying population, with practical work in investigation, tabulation and interpretation. Special attention is given to the demographic statistics of the United States. Designed as a parallel or supplementary course to 41. First term. M., W., F., at 9 and two laboratory hours a week at a time to be arranged. Credit three hours. *Goldwin Smith 259*. Professor WILLCOX and Mr. WATKINS.

49. **Commercial Geography and Industrial Statistics.** A continuation of course 48, but with special emphasis upon the agricultural and industrial statistics of the United States. Chisholm's Handbook of Commercial Geography and Mayo-Smith's Statistics and Economics will be used as guides. Under exceptional circumstances students may be admitted to this course who have not already had course 48. Second Term, M., W., F., at 9 and two laboratory hours a week at a time to be arranged. Credit three hours. *Goldwin Smith 259*. Professor WILLCOX and Mr. WATKINS.

32. **Principles of International Law.** Lectures and assigned readings. Open to Juniors and Seniors in Arts and to students in Law. First term, M., W., 12. *Goldwin Smith 256*. Professor JENKS.

33. **Modern Questions in International Politics.** A study of leading questions of the day in the field of International Politics. The purpose of the course is not only to give general information but also to show the practical application to the study of current events of the principles of International Law and of Politics. Second term M., W., 12. *Goldwin Smith 256*. Professor JENKS.

35a. **Municipal Government in Europe.** Lectures, discussions and assigned readings on the governmental, financial and social problems presented by the modern city. Students will be required to investigate and report on municipal conditions in special states of Europe. First term. T., Th., 8, *Goldwin Smith 256*. Professor Jenks and Mr. GIESECKE.

35b. **Municipal Government in the United States.** Lectures, discussions and assigned readings on the governmental, financial and social problems presented by the modern city. Students will be required to investigate and report on municipal conditions in special cities of this country. Second term. T., Th., 8, *Goldwin Smith 256*. Professor JENKS and Mr. GIESECKE.

[34. **Economic Legislation.** Lectures and discussions twice a week, with library work in preparation of material for discussion once a week for two hours. Open only to students who have taken Economics 51 or an equivalent. Professor JENKS. Not given in 1906-7.]

37. **Money, Credit and Banking.** After study of the principles of money and banking, especial emphasis will be laid upon these principles as applied in monetary and banking laws of leading countries. The course is designed with the purpose not only of elucidating economic principles, but also of showing some of the difficult problems arising from putting principles into practice in actual legislation. Lectures and discussions, and library work. Open only to students who have taken Economics 51 or an equivalent. T., Th., 10, *Goldwin Smith 264*. Assistant Professor KEMMERER.

38. **Anthropology and Ethnology.** Origin of primitive social and cultural institutions and of the development of material civilization with especial reference to the native races in the American dependencies. W., F., 8, *Goldwin Smith 264*. Assistant Professor KEMMERER.

36a. **American Labor Conditions.** Wages, hours and conditions of employment; state protection of labor and other restrictions on freedom of competition; trade unions; plans for the betterment of labor conditions. W., F., 8. *Goldwin Smith 256*. Mr. WRIGHT.

[36b. **Problems of Organized Labor.** Conditions of employment, methods of industrial bargaining and remuneration, the economic claims and legal status of labor, considered mainly in connection with the growth, policies and activities of labor unions. Not given 1906-7.]

[54a. **The Socialist Movement.** An historical and descriptive

account of socialism since the French Revolution ; socialistic criticisms of the present social and industrial system, socialistic ideals and programmes and the character and strength of the present socialistic organization of Europe and America. Not given in 1906-7.]

[54b. **Contemporary Socialism.** The ideals, theories and methods of socialism, and its relations to modern life. Not given 1906-7.]

58. **Corporate Finance and Insurance.** The study of Wall St. methods and the organization of industrial corporations with reference especially to insurance companies. Open to upperclassmen who have taken or are taking Course 51. Second term. T., Th., 11, *Goldwin Smith 264.* Professor FETTER.

[59. **Public Finance.** (a) Principles of Taxation. First term. The nature of governmental wants, the development of tax systems, the property tax and corporation taxes, the theory of incidence, the problem of equity, and the practicable ideals for a tax system in American conditions.

(b) **Public Industrial Revenues.** Second term. Fees, special assessments, public industries in city, state, and nation, and the extent and theory of public debts.

Lectures with investigations and special reports. Open to those who have had course 51 or an equivalent. Not given 1906-7. Professor FETTER.]

Courses primarily for Graduates.

[57. **Recent Economic Thought.** A study of the changes that the main economic conceptions have undergone in the past century. Professor FETTER. Not given in 1906-7.]

56. **Economic Thought of France and Germany.** To acquaint with the subject matter of notable recent foreign writings in economics and social science as well as to give facility in the use of the languages as tools in political science. Reading, and exposition by the teacher, of selected texts ; reports on recent periodical literature.

Open to graduates and, on approval, to well equipped undergraduates. Second term, two hours, T., Th., 12, *Goldwin Smith 264.* Professor FETTER.

57. **Research in Statistics.** Students who have completed satisfactorily courses 48 and 49 and wish to pursue the subject and graduate students who have had equivalent training elsewhere may undertake individual work under the direction of the department. Maximum credit three hours a term. Admission only on approval. *Goldwin Smith 259.* Hours fixed by arrangement. Professor WILCOX and Mr. WATKINS.

59a. **Research in Finance.** Students that have done superior work in course 58 or 59, or maturer students wishing to give special attention to financial studies, may undertake research in coöperation with the laboratory exercises. Credit one to three hours a term. Second term, *Political Science Seminary*, at hours to be determined. Professor FETTER and assistant.

55a. **Research in Philanthropy.** Graduates or undergraduates that have done superior work in course 55, may register for special studies in the history and statistics of charities and criminology, in connection with the laboratory exercises of the course in Modern Philanthropy. Credit one to three hours a term. Second term, *Political Science Seminary*, at hours to be determined. Professor FETTER.

40. **Research in Politics and in the Economic History of the United States.** A few specially prepared students, primarily graduates, may undertake studies involving original investigation in the fields mentioned. Credit one to three hours a term. *Political Science Seminary*. Hours to be arranged. Professor JENKS.

80. **General Seminary.** For research work in the field of Political Science. Open to graduates. *Political Science Seminary*. T., 2. Professors JENKS, WILCOX, FETTER, and Assistant Professor KEMMERER.

Greek Politics. M., W., 9. See History 3 (page 152.)

Roman Law. M., W., 12. See history 4 (page 152.)

Related Courses in Another College.

American Constitutional Law. W., 9. See College of Law.

History of Law. See College of Law.

BIBLIOGRAPHY.

1. **Introduction to the Use of Books.** A systematic study of Bibliographies, Indexes, Dictionaries, Cyclopedias, etc., including the principles of classification; cataloguing, indexing and preparing manuscript for printing. Lectures and exercises. First half-year, T., 2:30. Credit 1 hour. Assistant Librarian AUSTEN.

1a. Laboratory work covering the same subjects as course 1, intended for students wishing more of the practical work. Open to students who have had course 1. One afternoon, from 2:30 to 5, each week. Credit, 1 hour. Second half-year. Assistant Librarian AUSTEN.

2. **General Bibliography.** The materials and form of books in ancient times; books in the middle ages, block books, early printed books, illustrated by examples of manuscripts and incunabula; book-

illustration, book-bindings; form-notation; systems of classification and cataloguing; general bibliographical aids. Second half-year. Lectures. T., 12. Credit 1 hour. Mr. HARRIS.

MATHEMATICS.

Pure Mathematics.

The work in mathematics prescribed for students in **ENGINEERING** and **ARCHITECTURE** takes one year. It presupposes a good knowledge of plane and solid geometry, of elementary and advanced algebra, and of plane and spherical trigonometry; and it consists of elementary courses in analytic geometry and the calculus.

For students in **ARTS** all work in mathematics is elective, and this work may be roughly divided into elementary courses and advanced courses.

The elementary courses are in solid geometry, elementary and advanced algebra, plane and spherical trigonometry, analytic geometry including conic sections, differential and integral calculus, and differential equations. These courses may all be taken by a good student, well qualified, during his freshman and sophomore years. They serve as a sufficient preparation for the ordinary work in physics, chemistry, etc., and they mark the minimum of attainments that a teacher of mathematics in a high school or academy ought to possess.

The advanced courses are for juniors, seniors, and graduates. Together they would take one's entire time for four or five years; they give a general survey of the field of mathematical science, and serve as an introduction to any special field one might wish to cultivate.

The sequence and interdependence of these courses, and the order in which they may best be taken up, are shown in the detailed statement of the courses themselves.

Mathematical Physics.

The subjects offered in this connection fall into two main groups.

In the first group are the calculus, differential equations, probabilities and the theory of errors, vector analysis, and function-theory. These have already been mentioned under pure mathematics. Although these courses are in the field of pure mathematics, yet they are necessary, as introductions to most of the subjects in the second group mentioned below, and they are important in themselves to the student of physics, much of whose work without their aid would be too purely empirical, no less than to the student of pure mathematics, whose outlook is enlarged by the physical concepts and interpretations in-

volved. Most of the courses in this group are open to any good student who has had the elementary courses named above.

The second group consists of (1), two general introductory courses, one in theoretical mechanics with special reference to the dynamical principles needed for the subsequent work, and the other in Fourier's series and spherical harmonics, in which various typical physical problems are treated, the appropriate differential equations being derived from physical laws, and the most important solutions of these equations discussed; (2), the mathematical theories of definite branches of physics, such as sound including the general vibrating system with Rayleigh's treatise as the basis, hydrodynamics including mechanics of the atmosphere and vortex-motion, electricity and magnetism: theories that have all been extensively developed by aid of the higher analysis.

Courses in light and thermodynamics are given by the Department of Physics, as are also courses in electricity and magnetism less mathematical in character than course 46 below.

The Mathematical Club, Theses, and the Library.

The Oliver Mathematical Club, composed of teachers and advanced students, has for its objects: The systematic presentation by the members, in turn, of some specified mathematical theory of recent development; and the hearing of reports from different members on noteworthy articles in current journals, and on the results of special reading and investigation; the club meets every week.

In addition to the courses of instruction definitely announced, special reading in pure and applied mathematics is assigned to advanced students desiring it; provision is made for the writing and criticism of mathematical theses, and students are encouraged to follow up special inquiries by aid of the University Library, which now contains several thousand volumes on pure mathematics, mathematical physics, and astronomy, including the principal mathematical journals, and transactions of scientific societies.

Mathematical Models.

The collection of models, about three hundred in number, includes:

1. Plaster models of the quadric and cubic surfaces, of several forms of the Kummer surface, of the cyclides, of surfaces of centres of quadrics, and of minimum surfaces
2. Plaster models illustrating positive, negative, and parabolic curvature, and constant measure of curvature.
3. Plaster models illustrating the theory of functions; among them

models of simply and multiply connected surfaces and of several forms of Riemann's surfaces, and models representing the real parts of algebraic, exponential, logarithmic, and elliptic functions.

4. Wooden and glass models of crystals and polyhedra.

5. Wire and thread models of twisted curves and ruled surfaces, and skeleton frames for minimum surfaces.

Courses Open to Undergraduates in Arts.

6. **Geometry, Algebra, Trigonometry.** For freshmen who enter the University on the minor requirements in mathematics (plane geometry and elementary algebra). This course is substantially equivalent to the major entrance requirements in mathematics, and is sufficient for the elementary work in physics. M., W., F., at 8, *White* —. Professor JONES. M., W., F., at 10, *White* —. Professor TANNER.

(a) Solid Geometry. Credit, 2 hours first term.

(b) Advanced Algebra. Credit, 1 hour each term.

(c) Plane Trigonometry, with field work in surveying. Credit, 2 hours second term.

7. **Geometry, Algebra, and Trigonometry.** For freshmen who enter on the major requirements (solid geometry, advanced algebra, and plane and spherical trigonometry); supplementary to those requirements, and necessary to further elective work in mathematics. T., Th., at 8, *White* —. Professor JONES.

(a) Solid Geometry. Credit, 1 hour first term.

(b) Advanced Algebra. Credit, 1 hour first term.

(c) Spherical Trigonometry, with field work in surveying. Credit, 2 hours second term.

8. **Geometry, Algebra and Trigonometry.** For freshmen who enter on the minor requirements. Equivalent to courses 6 and 7 combined. Daily, ex. Sat., at 9, *White* —. Professor JONES.

(a) Solid Geometry. Credit, 3 hours first term.

(b) Advanced Algebra. Credit, 2 hours first term, 1 hour second.

(c) Plane and Spherical Trigonometry, with field work in surveying. Credit, four hours second term.

9. **Problems in Geometry, Algebra and Trigonometry.** Supplementary to courses 7 and 8, and may be taken at the same time with either of those courses. This course is for the benefit of those students, particularly freshmen, who being interested in mathematical studies, wish to lay a good foundation for the higher work that follows. Credit, for Geometry, 1 hour first term; for Algebra, 1 hour first term; for Trigonometry, 2 hours second term. S., 8-10, *White* —. Professor JONES.

10. **Analytic Geometry and Calculus.** For sophomores who have had courses 7 or 8, but may be taken by freshmen who are well qualified, at the same time with course 7. M., W., F., at 8, *White* — Professor MCMAHON.

(a) Analytic Geometry. Credit, 2 hours first term.

(b) Differential Calculus. Credit, 1 hour each term.

(c) Integral Calculus. Credit, 2 hours second term.

11. **Differential Equations.** An elementary course arranged for students in engineering and in physics, and for those who intend to study advanced mathematics. The course is devoted mainly to the solution of the simpler ordinary and partial differential equations. An elementary knowledge of the integral calculus is a prerequisite for entrance to this course. M., W., 9. Mr. SHARPE.

Courses Prescribed for Students in Engineering and Architecture, and open to Undergraduates in Arts.

2. **Analytic Geometry and Calculus.** For freshmen in Engineering and Architecture.

Nineteen sections daily, ex. Sat.

(a) Analytic Geometry. Credit, 5 hours first term.

(b) Differential Calculus. Credit, 2 hours second term.

(c) Integral Calculus. Credit, 3 hours second term.

At 8—A. C. E., III, IV. Assistant Professor HUTCHINSON.

White — C. E. V, Assistant Professor FITE, *White* — A. C. E. III, *White*—C. E. VI, Assistant Professor SNYDER.

IV, Mr. SHARPE, *White*—; A. C. E. III, IV, Dr. CARVER, *White* —.

At 9—M. E., D. H., Professor WAIT, *White*, —; M. E., D. H., Professor MCMAHON, *White* —; M. E., D. H., Mr. RANUM, *White* —; M. E., D. H., Mr. ———, *White* —.

At 10—M. E., B. F., Assistant Professor HUTCHINSON, *White* —; C. E. I, Assistant Professor SNYDER, *White* —; C. E., II (T., 8), Assistant Professor FITE, *White* —; M. E., B. F., Dr. CARVER, *White* —; M. E., B. F., Mr. SHARPE, *White* —.

At 12—M. E., A. C. E. G., Professor WAIT, *White* —; M. E., A. C. E. G., Professor TANNER, *White* —; M. E., A. C. E. G., Mr. RANUM, *White* —; M. E., A. C. E. G., Mr. SHARPE, *White* —; M. E., A. C. E. G., Mr. CRAIG, *White*. —.

Courses for Undergraduates and Graduates.

For these courses hours will be arranged to suit the members of the classes. In some cases the courses stated as necessary to a given course may be taken at the same time with it. A course may not be given if not more than two persons call for it.

12. **Higher Algebra and Trigonometry.** A continuation of courses 7 and 8. It covers continued fractions, limits and derivatives, imaginaries, series, theory of equations, application of imaginaries and exponentials to circular and hyperbolic trigonometry and determinants. Necessary for most of the courses that follow. T., Th., S., at 10., *White* —. Professor JONES.

Projective Geometry. Requires courses 7 or 8, necessary to courses 19, 20, 23, 33, and very useful in courses 15, 20, 41, 43, and in certain problems in mathematical drawing. T., Th., S., at 9, *White* —. Assistant Professor HUTCHINSON.

The principal aim of the course is to familiarize the student with reasoning about geometric forms. No use is made of algebraic methods. The usual topics of elementary synthetic geometry are first studied, then the principles thus acquired are applied to the study of cubic curves, of cyclical collineations, and of the basis of metric geometry. Considerable attention is given to drawing.

[14. **Theory of Probabilities and Least Squares**, with some applications to insurance and the theory of errors. Requires courses 2 or 10. Two hours. Professor JONES.]

15. **Advanced Work in Analytic Geometry.** Requires courses 2 or 10, 12 and preferably 13. M., W., F., 10, *White* —. Professor WAIT.

Lines of the first and second orders. Two hours. Surfaces of the first and second orders. One hour.

[16. **Elements of Infinite Series and Products.** Various criteria for convergence and divergence. Detailed study of the most important series, their use for numerical computation, and the limit of error in the approximations. Expression of trigonometric and other functions as infinite series or products. Divergent series and the asymptotic representation of functions by means of them. Useful in many of the courses that follow, and in applied mathematics. Two hours. Assistant Professor HUTCHINSON.]

17. **Advanced Work in Calculus.** Requires courses 2 or 10.

(a) **Differential Calculus.** T., Th., 10, *White*. Professor WAIT.

(b) **Integral Calculus.** Hedrick's translation of Goursat's *Cours d'analyse mathématique*, volume one, will be used as a text. Two hours. Mr. CARVER.

18. **Introduction to the Theory of Groups.** The important properties of abstract, substitution, and linear groups, with applications to the Galois theory of equations. Two hours, second half-year. Assistant Professor FITE.

19. **General Theory of Algebraic Curves and Surfaces.** Re-

quires courses 12, 13, 15, 17. Necessary to course 33, and very useful in many of the courses that follow.

(a) **Algebraic Plane Curves.** The principal subjects treated are conditions which determine a curve, Plücker's numbers, birational transformation, resolution of singularities, and the Brill-Noether theory. M., W., F., 9. Assistant Professor SNYDER.

[(b) **Theory of Surfaces.** Requires courses 13, 15, 17, 19a, 21. Begins with a short review of analytic geometry of three dimensions, including systems of coördinates and a few transformations. Then follows the derivation of the principal differential formulæ of the theory of surfaces. Lines traced on surfaces are treated, giving especial attention to asymptotic lines and lines of curvature, with an introduction to Lie's geometry of the sphere and its group of transformations. The course deals largely with the derivation of differential equations and the study of infinitesimal deformations, but synthetic proofs are employed whenever they simplify the problems. Three hours. Assistant Professor SNYDER.]

[(c) **Algebraic Twisted Curves.** A detailed study of cubics and quartics will be followed by the derivation of the formula connecting the characteristics of a general twisted curve. The principal subsequent topics will be the development of involutions and point systems on a given curve, parametric representation, rational curves, and birational transformations. Two hours. Assistant Professor SNYDER.]

[20 (a) **Algebraic Invariants and Theory of Polynomials.** Requires course 2 or 10, and preferably courses 11 and 13. The course will be given mainly by lecture. Among the subjects considered will be: Linear dependence, the divisibility and reducibility of polynomials, linear transformation, the theory of elementary divisors and its application to collineations, the transformation of bilinear and quadratic forms and differential equations; invariants of algebraic and differential forms. Throughout the course stress will be laid on the application of the subjects treated to geometry and to mathematical physics. Three hours.]

(b) **Higher Algebra.** Continuation of course 12. It includes symmetric functions, general theory of elimination, linear transformations, elements of invariants and covariants, etc. Two hours. Professor TANNER.

[21. **Ordinary Differential Equations.** Advanced course. Requires courses 11, 25 (a), Introduction to the analytic theory of differential equations and to the theory of functions defined by such equations. Lectures. Two hours.]

[22. **Non-Euclidean Geometry.** Requires courses 2 or 10, 11, 12, 13, 15, and preferably 19. Begins with some consideration of the foundations of Geometry, followed by the projective theory of non-Euclidean Geometry as developed by Klein, with applications to the theory of functions, the theory of numbers, etc. ; also portions of Lie's Treatment of the Riemann-Helmholtz problem. Two hours. Assistant Professor SNYDER.]

[23. **Continuous Groups** Lie's *Continuierliche Gruppen* will be followed. Requires courses 11 and 17. Three hours.]

[24. **Calculus of Variations.** Requires courses 11, 17*b*. Development of the general theory with applications to classic problems. Lectures. Two hours.]

25. **Theory of Functions.** Requires course 17 (*b*).

(*a*) Theories of Cauchy, Weierstrass, and Riemann, including infinite series and integration, conformal representation, algebraic functions and their integrals, etc. Three hours. Assistant Professor FITE.

(*b*) Second year. Elliptic and Abelian Functions. The elliptic and abelian integrals studied by the methods of Riemann. The theta functions, and the inversion problem ; geometrical applications to curves of genus one, and to hyperelliptic surfaces. Two hours. Assistant Professor HUTCHINSON.]

26. **Theory of Point Assemblages.** The elements of the theory, including transfinite numbers and numerous applications to the theory of functions of a real variable. An equivalent of course 17*b* will be presupposed. Two hours, first half year. Assistant Professor FITE.

[30. **Quaternions and Vector Analysis.** Requires courses 12, 17, and something of mechanics. Two hours. Professor MCMAHON.]

[33. **Line Geometry.** Requires courses 13, 15, 17, 19*a*, 20, 21. Line coördinates, systems of linear complexes, and cubic scrolls ; infinitesimal geometry, normal correlation, surfaces of singularities, focal surfaces, asymptotic lines, developable surfaces ; transformation of coördinates, Klein's fundamental complexes, the quadratic complex, and the Kummer surface. Three hours. Assistant Professor SNYDER.]

Mathematical Physics.

41. **Theoretical Mechanics.** Includes kinematics, statics and kinetics with special reference to the dynamical principles needed for subsequent work. Requires courses 11 (or preferably 21) Necessary to most of the courses that follow. Three hours. Professor MCMAHON.

42. (*a*) **Potential Function, Fourier's Series, and Spherical**

Harmonics, with applications to physical problems. Introductory to Mathematical physics. Requires courses 17, 21, 41. Useful in all of the courses that follow. Three hours.

(*b*) Continuation of 42 (*a*). Reading course in Riemann-Weber, *Die partiellen Differential-gleichungen der mathematischen Physik*. Two hours. Professor MCMAHON.

[43. **Celestial Mechanics**. Requires courses 12, 17, 21, 40, 41, and preferably 42. Two hours.]

44. **Mathematical Theory of Sound**; including the general theory of vibrating systems. Based on Rayleigh's treatise. Requires courses 12, 17, 21, 41, 42, and preferably 15, 20, 25 (*a*). Two hours. Professor MCMAHON.

(*a*) First year. General theory with application to strings, bars, membranes, and plates.

(*b*) Second year. Aerial vibrations.

45. **Mathematical Theory of Fluid Motion**, including the mechanics of the atmosphere and vortex motion. Allied to course 44, and has the same prerequisites. Reading course.

46. **Mathematical Theory of Electricity and Magnetism**. Requires courses 12, 17, 21, 42, and preferably 15, 20 and 25 (*a*). Reading course.

47. **Mathematical Theory of Thermodynamics**. Requires only a knowledge of calculus. Three hours. Professor TREVOR.

Other courses in Mathematical Physics are given by the Department of Physics.

ASTRONOMY.

Course 1 will meet the requirements of students of general science, including those who intend to qualify themselves for teaching science in high schools. It is a fundamental course in astronomy. It should be supplemented by Course 2.

Those desiring to pursue the subject farther for the purpose of specialization should take the various courses in the order given. Special practical work may be arranged. The higher work presupposes a knowledge of spherical trigonometry and calculus.

1. **General Astronomy**. Descriptive, physical, and historical. A comprehensive study of the heavenly bodies; their motions and mutual relations; their forms and dimensions; their composition and evolution. Methods of investigation. Astro-physics. Astronomical photography. Instruments and apparatus. Two hours' credit. Lectures illustrated with lantern slides and the equipment of Fuerter Observatory. M., W., 12, *Lincoln* 45. Mr. LELAND.

2. **Observations**. Uranography. Star-charts. Use of the equa-

torial telescope. Sketching. The sun and the planets. Double and multiple stars and clusters. Nebulæ. To accompany Course 1. One hour credit; second term. One evening per week, to be arranged, at *Fuertes Observatory*. Mr. LELAND.

[3. **Spherical Astronomy.** The mathematical theory of observations and instruments. Co-ordinates on the celestial sphere and their transformations. The corrections to observations; parallax, refraction, aberration, etc. The motion of the earth; precession and nutation. The theory of the determination of time, latitude, longitude, and azimuth. Eclipses and occultations. Method of least squares. Should be preceded by Course 1 or its equivalent. Three hours' credit. Mr. LELAND.]

4. **Practical Astronomy and Computation.** The determination of time, latitude, longitude, and azimuth. Observations and computation of the results. Sextant and surveyor's transit problems. Altazimuth, astronomical transit, and zenith telescope. Use of star catalogues. Should be preceded by Course 1. Three hours' credit; second term. Lectures, recitations, and observatory work. Hours to be arranged. Mr. LELAND.

If desired by a sufficient number of students, Course 4 may be made to include problems in practical navigation or nautical astronomy.

5. **Advanced Practical Astronomy.** Work along special lines. Determination of positions of stars. Double star observations. Investigation of star catalogues. Variation of latitude. Applications of the method of least squares. Supplementary reading. A course primarily for graduates, with opportunities for research. Hours and credit to be arranged. Mr. LELAND.

PHYSICS.

Lecture Course in Elementary Physics. The instruction in the elements of physics is by means of lectures given four times a week for each term. In these lectures the general laws of mechanics and heat, electricity and magnetism, and acoustics and optics, are presented. The very large collection of lecture room apparatus possessed by the department makes it possible to give experimental demonstrations of all important phenomena. The course of lectures is supplemented by recitations, for which purpose the class is divided into sections of about twenty members each.

Courses of Laboratory Instruction. The first year of laboratory work is devoted to the experimental verification of physical formulæ, to practice in the use of instruments of precision and to the attainment of some knowledge of the simpler methods of physical

manipulation. Students who have completed the first year's work make a more extended study of various physical constants. They learn the use of standard instruments, and become acquainted with the methods employed in research. For students of engineering complete courses in photometry, in the calibration of instruments and in the study and testing of direct, alternating and polyphase current machinery are arranged. The opportunities afforded for advanced work are unusual.

Every encouragement is offered to advanced students for the carrying on of original investigations, and every opportunity is taken to stimulate a spirit of scientific inquiry. Courses of reading are suggested to such students, in connection with their experimental work; and they are brought together in seminary at frequent intervals for the discussion of topics of scientific interest. Several courses in theoretical physics are given for the benefit of such students. It is the aim of the department to furnish every possible facility for research.

The Rockefeller Hall of Physics, a new building dedicated in June, 1906, is devoted exclusively to the use of the department. It consists of a lecture room wing on the south, 73x157 feet, which contains three lecture rooms with a seating capacity of 600, 160 and 120 respectively, a suite of seven recitation rooms, several large rooms for the storage of apparatus, an instrument maker's shop and various small rooms designed with reference to special lines of physical investigation. Parallel to this on the north is a similar wing, likewise four stories in height, which is devoted to the work in pure and applied electricity, to the intermediate laboratory for general physics, and to the photographic laboratory.

These wings are joined by a structure, parallel to East Avenue, which is 152 feet long and which contains research rooms, offices, library, periodical room, seminary room, the rooms of the elementary laboratory and special rooms, on the upper floor for advanced work in optics and photography.

To the east of the north wing is the dynamo laboratory of the department, a one-story structure 130x60 feet. This group of connected laboratories, the construction of which has been made possible by a gift of \$250,000 from Mr. John D. Rockefeller, affords opportunities for experimental work in physics, and for laboratory instruction unequalled in this country.

The equipment, the value of which exceeds \$100,000, is extensive and varied and the provisions for research are of the most ample and complete character.

Students from institutions not of collegiate rank who desire credit for University courses, 1, 5, 6, or 10, may, *by special permission from the department*, be admitted to an examination covering this work. Application must be made to the department for such permission not later than Sept. 15 of the year the student enters the University and must be accompanied by a full statement from some official of the school giving the time spent on the work in Physics, text-books used and the student's standing. The student's laboratory note-book should be sent with the application.

The examination in Courses 1, 5 and 6 will be held at 2 P. M. on the first Saturday after registration in September, and in Course 10, one week later. *Address all note-books and statements concerning Physics to the Department of Physics, Cornell University.*

1. Introductory Lectures in Experimental Physics. Four hours a week. M., T., W., Th. First term at 9 or 11; second term at 11. Professors NICHOLS, MERRITT and SHEARER.

Required of students in M.E., C.E., Agr., Arch., M.D., elective for students in Arts and Sciences. Entrance physics is not accepted as an equivalent for this course.

5. Recitations in Introductory Experimental Physics. Two hours a week for one term as assigned. Required of students in Sibley College. May be elected by students in any other college. Messrs. CRITTENDEN and WOLD.

6. Recitations in Introductory Physics. First or second term; four hours a week as assigned. Required of students in C.E.; may be elected by students in other colleges. Messrs. WAGGONER WOLD and GIBBS.

NOTE.—Examinations for those unavoidably absent from either term examination in courses 1, 5 or 6 or who have conditions to make up will be held on registration day Sept. 27, 1906, at 2 P. M.

8. Recitations in General Physics. Two hours Two recitations a week throughout the year. Assistant Professor BLAKER and Messrs. GAEHR, OLSHAUSEN, GAGE, LEIGHTON, ROBERTS, HODGE, RICHTMYER, RODGERS, NASMYTH, SOMERVILLE, and TUGMAN.

This course is required of students in Sibley College and is to be taken in connection with laboratory course 14.

Course 8 may be elected by students of other colleges who have the requisite preparation.

10. Introductory Physical Experiments. One or two hours; one or two 2½ hour periods a week in the laboratory. Assistant Professor BLAKER, Messrs. FISHER, DORSEY and MOLBY.

Course 10 is offered especially for students taking courses 1 and

6, but is open to those who are taking or have completed courses 1, 4 and 5 or 6 or the equivalent. One hour each term is required of students in Civil Engineering. If desired the course may begin in the second term provided the first term's work in one of the combinations noted above has been satisfactorily completed. The first term is devoted to mechanics, molecular physics and magnetism; and the second term to electricity, light and sound.

14. Physical Experiments. Theory and methods of physical measurements. One to six hours. The laboratory will be open M., T., W., and Th., 9-12 and 2-5, F., 2-5, and S., 9-12. Assistant Professor BLAKER, Messrs. GAEHR, OLSHAUSEN, GAGE, LEIGHTON, ROBERTS, HODGE, RICHTMYER, RODGERS, NASMYTH, SOMERVILLE, and TUGMAN.

Course 14 is open to students who have passed satisfactorily in courses 1 and 6 or 1 and 10, or their equivalents. This course includes laboratory experiments illustrating general laws in all branches of Physics, and instruction in the adjustment and use of the instruments of precision employed in mechanics, heat, light, electricity and magnetism. Each student devotes to the course one or more periods a week, according to the amount of credit desired. Students in Mechanical Engineering and Electrical Engineering are required to take the equivalent of one hour a week only.

18. Practical Photography. Two hours. Lectures and laboratory practice. First or second term. Assistant Professor MOLER.

Lectures Thursday 3:30 to 4:30 throughout the term. Laboratory practice (at hours to be arranged).

Course 18 is open only to students who have the requisite knowledge of chemistry and physics. The requisite knowledge of these subjects is in general that possessed by those who have completed Chemistry Course 1 and Physics, 1.

19. Advanced Photography, with special reference to its application to research. Two hours. Laboratory practice. Assistant Professor MOLER.

Students who have completed courses 1, 10 or 14, and 18, or an equivalent, will be admitted to this class.

20. Heat. First-half year. Three hours. M., W., F., at 8. Assistant Professor BLAKER, 1906-07.

21. Light. Second half-year. Three hours. M., W., F., at 8. Assistant Professor BLAKER, 1906-07.

[**22. Electricity and Magnetism.** Two hours a week throughout the year. T., Th., at 8. Assistant Professor BLAKER. Not given in 1906-07].

Courses 20, 21, and 22 are intended for students who have completed the introductory courses in general physics and who desire to take up the theoretical courses which follow, or who intend to teach physics. It is suggested that such students take also laboratory courses 14 and 25.

25. Advanced Laboratory Practice. Two to six hours a week, at hours to be arranged, according to the needs of the student. Assistant Professor BLAKER. This is a laboratory course in general physics for students who have completed course 14, and is preparatory to the laboratory courses in general physics which follow. It is intended to meet the wants of those who expect to teach experimental physics. The experiments may be such as to require one or more laboratory periods, and the student will be encouraged to work out the details for himself as much as is possible.

33. Alternating Currents. Two hours, lectures first term. T., Th., at 10. Professor BEDELL.

Special attention will be given to the study of physical principles and to the development of graphical methods of analysis, as a basis for alternating current testing and for the solution of practical problems. Theory will be in part illustrated by experimental demonstration.

34. Electrical Laboratory Practice. Two to six hours daily. Professor BEDELL and Mr. PIERCE.

This course includes general laboratory work in applied electricity. Particular attention will be paid to alternating current testing, the measurement of power, phase difference and frequency, the study and use of condensers, and the testing of apparatus for single and polyphase circuits. In addition to the general work in direct and alternating current testing, students will be given opportunity for individual work and investigation. This course should be taken by all students who desire to specialize in applied electricity. Open to seniors in Sibley College and to all students who have taken course 14, or an equivalent course in electrical measurement.

35. Advanced Course in Electrical Measurement. Professor BEDELL.

This course is for graduate students. The character of the work and hours will be arranged to meet individual needs.

36. Standardization of Electrical Instruments. One hour, second term. Mr. PIERCE.

The comparison and standardization of direct and alternating current instruments. Students taking this course may, by permission, include in it the standardization of instruments used by them for thesis work.

38. **Electricity and Magnetism (Seminary.)** One hour, first and second term. S., 11. Professor BEDELL.

Open to students who are taking or who are especially interested in the subjects of courses 33, 34, 35, or 39.

39. **Thesis in Applied Electricity.** Two to eight hours, second term. Professors BEDELL and MOLER.

Students desiring to take theses in applied electricity, should consult in advance with the professors in charge. Open to seniors in the College of Arts and Sciences who have taken course 33 or 34, to all seniors in Sibley College who have taken course 33, 34 or a course in experimental electrical engineering, and to others who may be qualified.

40. **Recent Advances in Experimental Physics.** Professor MERRITT. One lecture a week. F., 12. This course will be devoted to such of the more important developments in physics as have not yet found their way into the text books. The lectures will be illustrated by experiments whenever the nature of the subject permits.

In 1906-7 about half of the time of this course will be devoted to the subject of electric waves and oscillations and to related subjects.

[41. **The Electric Transmission of Intelligence.** First term, one hour. Lectures. Sat., 12. Professor NICHOLS. Not given in 1906-07.]

42. **Primary and Secondary Batteries.** First term, one hour. Lectures, Sat., 12. Professor NICHOLS.

[43. **Photometry and the Physics of Illumination.** Second term, one hour. Lectures. Sat., 12. Professor NICHOLS. Not given in 1906 07.]

[44. **The Measurement of Current, Electromotive Force and Resistance.** Second term, one hour. Lectures. Sat., 12. Professor NICHOLS.

Not given in 1906-07.]

45. **Advanced laboratory practice and thesis work in general physics.** This course is open to students who have completed courses 1, 5 or 6 and 14. The amount of time to be given and hours of attendance will be arranged to suit each individual case. Professors NICHOLS and MERRITT, and Assistant Professor SHEARER.

[46. **Light.** Four hours. Assistant Professor SHEARER. Three recitations a week based on Drude's Theory of Light. One experimental lecture a week by members of the class under the direction of the instructor. Not given in 1906-07.]

47. **Heat.** Four hours. Assistant Professor SHEARER. Production of high and low temperatures. Methods used in the measure-

ment of temperature and heat, methods of heat transfer, with experimental lectures, first term. Theory of heat and molecular physics and the kinetic theory of matter second term.

48. **Wave Motion.** Two hours. Lectures on the theory of wave motion in optics, electricity, etc., with problems suited to the requirements of the class. Assistant Professor SHEARER.

49. **The Radiation of Energy.** Two hours throughout the year at times to be arranged. Dr. OLSHAUSEN.

50. **Physical Seminary.** Two hours. Critical reading of original memoirs relating to physics; followed in the latter part of the year by reports upon original work done in the department. Professor NICHOLS.

Course 50 is a colloquium in which all members of the teaching staff of the department, as well as graduate students of physics take an active part.

[51. **Theoretical Physics.** Mechanics and Thermodynamics. Professor MERRITT. Three hours lectures and one hour seminary throughout the year. Hours to be arranged. Probable time, M., T., W., Th., at 11 or 12. Not given in 1906-7.]

52. **Theoretical Physics.** Electricity and Magnetism. Professor MERRITT. Three hours lectures and one hour seminary throughout the year.

Courses 51 and 52, together with courses 46 and 47, are intended to give an outline of theoretical physics for students who expect to specialize in this subject.

53. **Electricity and Magnetism.** Professor MERRITT. Lectures and Seminary. For advanced students who have completed course 11b or its equivalent. This course is capable of modification to suit the needs of those electing it. Some treatise on electricity will probably be used as a basis.

54. **Problems in Physics.** Two or three times a week at times to be arranged. Dr. OLSHAUSEN.

CHEMISTRY.

Inorganic Chemistry. The elements of inorganic chemistry are taught by lectures, laboratory work and recitations from a text-book. The scope of the course is essentially the same as that outlined by the College Entrance Examination Board, but the method of treatment, particularly in the matter of lecture presentation, is in many particulars different from that usually followed. The applications of chemistry and some of the recent advances in the science are discussed in considerable detail.

Advanced courses of lectures and laboratory work are offered in inorganic chemistry. These courses are open to those who have completed certain preliminary work. The lectures deal with the study of the properties of all the elements and their more important compounds, and they are based on the periodic law of Mendeleeff. The laboratory work in advanced inorganic chemistry comprises the preparation and purification of inorganic compounds and the extraction of the rarer elements from ores and minerals. The facilities for investigation in this field are very complete, and the student is afforded opportunity for research not merely in synthetic inorganic chemistry, but also in advanced spectroscopic chemical analysis and gas analysis.

Qualitative and Quantitative Analysis. Three beginning courses are given in chemical analysis. These vary in scope and length and are designed to meet the different needs of the students of chemistry, medicine, and engineering.

Qualitative analysis begins with the study of reactions of the elements and their compounds with different reagents. This is followed by the practical application of the knowledge thus gained to the analysis of unknown substances, both in the solid form and in solution. Instruction in this field is continued in an advanced course given to students that have completed the study of elementary organic and physical chemistry.

The quantitative work is taken up after the completion of the qualitative course, and comprises a small number of simple gravimetric and volumetric determinations, together with the study of the chemistry of the operations involved. This work in the laboratory is supplemented by lectures and recitations, the latter including practice in writing chemical equations explanatory of the actual operation of the analytical work.

Advanced Quantitative Analysis. For students intending to devote themselves chiefly to the study of chemistry there are provided advanced courses in quantitative analysis, especially designed to give them as wide an acquaintance as possible with analytical manipulation. These courses comprise the determination of the more important elements; the analysis of ores, minerals and alloys; the ultimate analysis of organic substances; agricultural analysis; the chemical and microscopic examination of foods and beverages; the analysis of water; the analysis of iron ores, iron and steel, slags, paints and varnishes, alloys, coal and coke, and a number of other commercial products.

A course of lectures upon selected topics in Advanced Quantitative Analysis is also offered.

Special Courses in Chemical Analysis. These comprise courses in gas analysis, spectroscopic chemical analysis and assaying. Each line of work is given in a laboratory especially designed for its accommodation and completely fitted with all necessary instruments and apparatus, and is accompanied by a course of lectures introductory to and explanatory of the laboratory work.

Micro-Chemistry. Four courses are offered, the object being to acquaint the student with the microscope and its application to the investigation of chemical phenomena and of problems arising in the industries. A fundamental course upon which the remaining courses are based deals with the microscope and its accessories and microchemical methods, the use of the microscopes of various forms and constructions, the application and use of the micropolariscope in its different forms, the microspectroscope, the micrometer and micrometric methods, the use of illuminators both vertical and oblique, photo-micrographic stands and cameras. etc. Practice is given in methods of solution, decantation, filtration, crystallization, sublimation and distillation as applied to the examination of minute amounts of material, in the use of elective stains and special reagents, in the making of permanent preparations, in the use of the centrifuge, grinding and polishing machines, etc. Following the instruction in microchemical methods the later courses deal with the analysis of inorganic compounds, organic compounds, alloys, paper, the examination of foods, food products, textiles, etc. A special laboratory has been arranged for microchemical work. It is provided with work-tables of special construction placed in windows so as to afford ample light, with work-tables of the usual laboratory form along the walls, with gas, blast, water, electric current and electric light. The equipment of this laboratory in apparatus, reagents and material for study is exceptionally complete, rendering the facilities for microchemical research in all branches unexcelled.

Organic Chemistry or the Chemistry of the Compounds of Carbon. Two elementary courses are given in this subject, one extending through the first half year, the other through the year. The first course is intended for students in medicine and is especially adapted to their needs. The other course is for students specializing in chemistry or those who wish a more extended knowledge of the subject. The method of instruction is the same in both and consists of lectures, recitations and laboratory work, supplemented by frequent written examinations. The lectures are fully illustrated by experi-

ments, specimens of the compounds considered and charts. The laboratory work follows the lectures closely and comprises the preparation and purification of a large number of typical organic compounds and the detailed study of their properties, reactions and relations. The second year's work consists of lectures on special chapters of the subject and of further laboratory work in the preparation and study of the compounds of carbon of a more complicated nature. Special courses of lectures are also given on the coal tar dyes and on the stereochemistry of the compounds of carbon and of nitrogen. In all the advanced work constant reference is made to the original literature of the subject in the various chemical journals.

Physiological Chemistry. The courses in this subject are especially arranged for students in medicine who have completed the required courses in physiology and chemistry. The method of instruction is by lectures, recitations and laboratory work, accompanied by frequent written examinations. The work comprises the chemistry of the proteids, carbohydrates and fats, the detailed study of the compounds found in the animal organism, and of their reactions and decomposition products. In the laboratory the student separates from the various animal fluids and organs the chemical compounds which they contain, studies their properties, reactions and products of decomposition, and thus familiarizes himself with the methods of isolation and identification of these products. Especial attention is given to the chemistry of digestion and of the products of digestion. In the advanced work some special line of investigation is taken up, such as the repetition of important and extended pieces of work and verification of results already published.

Physical Chemistry. An outline of the more important features of the physical aspect of chemical changes is given in an introductory course of classroom instruction in physical chemistry. This course is followed by lectures on the present state of development of the various phases of the experimental side of the subject: the Gibbsian phase rule, the laws of mass action, the velocity of reactions, and electro-chemistry. Opportunity is given for experimental research in connection with this work, and the general lectures are supplemented by briefer courses on special topics.

Parallel to this group of experimental courses, instruction is given in mathematical chemistry. The aim of this work is to present physical chemistry as a branch of mathematical physics; to develop a coherent body of mathematical theory as the consequence of a small number of inductively established postulates. The treatment is primarily thermodynamical. Two courses are offered: an introductory

one, in which the present state of the subject is presented in a connected way; and an advanced course, in which the historical development of the theory is traced.

The results of the experimental and theoretical investigations that are carried on in physical chemistry are published in the *Journal of Physical Chemistry*, which is issued monthly, during the academic year, by officers of the department.

Sanitary Chemistry, Toxicology. These subjects are taught by several distinct courses of lectures accompanied in each case by laboratory practice. Special laboratories are provided for practical work in sanitary chemistry. These laboratories are exceptionally well equipped with the most modern apparatus, both chemical and optical. Other laboratories are provided for the bacteriological examination of foods, water, etc. The bacteriological laboratories include a general work room with table space for ten students, a sterilizing and preparation room, and an incubator room. The material equipment includes a large and small hot air sterilizer, two steam sterilizers, one large autoclave, two large incubators, and special closets for cultures at room and at low temperatures. These laboratories have been specially equipped with a view to supplying every need for research in water analysis, water purification, and chemical bacteriology. A large collection of pure and adulterated food products supplies material for those desiring to specialize in Board of Health work or in Domestic Economy. The equipment in material and apparatus for the study of chemical toxicology is such as to permit of the detection and determination of the rarer as well as the common poisons of both organic and inorganic origin.

Agricultural Chemistry. An elementary course, consisting of lectures, laboratory practice and recitations, is given during the second half-year. It treats of the fertility of the soil, the relations of soils to plant growth, and the composition of plants and fertilizers. The laboratory practice is intended to familiarize the student with the chemical and physical properties of soils and fertilizers.

Two advanced courses are given during the first half-year; one on dairy chemistry and one on the chemistry of plant and animal life.

A series of elementary lectures is given for the winter course students.

A laboratory course in chemical analysis of agricultural products extends through the year. Special attention is given to the methods of analysis recommended by the Association of Official Agricultural Chemists.

Seminary. A general seminary, attended by the members of the

staff of instruction in the Department of Chemistry and by graduate students and seniors specializing in chemistry, meets once each week throughout the year. Members of the seminary report upon recent advances and selected topics in chemical science.

The Chemical Laboratory. The Laboratory, named Morse Hall, consists of two buildings, with floor space of over 43,000 square feet. The buildings are connected by corridors on each floor. The laboratory contains four lecture rooms, one seating three hundred and fifty students, another eighty and each of the others sixty-two. These rooms are furnished with all the necessary appliances for the illustration of lectures by experiments and lantern projection, and are provided with adjacent preparation rooms. For elementary work in inorganic chemistry and qualitative and quantitative analysis, there are three large laboratories containing in the aggregate places for seven hundred and thirty-seven students working in sections. In addition to these are two rooms for organic chemistry and a research laboratory for advanced work in that field, one laboratory with one hundred and eight places for physiological chemistry and toxicology, a special laboratory for micro-chemical analysis, two for bacteriological work in connection with the analysis of water and foods, one room for distillation in water analysis, three rooms for assaying, two with northern exposure for gas analysis, a fire-proof room for work with highly inflammable substances, a laboratory for organic ultimate analysis by combustion provided with powerful ventilation and special balances, two hydrogen sulphide rooms connected with strong fan exhaust for work with noxious gases, an electric furnace laboratory, a large room for advanced inorganic chemistry, together with two smaller ones for research work in this field, a room for spectroscopic chemical analysis with a photographic dark room and a mercury-pump room adjoining, a large laboratory for elementary work in physical chemistry, one for electrochemistry, one for undergraduate research and one for graduate work. The student laboratories contain in the aggregate places for one thousand and forty seven students working in sections, or four hundred and thirty students working at once. In the sub-basement there are two large constant temperature rooms, a dynamo room containing motors and a high pressure blower for air blast, a room for the storage of ores, two others for the storage of highly inflammable chemicals, and a number of stock rooms. A general supply room from which all students draw their chemicals and apparatus for use in their work is situated on the main floor of the building. There are ten private laboratories for professors and instructors. The Chemical Library is centrally located on the first floor of the South Hall of the

building. The laboratory of the University Experiment Station is also situated in Morse Hall. Distilled water is conducted in block tin pipes to all the more important rooms on each floor from a tin-lined tank in the upper story of each building. Air blast is conducted wherever required from a high pressure blower in the basement. The buildings are supplied with an alternating current of 1000 volts and with two direct currents of 500 and 110 volts. Lighter currents for electrochemical analysis and synthesis are furnished by storage batteries.

The Museum contains collections for the illustration of lectures upon inorganic, organic, sanitary, and applied chemistry. These collections include specimens of the elements, their compounds, and the ores from which they are obtained, a complete collection of the most important organic compounds, and also specimens illustrating the leading chemical industries, such as the manufacture of the various acids, alkalies and salts, pigments, glass, pottery, soap, stearine and glycerine, and the chemical processes of metallurgy, bleaching, dyeing, and photography.

The Chemical Library contains complete sets of all the important journals, and is very fully supplied with works of reference and the standard books on chemistry and allied subjects. Such additions are made to it from year to year as are necessary to keep it abreast of the times. It is accessible to all students, under such restrictions only as are necessary to secure it against injury or loss.

The laboratories are open from 8 to 5:30 except on Saturday, when they are closed at 1 o'clock. Instruction hours are from 8 to 1, and 2 to 5.

Fifty courses in chemistry are offered as below.

Bracketed courses are not given in 1906-1907.

The following course of study is recommended for students specializing in chemistry, and deviation from the plan should be made only with the approval of Professor Dennis. This special course in chemistry is open to all students registered in the College of Arts and Sciences, but those intending to pursue it are advised to defer the study of chemistry until after entering the University, and to take before entrance solid geometry, advanced algebra, plane and spherical trigonometry, three years of preparatory German, three years of preparatory French, and four years of preparatory English instead of three. Permission to take the courses recommended in another college may be obtained under the provisions of paragraph 6 of the requirements for the degree of Bachelor of Arts. (See page 89.)

<i>First Year.</i>	No.	Course	1st Term	2d Term
Introductory Inorganic Chemistry.....	1		6	—
Qualitative Analysis.....	7		—	6
Mathematics: Analytic Geometry. Differ ential Calculus, Integral Calculus.....	2		5	5
Physics.....	1		4	—
Physics.....	6		—	4
Drawing (Sibley College)..... M.D.	1		3	—or— 3

<i>Second Year.</i>	No.	Course	1st Term	2d Term
Organic Chemistry.....	30		6	6
Quantitative Analysis.....	12		6	—
Spectroscopic Chemical Analysis.....	17		—	2
Mechanics of Engineering (Civil Engineer- ing).....	20		5	5
Physics.....	14		1	3

<i>Third Year.</i>	No.	Course	1st Term	2d Term
Introductory Physical Chemistry.....	50		3	3
Physico-chemical Methods.....	51		3	3
Microchemical Methods.....	65		2	—
Gas Analysis.....	19 & 20		3	—
Mineralogy.....	11		3	3
Advanced Quantitative Analysis.....	14		—	4
Quantitative Analysis—Lectures.....	15		—	2
Mechanical Laboratory (Sibley Coll.) X.E.	11		3	3

<i>Fourth Year.</i>	No.	Course	1st Term	2d Term
Electrochemistry.....	56a		3	—
Electrochemistry.....	56c		2	2
Assaying.....	18		2	—
General Economic Geology.....	32		3	3
Dynamo Laboratory (Physics).....	34		—	3
Potable Water.....	75		—	2
Water Analysis.....	76		—	3
Research.....	96	At least 4 hrs. per term.		

Seminary, once a week throughout the year.

In filling out the remainder of his time the student may elect advanced courses either in Chemistry, or in other departments of the College of Arts and Sciences, or, under the regular restrictions, in Sibley College.

Introductory Inorganic Chemistry.

I. Introductory Inorganic Chemistry. Six hours. Either term.

(a) Lectures, M., W., F., 11, *Ch. L. R., 1*. Professor DENNIS and Assistant Professor BROWNE.

(b) Laboratory practice (two periods of 2½ hours each), and one recitation per week. Professor DENNIS and Assistant Professor BROWNE, Messrs. HAWKINS, FRANK, SHETTERLY, and GILLETT.

For students registered in the College of Arts and Sciences at hours to be arranged.

For students registered in the College of Medicine, Veterinary College, College of Agriculture, College of Civil Engineering, and Sibley College, at hours indicated in their respective schedules.

Students in the College of Arts and Sciences, may, if they so desire, elect the lectures alone (credit 3 hours), and may take the recitations and laboratory practice (credit 3 hours) in some subsequent term.

(Entrance credit in Chemistry does not carry with it University credit in course 1. If a student entering the University from a preparatory school desires credit in course 1, he must pass an examination set by the Department of Chemistry. See pages 49 and 50).

Examinations for those unavoidably absent from the term examination in course 1, or who have conditions to remove in this course, will be held at 2:00 P. M. on the day before instruction begins in the Fall, and also in the month of May at a date to be announced. No special examinations will be given at other times.

Analytical Chemistry.

6. **Qualitative and Quantitative Analysis.** Five hours. Either term. Required of students in Mechanical Engineering. Lectures, T., Th., 9, *Ch. L. R. 1*. Laboratory practice, M., W., F., 2-5; or T., Th., S., 10-1.

Qualitative Analysis. Mr. SNOWDON and Messrs. TURRENTINE BROWN, BURNHAM, OLIVE and ———.

Quantitative Analysis. Mr. CUSHMAN and Messrs. TURRENTINE BROWN, BURNHAM, OLIVE and ———.

Course 6 is open only to those who have taken course 1 or its equivalent.

7. **Qualitative Analysis.** Six hours. Second half-year. Students in science are advised, and those specializing in chemistry are required, to take this course instead of the qualitative analysis of course 6. Lectures. T., Th., 9, *Ch. L. R. 1*. Laboratory practice, M., F., 11-1, and T., Th., 2-4:30. Mr. SNOWDON and Mr. TURRENTINE.

Course 7 is open only to those who have taken course 1.

8. **Qualitative Analysis.** Two hours. Second half year to

April 24th. Required of students in medicine. Lectures, S., 12, *Ch. L. R. 3*. Mr. SNOWDON. Laboratory practice, W., 10-1, and Th., 8-10. Mr. SNOWDON and Mr. TURRENTINE.

Course 8 is open only to those who have taken course 1 or its equivalent, and it is followed by course 81.

9. **Advanced Qualitative Analysis.** Assistant Professor BROWNE. This course includes a study of methods for the detection of a large number of metals and acids not taken up in course 7. In certain cases a comparative study is made of different methods designed to accomplish a given separation. Course 9 is open only to those who have taken courses 30, 50 and 51.

Investigation in this field may be elected by seniors or graduate students under course 56.

12. **Quantitative Analysis.** Six hours. First half-year. Elementary course. Students in science are advised, and those specializing in chemistry are required, to take this course instead of the quantitative analysis of course 6. Lectures and recitations. M., W., 10, *Ch. L. R. 2*. Laboratory practice, T., Th., afternoons and S. morning. Mr. CUSHMAN and Mr. CHORMANN.

14. **Quantitative Analysis.** Advanced course. Either term. Mr. CUSHMAN and Mr. CHORMANN.

This course comprises ultimate organic analysis and the analysis of iron ores, iron and steel, slags, paints, lubricants, coal and coke, cements and cement materials, alloys, ores of copper, lead, zinc, mercury, manganese, tin, etc.

Course 14 is open only to those who have taken course 6 or courses 7 and 12.

15. **Quantitative Analysis.** Two hours. Second half-year. Lectures on selected topics in advanced quantitative analysis. M., F., 11, *Ch. L. R. 3*. Mr. CUSHMAN.

Course 15 is open only to those who have taken course 6 or courses 7 and 12.

17. **Spectroscopic Chemical Analysis and Colorimetry.** Two hours. Second half-year. Lecture, W., 11, *Ch. L. R. 3*. Mr. HAWLEY. Laboratory practice (3 actual hours), at hours to be arranged. Mr. HAWLEY and Mr. LICHTENTHAELER.

The laboratory instruction comprises the observation and mapping of emission spectra with the Krüss spectroscope and direct-vision spectroscope, the qualitative analysis of unknown mixtures and of minerals with each of these instruments, the spark spectra and oxy-hydrogen spectra of minerals, the spark spectra of liquids and gases, the absorption spectra of certain colored solutions, of solutions of the

rare earths and of organic dyes, and colorimetric determinations with the latest and most exact instruments.

The course also includes a study of the refractometer and the polariscope.

Course 17 is open only to those who have taken course 6 or courses 7 and 12, and courses 1 and 6 in Physics.

18. **Assaying.** Three hours. First half-year. Lectures and laboratory practice. Lecture, F., 10, *Ch. L. R. 3*. Laboratory practice at hours to be arranged. Mr. CUSHMAN and Mr. CHORMANN.

The course comprises lectures upon the theory and practice of the scorification and crucible assay, and upon the metallurgy of copper, lead, silver and gold. In the laboratory, practice is given in the assay of gold and silver ores and of bullion.

Course 18 should be preceded by course 6 or courses 7 and 12, and by a course in Mineralogy.

19. **Qualitative and Quantitative Gas Analysis.** One hour. First half-year. Lecture, T. 12., *Ch. L. R. 3*. Assistant Professor BROWNE.

20. **Technical Gas Analysis.** Two hours. First half-year. Laboratory practice at hours to be arranged. Assistant Professor BROWNE, Mr. HAWLEY, and Mr. LICHTENTHAELER.

Instruction is given in the analysis of gas mixtures with the apparatus of Honigmann, Bunte, Orsat, Lunge and Hempel; in the complete analysis of flue gas, illuminating gas, generator gas, acetylene and air; in the determination of the heating power of gaseous, liquid and solid fuels, and in the evaluation of nitrates with the nitrometers of Hempel, Lunge and Bodländer. Within certain limits the work may be selected to suit the requirements of the individual student.

Course 20 is open only to those who have taken course 6 or courses 7 and 12 in chemistry, courses 1 and 6 in physics, and who are taking course 19 in chemistry.

Organic Chemistry.

30. **Organic Chemistry.** Six hours throughout the year. Lectures and written reviews. M., W., F., 9, *Ch. L. R., 3*. Laboratory practice (7½ actual hours) in sections, M. and W., 1 to 5:30; T. and Th., 1 to 5:30, F., 1 to 5:30 and S., 8 to 1. Professor ORNDORFF, Mr. DELBRIDGE, and Messrs. RAY and BLACK.

The lectures and written reviews serve as an introduction to the general subject of the chemistry of the compounds of carbon. In the laboratory the student prepares a large number of typical compounds of carbon, and familiarizes himself with their properties, re-

actions and relations. The detection of inorganic elements in organic compounds, and the recognition of various groups or radicals is included in the laboratory work.

Course 30 is open only to those who have taken course 1, and courses 7 and 12.

31. Organic Chemistry. Three hours throughout the year. Lectures and written reviews M., W., F., 9, *Ch. L. R.*, 3. Professor ORNDORFF.

This course is identical with the lectures and written reviews of course 30.

32. Elementary Organic Chemistry. Two hours. Second half-year. Lectures and written reviews. M., W., 8, *Ch. L. R.*, 3. Mr. DELBRIDGE.

This course is required of first year students in medicine, and is preparatory to course 40.

33. Special Chapters in Organic Chemistry. Two hours throughout the year. Lectures, T., Th., 9, *Ch. L. R.*, 3. Professor ORNDORFF.

In this course especial attention is given to certain important chapters of organic chemistry, for which an elementary knowledge of the subject is necessary. Frequent references are made to the original literature, and an attempt is made to acquaint the student with the classical researches of organic chemistry.

Course 33 is open only to those who have taken Course 30.

34. Advanced Organic Chemistry. Laboratory practice. Hours to be arranged. Professor ORNDORFF and Mr. DELBRIDGE.

The course in the preparation of organic compounds is here continued, the preparations, however, being more difficult and requiring more experience and skill on the part of the student. The original literature is consulted, and the student is finally required to repeat some extended and important piece of work, and to compare his results with those published, before taking up original work in this field.

35. The Coal Tar Dyestuffs. One hour. First half-year. Lectures. Th., 12, *Ch. L. R.*, 3. Professor ORNDORFF.

The coal tar dyestuffs have become so important, from both a theoretical and a practical standpoint, as to justify their consideration in a separate course of lectures. The methods of making the dyestuffs, their properties, constitution and relation to each other are discussed, the treatment being scientific rather than technical.

36. Stereochemistry. One hour. Second half-year. Lectures. Th., 12, *Ch. L. R.*, 3. Professor ORNDORFF.

The stereochemistry of the compounds of carbon and nitrogen

forms the subject of this course of lectures. The necessity of considering the space relations of the atoms in certain classes of physical isomers is shown and the close agreement of the facts and theory is brought out.

37. **Methods of Organic Analysis** Laboratory practice with occasional lectures. Hours to be arranged. Professor ORNDORFF and Mr. DELBRIDGE.

This course is designed for students desiring practice in the qualitative and quantitative analysis of commercial organic products such as alcohols, ethers, organic acids, glycerine, formalin, acetates, coal tar distillates, petroleum products, soaps, acetanilide, etc. Instruction in urine analysis is also given in this course.

Course 37 is open only to those who have taken at least one term of course 30.

Physiological Chemistry.

40. **Physiological Chemistry.** Two hours. First half-year. Lectures and written reviews. M., W., 8, *Ch. L. R. 2.* Mr. DELBRIDGE.

This course is the continuation of course 32, and is required of students in medicine.

41. **Physiological Chemistry.** Three hours. First half-year. Laboratory practice. Mr. DELBRIDGE and Mr. BLACK.

This course is required of students in medicine.

42. **Physiological Chemistry.** Advanced course. Laboratory practice. Hours to be arranged. Professor ORNDORFF and Mr. DELBRIDGE.

Inorganic Chemistry.

[46. **Inorganic Chemistry.** Advanced Course. Two hours throughout the year. Lectures. T., Th., 11, *Ch. L. R. 3.* Professor DENNIS.

The chemical elements are discussed in the order in which they occur in the Periodic Law of Mendeléeff, and especial consideration is given to the group properties of the elemental substances and to the relations of the groups to one another. The rare elements and "rare earths" are treated in as great detail as are the more common elements.

Course 46 is open only to those who have completed courses 1, 7, 12 and 30, and have completed or are taking courses 50 and 51.]

47. **Inorganic Chemistry.** Laboratory practice. Hours to be arranged. Professor DENNIS and Mr. HAWLEY. The preparation

and purification of inorganic compounds and the extraction of the rarer elements from ores and minerals.

Course 47 is designed to accompany course 46, but either course may be taken separately.

Physical Chemistry.

50. Introductory Physical Chemistry. Three hours throughout the year. Lectures. M., W., F., 9, *Ch. L. R. 4*. Mr. WHITE.

The object of this course is to give a simple systematic presentation of modern chemical theory. The effect of the variables met in chemical work is studied in detail; from a consideration of typical cases, many of the laws of chemistry are derived, and the methods employed in chemical practice critically examined.

Courses 50 and 51 are open only to those who have taken course 30, Physics 14 and Mathematics 2.

51. Physico-Chemical Methods. Three hours a week throughout the year. Laboratory practice. Mr. WHITE and Mr. RANKIN.

Special attention is directed to sources of error in experimental work and calibration of instruments. The subject matter includes: methods of observation; calculation of error; the balance; accurate determination of temperature and thermal effects; pressures and volumes; molecular weight by vapor density and other methods; viscosity and capillarity; formation, separation, and identification of phases, including fractionation methods; study of optical, photochemical, electrical, and magnetic effects.

Course 51 should be taken in connection with course 50.

[**52. Advanced Physical Chemistry.** Three hours throughout the year. Lectures. M., W., F., 10, *Ch. L. R. 4*. Professor BANCROFT.

A non-mathematical exposition of the law of mass action in its application to chemical equilibrium, to velocities of reaction, and to electromotive forces. These lectures should be supplemented by at least two hours a week of laboratory practice, course 57.

Course 52 must be preceded by course 30.]

53. Mathematical Chemistry. Three hours per week at times to be arranged. Lectures. Professor TREVOR.

An exposition of the thermodynamic theory of chemical equilibria, consisting of mathematical formulation of the general principles of thermodynamics, and an account of the application of these principles to material systems of one, two, and three independently variable components. The course presupposes an acquaintance with differential and integral calculus.

54. **Advanced Mathematical Chemistry.** Hours to be arranged. Professor TREVOR.

An examination of special details of the thermodynamic theory of chemical equilibria together with supplementary reading and the study of new problems. Calculus is presupposed.

55. **Electrochemistry.** Two hours throughout the year. Lectures, T., Th., 10, *Ch. L. R. 4.* Professor BANCROFT.

The historical development of the subject with special reference to the theory of the voltaic cell. For advanced students in chemistry and physics.

56. **Applied Electrochemistry.** The lectures may be taken independently of the laboratory work, but the laboratory courses are open only to those who have taken or are taking the lectures.

(a) Three hours. First half-year. Lectures, M., W., F., 12, *Ch. L. R., 4.* Professor BANCROFT and Mr. GALLAGHER. The preparation of compounds in the electric furnace; electrolytic extraction and refining of metals; theory of plating; electrolytic manufacture of inorganic and organic compounds; theory and practice of storage cells. Students taking this course are advised to supplement the lectures by laboratory practice, course 56b or course 56c.

Course 56a is open only to those who have taken course 6 or courses 7 and 12.

(b) Two hours a week. First half-year. Laboratory practice. Mr. GALLAGHER. Determination of current and energy efficiencies in electrolytic and electrothermal work; preparation and tests of storage batteries.

This course is open to engineering students and to students registered in the College of Arts and Sciences, but it must be preceded by course 6 or courses 7 and 12, and by Physics, course 10 or course 14. Students specializing in Chemistry are expected to elect course 56c instead of course 56b.

(c) Two hours a week throughout the year. Laboratory practice. Professor BANCROFT, Mr. GALLAGHER. Preparation of electrical standards and measurements of electrical constants; qualitative study of conditions affecting electrolytic reactions; determination of current and energy efficiencies in electrolytic and electrothermal work; preparation and tests of storage batteries; electrolytic preparation of inorganic and organic compounds.

Course 56c is intended for students specializing in Chemistry and is open only to those who have taken course 50 and course 51.

57. **Laboratory Practice.** Advanced course. Hours and work to be arranged. Professor BANCROFT and Mr. GALLAGHER.

Students may elect work : in mass law, reaction velocity, efficiency, conductivity, electrometric measurements, high and low temperature, measurements with special reference to course 52 ; in electrometric determinations with special reference to course 55 ; in electrochemical synthesis with special reference to course 56 ; in metallography ; in the application of physical chemical methods to organic chemistry.

The prerequisites for this course will be determined in each case by the professor in charge.

Microchemistry and Microchemical Analysis.

65. **Microchemical Methods.** Two hours. First half-year. Laboratory practice at hours to be arranged. Assistant Professor CHAMOT and Mr. ALBRECH.

The aim of this course is to familiarize the students with the use of the microscope and its accessories, and with microchemical methods and apparatus as applied to chemical investigations.

Course 65 is open only to those who have taken course 6 or courses 7 and 12.

66. **Microchemical Analysis.** Elementary course. Three hours, either term. Laboratory practice at hours to be arranged. Assistant Professor CHAMOT and Mr. ALBRECH.

Practice in the examination and analysis of inorganic substances containing the more common elements with reference to rapid qualitative methods and the analysis of minute amounts of materials.

Course 66 is only open to those who have taken course 65.

67. **Microchemical Analysis.** Advanced course. Two hours or more. Laboratory practice. Assistant Professor CHAMOT and Mr. ALBRECH.

This course may be arranged so as to comprise the analysis of inorganic substances containing the rarer elements or of organic compounds.

Course 67 is open only to those who have taken course 66.

Sanitary Chemistry.

70. **Foods, Beverages and Food Accessories.** Two hours. First half-year. Lectures. W., F., 12, Ch. L. R. 2. Assistant Professor CHAMOT.

In this course the source, preparation for use, and the chemistry of foods, beverages, and food accessories, are discussed. This is then followed by a consideration of the individual and relative assimilability, digestibility and nutritive value of food products ; the relation of pure and adulterated foods to the public health ; the adulteration,

sterilization and preservation of foods ; and lastly, by a discussion of dietics, dietary standards and the methods for carrying on nutrition investigations. Course 70 is open only to those who have taken course 6 or courses 7 and 12.

71. Food Analysis. Three hours. First half-year. Laboratory practice. M., W., F., afternoons. Assistant Professor CHAMOT and Mr. ROBERTSON.

Instruction is given in the examination of foods by chemical and optical methods, with reference to adulteration, imitation and alteration ; the examination of foods for artificial coloring matters, preservatives, and poisonous substances. This course comprises a study of milk, comestible fats and oils, cereal products and starchy foods, canned goods, jellies, etc. The course may be extended so as to include the analysis of alcoholic beverages.

Course 71 should be taken in connection with course 70. Course 71 is open only to those who have taken course 6 or courses 7 and 12.

72 Microscopical Examination of Foods. Two hours or more, either term. Laboratory practice at hours to be arranged. Assistant Professor CHAMOT and Mr. ALBRECH.

Instruction in the use of the microscope in the examination of foods and condiments for the purpose of detecting adulterations and admixtures.

Course 72 is open only to those who have taken course 65.

75. Potable Water. Two hours. Second half-year. Lectures. W., F., 12, *Ch. L. R. 2*. Assistant Professor CHAMOT.

Sources of potable water ; how polluted ; agencies at work leading to the " natural " or " self " purification of streams, etc., and what they accomplish ; the data necessary for a decision as to the fitness of a water for household use, and for use in steam generators ; the interpretation of the results of water analyses, chemical, microscopical, and bacteriological. Modern methods of water purification.

Course 75 is open only to those who have taken course 6 or courses 7 and 12.

76. Water Analysis. Three hours. Second half-year. Laboratory practice, at hours to be arranged. Assistant Professor CHAMOT and Mr. ROBERTSON.

Instruction in the methods employed for the examination of waters with reference to their fitness for household purposes, steam boilers etc. The testing of filters and water purifying devices for efficiency. Course 76 should be taken in connection with course 75.

Course 76 is open only to those who have taken course 6 or courses 7 and 12.

Toxicology.

[80. **Toxicology.** Two hours. Lectures. Assistant Professor CHAMOT.

A brief review of present ideas as to the classification, mode and cause of action, and method of elimination of poisonous substances, together with a discussion of some of the methods employed for their separation and identification.]

81. **Toxicology.** One hour. April 25th to end of year. Laboratory practice. W., 10-11; Th., 8-10; Lecture T., 8, *Ch. L. R. 2*. Assistant Professor CHAMOT, Mr. ROBERTSON and Mr. ALBRECH.

This course has been planned to meet the needs of the students in the College of Medicine, and is intended to serve as an introduction to the methods employed for the separation and identification of the common poisons.

Course 68 is open only to those who have completed the courses in chemistry required of first year students in medicine.

Agricultural Chemistry.

85. **Agricultural Chemistry.** Six hours. Second half-year. General course. Three lectures, M., W., F., 11, *Ch. L. R. 4*. Two laboratory periods, T., Th., 2-4:30, and one recitation, F., 8. Assistant Professor CAVANAUGH and Mr. HERRICK.

This course treats of the "Fertility of the Land," and deals with such subjects as the composition of plants, the sources of their food, the chemical and physical properties of soils, and the composition and behavior of fertilizers and manures.

Course 85 is open only to those who have taken course 1.

86. **Agriculture Chemistry.** Two hours. First half-year. Advanced course. Lectures. W., F., 10, *Ch. L. R. 4*. Assistant Professor CAVANAUGH.

Course 86 is open only to those who are taking or have taken courses 87 or 88.

87. **Agricultural Analysis.** First half-year. Hours by appointment. Laboratory practice. Foods and feeding stuffs, and dairy products. Assistant Professor CAVANAUGH and Mr. HERRICK.

Course 87 is open only to those who have taken course 1 and either course 6 or courses 7 and 12.

88. **Agricultural Analysis.** Second half-year. Hours by appointment. Laboratory practice. Soils, fertilizers, insecticides, and fungicides. Assistant Professor CAVANAUGH and Mr. HERRICK.

Course 88 is open only to those who have taken course 1 and either course 6 or courses 7 and 12.

89. **Dairy Chemistry.** Two hours. First half-year. Lectures. T., Th., 8, *Ch. L. R. 4.* Laboratory practice in Dairy Chemistry is given in course 87. Assistant Professor CAVANAUGH.

90. **Advanced Agricultural Analysis.** This course is designed to meet the needs of those doing research work in agricultural chemistry. Assistant Professor CAVANAUGH.

Seminary.

95. **Seminary.** One hour a week throughout the year.

This is a general seminary in which graduate students with major subjects in chemistry, and seniors specializing in chemistry, are expected to take part.

Research.

96. **Research.** Seniors specializing in chemistry are expected to elect at least four hours per term in research under the direction of some member of the staff of instruction.

BOTANY.

The instruction in this department is offered at present in 19 courses. Courses 1 and 2 form a one year's course and are designed to lay the foundation for the advanced courses, as well as to present to the student a general outline of the principles of botanical science. Course 3 is designed especially for the needs of the students in civil engineering, where a knowledge of timber structure, strength of material as related to different kinds of timber tissue, and the diseases of timber, are important.

The advanced courses in comparative morphology and embryology, comparative histology, mycology, and physiology, are intended to lay the foundation for independent investigations in these subjects as well as to present in a logical way the fundamental principles of development, relationship and phylogeny, as applied in these topics. Aside from the elementary courses these courses are especially recommended to students who are fitting themselves for teachers, since a grasp of the principles underlying them is needed for the proper and thorough presentation of the elementary principles of botany. In the work of these courses each of the students gradually accumulates a set of permanent microscopic preparations which can be kept for future reference and demonstrations before the classes.

The flora of the region of Ithaca is very rich in species, and offers

excellent opportunities for the student of systematic botany, and some facilities in the study of geographic botany. Excellent facilities are offered to the students who are fitting themselves for [experiment] economic work in the course in plant histology, plant physiology, and in the study of the fungi. While the laboratory is distant from the seashore it is well supplied with material of the marine algae for morphological and developmental study of typical forms.

The laboratory is well equipped with microscopes, microtomes, photographic apparatus, thermostats, sterilizers, culture rooms, an electric lantern and a large number of views for illustrating portions of the lectures, the Auzoux and Brendel models representing the different groups of plants, and other illustrative material in the way of charts, maps, etc. The large green houses connected with Sage College adjoin the rooms of the department, and are filled with many exotics representing the Pteridophytes, Gymnosperms and Angiosperms, and offer available material at all seasons for studies in development, and histology, and furnish living plants for illustrative material for many of the lectures. Space is devoted to the study of plant growth, physiological experiments, and for the handling and treatment of greenhouse plants, the latter being in charge of the head gardner of the department. The department also contains a large and growing herbarium, as well as collections of fruits, cones, nuts, fibres, a general collection of economic products, and a large number of specimens of the woods of different countries.

Courses 1, 2, and 5 may be elected in the Freshman year. Those desiring to specialize in botany are advised to take courses 1 and 2 in the first year in order that there may be time to take the advanced courses necessary for specialization in the Junior and Senior years.

Students wishing to specialize in natural history are advised to elect elementary courses in botany, zoology, geology, chemistry and physics.

Courses Primarily for Undergraduates.

(Courses 1 and 2 form a continuous course through the year.)

1. **General Comparative Morphology and Physiology of Plants.** Credit, 3 hours first term, 1 hour second term. First half-year, and second half-year until March 23. A study of representative plants of various groups, and of the fundamental principles of plant life, relationship and evolution. Lectures, M., 11. Lecture repeated at 12 for students in Agriculture. Laboratory practice and demonstrations 1st section, T., 8-10, and 2-5; 2nd section, Wed. 11-1, or Th., 8-10, and 2-5. One forenoon and one afternoon session must be taken

each week. Students in agriculture register for Tuesday and Thursday; other students who cannot register in the Tuesday and Thursday morning section will register Wed., 11-1 and Thursday 2-5. Professor ATKINSON, Dr. DURAND and Mr. READE.

2. **Special Morphology, Taxonomy and Adaptation of Higher Plants.** Continues from course 1. Second half-year beginning March 25. Credit, 2 hours second term. Studies of typical plants representing the more general groups of angiosperms. Field excursions for the purpose of studying the local flora. Lectures, M., 11, and 12. Laboratory work in sections as in course 1. Professor ROWLEE, Dr. WIEGAND and Mr. READE.

3. **Organography and Identification of the Higher Plants.** A study of the kinds of plants with special reference to the morphology-identification, habitat and range of the species. Lectures, laboratory, and field work. In the fall and spring extra field work will be substituted for some of the lectures. Prerequisite courses 1 and 2. Lectures W., 9; Laboratory and field work T., P. M., and W., A. M., Dr. WIEGAND.

5. **Geographical Botany.** Second half-year. Lectures, S., 9. Laboratory exercises and excursions, F., 2-5 and S. The distribution of plants over the surface of the earth. Practical field studies in plant distribution; also the preparation of an herbarium representing the local flora. Photographs are used to illustrate the distribution of plants. Professor ROWLEE and Mr. SMITH.

6. **Exotics.** One or two hours. The conservatory in connection with the department offers excellent opportunities for students who wish to become familiar with practical methods in propagation and cultivation of conservatory plants and in practical greenhouse work. Mr. Shore, the expert gardener, will have charge of the instruction and practical work. Students desiring to take this course should consult Professor ATKINSON, who will have charge of conference and reports. Hours by appointment.

Courses for Undergraduates and Graduates.

These advanced courses may be elected in any order which the student chooses, the only prerequisite being courses 1 and 2. They are also open to graduate students.

Comparative Histology and Systematic Botany.

7. **Taxonomy and Phylogeny of Angiosperms.** Three hours through the year. Lectures. A study of the genetic relationships of the phanerogamous orders. Practical studies in the laboratory of groups illustrating the principles of natural classification. Labor-

atory work, Monday afternoon and Tuesday morning. Professor ROWLEE.

8. **Comparative Histology of Plants.** Three hours through the year. Introduction to methods of investigation. Studies of the vegetable cell, its multiplication and contents. The development of primary tissue. Kinds of tissue. Comparative study of vascular tissue. Secondary thickening. Lectures, F., 9. Laboratory work, Friday afternoon and Saturday morning. Dr. WIEGAND.

9. **Dendrology.** Three hours through the year. A biological and taxonomic study of trees, including field observations upon the native species, and laboratory investigations upon the structure and development of woody structures. Course 5 may advantageously precede this course. Lectures, T., 9. Professor ROWLEE and Mr. SMITH.

Not to be given in 1906-7, but offered in 1907-8.

Comparative Embryology, Mycology and Kindred Subjects.

10. **Comparative Morphology and Embryology.** Three hours through the year. A study of representative groups which illustrate the line of evolution of green plants. Especial attention will be given to tracing the development and homologies of sporogenous, reproductive and embryological organs, with discussions of the principal plant phyla. Permanent microscopic preparations will be made, representing series in the liverworts, mosses, ferns, gymnosperms, and angiosperms. In the fall the chief attention will be given to the Bryophyta, the winter will be devoted principally to the Pteridophyta, followed by the gymnosperms and angiosperms in the spring. The course is continuous, and because of the logical sequence of the subjects, must be taken in the order presented. Lectures, Th., 11. Laboratory work Monday and Wednesday afternoons. Students having conflicts on these afternoons can arrange for laboratory work on Saturday morning. Professor ATKINSON and Dr. DURAND. Prerequisites, courses 1 and 2.

11. **Mycology.** Three hours through the year. Special attention will be given to general classification, development, and plant pathology. The course is given as the basis for research in mycology and plant pathology. September until Christmas recess, Basidiomycetes; studies of representative genera of this large group, with especial attention to the structure and characters of edible and poisonous mushrooms, and wood-destroying and parasitic species. Christmas recess until June, especial attention to the Parasitic Fungi (Ustilagineae, Uredineae, Ascomycetes and Phycomycetes); the history and development of the most important parasitic fungi. Prac-

tice in the recognition of species, or research work may in some cases be taken as a parallel course by registering in course 14a. Lectures, T., 11; laboratory work Monday and Wednesday afternoons. Those having conflicts on these afternoons, can arrange for laboratory work on Tuesday morning. Professor ATKINSON and Mr. REDDICK. Prerequisites, courses 1 and 2.

12. **Taxonomy of the Pteridophytes, Bryophytes, and Algæ.** Three hours throughout the year. Lecture, one hour, Th., 12. Laboratory, two hours, Friday afternoon and Saturday morning. The laboratory work will consist of a study of typical genera, practice in taxonomy, and field work. Dr. DURAND.

Courses Primarily for Graduates.

(Primarily for graduates; but open to election by undergraduate students engaged in research.)

To those electing any of the graduate courses for an advanced degree the following general announcement applies. A four hour course is the minimum period and if the subject is chosen for a major study, or as a minor, for the master's degree, more time will be required.

Comparative Morphology and Embryology, Mycology, etc.

13. **Methods of research in morphology and embryology.** Not less than four hours. Each student will be assigned some problem for original research with special reference to sporogeny or embryology, and the morphology of the nucleus with reference to sporogenesis, spermatogenesis, oogenesis, and fertilization; or some problem in experimental morphology or hybridization. The research will be made the basis for acquaintance with methods, and a thesis embodying the results will be prepared. The work should follow course 10, but in special cases may be taken as a parallel study. When these subjects are chosen as a major or minor for an advanced degree they can be pursued for several years according to the needs of the case. Reports weekly. Hours by appointment. Professor ATKINSON and Dr. DURAND.

14. **Methods of research in mycology.** The problems will be assigned according to the needs and capabilities of the student. In general it will be found desirable to devote a first period to an independent survey of the group of fungi in the collection of material and in general taxonomic work on the same to acquire a practical knowledge in the placing of genera and species in the various groups. From this point research on some problem can be directed to some

monographic work, either in taxonomy, taking up one or more genera according to the number of species; or in development of a few species or in problems of plant pathology. The periods are arranged as follows, but are subject to change in special cases.

14a. **General taxonomic survey of the fungi.** Four hours through the year; or eight hours for the first half-year. Should follow course II, or in special cases may be taken as a parallel course. Hours by appointment. Professor ATKINSON and Mr. REDDICK.

14b. **Research in Morphology,** monograph of some genus or a limited number of genera; or some monographic study of development. Four hours through the year, and where the problem is selected as a major study more time will be required. In any case a thesis combining the results of the investigation will be required. Reports weekly. Hours by appointment. Professor ATKINSON.

14c. **Methods of research in plant pathology.** The student will be given practice in the methods of cultivation of the fungi for the purpose of familiarizing him with the manipulation in methods of separation, pure culture, and study of development, and will also be assigned some problem in plant pathology for investigation. Weekly conferences or lectures will be held and the history and present condition of the subject will be discussed.

Plant Physiology.

15. **Plant Physiology.** Not less than four hours, but when chosen as a major study, more time will be required. Problems will be assigned for investigation, dealing with the physical properties of growth; with nutrition; with the effects of stimuli and certain natural and environmental forces upon cell activities, plant growth, development, etc. Each student will be required to prepare a thesis embodying the results of his investigations. Prerequisite, courses I and 2, and in addition, one of courses 8, 10, or 11 (or an equivalent). Hours by appointment. Professor ATKINSON and Mr. EDGERTON. Weekly reports may be required.

Comparative Histology and Systematic Botany.

16. **Research in Taxonomy and Phylogeny of the Angiosperms.** Four or more hours. A monograph of some group which will include a comparative study of organs of taxonomic value, and also their development. Groups will be assigned for investigation preferably in the spring of the year before the course is to be taken up. Among the groups which may be taken up are the glume bearing monocotyledons (grasses, sedges, etc.), the amentiferous dicotyle-

dons, and the compositæ. Since different groups will be taken up in different years, students may pursue the work outlined in this course more than one year. Designed for those who have taken courses 7 and 8; in special cases, permission will be given to take these as parallel courses. Hours by appointment. Professor ROWLEE.

17. **Research in Comparative Histology and Cytology.** Not less than four hours. Special problems. (a) Comparative histology: the comparative histology of a series of organs, or the anatomy of an individual plant. (b) Cytology: the biology and structure of starch, plastids, and other cell contents; also nuclear division and cell formation, with special reference to tissue development. Intended to follow course 8, and may form the basis of a major or minor subject for an advanced degree. Professor ROWLEE and Dr. WIEGAND.

Botanical Seminars.

18. **Seminary in Embryology, Mycology, Physiology, etc.** Weekly seminars will be held in embryology, comparative morphology, mycology, physiology and related subjects. Discussions of current literature; and problems under investigation will form the basis for the seminary work. Required of all graduates and open to undergraduates who are interested in research and who are desirous of getting in touch with current botanical research. One hour. W., 4:30-5:30. Professor ATKINSON.

19. **Seminary of Comparative Histology and Taxonomy of the Angiosperms.** Weekly seminars will be held in these subjects. Readings and discussions of current literature; and problems under investigation, courses 16, 17, will form the basis for the seminary work. Required of all graduates, and open to all undergraduates who are engaged in research work. One hour. By appointment. Assistant Professor ROWLEE.

Courses in Botany Offered to Students of Other Colleges.

31. **Dendrology.** Special course for engineering students. The morphology and taxonomy of trees. The structure and development of wood. The qualities and use of woods. First half-year to Christmas vacation. Lectures, demonstrations and laboratory work, two hours per week. Section *a*, F., 2-4:30; section *b*, S., 9-11:30. Professor ROWLEE and Mr. SMITH. *Botanical Lecture Room.* The diseases of timber and forest trees. From Christmas vacation to the end of the term. Lectures, demonstrations and laboratory work. Hours are the same as above. Professor ATKINSON and Mr. REDDICK.

32. **Farm Botany.** A special course for students in the Short

Winter course in Agriculture. Special attention will be given to the life, growth, form and structure of plants showing the application of these principles to cultivated plants. Attention will also be given to diseases of cultivated plants. Lectures and laboratory practice. Assistant Professor WETZEL. Hours by appointment.

ENTOMOLOGY AND GENERAL INVERTEBRATE ZOOLOGY

The scope of the instruction in this department is indicated by the title of the department ; elementary courses are given in the general subject of invertebrate zoology, and special courses, both elementary and advanced in entomology. An opportunity is offered the student to lay a broad foundation for zoological studies by lectures covering in a general way the field of invertebrate zoology, and by a study in the laboratory of a wide series of typical forms, illustrating the more important groups of Invertebrates. These two courses taken in connection with similar courses offered by the Department of Neurology and Vertebrate Zoology afford the instruction in zoology needed by students in the general courses and serve as an introduction to the more advanced work of those who wish to make a special study of zoology.

Owing to the difficulty of studying marine animals at any place remote from a sea coast and to the exceptionally good facilities for the study of insects at this University, those students wishing to take advanced work in invertebrate zoology here are advised to select some subject in entomology, and especial encouragement is given to those students wishing to make original investigations in this field. An important feature of this department is a summer session consisting of lectures, field work, and laboratory practice, at the season of the year most favorable for the study of insects.

The Museum and Laboratory. The material equipment of the department for the study of General Invertebrate Zoology consists of a museum in which there is a good series of Invertebrates, including an excellent collection of corals and a very large collection of shells, the Newcomb Collection. The museum also contains the complete series of glass models of invertebrates made by Blaschka, the papier maché models of Auzoux, and a complete set of the zoological diagrams of Leuckhart. The laboratory is kept supplied with specimens of the typical marine forms studied by the students. These are supplied to the students at cost.

The entomological cabinet contains, in addition to many exotic insects, specimens of a large proportion of the more common species of

the United States. These have been determined by specialists, and are accessible for comparison. The collection includes many sets of specimens illustrative of the metamorphoses and habits of insects. The laboratory is also supplied with a large collection of duplicates for the use of students; and is equipped with microscopes and other apparatus necessary for practical work in entomology.

The insectary of the Agricultural Experiment Station affords facilities to a limited number of advanced students for special investigation in the study of the life history of insects, and for experiments in applied entomology.

Courses primarily for undergraduates.

1. **Invertebrate Zoology.** General course. First half of the first half-year. Credit, 2 hours. M., W., F., 10, *McGraw 5*. Professor COMSTOCK; and one practical exercise by the class in sections, 1st section, W., 2-4:30; 2d section, Th., 2-4:30; 3d section, F., 2-4:30 *McGraw 5*. Assistant Professors MACGILLIVRAY, RILEY and Mr. SHAFER.

This course is followed by course 2 in Vertebrate Zoology, which occupies the corresponding hours in the last half of the first half-year.

2. **Morphology of Invertebrates.** Comparative study of the anatomy of representatives of the principal groups of invertebrates. Special laboratory course. Laboratory open T., 8-5, Th., 8-1, *White 20*. Assistant Professor MACGILLIVRAY.

Course 2 is open only to students who have taken or are taking course 1.

3. **General Entomology.** Lectures on the characteristics of the orders, sub orders, and the more important families and on the habits of representative species. Second half year. Credit, 2 hours or 3 hours. M., W., 10 *McGraw 5*. Professor COMSTOCK; and one practical exercise in sections for those who have not had courses 4 and 5. W., Th., F., 2-4:30, *McGraw 5*. Assistant Professors MACGILLIVRAY, RILEY and Mr. SHAFER.

Course 3 is open only to students who have taken course 1.

4. **Elementary Morphology of Insects.** Laboratory work. Credit, 3 hours. Laboratory open M., T., 8-5, W., Th., F., 8-1, *White 20*. Assistant Professors MACGILLIVRAY and RILEY.

Course 4 should precede or accompany course 3.

5. **Elementary Systematic Entomology.** Laboratory work. Credit, 2 hours. Laboratory open M., T., 8-5, W., Th., F., 8-1, *White 20*. Assistant Professors MACGILLIVRAY and RILEY.

Course 5 is open only to students who have taken course 4, and are taking or have taken course 3.

Courses for undergraduates and graduates.

6. **Advanced Systematic Entomology.** Laboratory work. Credit, 3 hours. Laboratory open T., 8-5, Th., 8-1, *White 20*. Assistant Professor MACGILLIVRAY.

7. **Histology of Insects.** Laboratory work. Introductory course. Laboratory open M., 8-5; W., F., 8-1, *White 12*. Assistant Professor RILEY.

Course 7 is open only to students who have taken courses 4 and 5.

[10. **Classification of the Coccidæ.** A course designed to familiarize the student with the more injurious species of scale insects, the method of preparing specimens for study, and the systematic arrangement of the species. Lectures and laboratory work. Second half-year. T., 11-1, 2-5, *White 20*. Credit, 2 hours. Assistant Professor MACGILLIVRAY. Not to be given in 1906-7.

Course 10 is open only to students who have taken courses 4 and 5.]

11. **Morphology and Classification of the Arachnida.** Special laboratory course. Laboratory open M., T., 8-5; W., Th., F., 8-1, *White 20*. Professor COMSTOCK and Assistant Professors MACGILLIVRAY and RILEY.

12. **Morphology and Development of Insects.** Lectures and demonstrations. Second half-year. T., Th., 9, *White 12*. Credit, 2 hours. Professor COMSTOCK and Assistant Professor RILEY.

Course 12 is open only to students who have taken courses 1, 3, 4, and 5. Students are advised to take course 7 also before taking this course.

13. **Research in Entomology.** Advanced laboratory course. Special work arranged with reference to the needs and attainments of each student. Laboratory open daily ex S., 8-5, S., 8-1. *White 20*. Professor COMSTOCK, Assistant Professors MACGILLIVRAY and RILEY.

14. **Seminary.** The work of an entomological seminary is carried on by the *Jugatæ*, an entomological club which meets for the discussion of current literature and of the results of investigations. Attendance at the meetings may be counted as laboratory work, M., 4:30-5:30, *White 12*.

17. **Literature of Entomology.** A systematic study of bibliographies, indexes, and general entomological literature; the preparation of catalogues of insects; the evolution of the rules of zoological nomenclature; and the methods of determining the priority of generic and specific names. Lectures. Second half-year. Credit 1 hour. W., 9, *White 12*. Assistant Professor MACGILLIVRAY.

[18. **Embryology of Insects** Lectures and demonstrations. Second half-year, S., 9, *White 12*. Credit 1 hour. Assistant Professor RILEY.. Not to be given in 1906-7.

Course 18 is open only to students who have taken courses 1, 3, 4, and 5.]

Related Courses in Another College.

Economic Entomology Second half-year. T., Th., 10. See Agriculture, course 8.

Advanced Economic Entomology Throughout the year. By appointment. See Agriculture, course 9.

Materials for Nature-study with Insects. Throughout the year. By appointment. See Agriculture, course 15.

Elementary Economic Entomology. First half year. See Agriculture, course 16.

VERTEBRATE ZOOLOGY.

Courses 2 to 7 are open to Freshmen.

The laboratories and lecture rooms of the department occupy the entire north wing of McGraw Hall. The museum is in the central portion of the building on the main floor and in the first gallery.

Courses of Instruction. With all, practical work constitutes an essential feature. With Vertebrate Zoology and Neurology, certain exercises are in the form of practicums, the objects being studied by the students in groups under constant supervision and with explicit directions. In the other courses the laboratory work is adapted to the needs of the individual.

The Museum. In its formation there has been kept in mind constantly its main purpose as an aid to instruction, elementary and advanced. Merely curious, showy or costly specimens have not been sought. But efforts have been made to obtain from all parts of the world representative forms of the various vertebrate groups, and by means of carefully prepared specimens, to illustrate ideas, *e. g.*, the adaptation of structure to function; the persistence of apparently useless or injurious organs; the unity of type under diversity of external form and mode of life; the relationship of man to the apes, etc. The collection embraces an unusual number (more than 1500) of well-preserved and prepared brains of man and other vertebrates. The local fauna is already represented by about 250 species, of which 62 are fishes and about 150 are birds; it is believed that at least 350 different vertebrates inhabit the neighborhood of Ithaca.

The Vivarium. There is as yet no special provision for a zoologic garden, but living animals of moderate size and cost are kept in the

basement of McGraw Hall, and are accessible at all times to students and visitors. During 1899-1900 the forms were as follows: Monkey, cat, fox, raccoon, ferret, porcupine, mouse, squirrel, crow, pigeon, parrot; alligator, heloderma (*Gila monster*), serpents and turtles; frogs, salamanders and necturus; lake lamprey, amia, gar, stickleback, catfishes, perch, suckers, sunfish, etc. On the upper floor are maintained aquariums in connection with the course in Systematic and Economic Zoology.

Opportunities for Research. In addition to ordinary forms, there are readily obtained living necturus, amia, and two kinds of lamprey. Besides the museum specimens there are in store many entire vertebrates, particularly marsupials at various ages. The hearts of numerous forms have been prepared by injecting alcohol into their cavities. For the study of vertebrate brains and cerebral topography, unusual facilities are offered in both material and literature.

The following courses are offered in 1906-1907:

2. **Vertebrate Zoology.** Second half of the first term. Credit, 2 hours. Three lectures per week, Monday, Wednesday and Friday at 10. One practicum, the class in several sections at hours to be arranged. At the practicums are dissected representatives of the vertebrate classes including, in addition to more common forms, the shark, ray, lamprey and necturus; sections of the lancelet are studied under the microscope. Professor WILDER, Mr. SWAINE and Mr. FRASER.

Course 2 should be preceded by course 1 in Entomology and Invertebrate Zoology.

3. **Morphology of the Brain.** (Lectures only.) Second term Credit, 1 hour. One lecture, Thursday at 11. There are considered (a) the various types of vertebrate brain, beginning with that of the acanth shark (*Squalus acanthias*); (b) the development and morphology of the human brain; (c) its resemblances and peculiarities; (d) the cerebral fissures as criteria of zoölogic or racial affinity, as indexes of physical or mental quality or power, and as boundaries of functional areas. For the illustration of this course there are numerous diagrams representing actual preparations of the brains of man, apes, and other vertebrates. Specimens and models are freely employed; see course 3 a. Members of the class should arrange to remain during at least part of the hour following the lecture in order to examine the specimens. Professor WILDER. Course 3 should be preceded by courses 2 or 4.

3a. **Morphology of the Brain (practicums only.)** Second term. Credit, one hour. One practicum in two sections at hours to

be arranged on Friday, and on Saturday, 10-12:30. Beginning with the brain of the acanth shark, so far as practicable the forms examined parallel and supplement those discussed in Course 3. The actual dissections of mammalian brains are done on those of the cat and sheep, but each member of the class is enabled to study and draw museum specimens from many groups, including monkeys, apes, and men, prepared to exhibit special features. The neurologic division of the museum comprises about 1600 specimens distributed as follows: Human adults and children, 430; human embryo, fetal and at birth, 218; apes and monkeys, 292; other mammals, 420; other vertebrates, 240. Professor WILDER and Mr. SWAINE.

Course 3a should be preceded by courses 2 or 4, and preceded or accompanied by course 3.

4. **Anatomic Methods and Dissection of the Cat.** First term. Laboratory work with occasional lectures at hours to be arranged. Three or more hours. This course is designed for those who intend to teach physiology or zoology, or who, in preparation for a medical course, desire to give manipulative skill and familiarity with mammalian structure. Assistant Professor REED and Mr. WRIGHT.

[5. **Comparative Anatomy.** Second term. Credit, 3 hours. Lectures and laboratory work at hours to be arranged. The several systems of organs are considered in turn with reference to their structure, development, evolution and homology. Wiedershiem's "Vertebrates" is used as a text. Assistant Professor REED and Mr. WRIGHT.

Course 5 must be preceded or accompanied by at least one of the courses 2, 4 or 6.]

6. **Systematic and Economic Vertebrate Zoology.** Credit, three hours during the year. One lecture Mondays at 8 and five hours of laboratory and field work in two sections: A. Thursday 2-4:30 and Saturday 8-10:30; B. Friday 2-4:30 and Saturday 10:30-1. The lectures discuss the principles of classification and nomenclature, the characters and relationship of groups and the habits, life, histories and economic value of the common Vertebrates. As laboratory work representative species are examined with special reference to parts employed in classification. In the fall the fishes are studied, in the spring the birds, and the other classes in the winter. Assistant Professor REED, Mr. WRIGHT and Mr. FRASER.

Courses for Undergraduates and Graduates.

7. **Advanced Neurology.** Second term. Credit, two or more hours. Laboratory work and reading, with occasional lectures at hours to be

arranged. This course runs parallel with courses 3 and 3a, and permits those who are interested and have time to consider forms, problems and literature that cannot be included in them.

In case course 3 has been taken already, selected lectures may be reviewed and credit received for the actual time so spent. Professor WILDER and Mr. SWAINE.

Courses primarily for Graduates.

8. **Research and Theses.** Daily throughout the year. Professor WILDER, Assistant Professor REED and Mr. WRIGHT.

9. **Conference or Seminary.** Fortnightly throughout the year.

For all the courses the ability to draw free-hand and to read ordinary French and German will be found very useful. A year of Latin and Greek will greatly facilitate the interpretation of the technical terms that are so largely derived from those languages.

PHYSIOLOGY.

Courses are offered in elementary, experimental, and advanced Physiology, to students of medicine, biology, and to those preparing to teach physiology in the secondary schools. The Department is located in the east half of the second floor of Stimson Hall and is well equipped with laboratory and demonstration apparatus and appliances. The following courses are open to students in the College of Arts and Sciences. For courses open to students of medicine, see Medical College. For courses in Comparative Physiology, see Veterinary.

Courses primarily for Undergraduates.

3. **Elementary Human Physiology.** First term. Two lecture-quizzes and one laboratory period or demonstration per week. A general review of the physiology of the body. Designed for students who expect to teach physiology in the secondary schools and as an introductory course for students of the biological sciences. Credit, three hours. T., Th., 10, S., 10-12:30. Assistant Professor KINGSBURY.

5. **Laboratory Work in Physiology** First term, Five actual hours per week at times to be arranged. Laboratory work with a weekly quiz in the laboratory. Designed as a beginning course in practical physiology. Credit, 2 hours. Assistant Professor KINGSBURY and Dr. DRESBACH.

Courses for Undergraduates and Graduates.

9. **Experimental Physiology.** First and Second terms. Laboratory work. Five or more actual hours per week at times to be ar-

ranged. A selection of experiments designed for those who wish to gain a technical knowledge of physiology or a training in the experimental methods of work. Assistant Professor KINGSBURY and Dr. DRESBACH.

Courses primarily for Graduates.

7. **Research and Advanced Physiology.** First and Second terms. Eight or more actual hours laboratory work per week. Assistant Professor KINGSBURY and Dr. DRESBACH.

10. **Seminary.** One hour weekly during the first term. For the discussion of current literature and the presentation of original work. Credit, one hour.

Course 3 should be preceded or accompanied by course 2 or 4 in Vertebrate Zoology. It may with advantage be followed by course 2 in Histology and Embryology.

Course 5 should be accompanied or preceded by course 3 or its equivalent.

Course 9 must be preceded by courses 3 and 5 or their equivalents.

Course 7 must be preceded by course 1 or course 9 or their equivalents.

Course 10 may be taken in connection with courses 7 or 9.

HISTOLOGY AND EMBRYOLOGY.

This department offers instruction in the theory and use of the microscope and its accessories, in photo-micrography, in vertebrate histology, and vertebrate embryology; and opportunities for advanced work in all these subjects.

The material equipment consists of a good supply of modern microscopes, cameras lucidas, polariscopes, micro-spectroscopes, photo-micrographic cameras, and other special apparatus are in sufficient numbers to give each student opportunity for personally learning to use them, and for applying them to any special study in which they are called for. Two projection microscopes are available for class demonstrations and for wax plate reconstructions. The general and research laboratories are large and are equipped with microtomes, incubators, aquaria, etc. The collection of histologic and embryologic specimens is extensive and constantly increasing. Sets of typical specimens are available for study and comparison by the students.

The aim of the department is to bring the student into direct contact with the truths of nature, and hence, while there are lectures to give broad and general views, there is a large amount of laboratory work in which the facts are learned at first hand, and the methods and manip-

ulations necessary for acquiring the facts are practiced by each student. It is recognized that less ground can be covered in a given time in this way, but it is believed, and experience has confirmed the belief, that the intellectual independence and power to acquire knowledge direct from nature which is gained by this personal work is of far higher value than the facts and theories that might be learned in the same time from books and lectures alone, or from specimens prepared by some other individual.

This lake region with its rich and varied fauna is especially favorable for investigations in the histology and embryology of all the main groups of vertebrates; and the proximity of the abattoirs makes it possible to obtain material for the study of the development of the sheep, cow, and pig. The veterinary clinic and department of anatomy supply material for the embryology of the cat and dog. Every encouragement is given for the fullest utilization of these opportunities.

Courses primarily for undergraduates.

2. **Vertebrate Histology and Embryology.** Second term. Credit, 4 university hours (10 hours of work per week.) Lecture Tuesday, 10. Laboratory work by appointment.

This course is designed for students of biology and of medicine. Special attention is given to the elements of the subject and the methods of preparation, including serial sectioning and modeling. Professor GAGE.

For course 1, see the announcement in the Medical College.

Course 2 is not open to freshmen.

This course should be preceded or accompanied by work in zoology and very advantageously followed by courses 3 and 9 in physiology.

Courses for undergraduates and graduates.

4. **Advanced Work in Histology and Embryology.** Laboratory work eight or more actual hours per week with seminary throughout the year. This course is designed for those preparing theses for the baccalaureate or advanced degrees and for those wishing to undertake special investigations in histology and embryology. Professor GAGE.

Course 4 is open only to those who have taken course 1 or 2 or the equivalent in some other university. Drawing, and a reading knowledge of French and German are indispensable for the most successful work in this course.

Subjects for investigation should be decided upon as early as possible so that material in suitable stages of development and physiologic activity may be prepared.

7. **Seminary.** A seminary at hours to be arranged. At the seminary there will be presented reports of special methods and the results of advanced work. Professor GAGE.

8. **Structure, Development and Physiology of the Nervous System and the Organs of Special Sense.** Credit, 3 hours. Professor GAGE, Dr. KERR and Dr. KINGSBURY.

This course consists of three parts : (A) Gross Anatomy with special reference to medicine and surgery, Dr. KERR ; (B) Histology and Development, Professor GAGE ; (C) Physiology, Dr. KINGSBURY.

The instruction in each part consists of laboratory work, demonstrations or lectures and recitations. The gross anatomy, histology and development are given during the latter part of the first term, and are immediately followed by the physiology in the first part of the second term. This course is only open to students who have done work in human or comparative anatomy and have completed course 1 or 2.

NOTE.—For the work of this department the student will find a knowledge of Latin and Greek of the greatest advantage. A year's study of Latin, three to five recitations per week, and of Greek, Goodell's Greek in English, or Coy's Greek for beginners, would represent the minimum amount needed. For all courses, the ability to draw well freehand, and a good reading knowledge of French and German are desirable, and for advanced work almost indispensable.

GEOLOGY.

The Geological Department offers elementary instruction to undergraduates in Dynamic and Structural Geology ; Mineralogy, Crystallography and Petrography ; Economic Geology ; Paleontology and Historical Geology. Provision is also made for advanced instruction in these branches for undergraduates and graduates. For graduates, primarily, courses will be given on the methods of conducting geological surveys and geological mapping ; on the correlation and classification of formations ; and on evolution and the history of organisms.

In providing for graduate work special consideration has been given to the exceptional natural advantages offered by Ithaca as a place for geological research. The richly fossiliferous, paleozoic rocks, in the midst of which the University is situated, have become by the great series of paleontological reports of the state the standard formations for the geology of the Continent ; the Devonian system has been for

the last twenty-five years the subject of minute research and discussion by members of the United States geological survey, by state geologists and by private investigators who have brought it into international importance and have made its problems of the highest scientific interest; the territory immediately surrounding Ithaca is at the present time being thoroughly studied and mapped geologically, both by the government and state surveys; the trustees have made provision for securing standard collections representing the typical sections upon which the classification of these maps is based; the Devonian laboratory of the United States Geological Survey has been transferred to Ithaca by the authority of the Director of the Survey, and special provision has been made by the Trustees for its installment, care and use in McGraw Hall. The general collections of the Museum have been selected with special reference to making a working collection for students of Paleontology. The Newcomb collection of recent shells, and the large collections of Tertiary fossils collected by Professor Harris (and his own private collections of the same kind), furnish the finest kind of material for minute and thorough study of the zoological characters of such organisms which are less perfectly expressed by Paleozoic fossils.

These accumulated facilities, together with the exceptional advantages for zoological and botanical studies offered by other departments of the University, make it possible for the geological department to offer specially attractive courses for men wishing to fit themselves for teaching geology or for practical geological survey work, and for the higher fields of research work connected with the evolutionary history of organisms.

Students in this or other institutions wishing to take advantage of the facilities here offered should consult Professor Williams personally at his office in McGraw Hall, or by letter addressed to the Geological Department, Cornell University, Ithaca, N. Y.

General Geology. Courses of instruction are provided to cover the whole field of Geology in an elementary way for students who wish to acquire a general knowledge of the whole science, and as an introductory course for those intending later to specialize in one or other branches of the subject. These courses consist of lectures running through a single year, with appropriate laboratory practice and field excursions, supplemented by seminary work for those who elect it and special geological survey practice for those intending to fit themselves for teaching or practice.

Special instruction is arranged with ample collections and laboratory facilities in the branches of Mineralogy, Petrography, Crystal-

lography, dynamical and structural geology, practical and economic geology, stratigraphy and paleontology, and special courses for Civil Engineers and for Architects. The general course is adapted to the needs of students in the College of Agriculture.

Mineralogy and Petrography. In these branches both elementary and advanced courses are offered to students who have the necessary preliminary knowledge of chemistry and physics. The courses lead in two main directions: (a) toward an acquaintance with the properties, methods of investigation and uses of minerals and rocks; and (b) toward a knowledge of the characteristics of crystallized matter, and of the important relationship existing between crystallography and the sciences of physics and chemistry.

The laboratory rooms and museums are situated at present in McGraw Hall. They are well equipped with study collections, including the Benjamin Silliman, Jr., collection of minerals, and with apparatus for experiment and investigation. There is also material for original research.

Paleontology and Stratigraphic Geology. A special attempt is made to have all work, so far as is practicable, carried on after the manner of original research. This is rendered feasible by the fortunate location of the University, in the middle of the most important and classical State of the Union, so far as paleontology and stratigraphic geology are concerned.

A seemingly large proportionate amount of time is spent in field and laboratory, with a few recitations and lectures, thus giving the future teacher a knowledge at first hand of these important branches of geology as taught in secondary schools, and the future specialist precisely the knowledge and methods of work he will need in any university, state or national geological survey.

Stress is laid on the study of shells, for by means of them stratigraphy and the world's geological history are mainly interpreted. The large University collections of invertebrates, fossil and recent, mostly shells, have been rearranged and catalogued during the past few years, and now form a most valuable and indispensable aid to elementary and advanced workers. Among those most serviceable to students of older formations will be found: the Jewett collection, especially rich in New York Silurian species; local and practically complete Devonian faunas from Central New York; the Hartt type collection of Carboniferous fossils from Brazil.

Of late special attention has been given to Tertiary paleontology and geology, several field expeditions being sent into the Southern States, where deposits of this age occur. The enormous amount of

material so obtained when taken in connection with the Newcomb collection of recent shells (over 10,000 species) furnishes unparalleled opportunities for work in this branch of paleontology.

For the past four years the Professor of Paleontology and Stratigraphic Geology has been engaged in conducting a geological survey of the State of Louisiana. Winters have been spent in the field by several members of the department. The studying and reporting upon these Tertiary and younger formations necessarily occupies much time. Summers, however, have been devoted to the interests of a school of field geology, established by the department in the Helderberg mountains of Eastern New York. The type sections of New York's classic formations are visited and studied in detail by means of excursions by boats on the Hudson, Lake Champlain and Erie canal. The opportunity for original research in almost all the different horizons of the geologic scale can properly be styled exceptionally good.

Economic Geology. The courses of instruction are both required and elective. The former are for students in the colleges of architecture, forestry and civil engineering, and each course is adapted to special needs of the class taking it.

The elective work is intended to give the student a general knowledge of the occurrence and properties of the useful minerals and rocks, or to enable him to specialize along certain lines if he so desires. The lectures are supplemented by laboratory and field work, and occasionally longer excursions are taken, as to the coal regions of Pennsylvania, the mining regions of Michigan, etc.

The collection includes : (1) About 4,000 specimens of useful minerals and rocks, including ores (iron, copper, gold, silver, lead, zinc, etc.), building stones, coals, clays, cements, petroleum, etc., to which additions are constantly being made. In many cases the product in different stages of completion is exhibited with the raw material in order to show more clearly the use of the mineral or rock. These specimens are used in both the lecture and laboratory work. (2) A collection of about 1,200 lantern slides and several hundred photographs.

The department also has a laboratory in which either chemical work or fire tests can be carried on, there being for this latter purpose two furnaces capable of generating 3,300 degrees Fahrenheit of heat. These are useful for testing clays and building stones ; but the laboratory is especially well equipped with apparatus for clay investigation.

Students expecting to specialize in the field of Natural History will find it advantageous to elect elementary courses in Botany, Zool-

ogy, and Geology before specializing in either. Those intending to become geologists should take both *Elementary Chemistry* (*Chemistry No. 1*), and *Elementary Physics* (*Physics No. 1 or 2*), before the beginning of Junior year.

Courses Primarily for Undergraduates.

1. **Elementary Geology.** The two parts of this course together cover the general field of geology in an elementary way. Either part may be elected without the other. Both parts required of freshmen in Agriculture.

(a). **Dynamic and Structural Geology.** Three hours first half year. Lectures T., Th., 9, *Geological Lecture Room*. Laboratory and field work either M., T., Th., or F., 2-4:30. In addition it is necessary to have one free Saturday in the early fall for an all day excursion. Assistant Professor RIES and Mr. VAN ENGELN.

(b). **Historical Geology.** Three hours, second half of year. An elementary history of the earth's crust and its included organisms. T., Th., 9, *Geological Lecture Room*. Laboratory work to be arranged. One all-day excursion to Union Springs, two short excursions on the lake; a voluntary 2-day excursion to Niagara gorge. Assistant Professor HARRIS and Mr. ———.

Courses for undergraduates and graduates.

2. **Geological Seminary.** Two hours credit. Time to be arranged. Abstracts and discussions of the current literature on general and economic geology, and preparation of papers on special subjects. Primarily for graduates, but open to undergraduates who have had sufficient preparation. Assistant Professor RIES.

22. **Geological Surveying.** Two seminary and one lecture period per week. Credit four hours. Jan. 1 till end of year. A discussion of the mathematical principles necessary for stratigraphic and topographic field work, and practical training in the use of transit, level, plane table and aneroid barometer. Assistant Professor HARRIS and ———.

Mineralogy and Petrography.

Courses for undergraduates and graduates.

11. **Mineralogy.** Three hours, two lectures and one laboratory hour, throughout the year. Lectures, T., Th., 8; laboratory hours to be arranged. This course is for beginners, and is designed both as a general course in the subject, and as an introduction to more advanced work. Assistant Professor GILL.

12. **Crystal Measurement and Drawing.** Second half-year.

Two hours. Students in course 11 who intend to continue crystallographic work either in course 14 or course 17 are advised to take this course. Assistant Professor GILL.

13. **Determination of Minerals by the Blowpipe Method.** First half-year. One laboratory hour. Must be preceded by some course in Mineralogy. Assistant Professor GILL.

14. **Physical Crystallography.** First half-year. Three hours, two lectures and one laboratory hour. Must be preceded by course 11 or its equivalent. Especial attention is paid to the optical properties of crystals. Assistant Professor GILL.

15. **Petrography.** Second half-year. Three hours. This course, together with the preceding is intended to give an elementary knowledge of the determination of minerals and rocks under the microscope. Assistant Professor GILL.

16. **Seminary in Mineralogy and Crystallography.** One hour throughout the year. Devoted to the study of current literature and some of the more important classic writings. Assistant Professor GILL.

17. **Advanced or Special Work in Mineralogy and Petrography.** Adapted to the needs of the individual student. The work may be directed in the line of Crystallographic Measurements, Crystal Structure, Mineral Synthesis, Microchemical Methods or Petrographic Research. Assistant Professor GILL.

Paleontology and Stratigraphic Geology.

Courses primarily for undergraduates.

21. **Stratigraphic Geology.** Two laboratory or seminary, and one lecture periods per week. From Jan. 1 till end of year. Credit 4 hours. A review of the most important articles relating to the geology and paleontology of the minor sub-divisions of the geologic column, from the Archaean to the Pleistocene inclusive. Assistant Professor HARRIS and ———.

23. **Elementary Conchology.** Three periods a week. From Jan. 1 till end of year only. Credit two hours. Hours to be arranged.

24. **Field and Laboratory Work.** All special and advanced work is included under this heading. Hours various. Assistant Professor HARRIS and ———.

[27. **Organic Evolution.** A discussion of the evolutionary phenomena of organisms; the factors of evolution as formulated in the various theories of evolution; and the facts of evolution as expressed in historical paleontology. An introduction to the historical study of organisms. Two hours lectures, supplemented by reading Darwin's

"Origin of Species," on which written examinations will be held about once a month throughout the year, to count as a three hours course. M., W., 8, *Geological Lecture Room*. Professor H S WILLIAMS. (Not given 1906-7.)]

Courses 28 and 29 are advanced courses in special fields of Paleontology, designed for those wishing to fit for professional work as geologists or teachers.

28. **Invertebrate Paleontology.** Systematic study of the structure, mode of occurrence, geological range and geographical distribution of fossil organisms; and of their uses in determining time horizons and correlating geological formations. Chiefly laboratory work; hours to be arranged. Open to students who have had Geol. course 1, or its equivalent. Professor H. S. WILLIAMS.

Course Primarily for Graduates.

29. **Geological Evolution of Organisms.** Investigation of the evidences of evolution exhibited by selected groups of fossil organisms, with preparation of theses. Assignment of topics, methods and field of research to be arranged. Professor H. S. WILLIAMS.

Economic Geology.

Courses for Undergraduates and Graduates.

32. **General Economic Geology.** a. Two hours lectures throughout the year. M., W., 10. b. Laboratory, M., or T., 2-4 throughout the year. Students may take the lectures without the laboratory, but those who have the time should take both. A comprehensive course upon the origin, nature and distribution of the metallic and non-metallic products, with especial reference to those of the United States. Students taking this course should have had sufficient preparation in geology and mineralogy. *Economic Geology Laboratory*. Assistant Professor RIES.

Intended for students in geology, for those studying mining engineering and for students in inorganic chemistry.

34. **Clay Investigation.** Primarily for graduates. Laboratory work, field work and reading. In the laboratory are taught the different methods of testing clays for the purpose of determining their uses. Assistant Professor RIES.

Course Primarily for Graduates.

35. **Advanced Economic Geology.** Primarily for graduates. Open to those who have had course 32. This course, including laboratory work, field work and reading, will vary with the needs of the individual student. Assistant Professor RIES.

Courses given by the Geological Department to Students in Technical Courses.

Primarily for undergraduates.

(Under some circumstances the following courses may be elected by students in the College of Arts and Sciences.)

45. **Practical Geology and Mineralogy.** Civil Engineering. A single course counting as three hours throughout the year, composed of two parts. Lectures, (a) Elements of Mineralogy; first term until Christmas. Assistant Professor GILL, Mr. LEIGHTON and Mr. VON ENGELN.

(b) General principles of geology and their practical applications, treated with special reference to the needs of engineers. Christmas to end of second term. Assistant Professor RIES, Mr. LEIGHTON, and Mr. VAN ENGLN. Lectures, M., W., 11; Laboratory practice, (a) in Mineralogical Laboratory, *McGraw Hall*, (b) in Economic Geology Laboratory, *McGraw Hall*. Sect. I, M., 2-4:30; II, T., 2-4:30; III, W., 2-4:30; IV, Th., 2-4:30; V, F., 2-4:30.

46. **Clay Products and Building Stones.** Architecture. Required for architects. Open to elective students only by special permission. Second half-year. Two hours. Lectures, T., 9. Laboratory, W., 2-4:30. *Geological Lecture Room*. Assistant Professor RIES and Mr. LEIGHTON.

PHYSICAL GEOGRAPHY.

The introductory course covers the elements of physical geography by means of lectures, laboratory and field work. The topics treated are (1) the atmosphere (winds, storms, weather, climate); (2) the ocean; (3) the lands (plains, plateaus, mountains, volcanoes, earthquakes, glaciers, rivers, valleys, lakes); (4) the relation of man to his environment. This course is planned to serve both as a general culture course and as the basis for more advanced work. It covers the ground required of teachers of physiography in the better grade of secondary schools; but those who wish to teach this subject specially should pursue the subject further.

In the courses on the Geography of Europe and North America, the principles of physical geography are specifically applied, in the areas under consideration to an interpretation of the underlying geographical causes for the development of the countries.

The more advanced courses are distinctly professional and are intended to serve in the training of students for positions (a) in the secondary and normal schools; (b) in colleges and universities; (c) in the national geological survey; (d) in exploring expeditions.

The region round about Ithaca abounds in excellent and varied illustrations of physiography and glaciology. These are made use of in the elementary courses by means of conducted field excursions, and in the more advanced courses as the basis for research. For several years the head of the department has been engaged in a study of the physiography and glaciology of the central New York region for the United States Geological Survey, and some of the advanced students have assisted in this research. Besides field work near the University, expeditions are annually made to more distant points, such as Watkins Glen, Niagara Falls, and the anthracite coal fields of Pennsylvania. Now and then vacation expeditions are made, and advanced students are usually taken on these. For example, in 1896 a party of advanced students was taken to Greenland; in 1899 to Mt. Katahdin in Maine. in 1900 to Mount Marcy and the Ausable lakes in the Adirondacks; in 1905 to the Yakutat Bay region, Alaska; and in 1906 to the Malaspina Glacier and Mt. St. Elias region, Alaska. The last two expeditions were regular United States Geological Survey expeditions in charge of the head of the department.

Besides excursions in the field, students are given work in the laboratory, which is well equipped with topographic maps, models, and photographs. This indoor work, however, is done only in the winter months when field work is impossible. The following courses are offered in 1906-1907:

Courses primarily for undergraduates.

1. **Elementary Physical Geography or Physiography.** This course is divided into two parts, 1a, lectures, and 1b, laboratory and field work. 1a may be taken without 1b, though it is advised that the two be taken together.

1a. **Lectures.** Two hours, M., W., 9, *Geological Lecture Room*. Professor TARR.

A study of the origin and development of land forms and a briefer consideration of the atmosphere and oceans. The influence of physiography on mankind. Illustrated by maps, models and lantern slides.

1b. **Field and Laboratory Work.** One hour. Either M., T., or Th., 2-4:30, *Physical Geography Laboratory*. Professor TARR and Mr. BUTLER.

Field excursions to points near the University in fall and spring; indoor laboratory work in winter.

2. **Geography of North America.** Two hours, T., Th., 10, *Geological Lecture Room*. Professor TARR.

The physiographic features of North America and their influence upon the history and industrial development of the various sections. Illustrated by lantern slides, maps and models. After 1906-7, Course 1a will be required for admission to this course.

Courses 2 and 3 are given in alternate years.

[3. **Geography of Europe.** Two hours. T., Th., 10, *Geological Lecture Room.* Professor TARR.

The physiographic features of Europe and their influence upon the history and industrial development of the several nations. Illustrated by lantern slides, maps and models.

After 1906-7 Course 1a will be required for admission to this course.]

Courses 2 and 3 are given in alternate years. Course 3 is omitted in 1906-7.

4. **Glacial Physiography.** Three hours. Second half-year. Lectures, T., Th., 9. Field work after Easter recess. W., 2-5, and two all day Saturday excursions. *Physical Geography Laboratory.* Professor TARR and Mr. BUTLER.

A study of existing glaciers and the records of ancient glaciation. Illustrated by lantern slides.

Open to students who have passed Course 1 or its equivalent.

Courses for undergraduates and graduates.

5. **Advanced Physiography.** Three hours. Lectures, conferences and excursions. W., 2-5, *Physical Geography Laboratory.* Professor TARR and Mr. BUTLER.

A study of special topics of physiography in the laboratory or the field.

Open to students who have passed Courses 1a and 1b and either 2, 3 or 4.

[6. **Experimental Physiography.** Experiments by the individual students upon the origin and development of land forms. Credit variable, depending upon nature and amount of work, but in no case less than two hours throughout the year or four hours for a single term. Open to undergraduates by special permission. Professor TARR.]

Courses primarily for graduates.

7. **Seminary.** Two hours. Preparation and reading of report upon special subjects, particularly upon investigations in the field. Abstracts and discussions of the current physiographic literature. Open to undergraduates by special permission. M., 4:30-6. Professor TARR.

8. Physiographic Investigation. Field and laboratory work with reading, conferences, excursions and the presentation of reports. Original investigation based upon field work is undertaken by each student. Professor TARR. Credit variable.

MILITARY SCIENCE AND TACTICS.

All candidates for a degree in a four-year course pursued at the University in Ithaca, must, in addition to the scholastic requirements for the degree, take for two years three actual hours a week of physical training, and all candidates for a degree in a three-year course must take for one year three actual hours a week of such training. This work must be under University supervision and be completed at the beginning of the junior year, that is, two years prior to graduation.

Men in four year courses must take the first year of this work, unless properly excused, in the Department of Military Science and Tactics, in accordance with the requirements of the War Department. They shall take the second year either in that department or in the Department of Physical Culture as they may elect, and men in the first year of three year courses shall have the same election.

Women must take all of this work in the Department of Physical Culture.

Students in the New York State Veterinary College are temporarily exempt from the above requirements.

Any member of the Cornell University Cadet Corps who has satisfactorily performed all the duties required for the first year, and who is qualified therefor, may be selected by the Commandant for appointment as a commissioned officer, and when appointed by the President of the University and confirmed by the University Faculty, will be commissioned accordingly. Upon the performance of his duties as a commissioned officer in the sophomore, junior or senior year, and provided he has completed the course in military science, he is entitled at graduation to receive a certificate of military proficiency.

Upon the graduation of each class, the names of such students as have shown special aptitude for military service will be reported to the Military Secretary of the Army and to the Adjutant General of the State of New York, and the names of the three most distinguished students in military science and tactics will be inserted in the Official Army Register, from the Headquarters of the Army.

The Cadet Lieutenant Colonel, Cadet Major, Cadet Adjutant, Cadet Captain of the Signal Detachment, Cadet Captain the of Artillery Pla-

toon, and six Cadet Captains of Infantry (11 in all) are carried as Assistants in the Department of Military Science and Tactics. The Cadet Lieutenant Colonel, Cadet Major, and Cadet Adjutant, if Seniors, are exempt from tuition.

1. **Infantry Drill.** School of the soldier. School of the company. School of the battalion and ceremonies. First term until Christmas recess and second term after Easter recess. M., W., F., 4:45. Captain BARTON.

2. **Artillery Drill, for selected detachment.** School of the battery, dismounted. Sabre exercises. First term until Christmas recess and second term after Easter recess. M., W., F., 4:45. Captain BARTON.

3. **Signal Drill, for selected detachment.** Instruction in Flag Signaling, Telegraphy, and the use of the Military Heliograph. First term until Christmas recess and second term after Easter recess. M., W., F., 4:45. Captain BARTON.

4. **Small Arms Firing Practice.** For volunteers only. Theoretical instruction. Position and aiming drills and gallery practice. First term until Christmas recess. Daily except Saturday and Sunday, 12 to 1, *Armory*. Range practice, 100, 200 and 300 yards. Second term after Easter recess. T., Th., and Sat., 2 to 5. Captain BARTON and Assistants.

The marksman's badge, presented by the University, will be conferred on each student qualifying as marksman; a bar to be added for each subsequent qualification.

5. **Litter Drill and Instruction in First Aid to the Wounded.** A hospital detachment, composed mainly of students intending to enter the Medical profession, is attached to the infantry battalion.

6. **Theoretical Work.** Christmas recess to Easter recess. Recitations by company, in Infantry Drill Regulations, Manual of Guard Duty and Small Arms Firing Regulations. M., W., F., 4:45, Captain BARTON and Captains of the Cadet Corps. Supplemented by lectures to be announced. Captain BARTON.

Elective Courses.

7. **Military Science.** (For students in 2nd, 3rd, or 4th year. Lectures and text book. Christmas recess until Easter recess. Credit, 1 hour each term. T., Th., 12-1. Captain BARTON.

8. **Elective Drill.** Students of the sophomore, junior and senior classes may elect drill. Credit, 2 hours.

The military band is supported by the University. A director, band instruments and uniforms are provided. Members of the band are members of the Cadet Corps.

PHYSICAL CULTURE.

For the physical training and development of male students there has been provided a Gymnasium, thoroughly equipped with baths, dressing rooms, and all the apparatus usually found in a well-furnished gymnasium. This is under the charge of the Professor of Physical Culture and Director of the Gymnasium, who with the assistance of an experienced physician examines every male student at his entrance and at stated intervals thereafter, learns the condition of his health, takes his physical measurement, and prescribes such exercise as may be required for his complete and symmetrical bodily development. The gymnasium is also open to all the members of the University for voluntary exercise ; but the Professor of Physical Culture or the Instructor in Gymnastics is in constant attendance, and no student is suffered to indulge in hazardous or excessive athletic efforts, or to attempt any feat which in his individual case is likely to be attended with risk.

Special provision has also been made for the physical training of women in the Sage College Gymnasium. The department has organized a system of exercise calculated to maintain and develop the physical strength of young women, and at the same time prevent any of the evils which might arise from exercises that are too violent or too long continued. The exercises thus provided for are obligatory upon all members of the freshmen or sophomore classes, subject to exceptions in particular cases by the committee in charge.

The building erected for the purpose of the GYMNASIUM AND ARMORY is situated at the extreme southern end of the campus. The main portion is of brick, one hundred and fifty feet long, sixty feet wide and fifty feet high. The Annex joining the main hall on the south, is a three-storied building, having an area of seventy-four by eighty feet. The main building, with the exception of a small portion that is set apart for an office and a military store-room, is used for gymnastics and military drill. This contains the arms and equipment of the cadet corps, and a carefully selected supply of the most improved gymnastic apparatus and appliances for both individual and class work. The hall is heated by steam and lighted by electricity, and gives a clear space of floor room in the gymnasium of one hundred and thirty-five by sixty feet. The Annex contains the offices of the Department of Physical Culture, examination room, bath rooms, swimming bath, lavatory, closets, general repair room, baseball batting cage, crew practice room, and dressing-rooms which contain locker accommodations for about one thousand students.

Athletics. The Cornell Athletic Association, composed of repre-

representatives from the trustees, faculty, and student athletic organizations, was incorporated in June, 1889. A standing committee on student organization, has also been appointed from the faculty. It is hoped that the coöperation of these various interests, and the existence of a permanent organization, may tend to produce a greater steadiness in the management of athletics, and permit of some continuity in the transmission of athletic methods and traditions.

The athletic ground called Percy Field, after the son of one of the donors, was secured and equipped for out-of-door sports by the joint gift of Mr. J. J. Hagerman and Mr. W. H. Sage. The field has an area of nearly ten acres, including a quarter-mile cinder track, the Witherbee Memorial club-house, and a grand stand seating about twelve hundred persons, and is arranged for football, baseball, tennis, and general athletics.

Fifty-five acres of land adjoining the University campus have been set aside by the trustees of the University for a new University Playground and Athletic Field, the construction of which has already been taken by the Alumni.

All candidates for a degree in a four year course pursued at the University in Ithaca must, in addition to the scholastic requirements for the degree, take for two years three actual hours a week of physical training, and all candidates for a degree in a three year course must take for one year three actual hours a week of such training. This work must be under University supervision and be completed at the beginning of the Junior year, that is, two years prior to graduation.

Men in four year courses must take the first year of this work unless properly excused, in the Department of Military Science and Tactics, in accordance with the requirements of the War Department. They shall take the second year either in that department or in the Department of Physical Culture as they may elect, and men in the first year of three year courses shall have the same election.

Women must take all of this work in the Department of Physical Culture.

Students in the New York State Veterinary College are temporarily exempt from the above requirements.

Physical Examinations. Required of all regular undergraduate students entering the University this year, and at the beginning of each athletic season for all men who are to train for athletic competition in Class or University contests. Make special appointment at Gymnasium Office. Dr. HATHAWAY and Assistants.

No student unable to swim and not excused because of physical disability, will be given credit for work done in this Department.

Gymnasium Classes. Classes will be held in the gymnasium from four to four forty-five and from five to five forty-five P. M. daily, except Saturday, throughout the year.

1. **Physical Exercises.** For Freshmen, who in the judgment of the Director are physically unfitted for required Military Drill, and those who are allowed to substitute work in the department in place of Military Drill. The work consists of class and squad work indoors and out, exercises prescribed for individual deformity or immaturity, or of work prescribed in one of the various branches of athletics under the supervision of the Department. Three days each week as prescribed except S. at hours to be arranged. Professor YOUNG and Assistants.

2. **Physical Exercises.** For Sophomores who elect work in the department as part of the required work in Physical Training. Work and hours same as in Course 1.

3. **Physical Exercises.** Elective for Juniors and Seniors. The work consists of prescribed exercises, of class and squad work indoors and out, or of work in one of the various branches of athletics under the supervision of the Department. Three hours per week throughout the term at hours to be arranged. Professor YOUNG and Assistants. Credit, 1 hour toward graduation for students taking courses in Arts, Mechanical Engineering and Agriculture.

4. **Advanced Gymnastics.** Open to those already proficient in apparatus work, and desiring special instruction. Mr. FRAZER.

5. **Leaders' Class.** Selected from students who have had previous training, and who will be excused from part of the required work for rendering assistance as squad leaders. Professor YOUNG.

6. **Hygiene.** Announcement of lectures to be given in this course to be made later. Open to all students in the University.

Special Medical Advice, or re-examination of old students daily 12-1 M. and 4-6 P.M. throughout the year. *Gymnasium Office.* Dr. HATHAWAY.

Instruction will be offered by the Department in Boxing, Wrestling and Fencing, for which a fee of \$5.00 a term will be charged. Payments are to be made at the Treasurer's Office, the receipt for which will entitle the holder to 3 lessons per week. Work in these branches can be counted toward the required work of Freshman and Sophomore years, or work for which credit is given in the Junior and Senior years. Hours for boxing can be arranged with Mr. BAKER, for wrestling with Mr. FRAZER, and for fencing with Mr. GELAS.

THE COLLEGE OF LAW.

FACULTY.

JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President.

ERNEST W. HUFFCUT,¹ B.S., LL.B., Director of the College, Dean of the Faculty, and Professor of Law.

FRANCIS M. FINCH, A.B., LL.D., Professor Emeritus, and Lecturer on the History and Evolution of the Law.

WILLIAM A. FINCH, A.B., Professor of Law.

EDWIN H. WOODRUFF,² LL.B., Professor of Law.

FRANK IRVINE, B.S., LL.B., Professor of Practice and Procedure.

WILLIAM L. DREW, B.S., LL.B., Professor of Law.

FREDERICK D. COLSON, B.L., LL.B., Instructor in Procedure.

JOSEPH W. BINGHAM, A.B., J.D., Acting Assistant Professor of Law.

JUDGE ALFRED C. COXE, A.M., (United States Circuit Judge), Lecturer on the Law of Shipping and Admiralty.

ALBERT H. WALKER, LL.B., (of the New York Bar), Lecturer on the Patent Laws of the United States.

JUDGE ROYAL A. GUNNISON, LL.B., (United States District Judge, Alaska), Lecturer on the United States Bankruptcy Act.

WILLIAM H. HOTCHKISS, A.B., (Referee in Bankruptcy, Buffalo), Lecturer on the United States Bankruptcy Act, 1905-1906.

ALEXANDER H. R. FRASER, LL.B., Librarian.

[Inquiries as to acceptance of certificates should be addressed to The Registrar, Cornell University, Ithaca, N. Y

Address all other communications to The Dean of the College of Law, Cornell University, Ithaca, N. Y.

Do not address letters upon official matters in the name of individuals.]

¹ Absent on leave, second term, 1906-07.

² Absent on leave, first term, 1906-07.

ADMISSION TO THE COLLEGE.

Two Courses. There are two different courses offered in the College,—one of three years and one of four years,—and the requirements for admission to these two courses are not identical. Applicants who have not had at least two years of college work leading to an A.B. degree, or some equivalent degree, are advised to prepare for the four-year law course.

Admission to the Three-Year Course. Applicants for admission to the first-year class of the three-year course must be at least eighteen years of age, and must have had a previous education at least equivalent to a high school course. The educational requirements may be satisfied by the presentation of certificates, or by examination, as follows :

A. ADMISSION ON DIPLOMA OR CERTIFICATE. The following applicants will be admitted to the first-year class of the three year course without examination, upon the presentation of satisfactory certificates or diplomas :

(1) graduates of universities and colleges, or students who have met the entrance requirements and satisfactorily completed one year of study in any university or college of approved standing ; or

(2) holders of an academic diploma, or any 60-count¹ academic certificate, issued by the Education Department of the State of New York ; or

(3) graduates of high schools and academies of approved standing in a course of not less than four years, or, if less than four years, including the examination subjects required for admission to the College, or their substantial equivalents, and, in either case, recommended by the principal of the high school or academy issuing the certificate or diploma for admission without examination.

Applications for admission on a diploma or certificate issued by a public or private high school or academy must be sent in advance to the Registrar of the University by the principal of the school issuing the diploma and not by the candidate himself, and must be accompanied by full and specific information with regard to the course of study, the time given to each subject and the amount of work covered in each subject. When a catalogue or circular is issued by the school this should also be filed with the application. Blank forms of certificate may be obtained of the Registrar.

¹ Up to June, 1906, a year's high school work of 15 lessons a week has earned 12 Regents' counts; after that date a year's high school work of 18 lessons a week will earn 18 Regents' counts, and the 60 count certificate will be increased by 6 counts for each year thereafter. When the transition to the new system is complete the old 60 count certificate will be a 90 count certificate.

Applicants for admission on diploma or certificate who for any reason submit themselves to examination in any subject required for admission on examination and fail or are conditioned, will not be regarded as in full standing until such deficiency is made good ; and no one taking the examination in English and found seriously deficient will be admitted.

B. ADMISSION ON EXAMINATION. Applicants for admission to the three-year course who do not present one of the above certificates are required to pass a satisfactory examination in four Elementary Subjects (English, Plane Geometry, Elementary Algebra, and one of the four divisions of History), and also in any combination of Advanced Subjects aggregating 30 units.

(i) *Elementary Subjects (see above) :*

English	History (one required):
Plane Geometry	Ancient (to 814 A.D.)
Elementary Algebra	Mediæval and Modern European (from 814 A.D.)
	American (including Civil Government)
	English.

(ii) *Advanced Subjects (30 units required)*

Mathematics (6):—	Latin (18):—
Solid Geometry (2)	Latin Grammar and Cæsar (6)
Advanced Algebra (2)	Latin Composition and Cicero (6)
Plane Trigonometry	Virgil (6)
Spher. Trigonometry } (2)	Greek (12):—
German (12):—	Greek Grammar and Xenophon (6)
Elementary German (6)	Greek Composition and Homer (6)
Advanced German (6)	Physics (6)
French (12):—	Chemistry (6)
Elementary French (6)	Botany (6)
Advanced French (6)	Geology or Physiography (6)
Spanish (12):—	Zoology (6)
Elementary Spanish (6)	Drawing (6)
Advanced Spanish (6)	

Admission to the Four-Year Course. Applicants for admission to the first-year class of the four-year course must be at least seventeen years of age and must offer the Elementary Subjects and also 30 units

from the list of Advanced Subjects (other than drawing) arranged in one of the following groups :

A. Latin (18), Greek (12); *or*

B. Latin (18), and either German (12), or French (12), or Spanish (12); *or*

C. *One* of the following : Mathematics (6), Physics (6), Chemistry (6), Botany (6), Geology or Physiography (6), Zoology (6), and also *two* of the following : German (12), French (12), Spanish (12).

College, Regents' and school certificates or diplomas (see p. 53), may be offered in lieu of examinations in these subjects, but they must cover the Elementary Subjects and one of the groups (*A*, *B* or *C*) of the Advanced Subjects. School certificates are not accepted for English ; and Regents' certificates in English must cover the subjects as stated on page 38.

All students preparing for admission to the College of Law are strongly advised to meet the above requirements whether intending to pursue the three-year or the four-year course.

Admission to Advanced Standing. Applicants for admission to advanced standing as members of the second-year class of either course must be one year older than for admission to the first-year class of that course, must meet the educational requirement specified for admission to the first-year class, and must pass a satisfactory examination in all the law work of the first year. Examinations upon all the subjects of the first year are given at the University in September, beginning Tuesday of registration week. (See Calendar.)

Admission as Special Students. Applicants who are twenty years of age may, in the discretion of the Faculty, be admitted to the College as special students not candidates for a degree, provided they present the New York Regents' law student certificate, or a substantial equivalent. This privilege will be granted only upon written application specifying the age of the applicant, the amount of preparatory study, or of previous law study, and accompanied if practicable with certificates from the preparatory school, law school, or attorney, under whose direction such studies have been pursued. New York students will not be admitted as special students unless they present a Regents' law student certificate. Applicants are advised to correspond with the Dean of the College before presenting themselves in person. Special students may be admitted as candidates for a degree if they satisfy the entrance requirements before the beginning of their second year in the College.

Admission of Students from the College of Arts and Sci-

ences. Seniors in good standing in the College of Arts and Sciences of the University are allowed, with permission of the Faculty of Arts and Sciences and with the consent of the Faculty of Law in each case, to take all or any part of their work in the College of Law and count it towards graduation in both colleges. Under this provision a student may complete a course for the degree of A.B. and for the degree of LL.B. in six years.

COURSES OF INSTRUCTION.

There are two courses of instruction : one extends through three years of nine months each ; the other through four years of nine months each. The object of the College is to afford a thorough training in the fundamental principles of Anglo-American law, both the substantive law and the law of procedure. Instruction is carried on by the study of selected cases, text-books and synopses, by lectures and exposition, and by colloquy and discussion. In addition to the courses given by the resident Faculty, provision is made each year for courses of lectures and for single lectures by eminent specialists in the profession.

THE THREE-YEAR COURSE.

This course includes only subjects in law and affords the student only a limited opportunity for electing studies in the College of Arts and Sciences. It is the typical law school course covering all the main topics of the law in preparation for the active practice of the profession.

Tabular Outline.

<i>First Year.</i>	No.	Course.	1st Term.	2d Term.
Contract -----	1a		4	2
Agency -----	1b		-	2
Torts (including Master and Servant) -----	2		3	3
Criminal Law and Procedure -----	3		4	-
Real Property -----	4		3	3
Civil Procedure -----	5		-	4
Brief Making -----	6		1	1
<i>Junior Year.</i>	No.	Course.	1st Term.	2d Term.
Sales -----	20		3	-
Suretyship -----	21		-	3
Probate Law -----	22		3	-
Equity Jurisdiction and Trusts -----	23		3	3
Insurance -----	24		2	-
Domestic Relations and Persons -----	25		-	2
Evidence -----	26		-	3
Civil Procedure -----	28		3	-
Procedural Papers -----	28a		-	3
College Court -----	29		1	1

<i>Senior Year.</i>	No.	Course.	1st Term.	2d Term.
Property	30		-	4
Partnership	31		3	-
Corporations	32		-	4
Quasi-Contracts	33		2	-
Carriers	34		-	2
Bills, Notes and Checks	35		2	-
Constitutional Law	36		-	2
Civil Procedure	37		4	-
Practice Court	41		1	1
Conveyancing	38		2	-

First Year.

Boardman A.

1. a. **Contract.** Four hours until the Easter recess. Huffcut's Anson on Contract (2d ed.); Huffcut and Woodruff's American Cases on Contract (2d ed.), T., W., Th F., 9. Professors HUFFCUT and WOODRUFF.

1. b. **Agency.** Four hours after the Easter recess. Huffcut's Agency (2d ed.), Huffcut's Cases on Agency. T., W., Th., F., 9. Professor WOODRUFF.

[Contract and Agency constitute a continuous course and registration must be for the entire year.]

2. **Torts (including Master and Servant).** Three hours. Ames's and Smith's Cases on Torts, 2 vols.; Huffcut's Agency (2d. ed.), Book II. M., W., F., 10. Assistant Professor BINGHAM.

3. **Criminal Law and Procedure.** First term. Four hours. Beale's Cases on Criminal Law; Beale's Criminal Pleading and Practice; New York Penal Code and Code of Criminal Procedure. T., W., Th., F., 11. Professor DREW.

4. **Real Property.** Three hours. Finch's Cases on the Law of Property in Land. T., Th., S., 10. Professor W. A. FINCH.

5. **Civil Procedure.** Second term. Four hours. Introductory lectures on the relation of procedure to substantive law, and the development of the reformed procedure. New York Code of Civil Procedure, first five chapters, and selected cases on topics included therein; Common Law Pleading. T., W., Th., F., 11. Professor IRVINE.

6. **Brief Making.** One hour. Finding and collating of authorities and preparation of briefs. M. 9. Mr. COLSON.

Junior Year.

Boardman C.

20. **Sales.** First term. Four hours. Burdick on Sales; Burdick's Cases on Sales. M., W., F., 10. Professor W. A. FINCH.

21. **Suretyship.** Second term. Three hours. Ames's Cases on Suretyship. M., W., F., 10. Professor DREW.

22. **Probate Law.** First term. Three hours. Wills and Administration and Surrogate's Practice. Statutes, codes and selected cases. T., Th., S., 9. Mr. COLSON.

23. **Equity Jurisdiction and Trusts.** Three hours. Ames's Cases on Equity Jurisdiction ; selected cases on Trusts. T., Th., S., 10. Assistant Professor BINGHAM.

24. **Insurance.** First term. Two hours. Woodruff's Cases on Insurance. T., Th., 11. Professor HUFFCUT.

25. **Domestic Relations and the Law of Persons.** Second term. Two hours. Woodruff's Cases on Domestic Relations and the Law of Persons. T., Th., 11. Professor WOODRUFF.

26. **Evidence.** Second term. Three hours. ———'s Cases on Evidence. M., W., F., 9. Professor IRVINE.

28. **Civil Procedure.** First term. Three hours. New York Code of Civil Procedure, chapters 6 and 8 inclusive ; and selected cases. The preparation of pleading and motion papers by every member of the class, on hypothetical statements of facts, is part of the required work ; the form, sufficiency, etc., of the pleadings submitted being discussed in the class room. M., W., F., 9. Professor IRVINE and Mr. COLSON.

28a. **Procedural Papers.** Second term. Two hours. Courses 22 and 28 continued with preparation of papers. T., Th., S., 9. Professor IRVINE and Mr. COLSON.

29. **College Court.** One hour. Arguments in Club Courts upon agreed statements of facts. A member of the Faculty presides at each argument. Hours to be assigned.

Senior Year.

Boardman B.

30. **Property.** Second term. Four hours. Tiffany on Real Property ; Finch's Cases on the Law of Property in Land, and other selected cases. M., W., F., 10, Th., 11. Professor W. A. FINCH.

31. **Partnership.** First term. Three hours. Burdick on Partnership ; Burdick's Cases on Partnership. M., W., F., 9. Professor DREW.

32. **Corporations.** Second term. Four hours. Smith's Cases on Private Corporations. T., W., Th., F., 9. Professor DREW.

33. **Quasi-Contracts.** First term. Two hours. Woodruff's Cases on Quasi-Contract. T., Th., 9. Assistant Professor BINGHAM.

34. **Carriers.** Second term. Two hours. McClain's Cases on Carriers. M., 9, F., 11. Professor WOODRUFF.

35. **Bills, Notes and Checks.** First term. Two hours. Hufcut's Statutes, Cases and Authorities on Negotiable Instruments. M., W., II. Professor HUFFCUT.

36. **Constitutional Law.** Second term. Two hours. McClain's Cases on Constitutional Law. M., W., II. Assistant Professor BINGHAM.

37. **Civil Procedure.**¹ First term. Four hours. New York Code of Civil Procedure, chapters 9 to 17 inclusive with selected cases on topics included therein. Preparation of papers, on hypothetical statements of facts, in the actions and special proceedings the procedure in which is regulated by the chapters above mentioned, is part of the required work. T., W., Th., F., IO. Professor IRVINE and Mr. COLSON.

38. **Conveyancing.** First term. Two hours. This course includes conveyancing and special actions concerning real property. T., Th., II. Mr. COLSON.

41. **College Court.**¹ One hour. This is supplementary to the course in Procedure, and is presided over by the Professor of Procedure as judge. Cases are prosecuted and defended by the members of the class as attorneys on hypothetical statements of facts. Process is served, pleadings are drawn, motion papers are prepared and motions argued, and cases are tried, all as nearly as may be in conformity with the procedure in the Supreme Court of the State of New York. M., IO. Professor IRVINE.

Special Courses of Lectures.

History and Evolution of Law. *Professor F. M. Finch.*

The Patent Laws of the United States. *Mr. Walker.*

The Law of Shipping and Admiralty. *Judge Coxe.*

[The above two courses are given in alternate years.]

The Federal Bankruptcy Act. *Judge Gunnison.* (Given in 1905-06 by *William H. Hotchkiss, Esq.*)

Special Lectures.

During the past year the following special lectures have been given before the College of Law:

The Lawyer in Public Duties. *Hon. W. W. Goodrich,* former Justice of the Supreme Court of the State of New York.

¹ Seniors not taking New York Bar Examinations may substitute an equivalent in Arts and Sciences, to be approved by the Dean, for these New York practice courses. No time certificate for New York Bar Examination will be given to those making such substitution. Credit in the substituted subjects is necessary for graduation.

The Law Department of a Railroad Company. *Ira A. Place, Esq.*, General Counsel of the New York Central and Hudson River Railroad.

A Lawyer's View of the Question, Why one is obliged to keep his word? (Contractual Obligations). *Hon. Hampton L. Carson*, Attorney-General of the State of Pennsylvania.

Trial and Appellate Work. *Hon. Alfred Spring*, Justice of the Supreme Court of the State of New York.

The Ethics and Practice of Law. *Hon. P. Ramanathan*, Solicitor-General of Ceylon.

Modern Conditions of Metropolitan Legal Practice (two lectures). *Henry W. Sackett, Esq.*, of the New York Bar.

THE FOUR-YEAR COURSE.

This course includes the same law subjects as the three-year course and in addition the equivalent of one year's work in the College of Arts and Sciences. It is designed to afford to law students an opportunity to pursue some of the courses in History, Political Science, Political Economy and Finance, which have a direct bearing upon the history and the business aspects of law. The major part of the electives must be chosen from the courses in History and Political Science.

Tabular Outline.

<i>First Year.</i>	No. Course.	1st Term.	2d Term.
Contract	1a	4	2
Agency	1b	-	2
Torts (including Master and Servant).....	2	3	3
Property	4	3	3
Electives (College of Arts and Sciences)...	-	5-6	5-6
<i>Second Year.</i>	No. Course.	1st Term.	2d Term.
Criminal Law and Procedure	3	4	-
Civil Procedure.....	5	-	4
Brief-Making.....	6	1	1
Sales.....	20	3	-
Suretyship	21	-	3
Equity Jurisdiction and Trust	23	3	3
Electives (College of Arts and Sciences)...	-	4-7	4-7
<i>Third Year.</i>	No. Course.	1st Term.	2d Term.
Probate Law.....	22	3	-
Insurance ; Domestic Relations.....	24-25	2	2
Civil Procedure.....	28-28a	3	3
Evidence.....	26	-	3
College Court.....	29	1	1
Electives from Senior Law Subjects.....	-	2	2
Electives (College of Arts and Sciences)...	-	5-8	5-8

<i>Senior Year.</i>	No. Course.	1st Term.	2d Term..
Property	30	-	4
Partnership : Corporations	31-32	3	4
Quasi-Contracts	33	2	-
Carriers	34	-	2
Bills, Notes and Checks	35	2	-
Constitutional Law	36	-	2
Civil Procedure	37	4	-
Conveyancing	38	2	-
Practice Court	41	1	1

MATTERS APPLICABLE TO BOTH COURSES.

The following requirements and explanations are applicable to both the three-year and the four-year courses.

Physical Culture.

Candidates for a degree in the four-year course must take during the first two years three hours of physical training a week,—the first year in the Department of Military Science and Tactics and the second year either in that Department or in the Department of Physical Culture as they may elect. Candidates for a degree in the three-year course must take during their first year three hours a week of physical training and may elect to take it in either Department. Women take all their work in the Department of Physical Culture.

Examinations and Class Standing.

Examinations are held twice a year at the end of the terms and papers are graded "excellent," "good," "pass," "condition." In order to remain in the College a student pursuing five law subjects in any term must pass at least three of them, and a student pursuing less than five law subjects must pass at least two of them (exclusive in each case of College Court work). A student having conditions in four term-subjects standing against him at the end of any year cannot take examinations to remove them unless he has, in an equal number of subjects, credits of the grade of "good" or "excellent." If he fails to meet this requirement at the end of the first year he must repeat that year; if at the end of the second year, he ceases to be a candidate for a degree with the class in which he is registered. A senior who after the September examinations has still two conditions standing against him will not be considered a candidate for graduation in that year.

Irregular attendance or neglect of work is sufficient cause for the removal of a student from the College at any time.

College Court.

The College Court of the Junior Year is divided into clubs of ten of twelve members each. At each session a case is argued by two attorneys while the rest of the Club, presided over by a member of the Faculty, act as judges. At the conclusion of the argument the judges render oral decisions and one or more are then designated to prepare written opinions. The briefs and opinions are filed with the Librarian. The College Court of the Senior Year is a practice court held by the Professor of Procedure before whom cases are prosecuted and defended and motions and demurrers argued, in conformity with the procedure in the Supreme Court of the State of New York.

Practice Department.

It will be observed that in the above courses of study the subject of Civil Procedure extends through three consecutive years. As most students now go directly from the law school into practice without serving a preliminary clerkship in a law office, it has become necessary for the law school to provide the instruction in pleading and practice which formerly the student obtained during his law office clerkship. To this end one professor and an instructor devote their entire time to the department of civil procedure. The instruction in common law pleading and practice is followed by a careful study of the New York Code of Civil Procedure which is taken as a type of the reformed procedure in force in most of the states. Pleadings and motion papers are prepared by the students. These papers are discussed freely in the class-room by students and professor, defects pointed out and remedied, and the essentials of a proper pleading, petition or other paper stated and emphasized. The study of the Code is accompanied throughout by its practical application in the preparation of procedural papers. The object is to duplicate, as far as practicable, the work of a busy office but to do it by a systematic development of the whole field of practice. Every paper passes through the hands of the professor or assistant and is carefully read and criticised before being returned to the student, while those which present an opportunity for general criticism are taken up for argument and discussion in the class-room.

It is the belief of the Faculty that this department presents on the whole a better opportunity for the systematic study of procedure than does the ordinary law office.

EQUIPMENT.

Boardman Hall. Boardman Hall is situated directly opposite the general library building and was erected for the exclusive use of

the College of Law. It is a large three-story structure, 202 by 58 feet, built of Cleveland sandstone with interior finish of oak, and practically fire-proof. On the first floor are three commodious lecture rooms and necessary cloak rooms. On the second floor are the offices of the several professors and rooms for the use of the club courts. On the third floor are the library rooms with accommodations for forty thousand volumes and three hundred readers.

Law Library. The library of the College of Law numbers about 37,000 volumes to which generous additions are made yearly. It includes the well known library of the late Nathaniel C. Moak of Albany, N. Y., which was presented in 1893, by Mrs. A. M. Boardman and Mrs. Ellen D. Williams, as a memorial to Judge Douglass Boardman, the first Dean of the College. The addition of the Moak collection to the law library makes the facilities not only unusually adequate to the needs of undergraduate students, but also, in connection with the University library, affords extensive opportunity for scholarly research by advanced students. In reports of the Federal courts, reports of the several American State jurisdictions, and in English, Scotch, Irish, Canadian and Australian reports, the law library is practically complete to date. The other English speaking countries are largely represented. The library also possesses a full complement of text books and statutes, and complete sets of substantially all law periodicals in English.

DEGREE AND CERTIFICATES.

Degree. The degree of Bachelor of Laws (LL.B.) is conferred upon all students who have met the entrance requirements and satisfactorily completed all the work of either the three-year or the four-year course. No student is allowed to graduate except after three years of actual residence (or four years if in the four-year course) unless admitted to advanced standing in which case one year of law study elsewhere may be counted toward the time required.

Certificate of Attendance. Each student who has been in regular attendance upon the College, whether entitled to a degree or not, may, on application to the Faculty, receive an official certificate of attendance, which states the time of his attendance, and, if desired, the degree of his attainments. The certificate of a year's regular attendance, required by bar examiners, implies the completion of a full year's work (not less than fourteen hours per week) of which at least nine hours per week shall be in the year for which the certificate is granted. Students in the four-year course will, therefore, receive upon the completion of that course a time certificate for three years; but no single year of attendance will entitle to a time certificate

until the equivalent of fourteen hours of law work for a year has been taken.

SCHOLARSHIPS AND PRIZES.

Boardman Senior Law Scholarship. A Senior Law Scholarship of the value of one hundred dollars, the gift of Judge Douglass Boardman, the first Dean of the College, is awarded annually in June to the junior who during the preceding two years, has, in the judgment of the Faculty, done the most satisfactory work in the College of Law.¹ It is available during the senior year and is payable in the same way as other University scholarships. This scholarship may be forfeited in case the Faculty is satisfied that the holder has not maintained a high standard of work, or has been guilty of any conduct unbecoming the holder of such a scholarship.

Other Scholarships and Prizes are open to law students as well as to students in other colleges of the University. (See pages 63-66.)

FEES AND EXPENSES.

Tuition Fees. The fee for tuition for all law students, except special students, is \$100 a year, payable, \$55 at the beginning of the first term and \$45 at the beginning of the second term. The fee for special students in law is \$125 a year, payable, \$70 at the beginning of the first term and \$55 at the beginning of the second term.

Tuition is free to students with state scholarships.

A matriculation fee of \$5 is charged all students on first entering the University.

A fee of \$10 to cover expenses of graduation, degree, etc is charged to each person taking the baccalaureate degree. This fee must be paid at least ten days before commencement.

Expenses. The following is a fair estimate of the yearly expenses :

Tuition	\$100 to \$125
Room, board, lights, fuel and laundry	160 to 325
Text-books	25 to 35

Total	\$285 to \$485

The additional expenses of a student depend so largely upon his personal tastes that it is difficult to give an estimate.

The expense of living in Ithaca varies, for board, room, fuel and lights, from \$4 to \$10 a week. By the formation of clubs, students often materially reduce their expenses.

Further information upon points not covered by this announcement may be had by addressing THE DEAN OF THE COLLEGE OF LAW, CORNELL UNIVERSITY, ITHACA, N. Y.

¹ Awarded for 1905-1906 to Arthur Brothers Weber, Buffalo. Awarded for 1906-1907 to Francis Lammerts Durk, Niagara Falls.

THE MEDICAL COLLEGE.

The full four-year course of the Cornell University Medical College is given in the City of New York, but the first half of it—the work of the first and second years—is also given at Ithaca, where it may be taken by men students, and where alone it can be taken by women students (for whom a home is provided in the Sage College for Women). Both men and women students must take the last two years of the course in New York City. While it is not at present required, it is highly advantageous that students entering upon the study of medicine should have had a college or university training in the liberal arts and sciences; and for the benefit of such it has been arranged that students in the College of Arts and Sciences of Cornell University may elect in the Medical College certain studies, thereby shortening the time required for taking both the A. B. and M. D. degrees to seven years. The following announcement of the Medical College except where the contrary is specifically stated refers to the course as given in New York City.

MEDICAL COLLEGE COUNCIL.

At the foundation of the Medical College the following resolutions establishing a Medical College Council and determining its functions was adopted by the Board of Trustees of Cornell University :

Resolved, that for the purpose of making recommendations to the Board of Trustees or the Executive Committee in relation to the business management of the Medical College there be established, and there is hereby established a Medical College Council which shall consist of seven members, to-wit: the President of the University (who shall be *ex-officio* chairman), the Director of the Medical College and three trustees to be elected by the Board of Trustees or the Executive Committee, who shall be appointed, one for one year, one for two years, and one for three years, and their successors be appointed for three years, and two members of the Faculty, to be elected by the Faculty, who shall be appointed, one for one year, and one for two years, and their successors to be appointed for two years, and that all appointments to fill vacancies be made for unexpired terms."

The Council at present consists of the following members :

JACOB GOULD SCHURMAN, President of the University and
Chairman *ex-officio* of the Council.

WILLIAM M. POLK, Director of the Medical College.

H. W. SACKETT,	} of the Board of Trustees.
H. R. ICKELHEIMER,	
H. H. WESTINGHOUSE,	
L. A. STIMSON,	} of the Faculty.
R. A. WITTHAUS,	

J. THORN WILLSON, *Secretary*.

FACULTY OF MEDICINE IN NEW YORK.

(For Faculty at Ithaca see later.)

JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President.

WILLIAM M. POLK, M.D., LL.D., Dean and Professor of Clinical
Surgery, Department of Gynecology.

LEWIS A. STIMSON, A.B., M.D., LL.D., Professor of Surgery,
Consulting Surgeon to Bellevue Hospital and Surgeon to New
York and Hudson Street Hospitals.

RUDOLPH A. WITTHAUS, A.M., M.D., Professor of Chemistry,
Physics and Toxicology.

W. GILMAN THOMPSON, Ph.B., M.D., Professor of Medicine, Phy-
sician to the Presbyterian and Bellevue Hospitals.

GEORGE WOOLSEY, A.B., M.D., Professor of Anatomy and Clin-
ical Surgery, Surgeon to Bellevue Hospital, Associate Surgeon
to the Presbyterian Hospital.

HENRY P. LOOMIS, Ph.B., A.B., M.D., Professor of Materia Med-
ica, Therapeutics and Clinical Medicine, Physician to the New
York and Bellevue Hospitals.

J. CLIFTON EDGAR, Ph.B., A.M., M.D., Professor of Obstetrics
and Clinical Midwifery, Attending Obstetrician to the Emergency
Hospital of Bellevue Hospital, Obstetric Surgeon to the Manhat-
tan Maternity and Dispensary, Consulting Obstetrician to the City
Hospital.

FREDERIC S. DENNIS, A.B., M.D., F.R.C.S., Professor of Clin-
ical Surgery, Surgeon to Bellevue and St. Vincent's Hospitals.

FREDERICK GWYER, M.D., Professor of Operative and Clinical
Surgery, Surgeon to Bellevue and Beth Israel Hospitals.

IRVING S. HAYNES, Ph.B., M.D., Professor of Practical Anatomy,
Surgeon to the Harlem Hospital.

JAMES EWING, A.M., M.D., Professor of Pathology.

- JOSEPH E. WINTERS, M.D., Professor of Clinical Medicine, Department of Diseases of Children, Physician to Willard Parker Hospital.
- CHARLES STEDMAN BULL, A.M., M.D., Professor of Clinical Surgery, Department of Ophthalmology, Surgeon to New York Eye and Ear Infirmary, Consulting Ophthalmic Surgeon to St. Luke's, Presbyterian Hospitals and St. Mary's Hospital for Children.
- NEWTON M. SHAFFER, M.D., Professor of Clinical Surgery, Department of Orthopædic Surgery, Surgeon-in-Chief of the New York State Hospital for the Care of Crippled and Deformed Children, Consulting Orthopædic Surgeon to St. Luke's and the Presbyterian Hospitals, Consulting Surgeon to New York Infirmary for Women and Children.
- CHARLES L. DANA, A.M., M.D., Professor of Clinical Medicine, Department of Diseases of the Nervous System, Physician to Bellevue Hospital, Neurologist to the Montefiore Home.
- SAMUEL ALEXANDER, A.M., M.D., Professor of Clinical Surgery, Department of Diseases of the Genito-Urinary System, Surgeon to Bellevue Hospital, and to the Montefiore Home.
- GEORGE THOMSON ELLIOT, A.B., M.D., Professor of Clinical Surgery, Department of Dermatology, Consulting Dermatologist to St. Luke's, Columbus, and New York Lying-in Hospitals.
- CHARLES H. KNIGHT, A.M., M.D., Professor of Clinical Surgery, Department of Laryngology, Surgeon to the Manhattan Eye, Ear and Throat Hospital.
- ALEXANDER LAMBERT, PH.B., A.B., M.D., Professor of Clinical Medicine, Physician to Bellevue Hospital.
- FRANCIS W. MURRAY, A.B., M.D., Professor of Clinical Surgery, Surgeon to New York Hospital and Consulting Surgeon to St. Luke's Hospital.
- CHARLES E. NAMMACK, PH.B., M.D., Professor of Clinical Medicine, Physician to Bellevue Hospital.
- FREDERICK KAMMERER, M.D., Professor of Clinical Surgery, Surgeon to the German and St. Francis Hospitals.
- PERCIVAL R. BOLTON, Ph B., M.D., Professor of Clinical Surgery, Surgeon to the New York Hospital.
- WARREN COLEMAN, A.M., M.D., Professor of Clinical Medicine, Instructor in Materia Medica, Therapeutics, and Clinical Medicine, Assistant Visiting Physician to Bellevue Hospital.
- LEWIS A. CONNER, PH.B., M.D., Professor of Clinical Medicine, Visiting Physician to the New York Hospital and Attending Physician to the Hudson Street Hospital.

ALEXANDER B. JOHNSON, Ph.B., M.D., Professor of Clinical Surgery, Surgeon to the New York Hospital.

BERTRAM H. BUXTON, A.B., M.D., Professor of Experimental Pathology.

FREDERICK WHITING, A.M., M.D., Professor of Clinical Surgery, Department of Otology, Aural Surgeon to New York Eye and Ear Infirmary, and Surgeon to St. Bartholomew's Clinic.

ADOLF MEYER, M.D., LL.D., Professor of Clinical Medicine, Department of Psychopathology, Director of the Pathological Institute of the New York State Hospitals, Ward's Island.

CHARLES L. GIBSON, A.M., M.D., Professor of Clinical Surgery, Surgeon to St. Luke's Hospital.

IVIN SICKELS, M.S., M.D., Assistant Professor of Chemistry and Physics.

JOHN A. HARTWELL, Ph.B., M.D., Assistant Professor of Physiology, Surgeon to the Lincoln Hospital, Assistant Surgeon to Bellevue Hospital.

JOHN ROGERS, A.B., Ph.B., M.D., Secretary of the Faculty.

JESSIE P ANDRESEN, Assistant Secretary.

Lecturers.

CHARLES N. BANCKER CAMAC, A.B., M.D., Lecturer on Medicine, Instructor in Medicine and Physical Diagnosis.

JOSEPH FRAENKEL, M.D., Lecturer on and Clinical Instructor in Medicine, Department of Diseases of the Nervous System.

EDWARD L. KEYES, Jr, A.B., M.D., Lecturer on Surgery.

MAX G. SCHLAPP, M.D., Lecturer on Pathology and Instructor in the Histology and Pathology of the Nervous System.

OTTO H. SCHULTZE, A.B., M.D., Lecturer on Pathology, Instructor in Gross Pathology.

BENJAMIN T. TILTON, A.B., M.D., Lecturer on Surgery, Instructor in Surgery.

JOHN MCGAW WOODBURY, A.B., M.D., M.R.C.S., Lecturer on Municipal Sanitation.

Instructors.

HEADS OF SUB DEPARTMENTS.

WILLIAM J. ELSER, M.D., Instructor in Bacteriology.

JEREMIAH S. FERGUSON, M.S., M.D., Instructor in Histology.

THOMAS WOOD HASTINGS, A.B., M.D., Instructor in Clinical Pathology.

LOUIS W. RIGGS, A.M., Ph.D., Instructor in Chemistry and Physics.

EDMUND PENDLETON SHELBY, A.B., M.D., Instructor in Pharmacology and Therapeutics.

ISRAEL STRAUSS, M.D., Instructor in Embryology.

CHARLES G. L. WOLF, A.B., C.M.M.D., Instructor in Physiological Chemistry.

Instructors and Assistants.

THEODORE B. BARRINGER, A.B., M.D., Instructor in Medicine and Clinical Medicine.

JOHN W COE, PH.B., M.D., Assistant in Clinical Pathology.

JOHN F. CONNERS, M.D., Demonstrator of Anatomy.

GEORGE EUGENE DODGE, B.S., M.D., Instructor in Operative Surgery.

WILLIAM A. DOWNES, M.D., Instructor in Operative Surgery and Demonstrator of Anatomy.

B. J. DRYFUSS, M.D., Assistant in Chemistry.

SEWARD ERDMAN, M.D., Demonstrator of Anatomy.

FRANK S. FIELDER, PH.B., M.D., Demonstrator of Anatomy.

ROBERT E. GABY, B.A., Assistant in Physiology.

GEORGE D. HAMLEN, A.M., M.D. Instructor in Obstetrics and Gynæcology.

ROBERT ANTHONY HATCHER, PH.G., M.D., Instructor in Pharmacology.

ROLAND HAZEN, M.D., Demonstrator of Anatomy.

JAMES MORLEY HITZROT, A.B., M.D., Instructor in Surgery.

BERT RAYMOND HOUBLER, A.M., M.D., Assistant in Clinical Pathology.

FREDERICK B. HUMPHREYS, PH.B., M.D., Assistant in Histology.

J. RAMSEY HUNT, M.D. Instructor in Medicine, Department of Neurology.

FRANK M. HUNTOON, M.D., Assistant in Bacteriology and Pathology.

LEOPOLD JACHES, M.D., Assistant in the Pathology and Histology of the Nervous System.

JAMES C. JOHNSTON, A.B., M.D., Instructor in Pathology and Clinical Surgery, Department of Dermatology.

HARVEY E. JORDAN, A.B., Assistant in Histology and Embryology.

FREDERICK L. KEAYS, A.B., M.D., Instructor in Physical Diagnosis.

BURTON J. LEE, A.B., M.D., Demonstrator of Anatomy.

HENRY T. LEE, M.D., Assistant in Pathology.

GUY D. LOMBARD, M.D., Assistant in Histology.

ALBERTUS A. MOORE, M.D., Instructor in Obstetrics.

- THOMAS A. NEAL, M.D., Assistant in Gross Pathology.
 WALTER LINDSAY NILES, M.D., Instructor in Medicine and Physical Diagnosis.
 NATHANIEL R. NORTON, M.D., Instructor in Medicine.
 JOHN J. NUTT, M.D., Demonstrator of Anatomy, Clinical Instructor in Surgery, Department of Orthopædic Surgery.
 JOHN ROGERS, A.B., PH.B., M.D., Instructor in Clinical Surgery.
 PHILIP SHAFFER, A.B., PH.D., Assistant in Experimental Pathology.
 MONTGOMERY H. SICARD, B.S., M.D., Instructor in Physical Diagnosis.
 WILLIAM F. STONE, PH.B., M.D., Instructor in and Demonstrator of Anatomy, Instructor in Clinical Surgery.
 OSCAR TEAGUE, M.D., Assistant in Experimental Pathology.
 JOHN C. TORREY, A.B., PH.D., Assistant in Experimental Pathology.
 GEORGE GRAY WARD, M.D., Instructor in Surgery, Department of Gynæcology.
 MORTIMER WARREN, M.D., Assistant in Clinical Pathology.
 RICHARD WEIL, M.D., Demonstrator in Gross Pathology.
 JOSEPH WHEELWRIGHT, A.B., M.D., Demonstrator of Anatomy and Assistant in Physiology.

Clinical Instructors.

- HAROLD C. BAILEY, M.D., Clinical Instructor in Surgery.
 LE ROY BROWN, M.D., Clinical Instructor in Surgery, Department of Gynæcology.
 J. HERBERT CLAIBORNE, M.D., Clinical Instructor in Surgery, Department of Ophthalmology.
 WALTER A. DUNCKEL, M.D., Clinical Instructor in Medicine, Department of Diseases of Children.
 FRANCIS C. EDGERTON, B.S., M.D., Clinical Instructor in Surgery, Department of Diseases of the Genito-Urinary System.
 P. HENRY FITZHUGH, M.D., Clinical Instructor in Surgery, Department of Orthopædic Surgery.
 ALBERT C. GEYSER, M.D., Clinical Instructor in Radiography and Radiotherapy.
 CLARK SUMNER GOULD, M.D., Clinical Instructor in Surgery.
 J. PRESCOTT GRANT, M.D., Clinical Instructor in Surgery.
 ISIDORE L. HILL, M.D., Clinical Instructor in Obstetrics.
 AUGUST HOCH, M.D., Clinical Instructor in Medicine, Department of Psychopathology.
 ARCHIBALD E. ISAACS, M.D., Clinical Instructor in Surgery.

GEORGE H. KIRBY, M.D., Clinical Instructor in Medicine, Department of Psychopathology.

GEORGE B. MCAULIFFE, A.B., M.D., Clinical Instructor in Surgery, Department of Otology.

JAMES E. NEWCOMB, A.B., M.D., Clinical Instructor in Surgery, Department of Laryngology and Rhinology.

ROBERT G. REESE, PH.G., M.D., Clinical Instructor in Surgery, Department of Ophthalmology.

HANS J. SCHWARTZ, M.D., Clinical Instructor in Surgery, Department of Dermatology.

GUSTAVE SELIGMANN, M.D., Clinical Instructor in Obstetrics.

WILLIAM SHANNON, A.B., M.D., Clinical Instructor in Medicine, Department of Diseases of Children.

Clinical Assistants.

HARRY MORTIMER ARCHER, M.D., Clinical Assistant in Surgery.

B. S. BARRINGER, M.D., Clinical Assistant in Surgery, Department of the Genito-Urinary System.

SHERMAN BROWN, M.D., Clinical Assistant in Medicine, Department of the Nervous System.

FRANKLIN T. BURKE, M.D., Clinical Assistant in Surgery, Department of Laryngology and Rhinology.

EARL CONNER, M.D., Clinical Assistant in Surgery, Department of Otology.

H. E. COOK, M.D., Clinical Assistant in Surgery, Department of Otology.

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SAMUEL M. EVANS, M.D., Clinical Assistant in Medicine, Department of Diseases of Children.

JOHN H. P. HODGSON, M.D., Clinical Assistant in Medicine, Department of the Diseases of Children.

WILLIAM J. JONES, M.D., Clinical Assistant in Therapeutics.

ALEXANDER S. LEVERTY, M.D., Clinical Assistant in Medicine, Department of Diseases of the Nervous System.

CHARLES MACK, A.B., M.D., Clinical Assistant in Surgery, Department of Laryngology and Rhinology.

LESLIE J. MEACHAM, M.D., Clinical Assistant in Medicine, Department of Diseases of the Nervous System.

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FRANK W. ROBERTSON, M.D., Clinical Assistant in Medicine,
Department of Diseases of the Nervous System.

NATHAN S. ROBERTS, M.D., Clinical Assistant in Surgery, Department of Otology.

PERRY SCHOONMAKER, M.D., Clinical Assistant in Surgery, Department of Laryngology and Rhinology.

HENRY SCOTT, M.D., Clinical Assistant in Surgery, Department of Orthopædic Surgery

HORACE S. STOKES, M.D., Clinical Assistant in Medicine, Department of Diseases of Children.

VICTOR CORSE THORNE, M.D., Clinical Assistant in Surgery, Department of Diseases of the Genito-Urinary System.

FRANK CLARK YEOMANS, M.D., Clinical Assistant in Surgery, Department of Diseases of the Genito-Urinary System.

Dispensary Staff.

BENJAMIN PRICE RILEY, M.D., Physician in Charge.

DEPARTMENT OF MEDICINE.

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MONTGOMERY H. SICARD, M.D., Assistant Physician.

WILLIAM ARMSTRONG, M.D., Assistant Physician.

JOSEPH STORER WHEELWRIGHT, M.D., Assistant Physician.

LEONARD G. WEBER, M.D., Assistant Physician.

H. J. SCHWARTZ, M.D., Assistant Physician.

WALTER L. NILES, M.D., Assistant Physician.

CHARLES N. WEBSTER, M.D., Assistant Physician.

B. H. SEARING, M.D., Assistant Physician.

CLARK S. GOULD, M.D., Assistant Physician.

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JAMES BIRCKHEAD, M.D., Assistant Physician.

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TASKER HOWARD, M.D., Assistant Surgeon.

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GEORGE G. WARD, M.D., Assistant Surgeon.

A. A. ROSENBLOOM, M.D., Assistant Surgeon.
 RUSSELL BELLAMY, M.D., Assistant Surgeon.
 MURDOCH D. MACLEOD, M.D., Assistant Surgeon.

DEPARTMENT OF GENITO-URINARY DISEASES.

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 B. S. BARRINGER, M.D., Surgeon.
 J. S. READ, M.D., Surgeon.

DEPARTMENT OF NEUROLOGY.

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 ALEXANDER S. LEVERTY, M.D., Assistant Physician.
 LESLIE J. MEACHAM, M.D., Assistant Physician.
 SHERMAN BROWN, M.D., Assistant Physician.
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DEPARTMENT OF PSYCHOPATHOLOGY.

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 HORACE S. STOKES, M.D., Assistant Physician.
 GEORGE DOW SCOTT, M.D., Assistant Physician.
 EDWARD HAND, M.D., Assistant Physician.
 BENJAMIN H. SEARING, M.D., Assistant Physician.
 ALBERT BECKARY, M.D., Assistant Physician.

DEPARTMENT OF DERMATOLOGY.

JAMES C. JOHNSTON, M.D., Chief of Staff.
 HANS J. SCHWARTZ, M.D., Surgeon.
 DARWIN W. WAUGH, M.D., Assistant Surgeon.
 EDWARD D. LOVEJOY, M.D., Assistant Surgeon.

DEPARTMENT OF OTOLOGY.

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 NATHAN S. ROBERTS, M.D., Assistant Surgeon.
 C. M. HICKEY, M.D., Assistant Surgeon.
 H. E. COOK, M.D., Assistant Surgeon.
 E. W. SHIPMAN, M.D., Assistant Surgeon.
 G. W. DE VEBER, M.D., Assistant Surgeon.

DEPARTMENT OF LARYNGOLOGY.

JAMES E. NEWCOMB, M.D., Chief of Staff.
FRANKLIN T. BURKE, M.D., Assistant Surgeon.
CHARLES MACK, M.D., Assistant Surgeon.
WALTER C. MONTGOMERY, M.D., Assistant Surgeon.
PERRY SCHOONMAKER, M.D., Assistant Surgeon.

DEPARTMENT OF ORTHOPÆDICS.

P. HENRY FITZHUGH, M.D., Surgeon.
DEAS MURPHY, M.D., Assistant Surgeon.
HENRY SCOTT, M.D., Assistant Surgeon.
JOHN J. NUTT, M.D., Assistant Surgeon.
PERCY WILLARD ROBERTS, M.D., Assistant Surgeon.

DEPARTMENT OF OPHTHALMOLOGY.

ROBERT G. REESE, M.D., Surgeon.
J. HERBERT CLAIBORNE, M.D., Surgeon.
G. W. VANDERGRIFT, Assistant Surgeon.
JOSEPH L. DIAS, M.D., Assistant Surgeon.
EDWARD B. COBURN, M.D., Assistant Surgeon.
A. L. OBERDORFER, M.D., Assistant Surgeon.

DEPARTMENT OF RADIOGRAPHY AND RADIOTHERAPY.

ALBERT C. GEYSER, M.D.

DEPARTMENT OF DRUGS AND SUPPLIES.

GUSTAVE T. RUCKERT, Ph.G., Apothecary.
JOHN B. HEUSER, Pa.G., Assistant Apothecary.

J. THORN WILLSON, Managing Clerk of the College,
First Avenue, 27th and 28th Streets.
• WALTER R. SHEPHERD, Bookkeeper.

GENERAL STATEMENT.

The Medical Department of Cornell University was established in 1898. This undertaking, which had been contemplated by the Trustees for several years, was made possible by the gift to the University of a commodious and fully equipped building designed for medical instruction, and by the bestowal of a sufficient "Endowment Fund" for the generous maintenance of a large and vigorous school for higher education in medicine.

The Main College Building comprises a Medical School and Dispensary, with principal entrance on First Avenue, opposite Bellevue Hospital, which occupies the entire block between Twenty seventh and Twenty-eighth Streets on First Avenue, extending back 100 feet, thus affording an available space of nearly 20,000 feet on each floor. The building is designed in a severe style of Renaissance architecture, and is constructed of Indiana limestone and red brick.

The Loomis Laboratory (founded 1886) serves the purpose of undergraduate instruction, in connection with the laboratories in the College building, in such subjects as can best be taught in a laboratory, and it is also especially available to graduates in medicine who may desire to pursue further study or original research in various departments of laboratory investigation.

The Metropolitan Street Railroad cars on Twenty-eighth and Twenty-ninth Streets and First Avenue connect with all the other lines of the company, by a system of transfers at Fourteenth, Twenty-third, Thirty-fourth, and Fifty ninth Streets, and so put all the hospitals in the city within easy access of the College. A convenient station of the Manhattan Elevated Railroad is also at Twenty-eighth Street and Third Avenue.

CLINICAL FACILITIES.

The College Dispensary.—One-half of the college building is allotted to the Dispensary, in which ample provision has been made for the accommodation of the various clinical departments, of which there are eleven, viz.: General Surgery. General Medicine, including the diseases of the Heart and Lungs, Gynæcology and Obstetrics, Diseases of Children, of the Nervous System, of the Genito-Urinary System, of the Skin, Eye, Ear, Nose and Throat, and Orthopædic Surgery.

Each Department has been furnished with all the instruments and apparatus necessary for the examination and treatment of patients. A number of small amphitheatres are placed in the Dispensary, so that the clinical instruction provided by the curriculum can be carried on without interfering with the treatment of patients.

The attendance in the Dispensary averages 500 patients daily, and is steadily increasing, so that the clinical material is abundant and accessible.

Members of the Faculty of Cornell Medical College hold appointments in the hospitals and dispensaries of the city, and are thus enabled to utilize for teaching purposes a great quantity and variety of clinical material. The most important and best of these hospitals are

the Bellevue, New York, Presbyterian, German, St. Vincent, Gouverneur, Hudson Street, Willard Parker and Reception Hospitals, and the New York Eye and Ear Infirmary. Others are utilized from time to time as necessity or opportunity arises. The major part of the bedside and clinical instruction, is, however, conducted in Bellevue Hospital, which is directly opposite the College.

This hospital has 900 beds, and receives 24,000 patients annually. It contains an amphitheatre capable of seating 300 students, and also a number of small, newly built operating theatres, where section demonstrations in surgery and gynæcology are made before the class. Connected with the hospital is a hydropathic establishment where students are shown the practical applications of baths, douches, massage, etc.

ADMISSION TO THE COLLEGE.

For admission to the first year class at Ithaca communications should be addressed to the Registrar, Ithaca, N. Y., at New York City, to the Secretary, 28th St. and First Ave., New York City. See below and pages 33-57.

For admission to advanced standing from other colleges and universities, communications should be directed to the Secretary of Faculty, Stimson Hall, Ithaca, N. Y.; or to the Secretary of the Faculty, 28th St. and First Ave., New York City.

The laws of New York State require of the prospective student of medicine a preliminary education equivalent to that obtainable in a four years' course in any academy or high school recognized by the Education Department as maintaining a satisfactory standard, before the applicant can be admitted to any class in any medical college in the State. A list of the subjects ordinarily taught in these schools is given in Handbook No. 3 published by the Education Department, and mailed on application to this department, Albany, New York. In this it will be found that each subject, according to its character and the time usually devoted to it, is assigned one or more "counts," 60 of which are needed to obtain the medical-student certificate. This official approval of the preliminary education may be granted by the Regents on presentation to them of properly attested evidence that the requisite work was accomplished in a registered institution. In lieu of this the applicant is required to pass the examinations conducted by the State authorities at regular intervals throughout the year.

As the ordinary 60 count "Medical-Student Certificate" required by law can be obtained with little or no knowledge of the English

language, and of subjects which are absolutely essential to a proper understanding of any natural science, all applicants for admission must earn their medical-student certificate in part upon the following subjects, as described in "Handbook No. 3, Education Department, Examinations, 1905-10."

Algebra, 5 counts; Plane Geometry, 5 counts; Third-Year English, or its equivalent, 10 counts; Second-Year Latin, or the first four books of Caesar's "Commentaries," 10 counts, or First-Year Latin, 5 counts, and First-Year German, French, or Spanish, 5 counts. Total, 30 counts.

The subject-matter covered in these requirements, which must be included in the Regents' certificate, is briefly summarized as follows:

Algebra includes the elements of the subject through quadratic equations.

Plane Geometry includes the geometry of the plane, the ordinary definitions, and demonstrations of simple original theorems.

Three years of English comprise (1) reading and composition, including the theory of construction in prose; (2) terms of style, figures of speech and prosody; (3) the uniform college entrance requirements for reading and prose (see p. 38).

Two years of Latin include a knowledge of grammar and the ability to translate at sight simple passages from any standard author, or from the first four books of Caesar's "Commentaries." The alternative to Second Year Latin, namely, First-Year Latin with First-Year German, French, or Spanish, comprises under the heading, First-Year Latin, a knowledge of grammar, the rendering of simple prose from Latin into English, and *vice versa*. Under the heading of First-Year German, French, or Spanish, a similar knowledge is required.

The total number of counts allowed by the Regents for these required subjects aggregate 30. The Faculty recommends that the remaining 30 counts necessary to complete the certificate be made up from the following subject-groups enumerated in Handbook No. 3 of the Education Department of the State of New York: Science; Mathematics; Language and Literature; History and Social Science.

Students who can earn a portion of these 30 counts upon Physics (5 counts) and Inorganic Chemistry (5 counts), as is earnestly recommended, may be given credit for them, and the time thus gained will be devoted to intensive work in the medical branches.

A certificate of the College Entrance Examination Board, or Cornell University Entrance Examination, covering any of the above subjects, provided at least Grade C (60) is obtained, may be exchanged

at Education Department, Albany, N. Y., for corresponding Regents' Examinations.

To make these examinations of the utmost use, the University authorities have decided to duplicate the examinations ordinarily conducted in the fall at Ithaca only, and to open them to applicants for admission to all departments. Permits to take these September examinations in New York city must be secured by filing the requisite credentials at the Registrar's office in Ithaca. The permits should be obtained at least twenty-four hours before the date of the examination to be taken. They will be sent by mail upon application. If entrance to the Medical Department only is desired, the permit for the examinations may be obtained by application either to the Secretary of that Department in New York, or to the Registrar in Ithaca.

The subjects which are required for entrance and the dates are given in the calendar of University Examinations. (See p. 33.)

Proposed Course for the Degree in Arts (A.B.) and in Medicine (M.D.)

As a liberal education in the arts and sciences is of great advantage to prospective students of medicine, all who can, are urged to take the Freshman, Sophomore, and Junior years in the Academic Department at Ithaca. After the completion of these years in the Academic Department (in which all the work is elective) the student is permitted to elect, as the fourth year of his A.B. course the first year of his M.D. course, a year's work in the Medical Department at Ithaca. He may then take his fifth year of work—the second of the medical course—either in Ithaca or in New York; but he must take the last two years of the medical course in New York. In this way he will obtain the A.B. degree at the end of four years, and the M.D. degree at the end of seven years of study. This is possible because the first two years of the medical course in New York are offered in duplicate at the University in Ithaca.

Women must take the first two years in medicine in Ithaca, where special accommodations are provided for them in the Sage College. They are received at the Medical College in New York City in the third and fourth years only.

Students who have taken the A.B. degree, as above, will if they have anticipated in the Academic Department the scientific studies prescribed in the medical course, be admitted to advanced standing in the Medical College in New York. Those who have completed all the subjects prescribed for the first two years of the course in medicine will be admitted to the third year class. After passing the requisite examinations at the end of this and then of the fourth year,

they will be advanced to practically a fifth year, consisting almost entirely of practical training. At its close, providing the work has been satisfactory, the M.D. degree will be conferred. As this fifth year gives opportunity for more than the requisite work, students who have taken the A. B. degree in the Academic Department may, even if deficient in one or more of the prescribed subjects of the medical course, still be admitted to the third year class in New York, but only upon the recommendation of the Medical Faculty at Ithaca.

The schedule of this fifth year will be somewhat as follows :

There will be weekly recitations in the subjects of Medicine, Surgery, Anatomy, Materia Medica, and Therapeutics, and Obstetrics and Gynæcology. A competent corps of instructors is suggested by the Faculty, but the students are at liberty to make their own selections and financial arrangements in quizzing, the chief object of which is preparation for the competitive examinations for the appointment of internes held each spring by the various hospitals. The fee for such "quizzes" averages about \$100, and the time will be from 5 to 6 P. M., or at any other convenient hour daily. The rest of the day is to be devoted to practical training in the College dispensary and laboratories. In the dispensary the departments of general medicine and general surgery hold morning sessions. The afternoon hours are devoted to the nine specialty departments of Neurology, Gynæcology, Pediatrics, Laryngology, Orthopedic Surgery, Dermatology, Ophthalmology, Otology, and Diseases of the Genito-Urinary System.

The Ithaca students who take this fifth year will act as regularly appointed clinical assistants in these various departments for the twelve months following the conclusion of their fourth year of medicine. Groups of five will serve during the morning hours, on alternate days, in the Departments of General Medicine and Surgery. At the end of six months those who have had the privilege of selecting in the order of standing at the end of the fourth year general medicine will change to general surgery, and *vice versa*. In the mornings of the days when not engaged in the dispensary these groups of five students will report in one of the laboratories of clinical or histological pathology or bacteriology and, as they may elect, either pursue research work upon a subject to be selected after consultation with Professor Ewing, or act as assistant (unpaid) instructors in the classroom work in these laboratories. The results of research work, if satisfactory, will be included in the regular publications of the department of Pathology.

During the afternoons, groups of not more than three students will serve in rotation as clinical assistants in each of the nine specialty departments of the dispensary. The length of time spent in each

department will vary somewhat with the number of students and the duration of vacation desired ; but at present it is expected that about one month will be devoted to daily attendance in each specialty. It is the intention of the Faculty to allow the utmost liberty in the selection of courses consistent with the acquirement of a thorough, general and practical education. For this reason, if desired, the student will be assisted in obtaining the position of clinical assistant in any dispensary or department of a dispensary which supplies opportunities equivalent to those offered by the College. The internes in the various city hospitals are often forced to absent themselves from duty on account of sickness or other reasons. The members of the Faculty who visit such hospitals can thus frequently supply substitutes from competent students for longer or shorter periods. Such places, of course, cannot be promised in advance, but may confidently be expected by a greater or less number.

The required work of this fifth year is then briefly summarized as follows :

A quiz of at least one hour a week in each of the subjects of Medicine, Surgery, Anatomy, Materia Medica and Therapeutics, and Obstetrics and Gynæcology from October to April inclusive. At least two hours' daily service for four months each (preferably in the morning) in general medicine and general surgery in the College dispensary ; at least two hours' daily service for one month (preferably in the afternoon) in each of the nine specialty departments of the College. If any of the work is elected in another dispensary or hospital, it must be one under the supervision of some member of the Faculty.

The fees for this year will be \$100, payable in advance to the college ; and a graduation fee of \$25, payable at the end of the fifth year ; and the fee payable to the quiz masters, of not more than \$100.

Registration and Matriculation. Students on entering the College must register and pay the registration fee of \$5. The payment of this fee is required only once. They will receive a receipt which will be exchanged for a certificate of full matriculation when they shall have complied with the requirements stated on page 249. No conditional matriculation will be accepted. The full 60 count Medical student's certificate, including the 30 counts in the subjects specified, must be presented.

Advantages Gained by Preliminary Education. Graduates of Cornell, Yale, Harvard, Princeton, University of Pennsylvania, Johns Hopkins, Columbia, University of Michigan, and other accredited universities, who have taken either a preparatory medical course or special work in organic or inorganic chemistry, physics, or physi-

ology, will be allowed credit for the work which they have done, and may be excused from the recitations upon these subjects, and from the exercises of the chemical laboratory in the first year, provided they pass examinations before the professors of these departments, and provided they give to dissection and electives as described on pp. 258, 259, in the various departments, a full equivalent in hours to the subjects they may have passed by examination.

Students who have had training in microscopical technique or in histology will be given advanced work in the histological laboratory.

Admission to Advanced Standing. Students who have already attended the requisite number of courses in other accredited medical colleges, may be admitted to advanced standing in any one of the years of the four years' course of the Cornell University Medical College, by presenting the requisite Cornell Regents' medical student certificate and by passing examinations in the subjects described on pp. 258, 259 as completed, in the year or years previous to that which the student desires to enter. The applicant must also present certificates of having satisfactorily completed laboratory courses equivalent to those required of the Cornell medical students in the year or years previous to that to be entered.

According to law, no student from a Medical School which has not been registered by the Education Department may obtain a degree on less than two years of medical study in this State.

HOLDERS OF SPECIAL DEGREES. Graduates of pharmacy or of dental or veterinary or other professional schools, who can present satisfactory evidence of having completed any course of study required in any year by this College, may upon passing a satisfactory examination be excused from attendance upon instruction in that subject, provided they take equivalent additional work in other branches.

Admission to Special Courses. Graduates in medicine, or students who desire to pursue a special course without graduation, are admitted to registration as special students, after approval by the head of the department conducting the course, without Regents' or other preliminary examination. Such special courses do not count in any way as part of the four years' course required of candidates for the degree of doctor in medicine. Further information regarding such courses, fees, etc., may be obtained by addressing the Secretary of the Cornell University Medical College, First Avenue, 27th and 28th Sts. New York.

NEW YORK STATE SCHOLARSHIPS.

Under the law of the State, the Commissioner of Education is empowered to award annually a number of free scholarships in Cornell University equal to the number of Assembly Districts in the State. These scholarships entitle the holder to free tuition for four years in any department of Cornell University. They are awarded on examination to candidates from the general Assembly Districts "in consideration of their superior ability and as a reward for superior scholarship in the academies and public schools of this State."

For particulars in regard to these scholarships application should be made to the Commissioner of Education at Albany, N. Y.

Holders of State scholarships are notified that failure to register before the close of registration day involves the severance of their connection with the University and consequently the forfeiture of their scholarships. The President of the University is required by law to send immediate notice of such vacancies to the Commissioner of Education and the Commissioner fills vacancies forthwith.

UNIVERSITY UNDERGRADUATE SCHOLARSHIPS.

Pursuant to the action of the Trustees, there will annually be thrown open to competition for all members of the freshman or first-year class who are registered in courses leading to first degrees, at a special examination held at Ithaca, at the beginning of the freshman year, eighteen scholarships of the annual value of \$200.

Students of high ability from the State of New York will have the additional advantage of being able to secure State scholarships, as there is nothing in the University statutes to prevent a student from holding both a State scholarship and a University scholarship.

These scholarships will be awarded on the basis of examinations in three of the six groups mentioned below.

[(a) and (b), however, may not be taken by the same candidate and every candidate must take either (b) or (c) or (d).]

(a) Plane geometry and algebra through quadratic equations.

(b) Solid geometry, advanced algebra, plane and spherical trigonometry. (c) Greek. (d) Latin. (e) French. (f) German.

For further information see pages 63-65.

CHARGES FOR INSTRUCTION.*First Year.*

Registration*	\$ 5 00	
Tuition	150 00	
Laboratory fees	35 00	\$190 00

Second Year.

Tuition	\$150 00	
Laboratory fees	35 00	\$185 00

Third Year.

Tuition	\$150 00	
Laboratory fees	35 00	185 00

Fourth Year.

Tuition	\$150 00	
Laboratory fees	25 00	
Graduation fees	25 00	\$200 00

Each student is required to pay to the Clerk of the College a sum ranging from five to fifteen dollars each year to cover breakage in the laboratories and dispensary. This sum, less the amount charged against it for breakage, will be returned at the end of each year.

Tickets must be paid for at the beginning of the session.

Special Students.

Special students, on the recommendation of the head of the department concerned, may be admitted to any of the courses of instruction offered in the College, or to any course of instruction especially provided, on the payment of a registration fee of five dollars and a tuition fee of twenty-five dollars, except in dissection, where the tuition fee is fifteen dollars.

The graduation fee is payable on registering for graduation. The tuition fees for the first two years at Ithaca are identical with those of the same period in New York. All fees are payable at the beginning of the term, but in special cases they may be paid semi-annually in advance. No rebate will be made in any case.

No remission of laboratory fees will be made because of previous instruction elsewhere in the subjects.

Expenses of Students.

The following estimate of the annual expenses of a candidate for a degree in the Medical School is based on the statements of students:

*The registration fee is payable only once—on entrance.

	<i>Low</i>	<i>Average</i>	<i>Liberal</i>
Matriculation (once only) -----	\$ 5 00	\$ 5 00	\$ 5 00
Tuition (as at present fixed) -----	190 00	190 00	190 00
Books -----	16 00	28 00	35 00
Chemical apparatus -----	4 00	5 00	6 00 up
Room -----	92 00	130 00	190 00 up
Board -----	124 00	129 00	147 00 up
Clothes and laundry -----	59 00	80 00	112 00 up
College incidentals -----	16 00	21 00	24 00 up
Other expenses -----	46 00	74 00	98 00 up
Graduation fee (last year) -----	25 00	25 00	25 00 up
Total -----	<u>\$577 00</u>	<u>\$687 00</u>	<u>\$832 00</u>

GENERAL STATEMENT OF THE PLAN OF INSTRUCTION.

The chief features in the scheme of instruction are thorough laboratory training in all the subsidiary branches, daily recitations from standard text-books, clinical teaching in dispensaries and at the bedside in hospitals, and enough didactic lectures to make clear the general principles and conflicting theories in the practice of medicine and surgery. All students in any one class advance simultaneously in the various subjects, and no section or group works apart from any other, thereby losing the opportunity to appreciate the relationship of the different subjects which at any given time may be under discussion. Allowance, however, has been made for those who through natural endowments or superior energy or previous education can outstrip their less fortunate fellows. A careful record is kept of the attendance and character of the work of every student, and by this means at the end of the year each is placed in the section to which this record entitles him. A system of electives in clinical, laboratory, and recitation work is also provided, which it is the aim of the Faculty to enlarge as opportunities arise. A student is required to master all the subjects taught in any given year before being allowed to advance to the next, as the knowledge acquired in each year is necessary for a proper understanding of that which follows. Examinations are held at the end of each session; a failure to pass not more than two subjects, one of which at least must be a laboratory subject, is allowed in the spring, but every subject must be satisfactorily passed at the beginning of the next ensuing college year, or the applicant will be compelled to repeat the work of the preceding year.

The essential feature of the entire system is the division of the classes of the several years into small sections for recitations, demonstrations, laboratory exercises, and for clinical instruction in the college dispensary, and in the wards of the numerous hospitals attended by the members of the Faculty.

The following is a statement of the curriculum in each of the four annual sessions necessary to obtain the degree of M.D., and attention is called to the careful arrangement of the instruction in time and correlation in subject-matter so as to provide for a proper understanding and assimilation of the knowledge imparted in the different departments.

If a student, without neglecting his required scheduled work desires to take advanced work and can make an opportunity to do this, without interfering with the work of other students, he shall be permitted to do so and shall receive credit for it.

The first year is devoted to anatomy, several consecutive uninterrupted hours being provided for dissection—embryology, normal histology, chemistry and physics. The gross anatomy of the thoracic, abdominal, and pelvic viscera is demonstrated in outline in the early weeks of the session in anticipation of the examination of these organs in the histological laboratory and a consideration of their physiology in the second half of the session.

The general principles of mechanics, hydrostatics, optics, electricity, heat and acoustics and their application to medicine are taught in lectures illustrated by experiments. Inorganic chemistry is studied in the laboratory throughout the year. The class is divided into small sections, each of which must attend daily one or more recitation exercises in anatomy, histology, physiology and chemistry. These follow as closely as possible the practical work.

Students who have had the advantage of a thorough preliminary education in physics and chemistry before entering the medical school, after satisfactorily demonstrating to the professor in charge of this department, by examination or otherwise, that they are familiar with the work of the first year, may be excused from attendance upon these subjects. In their place they must elect at least one of the following courses given in the second year—namely, laboratory, pharmacology, or physiological chemistry, or bacteriology.

During the second year anatomy, physiology, and chemistry are completed, and the study of text-books of medicine, surgery, obstetrics, and pathology is begun. The gross anatomy of the organs of special sense, and then that of the nervous system, is taught at the outset of the year by demonstrations to small groups of students.

The demonstration of these organs is followed as closely as possible by the study of them in the histological laboratory during the first half of the session. The lectures and recitations in physiology follow the same course, and, in connection with the study of the gross and histological aspects of the parts under discussion, are more fully comprehended. Organic and physiological chemistry are studied in the laboratory and by lectures and recitations throughout the year. At the same time a laboratory course in pharmacology is pursued, familiarizing the student with the physical and chemical properties of drugs. Bacteriology is begun, the student commencing with the preparation and care of media and the recognition of the gross and microscopical characteristics of microorganisms.

During the first few weeks of the term lectures are delivered upon the general principles of pathology, with particular reference to the elucidation and classification of the various forms of inflammation. The substance of these lectures will form the basis of the subsequent instruction in this subject in all departments, and thus insure uniformity in the teaching and understanding of the causes of disease. These lectures are supplemented by autopsies before small sections to demonstrate gross lesions. Having obtained some knowledge of pathology, the student by means of recitations is made familiar with the principles of surgery, medicine, and obstetrics.

Students who have completed elsewhere courses in physiological chemistry or pharmacology equivalent to those of the second year, may by passing examinations at the beginning of the term be excused from further attendance upon them.

Students thus excused from part of the second year work and those who have been allowed electives in their first year may take one or more of the following elective courses during their second year—namely: 1. Bacteriology in its practical relation to disease. 2. *Materia medica* recitation of the third year. 3. Manikin course in obstetrics. 4. Obstetrical clinic. The two latter elective courses are in preparation for the required work in practical obstetrics, which, usually taken in the third, can thus be taken during the second summer if desired. Students are allowed to take the State Board licensing examinations in the primary subjects at the end of the second year. Those intending to reside in this State are encouraged to avail themselves of this opportunity.

In the third year medicine, surgery, *materia medica*, therapeutics and obstetrics are studied systematically from text books, and practically at the bedside, in the dispensary, and in general clinics. A sufficient number of didactic lectures are given by the Professors of

Medicine and Surgery at the beginning of the session to explain general principles in symptomology and diagnosis. Throughout the year the class must attend in small sections one or more daily recitations from standard text-books upon the subjects previously assigned and learned. Pathology is studied in greater detail than previously, both in the laboratory and the dead house, and as far as possible, morbid processes are demonstrated in advance of the study of the disease in the text-book or its clinical presentation.

In conjunction with the bedside teaching, instruction is given in all of the modern laboratory aids in diagnosis classified under the term of clinical pathology.

Students in groups of ten or twelve are taught the methods of examining patients for the detection of abnormal physical signs, and at the close of the session are expected to be familiar with the recognition and treatment of the common diseases and be conversant with the fundamental subjects of a medical education. The specialties taken up in this year are neurology, pediatrics, toxicology, genito-urinary diseases and gynæcology. They are taught by clinical lectures as part of the general subjects of the practice of medicine, surgery and obstetrics.

The fourth year is devoted chiefly to the study of diagnosis and treatment of disease at the bedside, in the dispensary and in clinics. The extent of this may be inferred from the present arrangement of the schedule, which contemplates about seventy hours of hospital-ward work in medicine, and nearly the same number in surgery for every student. There are as few lectures as are consistent with the proper exposition of the chief problems confronting the profession, and these are delivered at the outset of the term in order that the student may become familiar as soon as possible with the facts which are to be taught practically. For example, to the professor of medicine twelve didactic lectures are assigned. This proportion has to be exceeded somewhat in therapeutics, obstetrics and the specialties, but many of these lectures are illustrated by the presentation of typical cases and are really clinics. The clinical instruction in surgery is supplemented by an operative course in which the student performs upon the cadaver all the common operations. Particular attention is also given to the methods of making medical and surgical diagnosis, and in this connection constant use is made of the bacteriological and chemical laboratories, where the student examines specimens taken at the bedside during one exercise and reports the results to the class at the next.

Hygiene and its application in the province of the physician and

public health officer is taught by lectures supplemented by demonstration of the plans and methods of the city health board.

The major part of the theoretical instruction, as in the previous years, is given by recitations in the subjects of medicine (including neurology), surgery (including orthopædic surgery and genito-urinary diseases), therapeutics, obstetrics, gynæcology and pathology.

The instruction in the specialties, which is made the distinguishing feature of this final year, is begun with a few clinical lectures and is continued by a course in the examination and treatment of dispensary patients by each student. Every one receives from fourteen to twenty-one hours of this training (the number varies somewhat with the subject), and should become reasonably proficient in the use of instruments, the ability to make diagnosis and give relief. There is no attempt made to produce experts, but each one before graduation must know enough about the specialized branches of medicine to be competent general practitioners. The lectures upon the physiology of the organs of special sense delivered in the fall to the second-year class, must also be attended by the seniors. These lectures serve as an introductory review of facts necessary for a proper knowledge of the specialties and obviate unnecessary repetitions by the different professors.

Every student must personally attend a definite number of cases of labor, and for this purpose the maternity service connected with the college offers excellent opportunities. The faculty earnestly recommend that this work be accomplished in the summer preferably of the third year; by the proper choice of electives it is possible in the second summer, but this is not as desirable or profitable. If taken during the regular winter session much loss in other work would result. Those who for any proper reason cannot take this course as advised in the summer might, however, succeed in obtaining the necessary cases during the winter by selecting odd hours when not engaged in section work, and by arrangement with the office to receive telephone calls.

To meet the requirements of hospital and other boards of examination, such as those of the civil service or of the army and navy, students who wish to compete in these examinations may elect in the fourth year to have all their recitation exercises with special instructors appointed by the faculty. A separate fee is required for this service. There is also offered an advanced course in neurology in a hospital devoted largely to the care of this class of patients. There will in addition be elective practical courses in the dispensary as opportunity arises.

DETAILS OF THE PLAN OF INSTRUCTION.**Anatomy.**

GEORGE WOOLSEY, M.D., Professor of Anatomy.

IRVING S. HAYNES, M.D., Professor of Practical Anatomy.

WILLIAM F. STONE, M.D., Instructor and Demonstrator of Anatomy.

FRANK S. FIELDER, M.D., Demonstrator of Anatomy.

BURTON J. LEE, M.D., Demonstrator of Anatomy.

JOHN F. CONNORS, M.D., Demonstrator of Anatomy.

JOHN J. NUTT, M.D., Demonstrator of Anatomy.

JOSEPH S. WHEELWRIGHT, M.D., Demonstrator of Anatomy.

ROLAND HAZEN, M.D., Demonstrator of Anatomy.

SEWARD ERDMAN, M.D., Demonstrator of Anatomy.

WILLIAM A. DOWNES, M.D., Demonstrator of Anatomy.

Anatomy is taught in the first and second years by lectures, recitations, section demonstrations and laboratory courses, and by dissection. The course in anatomy is arranged to correspond as far as possible with the courses in physiology and histology.

Lectures in the first year are confined to the practical applied anatomy of the bones and joints, and follow the recitations on these subjects. In the second year the lectures are devoted to regional surgical anatomy, the students being already well grounded in descriptive anatomy.

One lecture a week is given during the first half of the second year by the Professor of Practical Anatomy on the development and gross anatomy of the nervous system, and the topographical anatomy of one of the extremities.

Descriptive Anatomy is taught by recitations, section demonstrations and laboratory courses and by dissection.

Recitations, from standard text-books, are held by the Instructor in Anatomy twice a week for each section of the first-year class and once a week for each section of the second-year class. During the first year the recitations are upon the bones, joints, muscles, arteries, veins, and a preliminary study of the central nervous system; during the second year upon the nervous system and viscera.

PRACTICAL ANATOMY.

Section Demonstrations are now conducted as laboratory courses in which a given region is not only demonstrated, but each member of the group is required to identify the structures on the part, specimen or model. They are conducted by the Professor and Demonstrators of Practical Anatomy twice a week for each section

during the first half of the first year and the last half of the second year, and once a week during the rest of the first and second years.

During the first three months of the first year the students are taught by section demonstrations on that part of the cadaver they are next to dissect; how to dissect, what to find, and where to find it. In addition, one preliminary demonstration is given weekly from October to January on the thoracic, abdominal, and pelvic viscera, to prepare students for the courses in physiology and histology by demonstrating the organs whose function and structure they are to study. In the last half of the first year the joints are studied. In the second year the brain and nervous system, the organs of sense, the thoracic and abdominal viscera, and the perineum are studied.

Dissection.—The course in dissection is arranged on a laboratory basis—that is, the students are required to dissect during certain specified hours each day while the demonstrators are in attendance. Twelve hours a week are assigned in the schedule for this anatomical laboratory course during the first and second year, and dissection is permitted at any time after 10 A.M. that the students are at leisure.

Two courses of dissection are required. The first course for first year students comprises the dissection of three parts—the head and neck, and upper and lower extremities, including the joints. This course is begun after the recitations and section demonstrations have prepared each student for the part assigned to him.

The second course consists of the dissection of four parts and is designed for second year students and those first year students who have completed the first course. This course includes a review of the first course, with more particular attention paid to the minuter parts and, in addition, the dissection of the brain, the trunk, with the thoracic and abdominal viscera, and the perineum. A considerable part of the second course may be finished during the first year. This will afford time in the second year for additional and advanced work after completing the required parts. Students are examined and marked on the dissection of each part required. Prepared bones are loaned to students during the session from a large collection kept for this purpose.

Examinations. A practical, in addition to a written, examination is held by the Professor of Anatomy at the end of the second year. At the end of the first year there is a written review or examination on the work of the year.

Advanced, Special, and Post-Graduate Courses. Facilities are offered to students and the medical profession for pursuing advanced, special, and post-graduate courses in practical anatomy.

SUMMARY.*

	<i>First Year.</i>	<i>Second Year.</i>
Lectures	30 hours.	90 hours.
Demonstration	45 hours.	45 hours.
Recitations	75 hours.	30 hours.
Dissection	192-240 hours.	80-120 hours.

Text-Book Gerrish, second edition.

Collateral Reading—Cunningham ; Morris ; Gray ; Quain ; Toldt's *Atlas of Human Anatomy*. Woolsey, *Applied Surgical Anatomy* ; Deaver's *Surgical Anatomy* ; Haynes, *Guide to Dissection and Manual of Anatomy*.

Physiology.

——— Professor of Physiology.

JOHN A. HARTWELL, Ph.B., M.D., Assistant Professor.

JOSEPH S. WHEELWRIGHT, M.D., Assistant.

ROBERT E. GABY, A.B., Assistant.

Instruction in this branch is given by systematic and practical demonstrations and recitations to first-year students during the second half of the session, and to second year students during the first half of the session. During the second half of the session, review recitations, covering the entire first-year and second-year courses, are held once a week for the second-year class, as a preparation for the final college and the State examinations

As a preparation for the study of physiology proper, first-year students, during the first half of the session, receive instruction in the gross anatomy of the thoracic and abdominal viscera, by section demonstrations in the department of Practical Anatomy. The histology of the heart and blood-vessels, respiratory organs, alimentary canal, and glandular organs is taught in the laboratory and by recitations.

The regular second-year work in physiology is given during the first half of the session. Second-year students receive laboratory instruction in physiological chemistry in the department of Chemistry, Physics, and Toxicology. The same department gives instruction in optics and acoustics to first-year students, which serves as a preparation for the study of vision and audition in the second year. Second-year students receive laboratory instruction from the department of Histology in the histology of the nervous system and the organs of special sense. They also receive instruction from the department of Anatomy in the anatomy of the encephalon and cranial nerves, and

* This and the following summaries represent the total number of hours for each student.

from the department of Histology in the functional traits in the central nervous system.

Demonstrations.—The regular demonstrations for the first-year class begin about the middle of January, and are continued three times weekly until the close of the session, on the following subjects and in the order named: The cell, blood, circulation, respiration, digestion and absorption, secretion and excretion, general metabolism, and animal heat and force. The regular demonstrations for the second-year class begin at the opening of the session, and are continued three times weekly until about the middle of January, on the following subjects and in the order named: The nervous system, embryology, and the special senses. Seven lectures on embryology, given in January, are devoted to the development of the ovum up to and including the formation of the membranes; while the demonstrations throughout are a combination of didactic lectures and practical illustration, the didactic method is used only in those circumstances where demonstrations before the class would fail to completely present the subject.

Throughout the entire course the subject of human physiology proper is fully covered; special attention is paid to its applications to the practice of medicine and surgery, much time being devoted to what may be called applied physiology.

Recitations, Section Work, etc.—Certain of the work in the histological laboratory is practically a part of the instruction in physiology. For first year students, this includes laboratory work and recitations on the cell and karyokinesis, ciliary movements, blood, the histology of the simple tissues, heart, and vessels, respiratory system, digestive system, glandular organs, and the cellular mechanism of secretion. For second-year students the instruction includes a study, in the same manner, of the nervous system, organs of special sense, and the genito-urinary system. The instruction in physiological chemistry is given in the department of Chemistry to second-year students. It includes lectures upon physiological chemistry, laboratory work, and recitations on the carbohydrates and fats, proteids and albuminoids, food stuffs, and the digestive secretions, endosmosis and exosmosis, and the chemistry of blood, bile, urine, and the simple tissues.

A laboratory course of forty hours is given to the second-year students on the subject of Embryology. This is under the supervision of the department of Pathology.

In addition to the work in histology and physiological chemistry, and in close connection with the lectures on physiology proper, the

Instructors give, three hours weekly, recitations, with frequent demonstrations and practical exercises, to each class, divided into sections of convenient size, for first-year students during the second half of the session, and for second-year students during the first half of the session.

In the section-teaching, many demonstrations, by means of specimens, models, and apparatus, will be given which cannot with advantage be made before the whole class, such as blood-counting, the capillary circulation, blood-pressure, the use of the sphygmograph, the general physiology of nerve and muscle, etc.

In the course of the section-work, students who prove themselves capable may be permitted to aid in the preparation and giving of the demonstrations when this does not interfere with other exercises, this corps of student-assistants being changed from time to time so that the privilege may be extended to as many as possible.

SUMMARY.

	<i>First Year.</i>	<i>Second Year.</i>
Demonstrations -----	60 hours.	60 hours.
Recitations-----	45 hours.	60 hours.

Text-book—Flint, *Handbook of Physiology*, fifth edition, 1905.

Collateral Reading.—Kirke, *Handbook of Physiology*, nineteenth English edition, 1904; Schäffer, *Text-book of Physiology*; Stewart; Foster.

ALLIED BRANCHES.

Physiological Chemistry (see department of Chemistry, Physics, and Toxicology).

Embryology (see department of Pathology).

Chemistry, Physics, and Toxicology.

RUDOLPH A. WITTHAUS, M.D., Professor of Chemistry.

IVIN SICKELS, M.D., Assistant Professor.

LOUIS W RIGGS, M.D., Instructor.

CHARLES G. L. WOLF, M.D., Instructor.

B. J. DRYFUSS, M.D., Assistant.

Lectures. Students of the first year will receive three lectures each week on physics, the divisions of the subject being considered in the following order: General properties of matter and force, mechanics, hydrostatics, pneumatics, optics, electricity, heat, and acoustics. The lectures will be abundantly illustrated, and the relations of physics to surgery and medicine will be particularly considered.

During the second year, students will attend two lectures weekly. Organic chemistry will be considered in the earlier part of the term, to an extent sufficient to impart a knowledge of the principles of combination of the carbon compounds and the properties and relationships of those which are of physiological, toxicological, or therapeutical interest. The lectures during the latter part of the second year will be upon physiological chemistry.

During the third year one lecture will be given weekly on toxicology for twenty weeks. In these lectures the medical and medico-legal bearings of the subjects will be chiefly considered.

Recitations.—Students of the first year will recite twice each week on the principles of chemistry and mineral chemistry. Those of the second year will recite once weekly on organic and physiological chemistry.

Laboratory Work.—Laboratory instruction will be given students of the first year four hours weekly during the entire session.

This course will consist of an experimental study of the commoner elements and compounds in illustration of the recitation course, and of training in the processes of qualitative analysis of inorganic substances and mineral poisons.

Students of the second year will receive laboratory instruction two hours weekly until February 14th, and four hours weekly after that date in physiological and clinical chemistry and organic toxicology.

Each student is fully supplied with all apparatus and chemicals required, except urinometers, which are carefully corrected for the student that they may serve for future use.

These courses are conducted by the instructors under the direction of the Professor of Chemistry and Physics.

First-year students presenting satisfactory evidence of having performed equivalent work in chemistry and physics will be excused from first-year work in this department, and be given advanced laboratory work equivalent in hours to that omitted.

SUMMARY.

	<i>First Year.</i>	<i>Second Year.</i>	<i>Third Year.</i>
Recitations.....	60 hours.	45 hours.	
Laboratory.....	96 hours.	84 hours.	
Lectures.....	90 hours.	60 hours.	20 hours.

Text Book—Witthaus, *Manual of Chemistry*.

Collateral Reading—Wolf, *Laboratory Handbook*. Ganot's *Physics*.

Materia Medica and Therapeutics.

HENRY P. LOOMIS, M.D., Professor of Materia Medica and Therapeutics.

WARREN COLEMAN, M.D., Instructor.

EDMUND P. SHELBY, M.D., Instructor.

ROBERT ANTHONY HATCHER, M.D. Ph.G., Instructor in Pharmacology.

WILLIAM J. JONES, M.D., Clinical Assistant.

Instruction is given in this department during the second, third, and fourth years by means of: 1. Lectures. 2. Clinical instruction. 3. Recitations. 4. Laboratory work.

Lectures.—These are given by the Professor twice a week to the third-year students and once a week to the fourth-year students. They are confined almost exclusively to therapeutics, as it is believed that materia medica can best be taught by recitations and by laboratory work.

The lectures to the third-year students will consider the therapeutic uses of the most important drugs from the standpoint of the drug itself, such as the methods of prescribing the drug and the conditions for which it is given; only so much of the physiological action of the drug will receive attention as will explain its therapeutic value.

The lectures to the fourth-year students will be confined almost exclusively to a consideration of the systematic treatment of the different diseases. The plan of treatment will be given in detail, with definite instruction as to the drugs to be used and the preparations which are most reliable.

Lectures will be given on remedial agents other than drugs, such as massage, dietetics, climatology, mineral waters, and hydrotherapy.

Clinical Instruction.—A new departure in the teaching of therapeutics will be made by affording the students of the third and fourth years opportunity to observe the effects of the different remedies on the natural course of diseases. To accomplish this the classes will be divided into small sections and taken by the Professor into the wards of Bellevue Hospital and the New York Hospital. Actual practice is given in the employment and application of the various therapeutic agents used in medicine, such as the aspirator, leeches, cups, cauterium stomach-tube, and stupes. The hydrotherapeutic establishment connected with Bellevue Hospital is one of the most complete in the country. Here to small sections will be demonstrated the various applications of water to the treatment of disease—such as baths, packs, douches, etc. A professional masseur will show the technique of

massage and the Swedish movements. The treatment of the different diseased conditions observed will be systematically studied, and opportunities will be given to the members of the class to make personal examination of the patient and to watch the modification of disease produced by the remedies prescribed. The clinical work of the third and fourth years affords abundant opportunities for further training in practical therapeutics. A general medical clinic will be held by the Professor once a week in the amphitheatre of Bellevue Hospital, at which special attention will be given to the treatment of the diseases under consideration.

Recitations.—Students of the third year will recite to the instructor twice a week from a standard text-book. During the fourth year a recitation will be held once a week on therapeutics. The recitations will embrace a study of the action of all the more valuable remedial agents in connection with the description of the drugs themselves.

Each student will be thoroughly drilled in prescription-writing and in the doses of the more important drugs.

Examinations will be held at stated times during the session by the professor to enable him to judge of each student's progress.

Laboratory Work.—The laboratory of *Materia Medica* occupies two floors of the Loomis Laboratory building; it is provided with a complete assortment of crude drugs and with all the various preparations of the *materia medica*; also with appliances for instruction in the methods of manufacturing pharmaceutical preparations. The laboratory is equipped with instruments and appliances for special research in the physiological action of drugs. The large class room is supplied with sixty tables, equipped with gas, electric lights, water connections, and full apparatus, enabling each student to work separately under the supervision of the instructors.

The course of laboratory instruction is taken during the second year, and consists of six hours each week for half the year. The class is divided into small sections, which are under the personal supervision of the instructors. The method of teaching is distinctly practical. Instruction includes numerous exercises involving the manipulation of crude drugs and preparations, the occasion being used to review their physical, chemical, and medical properties.

About half of the laboratory course will be devoted to demonstrations and operations by the students upon frogs and mammals. This instruction, termed *pharmaco-dynamics*, is recognized as essential for a correct understanding of therapeutics.

In addition to these exercises the student will have frequent oppor-

tunities for examining the extensive materia medica collection, the ability to recognize the more important specimens being obligatory.

Considerable attention will be paid to prescription writing, and test prescriptions are compounded by members of the class.

SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures-----		47 hours.	30 hours.
Recitations-----		60 hours.	30 hours.
Laboratory-----	90 hours.		
Clinics-----		30 hours.	30 hours.
Sections-----		5 hours.	5 hours.

Text-Book—Butler, *Text-Book of Materia Medica, Therapeutics, and Pharmacology*, 1906.

Collateral Reading—Coleman, *Syllabus of Materia Medica*; Wilson, *American Text-Book of Applied Therapeutics*; Thompson, *Practical Dietetics*; Sollmann, *Pharmacology*; Hatcher and Sollmann, *Text Book of Materia Medica*.

Medicine.

W. GILMAN THOMPSON, M.D., Professor of Medicine.

ALEXANDER LAMBERT, M.D., Professor of Clinical Medicine.

WARREN COLEMAN, M.D., Professor of Clinical Medicine.

CHARLES E. NAMMACK, M.D., Professor of Clinical Medicine.

LEWIS A. CONNER, M.D., Professor of Clinical Medicine.

C. N. BANCKER CAMAC, M.D., Instructor and Assistant.

MONTGOMERY H. SICARD, M.D., Instructor and Assistant.

FREDERICK L. KEAYS, M.D., Instructor and Assistant.

THEODORE B. BARRINGER, M.D., Instructor and Assistant.

BERT R. HOOBLER, M.D., Instructor and Assistant.

THOMAS WOOD HASTINGS, M.D., Instructor and Assistant.

JOHN W. COE, M.D., Instructor and Assistant.

WALTER L. NILES, M.D., Instructor and Assistant.

NATHANIEL R. NORTON, M.D., Instructor and Assistant.

MORTIMER WARREN, M.D., Instructor and Assistant.

The Course of **Medicine** comprises a graded plan of study extending throughout three years. General didactic lectures upon the practice of medicine are wholly supplanted by bedside and dispensary instruction and recitations. The course includes the following subdivisions :

Second Year:

Recitations from a text-book upon elementary medicine, with written reviews.

Third Year :

1. Recitations from an advanced text-book, with written reviews.
2. Physical diagnosis of the heart and lungs.
3. History-recording.
4. Bedside course in symptomatology.
5. Dispensary course in general medicine.
6. Clinical pathology.
7. Twenty lectures on symptomatology.
8. Hospital medical clinics.

Fourth Year :

1. Advanced bedside study in symptomatology and diagnosis.
2. Demonstrations of patients by the student before the class in the out-patient clinic.
3. Physical diagnosis.
4. Hospital medical diagnosis clinics.
5. Medical conferences.
6. Ten lectures upon diatheses, toxæmias, etc.
7. Elective advanced work in clinical diagnosis (clinical pathology, history recording, etc.).
8. Recitations in medicine.

The details of the methods of instruction in medicine for each year of the curriculum are as follows :

SECOND YEAR STUDENTS.

Recitations.—Second-year students begin the study of medicine with systematic recitations each week from an elementary text book, in which the subjects of nomenclature, etiology, morbid anatomy, and typical symptoms only are dwelt upon.

THIRD YEAR STUDENTS.

Recitations.—Third-year students recite twice each week from an advanced text-book on the Practice of Medicine, special emphasis being given to symptomatology, complications, diagnosis, and treatment.

Written reviews are held at intervals to familiarize the student with examinations. All recitations are obligatory, and the recitation marks received form an important component of the final examination marks of the year.

Ward Work.—Systematic and obligatory ward work is begun in

classes not exceeding fifteen students each, who accompany the Professors of Clinical Medicine on rounds through the hospital wards. Examples of all the common diseases are studied, and the student has opportunity to personally examine many cases of disease in different stages of development, and of following their daily progress. A special course in general medical diagnosis is given at the bedside, in which the student observes cases illustrating all the important physical examinations.

Dispensary Classes.—Students in small classes are instructed in general medical diagnosis by Dr. Barringer in the new Out Patient Department of Bellevue Hospital.

Clinical Laboratory Courses are conducted in immediate connection with the study of hospital and dispensary cases.

The laboratory is designed to meet the three requirements of :

(1) *Teaching*; (2) *Original Research*, and (3) *Diagnosis*.

(1) *Teaching.*—The third-year class is divided into small sections, so that each member receives the personal assistance of the demonstrator. At the conclusion of the course a written and practical examination is held, and the result of this, as well as the character of the work done by each student, is included in the general average mark received by him in medicine. When assigned to cases at the general medical clinic in the fourth-year the student is required to report the result of his examination of the sputum, blood, urine, etc.

The apparatus employed may readily be transported to the bedside, the work being thus essentially practical, and the student *himself* uses it so that he may become familiar with its care and application.

The course comprises the thorough study of the sputum, blood, gastric contents, fæces, urine, exudates and transudates.

Each student is furnished typical specimens which he stains and studies at the demonstrations.

(2) *Original Research.* Facilities are offered to graduate and undergraduate special students for the undertaking and publication of original investigations.

(3) *Dispensary, Hospital, and Clinical Laboratory Examinations.* The laboratory is a working part of the Cornell Dispensary. The visiting staff of this Dispensary, as well as that of the adjacent hospital, use the laboratory extensively for completing the data of their cases. Students who have completed their third year, and whose standing is good, may, under the supervision of the instructors, employ their summer months in following this work in the laboratory,

Physical Diagnosis.—Physical diagnosis of the chest is taught in classes not exceeding a dozen students each. This course of 30 lessons for each class is very comprehensive, owing to the large number of patients in the class of heart and lung diseases at the College Dispensary and in the wards of Bellevue Hospital.

General Medical Clinics.—Students of the third year are required to attend a clinic in general medicine conducted by Professor Lambert (commencing in December, and also the clinic in medical diagnosis conducted by Professor Thompson, and the clinic in general therapeutics by Professor Loomis, as described for the fourth year. These clinics are held weekly in the amphitheatre of Bellevue Hospital.

Lectures.—A course of twenty lectures upon general symptomatology is given by the Professor of Medicine, which is designed as introductory to the systematic bedside teaching which he conducts upon hospital rounds.

FOURTH YEAR.

Bedside Instruction is given by the Professor of Medicine to sections not exceeding fifteen students, in the wards of the Presbyterian Hospital until January 1st, and in those of Bellevue Hospital thereafter, throughout the year. In these sections each student is assigned in turn to special cases for thorough study. Ward classes are also conducted by Dr. Conner at the Hudson Street Hospital, and by Drs. Lambert and Nammack in Bellevue Hospital.

Clinics.—Medical clinics are held weekly in the amphitheatre of Bellevue Hospital by the Professor of Medicine. At these clinics students read written histories of cases which they have previously studied in the hospital wards. They are required to demonstrate their findings upon the patient, and are questioned before the entire class in regard to diagnosis, etc. These clinics are also utilized by the Professor of Medicine to exhibit cases of exceptional rarity or difficult diagnosis, and a few of them are conducted in coöperation with the Professor of Surgery in order to present to the students the value of conjoint medical and surgical points of view in appropriate cases. A second general medical clinic is held weekly in the Bellevue amphitheatre by the Professor of Therapeutics, at which the effects of treatment are made the prominent feature.

An out-patient clinic is also held weekly by the Professor of Medicine in the Dispensary of the College, at which students are given ample opportunity to examine patients, study minor ailments, as well as all the forms of disease in the ambulatory cases of a large and

varied clinical service. More than 5,000 cases were treated during the past year in this department alone of the dispensary.

Dispensary Classes, comprising a dozen students each, are conducted in periods of five weeks for two hours twice a week. The students are taught methods of complete general physical examination, diagnosis, prognosis and treatment, and of history recording. Opportunity is afforded to follow the progress of cases from week to week, and to make clinical examinations of the sputum, blood, etc., in each case.

Lectures.—A course of ten lectures is given by the Professor of Medicine upon such general topics as the diatheses, toxæmias, auto-intoxication, cachexias, etc. Three lectures are also given by Dr. Conner upon the Internal Secretions, and three lectures by Dr. Camac upon the Clinical Aspects of Immunity.

Medical Conferences.—Under Dr. Coleman's direction, students are assigned to special cases which they study in detail for several weeks, reviewing the literature of the subject, and which they then report in writing at a medical conference, at which their fellow-students are called upon to offer criticisms and general discussion.

An elective course in advanced clinical pathology and diagnosis is offered in the fourth year.

SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
Clinics -----		46 hours.	60 hours.
Lectures -----		20 hours.	10 hours.
Recitations -----	45 hours.	60 hours.	30 hours.
Sections -----		50 hours.	78 hours.

CLINICAL PATHOLOGY.

Laboratory -----	60 hours.
Recitations -----	6 hours.

Text-books—Musser, *Medical Diagnosis*; Tyson, *Physical Diagnosis*; Salinger and Kalteyer, *Medicine*.

Collateral Reading—Loomis-Thompson, *American System of Practical Medicine*.

Surgery.

LEWIS A STIMSON, M.D., Professor of Surgery.

FREDERIC S. DENNIS, M.D., Professor of Clinical Surgery.

GEORGE WOOLSEY, M.D., Professor of Clinical Surgery.

FREDERICK KAMMERER, M.D., Professor of Clinical Surgery.

ALEXANDER B. JOHNSON, M.D., Professor of Clinical Surgery.

FREDERICK GWYER, M.D., Professor of Clinical Surgery.

FRANCIS W. MURRAY, M.D., Professor of Clinical Surgery.

PERCIVAL R. BOLTON, M.D., Professor of Clinical Surgery.

CHARLES L. GIBSON, M.D., Professor of Clinical Surgery.

BENJAMIN TILTON, M.D., Instructor.

JOHN ROGERS, M.D., Instructor.

ARCHIBALD E. ISAACS, M.D., Instructor.

JAMES MORLEY HITZROT, M.D., Instructor.

WILLIAM F. STONE, M.D., Instructor.

GEORGE E. DODGE, M.D., Assistant.

WILLIAM A. DOWNES, M.D., Assistant.

Surgery will be taught in the recitation room, at the bedside, in the dispensaries, at hospital clinics, and by lectures.

In the second year the students are required to attend recitations on the principles of surgery two hours a week throughout the term. For this purpose the class is divided into small sections to insure thorough work ; so far as time permits instruction will also be given at the bedside.

In the third year recitations are continued upon regional surgery ; the class is instructed in sections in Bellevue Hospital in history-taking and methods of surgical examination and diagnosis, three hours a week for part of the term ; and also two hours a week bedside instruction. Formal clinics are held in Bellevue, New York, and other hospitals ; about thirty lectures will be given by the Professor of Surgery, and a clinic for diagnosis is held once a week throughout the term at which the students are required personally to examine and report upon the cases.

In the fourth year the students will receive clinical instruction in small groups in several hospitals and dispensaries upon general surgery and the special branches—eye, ear, nose and throat, genito-urinary diseases, dermatology and orthopædics ; they may attend the lectures and clinics, and will have a review quiz in preparation for examination.

The members of the sections are trained in the examination of patients, the dressing of wounds and fractures, the administration of ether and assisting at operations.

The opportunities for the instruction in the special branches are exceptionally ample. There will be several clinical teachers in each subject, each with hospital and dispensary services. The student will be enabled directly to examine and study cases, and will have a certain choice as to the time given to each branch.

In addition to the clinics at Bellevue and the New York hospitals specified above, Professor Gibson will give clinics at St. Luke's hospital at dates to be announced during the session.

Lectures on special topics are given in the college lecture courses in the second term, to which students of all classes are admitted.

Operative Surgery will be taught to small sections of the class in the fourth year. The course consists of recitations, work upon the cadaver, and bandaging. As the material is abundant, each member of the class will perform the principal surgical operations.

Special instruction in operative surgery is offered to graduates in medicine. A circular giving particulars may be had on application to the Secretary.

SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures.....		36 hours.	36 hours.
Recitations	60 hours.	60 hours.	30 hours.
Clinics		86 hours.	86 hours.
Sections		40 hours.	25 hours.
Operative Surgery ----			30 hours.

Text Book—Tillman.

Collateral Reading—*American Text Book*; Parks' *Surgery*; Stimson's *Fractures and Dislocations*; Stimson's *Operative Surgery*; Dennis, *System of Surgery*.

Obstetrics.

J. CLIFTON EDGAR, M.D., Professor of Obstetrics and Clinical Midwifery.

GEORGE D. HAMLIN, M.D., Instructor.

ALBERTUS A. MOORE, M.D., Instructor.

I. L. HILL, M.D., Instructor.

GUSTAVE SEELIGMANN, M.D., Instructor.

Instruction in obstetrics will be given during the second, third and fourth years by—

1. Recitations. 2. Illustrative lectures. 3. Obstetric clinics and conferences. 4. Attendance upon cases of confinement. 5. Manikin practice and section work. 6. Obstetric histology, pathology and bacteriology.

1. **Recitations** from a standard text-book will be held by an instructor in obstetrics during the second year upon the physiology, and during the third upon the pathology of obstetrics, the latter including obstetric surgery.

These recitations are so scheduled as to cover the entire field of the subject laid out for the college year, are supplementary to the work of the Professor of Obstetrics during each of these two years, and prepare the student for an intelligent appreciation of his subsequent illustrative lectures, obstetric conferences, attendance upon cases of confinement, clinics, and manikin practice.

2. **The Illustrative Lectures** comprise a systematic course running through the third year, upon the physiology and pathology of obstetrics.

These lectures are theoretical to a limited extent only, being mainly demonstrative and illustrative in character. To this end ample black-board space is used, as well as an abundant collection of pelves, entire, normal and deformed, mesial sections of the same, and in addition a supply of diagrams, charts, carefully selected plaster, composition, and metal models, wet and dry preparations, and instruments.

In conjunction with these lectures additional recitations are held by the Professor of Obstetrics upon the subject-matter of the college year and for final review.

3. **Obstetric Clinics and Conferences.**—A weekly obstetric clinic is held by Professor Edgar a portion of the year for both the third and fourth-year classes at the Manhattan Maternity and Dispensary, 327 East 60th Street. At this clinic abnormal cases of pregnancy, labor, and the puerperium are demonstrated, and the major and minor obstetric operations performed.

In addition, infant feeding and the care of mother and child during the lying-in period and early infancy are taught. During both the third and fourth year, members of the class will be called upon in rotation to examine patients and discuss etiology, diagnosis, prognosis, and treatment. These "obstetric conferences" will review the illustrative lectures, manikin work, and the student's work in his attendance upon confinement cases. By this means each individual student's standing in the department of obstetrics is ascertained. During the latter half of the second year six obstetric clinics are given at the hospital. Attendance upon these clinics is optional.

4. **Attendance upon Cases of Confinement.**—Each candidate for the degree of M.D. is required to present satisfactory evidence to the effect that he has attended a definite number of cases of confinement. To fulfill this requirement students may register as internes in the Manhattan Maternity and Dispensary, 327 East 60th Street, and receive this practical instruction from Professor Edgar and the instructor in obstetrics. Students are lodged in the above hospital for

periods of two weeks or more and attend confinement cases both in the hospital building and in the tenement-house districts of the upper east side of the city.

During the student's attendance upon his practical maternity course he may be excused from the exercises of the College during the fourth college year, but he should take his practical obstetric course during vacation time. Students will attend confinement cases under the supervision of the clinical instructors, and may obtain further information concerning their practical obstetric work by applying at the Secretary's office.

5. **Manikin Practice and Section Work.**—Manikin practice is given to sections of the class during the fourth or senior year, and consists of work by individual students upon the manikins, under the supervision and criticism of an instructor.

The mechanical phenomena of labor ; modes of delivery ; abnormal presentations and positions, with methods of delivery of each ; version ; application of the forceps, and other manipulations, will be demonstrated by the instructor and performed by the student.

Diagrams, models, casts, wet and dry specimens, will be used in the demonstrations.

The sections will also be instructed at the bedside in the management of pregnant and parturient women, the care of the new-born child, abdominal palpation, and pelvic mensuration.

6. **Obstetric Histology, Pathology, and Bacteriology.**—Laboratory instruction is given during the third year by the Professor of Pathology upon the histology of the vulva, vagina, uterus, ligaments, Fallopian tubes, and ovaries in the pregnant and non-pregnant conditions, and upon the histology and pathology of the decidua, chorion, placenta, and umbilical cord.

SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures -----		30 hours.	
Recitations -----	30 hours.	30 hours.	
Clinics -----		30 hours.	15 hours.
Sections -----		15 hours.	

Text-book—Edgar's *Practice of Obstetrics*.

Department of Pathology.

[INCLUDING HISTOLOGY, EMBRYOLOGY, GROSS AND MICROSCOPICAL PATHOLOGY, BACTERIOLOGY, AND EXPERIMENTAL PATHOLOGY.]

JAMES EWING, M.D., Professor of Pathology.

BERTRAM H. BUXTON, M.D., Professor of Experimental Pathology.

- JEREMIAH S. FERGUSON, M.D., Instructor in Histology.
OTTO H. SCHULTZE, M.D., Instructor in Gross Pathology.
MAX G. SCHLAPP, M.D., Instructor in the Histology and Pathology of the Nervous System.
WILLIAM J. ELSER, M.D., Instructor in Bacteriology.
JAMES C. JOHNSTON, M.D., Instructor in Pathology.
ISRAEL STRAUSS, M.D., Instructor in Embryology.
HENRY T. LEE, M.D., Assistant in Pathology.
GUY D. LOMBARD, M.D., Assistant in Histology.
FREDERICK B. HUMPHREYS, M.D., Assistant in Histology.
LEOPOLD JACHES, M.D., Assistant in the Histology and Pathology of the Nervous System.
RICHARD WEIL, M.D., Demonstrator in Gross Pathology.
HARVEY E. JORDAN, A.B., Assistant in Histology and Embryology.
THOMAS A. NEAL, M.D., Assistant in Gross Pathology.
FRANK M. HUNTOON, M.D., Assistant in Bacteriology and Pathology.
PHILIPP SHAFFER, Ph.D., Assistant in Experimental Pathology.
JOHN C. TORREY, Ph.D., Assistant in Experimental Pathology.
OSCAR TEAGUE, M.D., Assistant in Experimental Pathology.

Histology.

The work in this subject is conducted throughout the first and during a portion of the second year by laboratory exercises and by recitations. Laboratory exercises, in two two-hour sessions weekly during the first year, and one two-hour session weekly during the second year, occupy in all about 150 hours for each student. The work covers the construction and use of the microscope, the methods of preparing microscopical sections of tissues, and the normal histology of the various tissues and organs of the human body. Attention is constantly directed to the application of the knowledge to physiology, and to further this end the courses in physiology and histology proceed as far as possible in unison. When desirable the structure of human tissues and organs is illustrated by sections of embryonal and lower vertebrate tissues.

In the first year the blood and simple tissues, the gastro-intestinal tract and adnexa, and the respiratory, circulatory, and genito-urinary organs are studied. In the second year the organs of the special senses and the nervous system are considered.

Recitations.—One recitation weekly for each student is held during the first year, and the first half of the second year, on subjects assigned from the text-book on histology. These recitations are de-

signed to completely familiarize the student with the structure of the tissues considered during the previous week in the laboratory exercises.

An examination is held at the end of each year. The standing of the student in this, as in the other subjects, is determined equally from the work in the laboratory exercises and in the recitations.

Embryology.

In the latter half of the first year, a series of topics in embryology, which have special importance in medicine and pathology, are presented in a laboratory course, occupying about 40 hours for each student. These topics embrace the fertilization and maturation of the ovum, formation of germ layers, and the main facts regarding the development of the different systems and viscera. These topics are illustrated by microscopical sections, charts, lantern slides, and the Ziegler models. The laboratory work is supplemented by a course of fifteen lectures.

Pathology.

The course of instruction in pathology in the second year comprises a preliminary course of lectures on the theory and classification of inflammations, which is designed to acquaint the student with the main facts in this field, to prepare him for preliminary studies in medicine and surgery, and to establish a uniform system of nomenclature to be used in this and other departments. During one half the second year, also, attendance is required at one weekly demonstration in gross pathology, at which the more common visceral lesions are exhibited. This course is designed to accompany the preliminary recitations in medicine and surgery of the second year.

The main branches of the subject are grouped in the third year in order to secure the simultaneous study of the gross and microscopical changes in diseased tissues. In the fourth year the students perform autopsies, and attend lectures in special pathology.

Microscopical Demonstrations in Pathology.—The microscopical demonstrations occupy three two-hour sessions weekly throughout the third year, in all about 175 hours. The specimens studied illustrate the topics of inflammation, tumors, auto-intoxications, infectious diseases, and diseases of the nervous system, and are supplemented by lectures, and special demonstrations by means of sections, charts, lantern slides, and micro-photographs.

Demonstrations in Gross Pathology.—On the days alternating with the microscopical studies demonstrations of gross pathological specimens are given to the students of the third year, with the

material collected from autopsies. With the viscera of each case is presented an epitome of the clinical history, and, when necessary, frozen sections of the organs, and the clinical symptoms are explained from the gross and microscopical changes in the altered tissues. The student here sees the viscera of many of the fatal cases which he has studied in the wards of the hospital.

Gross pathological diagnosis is taught as a separate branch of this subject, not bearing directly on the clinical aspect of the case.

These demonstrations occupy three two-hour sessions weekly, each section of the class attending one exercise weekly throughout the year.

Post-Mortem Examinations.—Students of the fourth year are required to perform autopsies under the direction of the instructor in gross pathology, when they are made familiar with the technical procedures required in ordinary and in medico-legal cases.

Recitations. One recitation weekly is required of each student throughout the third year.

Lectures. A series of lectures on special topics in pathology is given to students of the third and fourth years. These topics have included: The Mechanism of Immunity, the Etiology of Tumors, Cerebral Hemorrhage, Comparative Morphology of the Cerebral Cortex, etc. Attendance at these lectures is optional.

Experimental Pathology.

During the year 1903 definite plans were formed to facilitate experimental studies in the Department of Pathology. The direct object of the plans was to associate together a number of competent workers whose time should be devoted to the study of problems in medical science. Abundant space and modern facilities have been provided in the Loomis Laboratory for experimental work in cellular pathology, bacteriology, and physiological chemistry, and for micro-photography, and are available to approved applicants who desire to engage in this work under the direction of Professor Buxton. The members of this staff include also Dr. John C. Torrey, Dr. Philipp Shaffer, Dr. Oscar Teague, and assistants.

Since 1904 the work of the Huntington Fund for Cancer Research has been located in the Loomis Laboratory, under the direction of Professor Buxton and Dr. S. P. Beebe, assisted by Dr. Philipp Shaffer, Dr. Martha Tracy, and others.

Bacteriology.

The laboratory course in bacteriology occupies three two-hour sessions each week for one-half of the second year—in all, ninety hours

for each student. The student is first made familiar with the methods of disinfection, and is required to prepare the ordinary culture media. The work then proceeds to the methods of staining and examining bacteria; their artificial cultivation and the study of biological characters; the methods employed in the separation of species; the general relation of pathogenic bacteria to disease; and concludes with the biological analysis of air, water, soil, and milk. Cultures are made from the viscera of cases of the various infectious diseases, and the student is required to cultivate and identify the important pathogenic micro-organisms. The work is supplemented when necessary by the use of pure cultures, by the exhibition of anaërobic cultures, and to a limited extent by inoculation in animals.

An Advanced Course in bacteriology is offered to those students who have been able in the first year to attend the course required in the second year.

This course includes the cultivation of other pathogenic micro-organisms, the separation of species, and the bacteriological examination of viscera secured at autopsies.

Advanced Courses and Research.—The abundant facilities of the laboratory on the fourth floor of the new building can be offered to properly qualified students and practitioners of medicine who wish to pursue advanced courses of study on lines of original research, under the direction of special instructors.

SUMMARY.

	<i>First Yr.</i>	<i>Second Yr.</i>	<i>Third Yr.</i>	<i>Fourth Yr.</i>
<i>Histology :</i>				
Recitations.....	60 hours.	25 hours.		
Laboratory.....	120 hours.	60 hours.		
<i>Embryology :</i>				
Laboratory.....	30 hours.			
Lectures.....	15 hours.			
<i>Pathology :</i>				
Lectures.....		10 hours.		
Laboratory.....			180 hours.	
Recitations.....			30 hours.	
<i>Gross Pathology :</i>				
Laboratory.....		15 hours.	60 hours.	30 hours.
<i>Bacteriology :</i>				
Laboratory.....		90 hours.		

Text-Books : Histology—Ferguson, *Text-Book of Histology*.

Pathology—Delafield and Prudden, *Pathological Anatomy and Histology*.

Bacteriology—Muir and Ritchie, *Manual of Bacteriology*; Park, *Bacteriology*.

Collateral Reading—Orth, *Pathological Diagnosis*; Ziegler, *General Pathology*; Sternberg, *Manual of Bacteriology* Ewing, *Pathology of the Blood*; Minot, *Embryology*.

SPECIAL DEPARTMENTS OF MEDICINE AND SURGERY

Nervous Diseases.

CHARLES L. DANA, M.D., Professor of Clinical Medicine, Department of Diseases of the Nervous System.

ROBERT M. DALEY, M.D., Instructor.

LESLIE J. MEACHAM, M.D., Instructor.

ALEXANDER S. LEVERTY, M.D., Assistant.

SHERMAN BROWN, M.D., Assistant.

The regular work consists of a preliminary series of lectures by Professor Dana, in which the general outline of the work for the year is given, with demonstrations of the general anatomy, general symptomatology, and methods of examination of the nervous system. During the rest of the term clinical lectures on nervous diseases are held weekly in the amphitheatre of Bellevue Hospital or at the college. Section work is given weekly to classes in the wards of Bellevue Hospital, and three times a week in the dispensary of the college. In this dispensary, section-work instruction is given in history-taking in the examination of patients, and in electro-therapeutics.

It is considered of the greatest importance that the student of nervous diseases be thoroughly grounded in the anatomy and physiology of the nervous system, therefore courses in gross and microscopical anatomy of the nervous system are provided in the histological laboratory. Special students can also take courses on the pathology of the nervous system.

Thus the course of instruction aims to provide the student before he graduates with instruction in the microscopical anatomy of the nervous system, in its physiology and pathology, and also with practical clinical instruction in the amphitheatre, at the bedside, and in the dispensary.

SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year</i>
Lectures.....	5 hours.	
Clinics.....	20 hours.	20 hours.
Sections.....	15 hours.	5 hours.

Text-book—Dana, *Diseases of the Nervous System and Psychiatry*.

Collateral Reading—Gower, *Diseases of the Brain and Spinal Cord*; works on nervous diseases by Dercum, Mills, Sachs, Starr; Obersteiner, *Anatomy of the Nervous System*.

Psycho-Pathology.

ADOLPH MEYER, A. M., M. D., Professor of Clinical Medicine, Department of Psycho-pathology.

AUGUST HOCH, M. D., Clinical Instructor.

GEORGE H. KIRBY, M. D., Clinical Instructor.

A series of five introductory lectures will be followed by eight clinics of two hours each at the Manhattan State Hospitals on Ward's Island, and seven optional lectures reviewing the clinical demonstrations. Provision will be made for some optional section work on Ward's Island or at the College Dispensary.

The course is to cover the principal data and methods of modern psycho-pathology, the diagnosis and legal commitment of the insane, and the medico-legal problems of insanity.

SUMMARY.

Introductory lectures.....	5 hours.
Clinics.....	14 hours.
Section work (optional).....	4 hours.

Text-Book—Kraepelin, *Clinical Psychiatry*; Dana, *Nervous Diseases and Psychiatry*; Paton, *Psychiatry*.

Diseases of Children.

JOSEPH E. WINTERS, M. D., Professor of Clinical Medicine, Department of Diseases of Children.

WALTER A. DUNCKEL, M. D., Clinical Instructor.

WILLIAM SHANNON, M. D., Clinical Instructor.

SAMUEL M. EVANS, M. D., Assistant.

HORACE S. STOKES, M. D., Assistant.

JOHN H. P. HODGSON, M. D., Assistant.

This department will embrace clinical instruction and section teaching in all the important diseases of infancy and childhood.

There will be one clinical lecture each week in the college building, and clinical lectures in the Willard Parker Hospital on scarlet fever and diphtheria.

In connection with the dispensary of the Children's Department in the college building there is an amphitheatre for section teaching, and

isolation rooms for contagious diseases, so that students have ample opportunity for the personal study of disease.

Two hours each week will be devoted to section teaching in the dispensary to the students of the fourth year.

Students will be required to examine sick children and discuss the diagnosis and treatment of patients assigned to them.

Special attention is given to the hygiene and feeding of infants ; the digestive disorders of infants ; the dietetics of childhood and the food disorders of infancy and childhood ; the anatomical and physiological peculiarities of infancy and childhood ; and the influence these peculiarities have on the manifestations of disease in children.

One of the distinguishing features of this department will be the instruction of each student in the art of diagnosis by the professor in charge.

There will be practical bedside illustrations of the management, care, and therapeutics of all the acute diseases of infancy and childhood.

In the clinical laboratory microscopical examinations will be made of secretions and excretions, of lesions of the mouth and throat, and of sections of anatomical lesions of the important diseases of childhood.

SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year.</i>
Clinics.....	30 hours.	30 hours.
Sections		10 hours.

Text-Book—Henry Ashby, *The Diseases of Children*, London, fifth ed., 1905 ; Rotch, *Pediatrics*.

Collateral Reading—Starr, *American Text-Book on the Diseases of Children* ; Welch and Schomberg, *Acute Contagious Diseases*.

Hygiene.

Instruction in many of the branches of hygiene and preventive medicine is a prominent feature in some of the courses pursued in the several departments of Chemistry, Bacteriology, Pathology, and Medicine.

The topics thus covered include the chemical and bacterial analysis of air, water, milk ; the preservation and adulteration of foods ; and the general diagnosis, control and prevention of infectious diseases.

The more distinctive branches of hygiene and preventive medicine are presented in a course of lectures to third- and fourth-year students. Some of the topics thus considered are :

(1) The hygiene of dwellings, ventilation, sanitary plumbing,

ighting, water supply, disposal of sewage, school hygiene, and municipal sanitation. Dr. WOODBURY

(2) The chemical problems relating to the collection, storage, and distribution of water supplies. Dr. RIGGS.

(3) The relation of diseases of lower animals to those of man. Meat inspection. Milk inspection. Prof. MOORE.

(4) Epidemiology, prophylaxis, and hygiene of transmissible disease. Prof. EWING.

Text-Books—Eghert, *Hygiene and Sanitation*; Bergey, *Text-book of Hygiene*; Notter, *Theory and Practice of Hygiene*.

Gynæcology.

WILLIAM M. POLK, M.D., Professor of Clinical Surgery, Department of Gynæcology.

CHARLES C. BARROWS, M.D., Instructor.

GEORGE G. WARD, JR., M.D., Instructor.

GEORGE D. HAMLEN, M.D., Instructor.

LE ROY BROWN, M.D., Instructor.

Instruction in gynæcology is given by recitations, lectures, ward and class-room demonstrations, clinics, and laboratory demonstrations.

Five Lectures, upon topics of special interest and importance to the subject as a whole, will be given during the fourth year.

Recitations are planned to cover the entire subject, and are held one hour a week during the fourth year of the course. In order that the instruction throughout the department may be as nearly in unison as possible, a synopsis of the subject-matter of each lesson is prepared by the instructor and amended and revised by the head of the department. This is presented to the student for comparison with his text-book, to which it is an addendum. This method insures the coöperation of the head of the department in the groundwork of his subject and enables him to keep in touch with each student until his graduation.

Class-room and Ward Demonstrations are given to sections of the fourth-year class twice a week throughout the year. This instruction includes the examination of patients by the students, who are thereby drilled in the methods of physical diagnosis as applied to the pelvis. When necessary the patients are anæsthetized.

The routine of treatment appropriate to the various conditions found is demonstrated, the students assisting when possible. In this way, not only is familiarity acquired with normal conditions within the pelvis and the various departures from this state induced by dis-

ease, but opportunity is afforded to see and put in actual practice measures of relief and to watch the subsequent course and treatment of these cases.

Operations are performed three days every week at which the several sections are enabled to study the detail of every operation peculiar to this department.

A General Clinic is held once a week at which students selected in rotation are required to examine the patient, make a diagnosis, and suggest treatment. They are questioned before the class upon all these topics, as they relate to the case in hand, so as to determine the correctness of their conclusions. Should operation be called for, it is then performed.

Laboratory Demonstrations of secretions, discharges, and specimens obtained from patients who come under observation during this course are made to sections of the third-year class as a part of the course in clinical pathology.

SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures		6 hours.
Recitations		30 hours.
Clinics	30 hours.	30 hours.
Sections		20 hours.

Text-Book—Penrose, *Gynæcology*; Findley, *Diagnosis*.

Collateral Reading—Dudley, *Gynæcology*; Garrigues, *Diseases of Women*.

Diseases of the Genito-Urinary Organs.

SAMUEL ALEXANDER, A.M., M.D., Professor of Clinical Surgery,
Department of Diseases of the Genito-Urinary System.

FRANCIS C. EDGERTON, M.D., Clinical Instructor.

The course is required of students during the third and fourth years, and is designed to give instruction in diagnosis and treatment of the surgical diseases of the male genital and urinary organs and syphilis.

Lectures. One lecture a week from the opening of the term to the first of January will be given by Professor Alexander at the college, introductory to the clinical courses, and upon syphilis.

Clinic. A clinic will be given in the amphitheatre of Bellevue Hospital once each week after the first of January by Professor Alexander. At this clinic the principal operations upon the male urinary and genital organs will be performed before the class, and special at-

tention will be given to the subject of diagnosis and post-operative management of cases. Attendance upon these clinics is required by students during the third and fourth years.

Section Teaching at the College Dispensary. The third-year class will be divided into sections of small size, and instruction will be given by the Chief of Clinic and the instructors in the college dispensary. Special attention will be given in this course to the diagnosis and treatment of the venereal diseases and the use of special instruments.

The fourth-year class will be divided into sections of small size, and instruction will be given in the wards of Bellevue Hospital by Professor Alexander. This course will be devoted principally to the diseases of the urinary organs and to instruction in the use of special instruments and apparatus and the post-operative treatment of cases.

SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year.</i>
Clinics.....	18 hours.	18 hours.
Sections.....	15 hours.	10 hours.
Lectures.....		9 hours.

Text-Books—White and Martin ; Keyes.

Collateral Reading—Hyde and Montgomery ; Keyes and Chetwood.

Dermatology.

GEORGE T. ELLIOT, M.D., Professor of Clinical Surgery, Department of Dermatology.

JAMES C. JOHNSTON, M.D., Clinical Instructor.

HANS J. SCHWARTZ, M.D., Clinical Instructor.

Instruction in Dermatology will be given by the Clinical Professor and his assistants. No teaching will be given didactically, but the cutaneous diseases will be demonstrated on the living subject. Abundance of material for such instruction is obtainable, and the student can thoroughly familiarize himself with the more common as well as with the rarer diseases of the skin by actual personal contact and observation. Attention is particularly paid to the diagnosis and etiology of skin diseases, but their therapeutics also receive due consideration.

SUMMARY

	<i>Fourth Year.</i>
Sections.....	25 hours.

Text-Books—J. Nevins Hyde, *Dermatology*; H. Stelwagou, *Diseases of the Skin*.

Laryngology and Rhinology.

CHARLES H. KNIGHT, M.D., Professor of Clinical Surgery, Department of Laryngology and Rhinology.

JAMES E. NEWCOMB, M.D., Instructor.

FRANKLIN T. BURKE, M.D., Assistant.

CHARLES MACK, M.D., Assistant.

WALTER C. MONTGOMERY, M.D., Assistant.

PERRY SCHOONMAKER, M.D., Assistant.

Instruction in Laryngology and Rhinology is given by clinical lectures at the college by the Professor of the department. The subjects then considered are demonstrated to the fourth year students by the instructor and by the assistants. The class is divided into sections, and each member is expected to examine patients and perform manipulations. The clinics are fully illustrated by plates and models, and, as far as possible, by clinical material.

SUMMARY.

	<i>Fourth Year.</i>
Lectures -----	8 hours.
Sections -----	15 hours.

Text-Book—Knight, *Diseases of the Nose and Throat.*

Collateral Reading—Grünwald, *Atlas of Diseases of the Larynx* ;
Grünwald, *Atlas of Diseases of the Mouth, Pharynx, and Nose.*

Ophthalmology.

CHARLES STEDMAN BULL, M.D., Professor of Clinical Surgery, Department of Ophthalmology.

ROBERT G. REESE, M.D., Clinical Instructor.

J. HERBERT CLAIBORNE, M.D., Clinical Instructor.

Instruction in Ophthalmology consists in lectures at the college building once a week, during the months of October, November, and December, and in sectional teaching two hours a week at the college dispensary throughout the year. The weekly lectures at the college are didactic, and consider the subjects of the external or superficial diseases of the eye, the anomalies of the ocular muscles, and the deep lesions of the eye which are not susceptible of clinical demonstration. The sectional teaching at the college dispensary is devoted partly to clinical ophthalmology and the use of the ophthalmoscope, and partly to instruction in the errors of refraction and the rudiments of the fitting of lenses. Thus the entire field of ophthalmology is covered.

SUMMARY.

Fourth Year.

Clinics.....	10 hours.
Sections	20 hours.

Text-Book—Noyes.

Collateral Reading—De Schweinitz, Swanzy, Jackson, Nettleship, Berry, May.

Otology.

FREDERICK WHITING, M.D., Professor of Clinical Surgery, Department of Otology.

GEORGE B. MCAULIFFE, M.D., Clinical Instructor.

EARLE CONNER, M.D., Assistant.

DONALD BARSTOW, M.D., Assistant.

H. E. COOK, M.D., Assistant.

NATHAN S. ROBERTS, M.D., Assistant.

During the first third of the fourth year a systematic course of weekly lectures is given. These lectures are practical in character, including a consideration of the anatomy and physiology of the ear and the various methods of examination. Patients are shown to the class in order to familiarize the students with the symptoms and character of the more important diseases.

For clinical instruction in the dispensary, the fourth-year class is divided into sections. Each student receives practical instruction from Professor Whiting and his assistants in the examination of patients, the use of the otoscope, and the various methods of testing the hearing. The student is permitted to examine patients and, after a probationary period, to prescribe for them and thus gradually assume the duties of a clinical assistant. The students also have an opportunity of witnessing the more important operations in aural surgery, including intracranial complications at the New York Eye and Ear Infirmary.

SUMMARY.

Fourth Year.

Clinics.....	9 hours.
Sections.....	15 hours.

Text-Book—Bacon, *on the Ear*.

Collateral Reading—Politzer, *Diseases of the Ear*, Macewen, *Pyogenic Infective Diseases of the Brain and Spinal Cord*; Whiting, *The Modern Mastoid Operation*.

Orthopædic Surgery.

NEWTON M. SHAFFER, M.D., Professor of Clinical Surgery, Department of Orthopædic Surgery.

P. HENRY FITZHUGH, M.D., Clinical Instructor.

JOHN JOSEPH NUTT, M.D., Clinical Instructor.

HENRY SCOTT, M.D., Assistant.

DEAS MURPHY, M.D., Assistant.

PERCY WILLARD ROBERTS, M.D., Assistant.

The course of study in the Orthopædic Department includes a stated clinical lecture once a week, with detailed demonstrations in sectional work twice a week during two months of the year.

During the regular clinical course especial attention is given to the early recognition of the deforming diseases of childhood, also to the symptomatology, pathology, and differential diagnosis of chronic and progressive deformities, including the mechanical and operative treatment.

In detail, the course consists of practical illustrations of methods of treatment, the apparatus used being thoroughly explained both in construction and in principle, attention being called to even minute points of construction and use. The operative side is fully dwelt upon, the indications for operative interference as an adjunct to the mechanical work being demonstrated. Ample clinical material is provided, and models of conventional forms of apparatus are placed at the disposal of students.

In the section of laboratory work the student is required to assist in the management of selected cases, to familiarize himself with the various methods of treatment, to construct the simpler forms of apparatus, to secure a practical knowledge of the details of construction of the more complicated instruments, and to familiarize himself with the pathological conditions existing in the deformities of childhood.

SUMMARY.

Fourth Year.

Clinics..... 10 hours.

Sections 10 hours.

Text-Book—Bradford and Lovett.

Radiography and Radio-Therapy.

ALBERT C. GEYSER, M.D., Instructor.

This department is equipped with the most modern implements, coils, static machines, and high-frequency apparatus.

A large clinic furnishes abundant material for the demonstration of diagnosis, therapeutics, and the taking of radiographs. Students of the fourth-year class are taught in sections and given an opportunity to become thoroughly familiar with the various electrical agents.

SUMMARY OF THE PLAN OF INSTRUCTION.

The right is reserved to make amendments to this curriculum as experience may prove necessary.

The hours stated indicate the number of hours assigned to each student.

The total of hours devoted by each department to instruction is, of course, much in excess of these.

FIRST YEAR.

Anatomy.

Lectures, one hour weekly	30 hours
Demonstrations, 1½ hours weekly	45 hours
Recitations, 2½ hours weekly	75 hours
Dissection, 12 hours weekly, 16 to 20 weeks....	192 to 240 hours

Physiology.

Demonstrations, 2 hours weekly	60 hours
Recitations, 3 hours weekly, half term	45 hours

Chemistry.

Recitations, 2 hours weekly	60 hours
Laboratory, 4 hours weekly, 18 weeks	72 hours
Laboratory, 2 hours weekly, 12 hours	24 hours

Physics.

Lectures, 3 hours weekly	90 hours
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Histology.

Laboratory, 4 hours weekly	120 hours
Recitations, 2 hours weekly	60 hours

Embryology.

Lectures, 1 hour weekly, 15 weeks	15 hours
Laboratory, 2 hours weekly, 15 weeks	30 hours

Electives.

- Laboratory Pharmacology.
- Physiological Chemistry.
- Bacteriology.

These elective courses are open to certain advanced students, as described on page 42 of the Announcement.

In the course of the session one written review is held in the sub-

jects recited upon. The papers are examined by the professors of the respective branches.

SECOND YEAR.

Anatomy.

Lectures, 2½ hours weekly	75 hours
Demonstration Lectures, 1 hour weekly, 15 weeks....	15 hours
Demonstrations, 1½ hours weekly, 30 weeks	45 hours
Recitations, 1 hour weekly	30 hours
*Dissection, 10 hours weekly, 8 to 12 weeks.....	80 to 120 hours

Physiology.

Demonstrations, 2 hours weekly	60 hours
Recitations, 4 hours weekly, half term	60 hours

Organic and Physiological Chemistry.

Laboratory, 2 hours weekly, 18 weeks.....	36 hours
Laboratory, 4 hours weekly, 12 weeks	48 hours
Lectures, 2 hours weekly	60 hours
Recitations, 1½ hours weekly	45 hours

Pharmacology.

Laboratory, 6 hours weekly, 15 weeks	90 hours
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Bacteriology.

Laboratory, 6 hours weekly, 15 weeks	90 hours
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Histology.

Laboratory, 2 hours weekly	60 hours
Recitations, 1 hour weekly, 25 weeks.....	25 hours

Pathology.

Lectures	10 hours
Gross Pathology, 1 hour weekly for 15 weeks.....	15 hours

Medicine.

Recitations, 1½ hours weekly.....	45 hours
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Surgery.

Recitations, 2 hours weekly.....	60 hours
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Obstetrics.

Recitations, 1 hour weekly.....	30 hours
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Electives.

- Bacteriology.
- Materia Medica Recitations of the Third Year.
- Manikin Course in Obstetrics.
- Obstetrical Clinic.

* Total Dissection required, 312 to 320 hours.

The conditions under which certain students may avail themselves of these electives are stated on page 42 of the Announcement.

THIRD YEAR.

Medicine.

Lectures, 2 hours weekly, 10 weeks	20 hours
Clinics, 1 hour weekly	30 hours
Clinics, 1 hour weekly, 16 weeks	16 hours
Recitations, 2 hours weekly	60 hours
Section Work, 3 hours weekly, 10 weeks	30 hours
Section Work, 1 hour weekly, 5 weeks	5 hours
Section Work, 3 hours weekly, 5 weeks	15 hours

Surgery.

Lectures, 3 hours weekly, 12 weeks	36 hours
Clinics, 1 hour weekly, 18 weeks	18 hours
Clinics, 1 hour weekly	30 hours
Clinics, 1 hour weekly, 8 weeks	8 hours
Clinics, 1 hour weekly	30 hours
Recitations, 2 hours weekly	60 hours
Section Work, 3 hours weekly, 5 weeks	15 hours
Section Work, 2 hours weekly, 5 weeks	10 hours
Section Work, 3 hours weekly, 5 weeks	15 hours

Therapeutics.

Lectures, 1 hour weekly	30 hours
Lectures, 1 hour weekly, 17 weeks	17 hours
Clinics, 1 hour weekly	30 hours
Section Work, 1 hour weekly, 5 weeks	5 hours

Materia Medica.

Recitations, 2 hours weekly	60 hours
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Pathology.

Laboratory, 6 hours weekly	180 hours
Recitations, 1 hour weekly	30 hours

Gross Pathology.

Laboratory, 2 hours weekly	60 hours
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Clinical Pathology.

Laboratory, 2 hours weekly	60 hours
Recitations, 1 hour weekly, 6 weeks	6 hours

Obstetrics.

Lectures, 1 hour weekly, 30 weeks	30 hours
Clinics, 1 hour weekly, 15 weeks	15 hours
Recitations, 1 hour weekly	30 hours
Section Work (manikin), 3 hours weekly, 5 weeks	15 hours

Gynæcology.

Clinics, 1 hour weekly ----- 30 hours

Toxicology.

Lectures, 1 hour weekly, 20 weeks ----- 20 hours

Diseases of Children.

Clinics, 1 hour weekly ----- 30 hours

Genito-Urinary Surgery.

Clinics, 1 hour weekly, 18 weeks ----- 18 hours

Section Work, 3 hours weekly, 5 weeks ----- 15 hours

Neurology.

Lectures ----- 5 hours

Clinics, 1 hour weekly, 20 weeks ----- 20 hours

Section Work, 3 hours weekly, 5 weeks ----- 15 hours

FOURTH YEAR.

Medicine.

Lectures, 1 hour weekly, 10 weeks ----- 10 hours

Clinics, 1 hour weekly ----- 30 hours

Clinics, 1 hour weekly ----- 30 hours

Recitations, 1 hour weekly ----- 30 hours

Section Work, 3 hours weekly, 5 weeks ----- 15 hours

Section Work, 1 hour weekly, 5 weeks ----- 5 hours

Section Work, 4 hours weekly, 5 weeks ----- 20 hours

Section Work, 3 hours weekly, 5 weeks ----- 15 hours

Section Work, 2 hours weekly, 4 weeks ----- 8 hours

Section Work, 4 hours weekly, 5 weeks ----- 20 hours

Surgery.

Lectures, 3 hours, 12 weeks ----- 36 hours

Clinics, 1 hour weekly, 18 weeks ----- 18 hours

Clinics, 1 hour weekly, 8 weeks ----- 8 hours

Clinics, 2 hours weekly ----- 60 hours

Section Work, 1 hour weekly, 5 weeks ----- 5 hours

Section Work, 2 hours weekly, 5 weeks ----- 10 hours

Section Work, 2 hours weekly, 5 weeks ----- 10 hours

Operative Surgery, 6 hours weekly, 5 weeks ----- 30 hours

Recitations, 1 hour weekly ----- 30 hours

Therapeutics.

Lectures, 1 hour weekly ----- 30 hours

Clinics, 1 hour weekly ----- 30 hours

Recitations, 1 hour weekly ----- 30 hours

Section Work, 1 hour weekly, 5 weeks ----- 5 hours

Obstetrics.

Clinics, 1 hour weekly, 15 weeks ----- 15 hours

Gynæcology.

Lectures, 1 hour weekly, 6 weeks ----- 6 hours

Clinics, 1 hour weekly ----- 30 hours

Section Work, 4 hours weekly, 5 weeks ----- 20 hours

Recitations, 1 hour weekly ----- 30 hours

Gross Pathology.

Autopsies, 6 hours weekly, 5 weeks ----- 30 hours

Diseases of Children.

Clinics, 1 hour weekly ----- 30 hours

Section Work, 2 hours weekly, 5 weeks ----- 10 hours

Genito Urinary Surgery.

Lectures ----- 9 hours

Clinics, 1 hour weekly, 18 weeks ----- 18 hours

Section Work, 2 hours weekly, 5 weeks ----- 10 hours

Neurology.

Clinics, 1 hour weekly, 20 weeks ----- 20 hours

Section Work, 1 hour weekly, 5 weeks ----- 5 hours

Psycho-pathology.

Lectures ----- 5 hours

Sections ----- 4 hours

Clinics ----- 14 hours

Dermatology.

Section Work, 5 hours weekly, 5 weeks ----- 25 hours

Laryngology and Rhinology.

Lectures, 1 hour weekly, 8 weeks ----- 8 hours

Section Work, 3 hours weekly, 5 weeks ----- 15 hours

Ophthalmology.

Lectures, 1 hour weekly, 10 weeks ----- 10 hours

Section Work, 4 hours weekly, 5 weeks ----- 20 hours

Otology.

Clinics, 1 hour weekly, 9 weeks ----- 9 hours

Section Work, 3 hours weekly, 5 weeks ----- 15 hours

Orthopædic Surgery.

Clinics, 1 hour weekly, 10 weeks ----- 10 hours

Section Work, 2 hours weekly, 5 weeks ----- 10 hours

Radiography.

Section Work, 2 hours weekly, 3 weeks ----- 6 hours

EXAMINATIONS.**Requirements for Advancement in Course.**

Students are advanced in course from one year to the next upon passing examinations in the work of that year, but examinations in major or minor subjects may, at the discretion of the Head of the Department, include all the work previously covered in the year or years preceding the examinations in question. There is, however, no unnecessary repetition of subjects taught from year to year. Students who have not succeeded in passing all their examinations will be allowed to enter upon the next year's studies, provided they pass examinations in the subjects failed in at the beginning of the session.

Examinations for advancement in course, graduation, and admission to advanced standing are held at the close of the year. In each laboratory course extending through a part of the year only, the examination is held at the close of the course.

Examinations for conditioned students and those desiring admission to advanced standing, who have not taken the spring examinations, are held during the week preceding the opening of the college.

The subjects examined upon are divided into major and minor subjects, and a standing of 75 per cent. is required to pass.

The minor subjects embrace laboratory courses and those in which instruction is given by recitations only.

Subjects of Examination for Admission to the Second Year.

Major Subjects—Anatomy (except the nervous system, viscera, and organs of special sense).

Physics.

Inorganic Chemistry (including laboratory work).

Physiology (except the nervous system, embryology, and organs of special sense).

Minor Subjects—Histology (except the nervous system and organs of special sense).

Embryology.

Conditions allowed (at the spring examinations): 1 Major and 1 Minor; or 2 Minor.

NOTE 1. In each of the laboratory courses of the first and subsequent years, students whose marks fall between 60 and 75 per cent. will be allowed one reëxamination within two weeks of the completion of the course, failing in which they must repeat the laboratory course with the next succeeding section.

Students whose marks fall below this percentage in the chemical

laboratory cannot be reëxamined, but must repeat the course with the next succeeding section.

NOTE 2. In each of those branches in which recitations are held throughout the year, there shall be a written review conducted by the instructors and supervised by the professor in charge of the department, and also a final written review conducted by the professor himself at the close of the year. The written reviews conducted by the instructors shall be held as soon as possible after the return from the Christmas recess, and shall count as a single recitation, the object being to ascertain the knowledge acquired by the student.

NOTE 3. *All conditions must be successfully passed before entrance into the next succeeding year will be allowed.*

Subjects of Examination for Admission to the Third Year.

Major Subjects—Anatomy.

Organic and Physiological Chemistry.

Physiology.

Minor Subjects—Medicine.

Surgery.

Obstetrics.

Bacteriology.

Normal Histology (central nervous system and organs of special sense).

Pharmacology.

Laboratory Organic Chemistry.

Conditions allowed ; 1 Major and 1 Minor : or 2 Minor subjects.

(See Notes 1, 2 and 3 above.)

Subjects of Examination for Admission to the Fourth Year.

Major Subjects—Materia Medica.

Pathology.

Minor Subjects—Obstetrics.

Medicine.

Surgery.

Toxicology.

Clinical Pathology.

Pediatrics.

Neurology.

Gross Pathology.

} Clinical Paper.

Conditions allowed : 1 Major and 1 Minor ; or 2 Minor.

(See Notes 1, 2 and 3 above.)

Subjects of Examination for Graduation at the End of the Fourth Year.

Major Subjects--Medicine.

Surgery.

Therapeutics.

Obstetrics and Gynæcology.

Minor Subjects--Hygiene.

Ophthalmology.

Neurology.

Laryngology and Rhinology.

Orthopædics.

Pediatrics.

Psycho-pathology.

Otology.

Dermatology.

Genito-Urinary Diseases.

The examinations in the major subjects are allowed two hours, and in the minor subjects one hour each.

If any student fails to pass in not more than one major, or in two minor subjects, an examination may be allowed within two weeks, and if the candidate is then successful the degree will be conferred at the later Commencement at Ithaca.

If the candidate fails to pass in any subject at this second examination the work of the fourth year must be repeated.

Requirements for Graduation.

1. Candidates for the degree of doctor of medicine must have studied medicine for four full years in an accredited medical college, and the fourth year at least must have been spent in the Cornell University Medical College.

2. Candidates must present satisfactory evidence of good moral character and of being not less than twenty-one years of age.

3. Candidates must file with the Secretary of the Faculty the Cornell Regents' medical-student certificate as evidence of having complied with the requirements for admission.

4. Candidates must have dissected at least seven parts in anatomy (see page 263.) They must, further, have taken the regular course of two weeks in practical obstetrics, and a certificate covering this course must be filed at the Secretary's office before registration for the final examinations, which begin about the middle of May.

5. In addition to the yearly examinations above specified for advancement in course, candidates must pass at the end of the fourth

year examinations in medicine, surgery, therapeutics, obstetrics, and gynæcology, and the special branches which are specified on page 299.

6. Candidates rejected at the final examination will not be re-examined until after having repeated their fourth year of study.

Before being readmitted to the fourth year the candidate must pass a satisfactory examination in anatomy, physiology, chemistry and physics, and materia medica.

7. The degree will not be conferred upon any candidate who absents himself from the public Commencement without the special permission of the Faculty.

8. The Faculty reserves the right to terminate the connection of any student with the institution *at any time* on the ground of what they may deem moral or mental unfitness for the profession, or improper conduct while connected with the College.

Final Examination in the Subjects of the First and Second Years.

A law passed at the last session of the legislature permits students to take part of their examinations for the license to practice medicine in this State at the end of the second year.

For the full text of the law see page 35, special catalogue.

Requirements for License to Practice Medicine in the State of New York.

All requirements for admission should be filed at least one week before examination.—They are as follows :

1. Evidence that applicant is more than twenty-one years of age (Form 1).

2. Certificate of moral character from not less than two physicians in good standing (Form 1).

3. Evidence that applicant has the general education required preliminary to receiving the degree of bachelor or doctor of medicine in this State (medical-student certificate. See examination hand book).

4. Evidence that applicant has studied medicine not less than four full school years of at least nine months each, in four different calendar years, in a medical school registered as maintaining at the time a satisfactory standard. New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the State, whose minimum graduation standard is less than that fixed by statute for New York medical schools.

First exemption: "The Regents may in their discretion accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' practice of medicine, provided that such substitution be specified in the license."

5. Evidence that applicant "has received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practice medicine in some foreign country" (Form 2 of original credentials).

6. The candidate must pass examinations in anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, therapeutics, practice, and materia medica. The questions "shall be the same for all candidates, except that in therapeutics, practice, and materia medica all the questions submitted to any candidate shall be chosen from those prepared by the board selected by that candidate, and shall be in harmony with the tenets of that school as determined by its State Board of Medical Examiners."

Second exemption: "Applicants examined and licensed by other State examining boards registered by the Regents as maintaining standards not lower than those provided by this article, and applicants who matriculated in a New York State medical school before June 5, 1890, and who received the degree of M.D. from a registered medical school before August 1, 1895, may, without further examination, on payment of \$10 to the Regents, and on submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas, conferring all rights and privileges of a Regents' license issued after examination."

7. A fee of \$25 payable in advance.

Examinations for license to practice medicine in this State will be held as follows :

	1906.		1907.		1908.	
Winter	Jan.	30-Feb. 2	Jan.	29-Feb. 1	Feb.	4-7
Spring	May	22-25	May	21-24	May	19-22
Summer	June	19-22	June	25-28	June	23-26
Autumn	Sept.	25-28	Oct.	1-4	Sept.	22-25
	1909.		1910.			
Winter	Feb.	2-5	Feb.	1-4		
Spring	May	18-21	May	24-27		
Summer	June	22-25	June	28-July 1		
Autumn	Sept.	21-24	Sept.	27-30		

Places.

New York, Albany, Syracuse, Buffalo.

DIPLOMAS OF LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS
OF LONDON AND MEMBERSHIP OF THE ROYAL COLLEGE
OF SURGEONS OF ENGLAND.

Graduates of the Cornell University Medical College are admitted to the final examination for the diploma of Licentiate of the Royal College of Physicians of London and Membership of the Royal College of Surgeons of England, upon presenting proper certificates that certain conditions applicable to the foreign universities and colleges which are recognized by the examining board have been complied with.

Further information may be obtained from the Secretary of the Board (Mr. F. G. Hallett) at the Examination Hall, Victoria Embankment, London, W. C.

Prizes. In commemoration of John Metcalfe Polk, an instructor in this College, who graduated from the Medical Department of Cornell University on June 7th, 1899, and died on March 29th, 1904, an annual prize of \$500 will be presented at each Commencement to the members of the Graduating Class who have completed the full course of study in Cornell University Medical College.

This prize will be awarded as follows :

To the student having the highest standing	\$300
To the student having the second highest standing	\$125
To the student having the third highest standing	\$75

Two prizes, one of \$50 and another of \$25, are offered by Professor Dana to the students of the graduating class, to be designated by him, who make the two best reports of neurological cases.

Hospital Appointments. The students and graduates of the Cornell University Medical colleges are entitled to complete on equal terms with those of other colleges for positions on the resident staff of Bellevue and the other hospitals of the city.

Some of these hospitals are : The City, Harlem, Gouverneur, New York, St. Luke's, Presbyterian, St. Vincent's, St. Francis', Mount Sinai, German and Hudson Street hospitals, New York Eye and Ear Infirmary, and the hospitals in Brooklyn and Jersey City, Newark, Paterson, etc.

The requirements, the times of examination, and the period of service differ. The details can be learned by application, written or in person, to the superintendents or to the secretaries of the medical boards of the various hospitals.

The percentage obtained in each class since the opening of the College is as follows :

1899.....	42 per cent.
1900.....	58 per cent.
1901.....	61 per cent.
1902.....	71 per cent.
1903.....	78 per cent.
1904.....	59 per cent.
1905.....	85 per cent.

Special Courses. The Medical Department will continue the System of Special Courses which has proved of advantage.

The courses are designed primarily for advanced students or for workers in specialized lines of research or for post-graduates. They are scheduled to begin at various times, and to continue about six weeks. These courses include different portions of the subjects of normal histology; clinical, gross, and histological pathology; bacteriology, chemistry, anatomy, and operative surgery.

A pamphlet giving full details can be obtained by application to the Secretary of the College.

Suggestion. *It would be to the advantage of students if they would register a few days in advance of the opening exercises, secure boarding-places, and purchase books, so that their studies may not be interrupted in the beginning. The Secretary's office is open every day after September, from 10 a.m. to 5 p.m.*

STAFF OF INSTRUCTION

at Ithaca.

- BURT GREEN WILDER, B.S., M.D., Professor of Neurology and Vertebrate Zoology.
- EDWARD LEAMINGTON NICHOLS, B.S., Ph.D., Professor of Physics.
- SIMON HENRY GAGE, B.S., Professor of Histology and Embryology.
- VERANUS ALVA MOORE, B.S., M.D., Professor of Comparative Pathology and Bacteriology.
- LOUIS MUNROE DENNIS, Ph.B., B.S., Professor of Inorganic Chemistry.
- WILLIAM RIDGELY ORNDORFF, A.B., Ph.D., Professor of Organic and Physiological Chemistry.
- ERNEST GEORGE MERRITT, M.E., Professor of Physics.
- ABRAM TUCKER KERR, B.S., M.D., Professor of Anatomy.
- GEORGE SYLVANUS MOLER, A.B., B.M.E., Assistant Professor of Physics.
- BENJAMIN FREEMAN KINGSBURY, Ph.D., M.D., Assistant Professor of Physiology.
- EMILE MONNIN CHAMOT, B.S., Ph.D., Assistant Professor of Sanitary Chemistry and Toxicology.
- JOHN SANFORD SHEARER, B.S., Ph.D., Assistant Professor of Physics.
- ERNEST BLAKER, B.S., Ph.D., Assistant Professor of Physics.
- HUGH DANIEL REED, B.S., Ph.D., Assistant Professor of Systematic and Economic Zoology.
- EUGENE BAKER, B.S., M.D., Lecturer on Obstetrics and Practice of Medicine.
- MARTIN BUEL TINKER, B.S., M.D., Lecturer on Surgery.
- SAMUEL HOWARD BURNETT, A.B., M.S., D.V.M., Instructor in Comparative Pathology and Bacteriology.
- ARTHUR WESLEY BROWNE, M.S., Ph.D., Assistant Professor of Inorganic and Analytical Chemistry.
- THOMAS G. DELBRIDGE, A.B., Instructor in Chemistry.
- RALPH CUTHBERT SNOWDON, A.B., Instructor in Chemistry.
- GEORGE C. ROBERTSON, A.B., Instructor in Chemistry.
- MELVIN DRESBACH, M.S., M.D., Instructor in Physiology.
- JOSEPH H. HATHAWAY, A.M., M.D., Instructor in Anatomy.
- WESLEY MANNING BALDWIN, Assistant Demonstrator in Anatomy.

CASSIUS WAY, B.Agr., Assistant in Bacteriology and Pathology.

EFFIE ALBERTA READ, A.M., First Assistant in Histology and Embryology.

JOHN WILLIAM TURRENTINE, Ph.B., M.S., Assistant in Chemistry.

MORTIMER JAY BROWN, B.S., Assistant in Chemistry.

EARL VINCENT SWEET, A.B., Assistant in Histology and Embryology.

ALBERT HAZEN WRIGHT, A.B., A.M., Assistant in Neurology and Vertebrate Zoology.

JOHN ALEXANDER BLACK, A.B., Assistant in Chemistry.

JESSE RANDOLPH PAWLING, A.M., Assistant in Physiology.

WALTER J. TAYLOR, D.V.M., Instructor in Comparative Pathology and Bacteriology.

JAMES MALCOLM SWAINE, M.S. in Agr., Assistant in Vertebrate Zoology and Neurology.

WILLIAM POLLOK FRASER, A. B., Assistant in Vertebrate Zoology and Neurology.

JOSEPH J. FRANK, A.B., Assistant in Chemistry.

FRED F. SHETTERLY, A.B., Assistant in Chemistry.

HORACE W. GILLET, A.B., Assistant in Chemistry.

MAXIMILIAN C. ALBRECH, A.B., Assistant in Chemistry.

HOWARD WELCH, Assistant in Histology and Embryology.

ABRAM TUCKER KERR, B.S., M.D., Secretary of the Faculty at Ithaca.

INSTRUCTION AT ITHACA.

DURING THE FIRST TWO YEARS OF THE COURSE.

General Statement.

From its very foundation Cornell University has offered special courses for students preparing for the study of Medicine ; first in the Natural History course, and later also in a special two year Medical Preparatory course. In 1898, the Medical College was established in New York City with a four years course. At the same time the work of the first two years was duplicated at the University in Ithaca, since many of the fundamental scientific subjects of which this part of the course mainly consists were already provided for in the long established departments of Botany, Zoology, Comparative Anatomy, Physics, Chemistry, Physiology, Histology, Embryology, and Bacteriology. The courses in these departments were modified when necessary

and additional courses were added so as to make the work at Ithaca fully equivalent to the first two years in New York City.

Among the facilities of the University of special value to the Medical College may be mentioned the museums of Vertebrate and Invertebrate Zoology, including Entomology and Comparative Anatomy, of Agriculture, of Botany, of Geology, and of Veterinary Medicine. The University Library with its 280,000 bound volumes, 44,000 pamphlets, and 600 current periodicals and transactions, is as freely open to Medical students as to other University students.

Through the generosity of the late Dean Sage, of Albany, the University has been enabled to erect a building especially designed for anatomy, histology, embryology and physiology. The building is constructed of Ohio sandstone. The general form is that of an E, 157 feet long, and 50 feet wide, with wings 40 feet square.

In the cellar, are the cold-storage, embalming and cremating rooms and store rooms and a large room forty feet square for aquaria, projection, etc.

In the basement is the ventilating and cold-storage machinery, a large lecture room, a recitation room, and an office for the departments of surgery, medicine and obstetrics, besides the lower part of the large amphitheater.

On the first floor are located the cloak rooms for men and women, college office, library, faculty room, office, and private laboratory for histology, two recitation rooms, upper part of the large amphitheater and assembly room.

The second floor is devoted to the departments of histology and physiology, each with a large general laboratory, a research laboratory preparation rooms, and the private laboratories for the staff of instruction.

The third floor consists of general and special dissecting rooms, study rooms, and amphitheater, besides rooms for the staff.

The attic is utilized for photography, macerating the skeletons, and for storage.

The air in the building is constantly changed by forced ventilation. The lighting is especially good in all the rooms.

DEPARTMENTS, METHODS, AND FACILITIES.

Anatomy.

ABRAM T. KERR, B.S., M.D., Professor.

JOSEPH H. HATHAWAY, A.M., M.D., Instructor.

———, Assistant Demonstrator.

———, Assistant Demonstrator.

WESLEY M. BALDWIN, Assistant Demonstrator.

Anatomy is given in both the first and second years and is mostly concentrated into the first term. This gives a large amount of continuous time for the subject which consists mainly of practical work in the laboratory. Each student is independent of the others and those with special training or ability are encouraged to do more than the required work. Personal quizzes and demonstrations are given upon each stage of the work. In addition to this, there are frequent recitations and demonstrations to small sections of the class. The students are encouraged to make careful notes and drawings of the conditions which they find in their specimens. To facilitate the drawings, outline record charts are furnished. Clay also is provided for modelling bones and other parts. The department is well equipped with models and special preparations. These are for use in the demonstrations and also for the personal use of students in the laboratory.

There is plenty of dissecting material which is embalmed and kept in cold storage so as to be ready for use when needed. In the two years the student is required to make at least one complete satisfactory dissection of the human body. The work is distributed as follows :

In the first year, thirty-two and a half hours per week are given to Anatomy. A complete disarticulate skeleton is loaned to each group of two students. The vertebrae, ribs and bones of the upper extremity are studied first. Upon satisfactorily completing these the upper is studied. Upon completing the dissection of this first part, the bones of the head are studied and followed by the dissection. The lower extremity is then studied in a similar manner. As a preparation for the second term's work in Histology and Physiology an elementary course of demonstrations on the gross anatomy of the viscera is given near the end of the term.

In the second year, first term, twenty-five hours a week are devoted to laboratory work. The thoracic and abdominal viscera and central nervous system are dissected. The work on the viscera is given in the first part of the term, and the dissection is accompanied by special recitations and demonstrations to small groups. The gross anatomy of the central nervous system comes in the latter part of the term. In the second term of the second year, five demonstrations or recitations each week on topographical and regional anatomy are given to small sections of the class. In these the work of the preceding two years is reviewed, dissections are shown and the practical bearing of Anatomy on Medicine and Surgery is particularly emphasized.

Those who satisfactorily complete the required work and others properly qualified may do advanced or research work.

1. **Anatomy.** Laboratory work with section demonstrations and recitations, thirty-two and a half actual hours weekly from September to February. Course 1 is required of first-year students in Medicine. Professor KERR, Instructor HATHAWAY, Assistant Demonstrators BALDWIN, and ———.

2. **Anatomy.** Laboratory work with section demonstrations and recitations, twenty-two and a half actual hours weekly. September to February. Professor KERR, Instructor HATHAWAY, Assistant Demonstrators BALDWIN, and ———. Course 2 is required of second-year students in Medicine.

3. **Topographical and Regional Anatomy.** Section demonstrations five hours weekly. February to June. Required of second-year students in Medicine. Dr. ———

4. **Thoracic and Abdominal Viscera.** Section demonstrations two and a half hours weekly. Required of second-year students in Medicine. September to February. Dr. HATHAWAY.

6. **Advanced and Research Work.** Laboratory work, elective, eight or more actual hours per week. Professor KERR and Instructors.

8. **Structure, Development, and Physiology of the Nervous System and the Organs of Sense.** Credit, three hours. Second year. Professors GAGE, KERR and KINGSBURY.

The course consists of three parts: (A) Gross anatomy with special reference to medicine and surgery, Dr. KERR; (B) Histology and Development, Professor GAGE; (C) Physiology, Dr. KINGSBURY.

The instruction in each part consists of laboratory work, demonstrations or lectures and recitations. The gross anatomy, histology and development are given together during the latter part of the first term, and are immediately followed by the physiology in the first part of the second term.

Histology and Embryology.

SIMON HENRY GAGE, B.S., Professor.

EFFIE ALBERTA READ, A.M., Assistant.

EARL V. SWEET, A.B., Assistant.

HOWARD WELCH, Assistant.

The rooms for the use of the department are on the first and second floors of Stimson Hall. They are almost perfectly lighted and consist of a large general laboratory, an advanced laboratory, a preparation room, and two laboratories for the instructing staff, where also special demonstrations of difficult subjects are given to small groups of students.

The aim of the department is to bring the student into direct contact with the truths of nature, and hence, while there are demonstration lectures to give broad and general views, there is a large amount of laboratory work in which the facts are learned at first hand, and the methods and manipulations necessary for acquiring the facts are practised by each student. It is recognized that less ground can be covered in a given time in this way, but it is believed, and experience has confirmed the belief, that the intellectual independence and power to acquire knowledge direct from nature which is gained by this personal work is of far higher value than the facts and theories that might be learned in the same time from books and lectures alone.

1. Microscopy, Histology and Embryology. Second half-year. Credit 8 University hours. The instruction is given in 4 three hour laboratory periods, two recitations and one or more lecture-demonstrations each week. Professor GAGE and Assistants READ, SWEET, WELCH and ———.

Microscopy.—The aim is to give a working knowledge of the theory and use of the microscope and its accessories, methods of mounting microscopical specimens, etc. It serves as a basis for all subsequent work of the department. First two weeks.

Histology.—This includes the study of the fine anatomy of man and of the domestic animals, and also the fundamental methods of histologic investigation and demonstration. This work continues seven weeks.

Embryology.—This deals with the elements and methods of embryology in the amphibia, in the domestic animals, especially the chick and the pig, and in man. This work continues seven weeks.

8. Structure, Development, and Physiology of the Nervous System and the Organs of Sense. Credit, 3 hours. Second year. Professors GAGE, KERR and KINGSBURY.

The course consists of three parts: (a) Gross Anatomy with special reference to medicine and surgery, Dr. KERR; (b) Histology and Development, Professor GAGE; (c) Physiology. Dr. KINGSBURY.

The instruction in each part consists of laboratory work, demonstrations or lectures and recitations. The gross anatomy, histology and development are given together during the latter part of the first term and are immediately followed by the physiology in the first part of the second term. Course 1 is required of first-year students; Course 8 of second year students in Medicine.

For other courses in Histology and Embryology see under the College of Arts and Sciences, p. 208.

Vertebrate Zoology and Neurology.

BURT GREEN WILDER, B.S., M.D., Professor.

HUGH DANIEL REED, B.S., Ph.D., Assistant Professor.

ALBERT HAZEN WRIGHT, A. B., A. M., Assistant.

JAMES MALCOLM SWAINE, M.S. in Agr., Assistant.

WILLIAM POLLOK FRASER, A. B., Assistant.

3. **Morphology of the Brain** (lectures only). Second term. Credit, 1 hour. One lecture, Thursday at 11. There are considered (a) the various types of vertebrate brain, beginning with that of the acanth shark (*Squalus acanthias*); (b) the development and morphology of the human brain; (c) its resemblances and peculiarities; (d) the cerebral fissures as criteria of zoölogic or racial affinity, as indexes of physical or mental quality or power, and as boundaries of functional areas. For the illustration of this course there are numerous diagrams representing actual preparations of the brains of man, apes, and other vertebrates. Specimens and models are freely employed; see Course 3a. Members of the class should arrange to remain during at least part of the hour following the lecture in order to examine the specimens. Professor WILDER.

3a. **Morphology of the Brain** (practicums only). Second term. Credit, 1 hour. One practicum in two sections at hours to be arranged on Friday, and on Saturday, 10-12:30. Beginning with the brain of the acanth shark, so far as practicable the forms examined parallel and supplement those discussed in Course 3. The actual dissections of mamalian brains are done on those of the cat and sheep, but each member of the class is enabled to study and draw museum specimens from many groups, including monkeys, apes and men, prepared to exhibit special features. The neurologic division of the museum comprises about 1600 specimens distributed as follows:—Human adults and children, 430; human embryo, fetal and at birth, 118; apes and monkeys, 292; other mammals, 420; other vertebrates, 240. Professor WILDER, Mr. SWAINE and Mr. FRASER.

Physiology.

BENJAMIN FREEMAN KINGSBURY, Ph.D., M.D., Assistant Professor.

MELVIN DRESBACH, M.S., M.D., Instructor.

JESSE R. PAWLING, A. M., Assistant.

———, Assistant.

The work in the department is carried on by means of lectures, demonstrations, laboratory work and recitations. The laboratory

course is intended to introduce the student to methods of laboratory work in physiology, to have him become acquainted with certain fundamental facts at first hand and to learn to draw conclusions from the facts. The part of Physiology so taken up in the laboratory covers the physiology of muscle, nerve, heart and circulation, blood (in part), eye and central nervous system. Special stress is laid on the points and apparatus of importance in later clinical work.

The recitations cover the entire field of physiology. Numerous demonstrations are given in the laboratory to supplement the lecture-demonstrations and student experiments.

The lectures are intended to unify the work of the department.

As occasion demands, quizzes or demonstrations may be substituted for the lectures.

The physiology of the central nervous system and organs of sense is given in the second year, after the student has had preparatory work on the anatomy and histology.

The physiology of digestion, excretion, and metabolism is likewise taken up in the second year, after the student has had the work in physiological chemistry. The last half of the work of the second year (Course 4) is taken up by a review covering the entire field of physiology preparing the student for the final and State Board examinations.

For courses open to students in the College of Arts and Sciences, see page 207.

1. **Physiology of Movement, Sensation, Circulation, and Respiration.** Credit 8 University Hours. Five three hour periods per week. The course includes laboratory work accompanied by two or more recitations or quizzes, one or more demonstrations, and one or more lectures. Required of first year students of medicine. Second half year. Assistant Professor KINGSBURY and Assistants.

4. **The Physiology of Digestion, Absorption, Metabolism and Excretion.** Two recitations or demonstrations per week in assigned sections. Required of second year students of medicine. Credit, two hours. Second half-year. Instructor DRESBACH.

7. **Research and Advanced Work in Physiology.** Eight or more actual hours per week. Assistant Professor KINGSBURY and Instructors.

8. **Structure, Development, and Physiology of the Nervous System and Organs of Sense.** Credit, three hours. Second year. The gross anatomy, histology, and development are given together during the latter part of the first term, and are immediately followed by the physiology in the first part of the second term. Professors GAGE, KERR and KINGSBURY.

For other courses in Physiology see page 207, and for courses in Comparative Physiology see Veterinary College.

Materia Medica and Pharmacology.

BENJAMIN FREEMAN KINGSBURY, Ph.D., M.D., Assistant Professor.

MELVIN DRESBACH, M.S., M.D., Instructor.

———, Assistant.

———, Assistant.

The three sides of the subject of Pharmacology are presented in three separate courses, *Materia Medica*, Pharmacy, and Pharmacology in the narrower sense, or the Physiological Action of Drugs.

The *Materia Medica*, includes a study of the crude drugs, their source, nature and properties, the pharmaceutical preparations, the forms for administration and prescription-writing. The course in Pharmacy consists of laboratory work in which the student makes pharmaceutical preparations covering the processes for the extraction of crude drugs, and the forms for administration. Although the work is pharmaceutical, the aim of the course is to have the student become familiar at first hand with the composition, chemical and physical properties of the important medicinal preparations and the emphasis is pharmacological. In the laboratory work upon the physiological action of drugs, each student determines the exact action, as far as possible, of the most important drugs on (a) the whole animal, (b), the various organs, (c), the tissues. The more difficult experiments are assigned to groups of students who demonstrate their results to the other members of the class.

The laboratory is well fitted for research work in pharmacology, and all efforts in the direction of advanced work will be encouraged.

1. **Materia Medica.**—Two demonstrations, lectures, or recitations weekly. Second term. Assistant Professor ———.

2. **Pharmacy.**—Laboratory work, two hours weekly. In sections. Second term. Assistant Professor KINGSBURY and Assistants.

3. **The Physiological Action of Drugs.**—Laboratory with occasional lectures or demonstrations, three hours weekly. First term. Assistant Professor KINGSBURY, Instructor DRESBACH, and Assistants.

4. **Research and Special Pharmacology.**—Laboratory work. This may consist of either (a) selected experiments on the action of drugs, or (b) research work along special lines. Five or more hours per week. Assistant Professor KINGSBURY.

For courses in Comparative Pharmacology see Veterinary College.

Physics.

EDWARD LEAMINGTON NICHOLS, B.S., Ph.D., Professor.

ERNEST GEORGE MERRITT, M.E., Professor.

GEORGE SYLVANUS MOLER, A.B., B.M.E., Assistant Professor.

JOHN SANFORD SHEARER, B.S., Ph.D., Assistant Professor.

ERNEST BLAKER, B.S., Ph.D., Assistant Professor.

The instruction in physics is by means of lectures throughout each half-year. In these lectures the general laws of mechanics and heat, electricity and magnetism, and sound and light are presented. The very large collection of lecture room apparatus possessed by the department makes it possible to give experimental demonstrations of all important phenomena. The arrangements for experimental work are most complete. Ordinary illuminating gas, acetylene, oxygen and hydrogen, compressed air, water and steam, blast and vacuum are within easy reach, and electric currents from alternating and direct current dynamos and from storage batteries are available. Masonry piers permit the use in the lecture-room of delicate apparatus that could otherwise be used only in the laboratory.

The required course in physics for medical students consists of four lectures a week for one term, and the reading of a text-book. Note-books prepared by members of the class are read and graded at frequent intervals. A longer course, consisting of four exercises (lectures and recitations) a week throughout the year, and one afternoon in the laboratory for one year, is likewise open to medical students, and all those who can find the time to do so, are urged to take this course in place of the required work mentioned above. It should be chosen in preference to the latter by all who wish to prepare themselves for advanced work in the biological sciences. The lectures in this course are supplemented by thorough drill upon the principles of the science, and this, together with the laboratory practice, affords opportunity for a much more adequate knowledge than can be obtained from any course that consists solely of lectures.

The department offers a course in practical photography (Physics, 18 ; 2 hours), consisting of lectures and laboratory practice, which is open to students of medicine under the conditions stated upon page 169.

1. Elementary Physics. Four lectures weekly, with demonstrations for one term. Required of first year students in Medicine. Assistant Professor SHEARER.

For other courses in Physics see page 172.

Chemistry.

LOUIS MONROE DENNIS, Ph.B., B.S., Professor of Inorganic Chemistry.

WILLIAM RIDGELY ORNDORFF, A.B., Ph.D., Professor of Organic and Physiological Chemistry.

EMILE MONNIN CHAMOT, B.S., Ph.D., Assistant Professor of Sanitary Chemistry and Toxicology.

ARTHUR WESLEY BROWNE, M.S., Ph.D., Assistant Professor of Inorganic and Analytical Chemistry.

THOMAS G. DELBRIDGE, A.B., Instructor in Chemistry.

RALPH CUTHBERT SNOWDON, A.B., Instructor in Chemistry.

GEORGE C. ROBERTSON, A.B., Instructor in Chemistry.

JOSEPH J. FRANK, A.B., Assistant in Chemistry.

FRED F. SHETTERLY, A.B., Assistant in Chemistry.

JOHN ALEXANDER BLACK, A.B., Assistant in Chemistry.

MORTIMER JAY BROWN, B.S., Assistant in Chemistry.

HORACE W. GILLET, A.B., Assistant in Chemistry.

MAXIMILIAN C. ALBRECH, A.B., Assistant in Chemistry.

J. W. TURRENTINE, Ph.B., M.S., Assistant in Chemistry.

Inorganic Chemistry.—The elements of Inorganic Chemistry are taught by lectures, laboratory work, and recitations. The lectures are profusely illustrated by experiments and lantern projection, and while presenting the fundamental concepts of chemical theory are also largely descriptive in character. Experiments illustrating the principles discussed in the text book are performed in the laboratory by each student.

Qualitative Analysis.—The qualitative analysis begins with the study of such reactions of the commoner elements and their compounds as are used in their detection. This is followed by the practical application of the knowledge thus gained to the analysis of unknown substances, both in the solid form and in solution. The work is accompanied by thorough drill in the writing of chemical equations.

Organic Chemistry, or the Chemistry of the Compounds of Carbon.—In this course the study of the typical compounds of carbon, their properties, reactions, and relations to one another, is taken up, especial attention being given to those organic substances that are of physiological importance. The course consists of lectures and recitations, supplemented by frequent written examinations. The lectures are fully illustrated by experiments, specimens of the compounds considered, and charts.

Toxicology.—This course is intended to serve as an introduction to the methods employed for the separation and identification of the common poisons, inorganic and organic. Special attention is given to the identification of poisons when present in organic matter, such as animal excretions and tissues, medicines, etc. This course also includes the identity tests for a few synthetic remedies.

Physiological Chemistry.—The work in this course comprises the study of the chemistry of the proteids, carbohydrates, and fats, and of the compounds found in the animal body which are of physiological and pathological importance. The method of instruction is by lectures, recitations, and laboratory work, with frequent written reviews. In the laboratory the student separates from the various animal fluids and organs the chemical compounds which they contain, studies their properties, reactions, and products of decomposition, and thus familiarizes himself with the methods of isolation and identification of these products.

The above courses in Chemistry are required of all students in medicine. Other advanced courses are open to properly qualified students in medicine, and especial facilities for research work in chemistry are at their disposal.

1. **Introductory Inorganic Chemistry.**—Three lectures, one recitation and five hours of laboratory work weekly. First half-year. Professor DENNIS and Assistant Professor BROWNE, Messrs. FRANK, SHETTERLY and GILLETT.

8. **Qualitative Analysis.**—One lecture and five hours of laboratory work weekly. Second half-year 'till April 24th. Mr. SNOWDON and Mr. TURRENTINE.

81. **Toxicology.**—One lecture and five hours laboratory work weekly. Second half-year after April 25th. Assistant Professor CHAMOT, Mr. ROBERTSON and Mr. ALBRECH.

32. **Elementary Organic Chemistry.**—Two hours, lectures and written reviews. Second half-year. Professor ORNDORFF.

40. **Physiological Chemistry.**—Two hours, lectures or recitations and written reviews. First half-year. Mr. DELBRIDGE.

41. **Physiological Chemistry.**—Seven and one-half hours laboratory work weekly. First half-year. Mr. DELBRIDGE and Mr. BLACK.

Courses 1, 8, and 32 are required in the first year and courses 40 and 41 in the second year of the medical course.

For other courses in Chemistry see page 176.

General Pathology.

VERANUS ALVA MOORE, B.S., M.D., Professor.

SAMUEL HOWARD BURNETT, A. B., M.S., D.V.M., Instructor.

WALTER J. TAYLOR, D.V.M., Instructor.

CASSIUS WAY, B.AGR., A.B., Assistant.

The course in pathology consists of lectures, recitations, and laboratory work in pathological histology. The student will also be given instruction in describing gross pathological specimens, but the major part of the work in the laboratory will consist in studying sections of diseased tissue and making drawings from the same. In this course it is expected that the student will become familiar with the terms used in morbid anatomy, together with a definite knowledge of the more important changes found in inflammation and the various forms of infiltrations and degenerations.

40. **Pathology.**—Two lectures or recitations and six hours laboratory work each week. First term to Christmas vacation. Professor MOORE, Instructors BURNETT and TAYLOR. This course is open to students who have had Course 1 in Microscopy.

45. **Research in Pathology.**—Laboratory work throughout the year. Professor MOORE and Instructor BURNETT. This course is open to students who have taken Course 40 and have taken or are taking Course 43, or the equivalent in some other university.

For other courses in Pathology see Veterinary College.

Bacteriology.

VERANUS ALVA MOORE, B.S., M.D., Professor.

SAMUEL HOWARD BURNETT, A. B., M.S., D.V.M. Instructor.

WALTER J. TAYLOR, D.V.M., Instructor.

CASSIUS WAY, B.AGR., A.B., Assistant.

The instruction in Bacteriology is given by means of lectures, recitations, and laboratory work. The bacteriological laboratories are well supplied with the best modern apparatus. The student will, under proper supervision, prepare culture media, make cultures, and study the morphology of bacteria in both the fresh (living) condition and in stained cover-glass preparations. In fact, all of the technique necessary for a practical working knowledge in bacteriology will be carefully covered. The more important species of pathogenic bacteria will be studied. The special methods which are necessary for diagnosing such diseases as tuberculosis, anthrax, glanders, and diphtheria will receive careful attention.

Disinfection, sterilization, the means by which pathogenic bacteria are disseminated, protective inoculation, and other kindred subjects are considered.

43. **Bacteriology.**—Two lectures and ten hours' laboratory work each week. Second half-year. Required of second-year medical students. Professor MOORE, Instructor TAYLOR and Mr. WAY.

44. **Research in Bacteriology.**—Laboratory work with lectures and seminary throughout the year. Professor MOORE and Dr. WHITE. The course is designed for those wishing to undertake original investigation in Bacteriology preparatory to practical work in bacteriological lines, such as exists in health department laboratories. This course is open to students who have taken Course 43 or its equivalent in some other university. Elementary chemistry and a reading knowledge of French and German are indispensable for successful work in this course.

For other courses in Bacteriology see Veterinary College.

Surgery.

MARTIN BUEL TINKER, B.S., M.D., Lecturer on Surgery.

Four hours weekly, second half year, recitations, demonstrations and occasional lectures. The course is given to small sections, and is intended to familiarize the student with the principles of General Surgery and Surgical Pathology. Demonstrations are used whenever possible in teaching such subjects as Surgical Bacteriology, the histological changes in wound repair and the general principles of diagnosis and treatment of surgical diseases and injuries. Having in mind the present great importance of ability to pass examinations as well as with the aim of teaching systematic and concise arrangement and expression, frequent written exercises are given. Recitations are adopted as the principal method of instruction with the belief that for the average student information is best assimilated and retained when acquired by personal effort. Lectures are given whenever they seem likely to be helpful in supplementing other methods of instruction.

I. **Surgery.** Recitations, demonstrations or lectures. Four class exercises weekly in small sections. Dr. TINKER.

Medicine.

EUGENE BAKER, B.S., M.D., Lecturer on Medicine.

No didactic lectures are delivered, their place being taken by recitations from a standard text-book.

Recitations. The study of medicine proper is begun with syste-

matic recitations from *Modern Medicine*, by Salinger and Kaltiger. In these recitations the nomenclature, etiology, pathology, and symptomatology of typical cases of diseases are considered, the question of treatment not being taken up until the Junior year in New York.

1. **Medicine.** Two recitations weekly. Second half year. Required of second year students in medicine. Dr. BAKER.

Obstetrics.

EUGENE BAKER, B.S., M.D., Lecturer on Obstetrics.

Instruction in obstetrics consists mainly of recitations from a standard text-book, these recitations covering the anatomy of the internal genitalia and pelvis, ovulation, menstruation, signs of pregnancy, the physiology, mechanism, and clinical course of normal labor, and the care of mother and child during the puerperium. Whenever necessary, these recitations will be illustrated by plates, casts, and demonstrations upon the obstetric manikin, etc.

1. **Obstetrics.** Two recitations weekly. Second half year. Required of second-year students in medicine. Dr. BAKER.

SCHEDULE AND SUMMARIZED STATEMENT.

In this schedule the counts or University hours are given on the following basis: One recitation or lecture weekly for one term or half-year gives a credit of one; for laboratory work it requires two and one-half actual hours weekly for a term or half a year to secure a credit of one. In the courses of instruction following the schedule, the actual time required each week of the student at lectures, recitations, and laboratory work is stated.

Schedule of Required Courses.

First Year.

FIRST TERM.

<i>Subject.</i>	<i>No. of Course.</i>	<i>Hours of Credit.</i>	<i>Actual Hours per Week.</i>
Anatomy	1	13	32½
Chemistry	1	6	9
Physics	1	4	4

SECOND TERM.

Histology	1	8	15
Physiology	1	8	15
Qual. Chem. Anal.	8	2 }	6
Toxicology	8I	1 }	
Organic Chemistry	32a	2	2

Second Year.

FIRST TERM.

Subject.	No. of Course.	Hours of Credit.	Actual Hours per Week.
Anatomy	2	9	22½
Anatomy	4	1	2½
Physiological Chemistry	40	2	2
Physiological Chemistry Lab.	41	3	7½
Pathology	40	3	8
Physiological Action of Drugs	3	1	3
Nervous System, Structure and Development	8	2	5

SECOND TERM.

Nervous System, Physiology	8	1 or 3 ..	1 or 3
Physiology Recitations	4	2	2
Morphology of the Brain	3	2 or 0 ..	3½ or 0
Anatomy	3	2	5
Bacteriology	43	6	12
Materia Medica	1	2	6
Pharmacy	2	1	2
Medicine	9	2	2
Surgery	10	4	4
Obstetrics	11	2	2

Junior Year.—For subjects, see pages 292 and 296, as given in New York City.

Senior Year.—For subjects, see pages 292 and 296, as given in New York City.

SUMMARY OF REQUIRED COURSES.

FIRST YEAR.

I. **Anatomy.** Laboratory work with section demonstrations and recitations, thirty-two and a half actual hours weekly. First half-year. Professor KERR, Instructor HATHAWAY, Assistant Demonstrators BALDWIN, ——— and ———.

I. **Introductory Inorganic Chemistry.** Three lectures, one recitation, and five hours of laboratory work weekly. First half-year. Professor DENNIS and Assistant Professor BROWNE, Messrs. FRANK, SHETTERLY and GILLET.

I. **Elementary Physics.** Four lectures, with demonstrations, weekly, first half-year. Assistant Professor SHEARER.

I. **Microscopy, Histology and Embryology.** Second half-year. Credit, 8 University hours. The instruction is given in 4 three hour periods per week. During the laboratory periods there are two recitations and one or more lecture demonstrations each week. Professor GAGE and Assistants.

I. **Physiology of Movement, Sensation, Circulation, and Respiration.** Credit, 8 University hours. Five three-hour periods.

per week. The course includes laboratory work accompanied by two or more recitations or quizzes, one or more demonstrations, and one or more lectures. Second half-year. Assistant Professor KINGSBURY and Assistants.

8. **Qualitative Analysis.** One lecture and five hours of laboratory work weekly. Second half-year till April 24th. Messrs. SNOWDON, TURRENTINE, and Mr. ———.

31. **Toxicology.** One lecture and five hours' laboratory work weekly. Second half-year after April 24th. Assistant Professor CHAMOT, Mr. ROBERTSON and Mr. ALBRECH.

32. **Elementary Organic Chemistry.** Two hours. Lectures and written reviews. First half-year. Professor ORNDORFF.

SECOND YEAR.

2. **Anatomy.** Laboratory work with section practicums and recitations twenty-two and a half actual hours weekly. First half-year. Professor KERR, Assistant Demonstrators HATHAWAY, BALDWIN, ——— and ———.

4. **Anatomy. Thoracic, and Abdominal Viscera.**—Section demonstrations two and a half hours weekly. First half year. Dr. HATHAWAY.

40. **Physiological Chemistry**—Two hours, lectures or recitations and written reviews weekly. First half-year. Mr. DELBRIDGE.

41. **Physiological Chemistry Laboratory.**—Seven and a half hours laboratory work weekly. First half-year. Mr. DELBRIDGE and Mr. BLACK.

40. **Pathology.** Two lectures or recitations and six hours laboratory work each week. First term to Christmas vacation. Professor MOORE, and Instructors BURNETT and TAYLOR.

3. **The Physiological Action of Drugs.** Laboratory with occasional lectures or demonstrations; three hours weekly. Credit, one University hour. First term. Assistant Professor KINGSBURY, Instructor DRESBACH and Assistant ———.

8. **Structure, Development, and Physiology of the Nervous System and Organs of Sense.** Credit, three hours. Second year. The gross anatomy, histology and development are given together during the latter part of the first term, and are immediately followed by the physiology in the first part of the second term. Professors GAGE, KINGSBURY and KERR.

3. **Morphology of the Brain.** One lecture and one practicum, demonstration weekly. Second half-year. Professor WILDER.

In place of Morphology of the Brain, course 3, students may elect

an equivalent amount of additional work in course 8, Structure, Development, and Physiology of the Nervous System.

4. **Physiology, Recitations and Demonstrations, Digestion, Absorption, Metabolism, and Excretion.** Credit, two hours. Second half-year. In assigned sections. Instructor DRESBACH.

1. **Materia Medica.** Two demonstrations, lectures, or recitations weekly. Credit, two hours. Second term. Assistant Professor KINGSBURY.

2. **Pharmacy.** Laboratory work, two hours weekly. Credit, one hour. Second term. W., 10-12 or W., 3-5. Assistant Professor KINGSBURY and Assistants.

1. **Medicine.** Two recitations weekly. Second half-year. Dr. BAKER.

1. **Surgery.** Recitations, demonstrations, or lectures. Second half-year. Four hours in small sections Dr. TINKER.

1. **Obstetrics.** Two recitations weekly. Second half-year. Dr. BAKER.

3. **Topographical and Regional Anatomy.** Section demonstrations five hours weekly. Credit, two hours. Second half, second term. Dr. ———.

13. **Bacteriology.** Two lectures and ten hours' laboratory work each week. Second half-year. Credit, six University hours. Professor MOORE; Instructor TAYLOR and Mr. WAY.

Advanced Courses.

6. **Anatomy. Advanced and Research Work.** Eight or more actual hours laboratory work per week. Professor KERR and Instructors.

4. **Advanced Work in Histology or Embryology.** Laboratory work eight or more actual hours per week, with seminary throughout the year. Professor GAGE.

5. **Structure and Physiology of the Cell.** First half-year. Two lectures per week at hours to be arranged. Open to students who have had satisfactory courses in Zoology, Botany, Physiology, or Histology. Assistant Professor KINGSBURY.

7. **Research and Advanced Work in Physiology.** Eight or more actual hours per week. Assistant Professor KINGSBURY and Instructors.

2. **Advanced and Research Work in Pharmacology.** Assistant Professor KINGSBURY and Instructor.

For courses in Comparative Physiology, Materia Medica, and Pharmacology, see Veterinary College.

For other courses in Pathology and Bacteriology, see Veterinary College.

For other courses in Neurology, see page 205.

For other courses in Physics, see page 170.

For other courses in Chemistry, see page 176.

For other courses in Histology, see page 208.

For other courses in Physiology, see page 207.

The A.B. and M.D. Degrees.

As a liberal education in the Arts and Sciences is of great advantage to students of Medicine, all who can are urged to precede their medical studies by a college course. A student who takes the academic work in the College of Arts and Sciences of Cornell University will be permitted to elect, as the Fourth Year of his A.B. Course, a year's work in the Medical College. He may then take his fifth year of work—the second of the medical course—either in Ithaca or New York, but he must take the last two years of the medical course in New York. In this way he will obtain the A.B. degree at the end of four years and the M.D. at the end of seven years of study. This is possible, because the first two years of the medical course in New York are offered in duplicate at the University in Ithaca.

Recommended Course in Arts for Medical Students.

The work in the College of Arts and Sciences is largely elective. The Medical Faculty, however, recommend that students who intend to take the work in the Medical College should elect the following curriculum :

FIRST YEAR—ARTS.

<i>Subject.</i>	No. Course.	1st Term.	2d Term.
English or History	—	3	3
*Mathematics	6	3	3
‡Foreign Language	—	3	3
Chemistry, Inorganic	1	6	—
Chemistry, Qualitative Anal	8	—	2
Physics	1	—	4
Invertebrate Zoology	1	2	—
Vertebrate Zoology	2	2	—
Invertebrate Morphology	2	—	3
		19	18

* Those who, at entrance, offer advanced Mathematics, should take other work in its place.

‡ Students should have a reading knowledge of French and German.

In addition to the above, a student must take the required physical training.

SECOND YEAR—ARTS.

<i>Subject.</i>	No. Course	1st Term.	2d Term.
Foreign Language	-	3	3
Physics Recitations	6	4	-
Physics Laboratory	10	-	2
Botany	1 and 2	3	3
Anatomic Methods	4	3	-
Psychology and Logic	1	3	3
Morphology of the Brain	3	-	-
Elective	-	2-4	2-4

In addition to the above, a student must take the required physical training.

THIRD YEAR—ARTS.

Organic Chemistry	30	6	6
Physiology	5	3	-
Histology and Embryology	2	-	4
Elective	-	8-9	8-9

The Faculty recommend that the electives be selected from among the following :

<i>Subject.</i>	No. Course.	1st Term.	2d Term.
Invertebrate Zoology	3	-	2 or 3
Comparative Anatomy	5	-	2
Advanced Neurology	-	-	2+
Systematic Vert. Zoology	6	3	3
Advanced Physiology	9	2+	-
Advanced Histology and Embryology	4	3+	-
Psychology Laboratory	2	3	3
Photography	18	2 or	2
Foods, Beverages, etc.,	70	2	-
Potable Water	75	-	2
*Food Analysis	71	3	-
†Water Analysis	76	-	3
English	-	-	-
Philosophy	-	-	-
†History and Political Science	-	-	-

*Must have Qualitative Analysis first.

†Especially courses 41 and 55.

FOURTH YEAR—ARTS.

FIRST YEAR—MEDICAL.

Anatomy	I	13	-
Physiological Chemistry	40	2	-
Physiological Chemistry	41	3	-
Histology	I	-	8
Physiology	I	-	8
Toxicology	81	-	I
		<hr/>	<hr/>
		18	17

Students who have taken the above course and received the A.B. degree will then take the work of the 2d, 3d, and 4th years in the Medical College.

The Secretary of the Medical College will be glad to confer with students in the College of Arts and Science, who later expect to enter the Medical College.

Optional Five-Year Medical Course.

FOR STUDENTS WHO HAVE SATISFIED THE A.B. ENTRANCE REQUIREMENTS. SEE PAGES 36 AND 88.

All who can do so are urged to take the seven-year Arts-Medical Course outlined above and thus secure the two degrees, A.B. and M.D. For those who cannot afford the time for that course the Medical Faculty have provided an optional five year Medical Course outlined below.

FIRST YEAR.

<i>Subject.</i>	No. Course.	1st Term. Hours.	2d Term. Hours.
Chemistry	I	6	-
Chemistry	8	-	2
Chemistry, Toxicology	81	-	I
Chemistry, Organic	32	-	2
Physics	I	4	-
Physics	10	I	I
Physics	6	-	4
Invertebrate Zoology	I	2	-
Vertebrate Zoology	2	2	-
Invertebrate Zoology	3	-	3
Comparative Anatomy	5	-	3
Botany	I	3	I
Psychology	I	2	-
Neurology	3	-	2
		<hr/>	<hr/>
		20	19

SECOND YEAR.

Anatomy	I	-----	I3	-----	-
Physiological Chemistry	40	-----	2	-----	-
Physiological Chemistry	4I	-----	3	-----	-
Histology	I	-----	-	-----	8
Physiology Recitations	2	-----	-	-----	3
Physiology Lectures	I	-----	-	-----	3
Physiology Laboratory	5	-----	-	-----	5
Elementary Social Economics	4I	-----	2	-----	2
			-----		-----
			20		2I

THIRD YEAR.

Anatomy	2	-----	9	-----	-
Anatomy	4	-----	I	-----	-
Pathology	40	-----	3	-----	-
Physiological Action of Drugs	3	-----	I	-----	-
Nervous System	8	-----	2	-----	I
Physiology Recitations	4	-----	-	-----	2
Anatomy	3	-----	-	-----	2
Bacteriology	43	-----	-	-----	6
Materia Medica	I	-----	-	-----	2
Pharmacy	2	-----	-	-----	I
Medicine	I	-----	-	-----	2
Surgery	I	-----	-	-----	4
Obstetrics	I	-----	-	-----	2
Advanced Work	-	-----	4	-----	-
			-----		-----
			20		20

Upon completing the above work the student will take the regular 3d and 4th Year's work in New York City.

REQUIREMENTS FOR ADMISSION.

For admission to the Ithaca division of the Cornell University Medical College, a medical-student certificate issued by the Regents is required. (For details, see pages 36 and 249.) No student is admitted except at the beginning of the college year in September.

RESIDENCE AND REGISTRATION

The college year is nine months long, extending from the last of September till about the middle of June, and is divided into two nearly equal terms. (For exact dates, see calendar.)

Residence in Ithaca is required of all students. For leave of absence during the session, application should be made to the Secretary Dr. KERR.

At the beginning of the term (September, 1906, and February, 1907), students must register with the University Registrar, Room 11, Morrill Hall. After registration with the University Registrar, they must register with the Secretary of the Medical College, in Stimson Hall.

SCHOLARSHIPS. (See pages 63-66.)

EXAMINATIONS.

Students are advanced in course from one year to the next upon passing examinations upon the work of that year. As in the College of Arts and Sciences, the work of each year is considered final of itself. There is no unnecessary repetition of subjects taught from year to year. According to the usage of the other departments, the university student found to be markedly deficient will be dropped from the college.

ADVANCEMENT FROM SECOND TO THIRD YEAR.

Upon the completion of the two years in Ithaca, the student must obtain from the Faculty a statement of all the work which he has done; and accompanying this statement must be a recommendation that he be allowed to register in the New York division. As a student is not advanced from one year to another in the New York division until all the work of the year is completed, a student from Ithaca cannot enter the third year class in New York until the entire schedule of the first two years has been successfully completed. For removing any conditions, examinations are held at the beginning of the fall term, both in Ithaca and in New York City. The student is at liberty to take these examinations in Ithaca or in New York City. The examination on a subject in either place is final for that year. That is, the student will not be permitted to try an examination on a subject in Ithaca, and take advantage of the later date for the examination in New York to have a second examination on the same subject in the same autumn.

If a student is deficient in two or more subjects there is no objection to his taking the examination in one or more subjects in Ithaca, and the remaining one in New York, the same autumn.

MEDICAL SOCIETY.

The Cornell Medical Society is a student organization. At the meetings, papers prepared by the members are read, followed by general discussion. The aim is to give mutual aid in gaining general and special medical knowledge, facility in conducting the exercises of the meetings, and in presenting papers and discussions in a clear and forcible manner before an audience.

TUITION AND LABORATORY FEES.

FIRST YEAR.

Matriculation	\$ 5
Tuition	150
Laboratory Fees and Deposit	56

SECOND YEAR.

Tuition	\$150
Laboratory Fees and Deposit	49

BOARD AND ROOMS. (See page 61.)

NEW YORK STATE VETERINARY COLLEGE.

VETERINARY COLLEGE COUNCIL.

For the purpose of making recommendations to the Board of Trustees in regard to the business administration of the New York State Veterinary College, there has been established a Veterinary College Council, consisting of the President of the University (who shall be *ex officio* chairman); one Trustee elected by the Board; the Treasurer; Director of the College; and two Professors elected by the Faculty. The council at present is constituted as follows:

JACOB GOULD SCHURMAN, President of the University.

JAMES LAW, Director of the Veterinary College.

MYNDERSE VAN CLEEF, of the Board of Trustees.

EMMONS L. WILLIAMS, Treasurer of the University.

PIERRE A. FISH, }
VERANUS A. MOORE, } of the Faculty.

CHARLES E. CORNELL, Secretary of the Council.

FACULTY.

JACOB GOULD SCHURMAN, D.Sc., LL.D., President.

JAMES LAW, F.R.C.V.S., Professor of Principles and Practice of Veterinary Medicine, Veterinary Sanitary Science and Parasitism.

SIMON HENRY GAGE, B.S., Professor of Microscopy, Histology and Embryology.

VERANUS ALVA MOORE, B.S., M.D., Professor of Comparative Pathology and Bacteriology, and of Meat Inspection.

WALTER L. WILLIAMS, V.S., Professor of Principles and Practice of Veterinary Surgery, Obstetrics, Zoötechuy, and Jurisprudence.

PIERRE AUGUSTINE FISH, D.Sc., D.V.M., Professor of Veterinary Physiology, Pharmacology, and Therapeutics.

GRANT SHERMAN HOPKINS, D.Sc., D.V.M., Professor of Veterinary Anatomy and Anatomical Methods.

SAMUEL HOWARD BURNETT, M.S., D.V.M., Instructor in Comparative Pathology and Bacteriology.

WALTER JENNINGS TAYLOR, D.V.M., Instructor in Bacteriology.

CASSIUS WAY, B.Ag., A.B., Assistant in Bacteriology.

JOHN FRED MILLER, D.V.M., Assistant in Clinical Surgery.
LEE SELDON BACKUS, D.V.M., Assistant in Veterinary Physiology
and Materia Medica.

— — —, Assistant in Veterinary Anatomy.

FRANK W. CHAMBERLAIN, B.S., Demonstrator in Anatomy.

JOHN GORDON WILLS, D.V.M., Demonstrator in Anatomy.

CHARLES EZRA CORNELL, A.B., LL.B., Secretary of the College.
PHILENA B. FLETCHER, B.S.A., Librarian of the Roswell P.
Flower Library.

HENRY HIRAM WING, M.S., Professor of Animal Husbandry.

LOUIS MUNROE DENNIS, Ph.B., B.S., Professor of Inorganic
Chemistry.

WILLIAM RIDGEWAY ORNDORFF, A.B., Ph.D., Professor of Or-
ganic Chemistry.

RALPH CUTHBERT SNOWDON, A.B., A.M., Instructor in Chem-
istry.

EARL V SWEET, A.B., Instructor in Histology and Embryology.

EFFIE ALBERTA READ, A.B., A.M., Assistant in Histology and
Embryology.

JOSEPH H. HATHAWAY, A.M., M.D., Assistant in Histology and
Embryology.

— — —, Assistant in Histology and Embryology.

— — —, Assistant in Histology and Embryology.

FRANK HAWKINS, A.B., Assistant in Chemistry.

— — —, Assistant in Chemistry.

FOUNDATION.

The New York State Veterinary College was established by an act of the Legislature of March 21, 1894, supplemented by acts of May 10, 1895, and March 4, 1896. By these acts the sum of \$150,000 was appropriated for buildings and equipment and provision made for maintenance. While a state institution, it is administered by the Trustees of Cornell University, and its students profit by courses of study in the University classes and laboratories, and by the University Library.

OBJECTS OF THE INSTITUTION.

The New York State Veterinary College was founded to raise the standard of veterinary instruction and investigation to the level of the most recent advances in biology and medicine. The number of farm animals in this State (5,926,663) and their value (\$126,533,456)

with a yearly product of milk alone of over 5,000,000,000 gallons give some idea of the great interest at stake in the matter of live stock. For the United States a value in live stock of approximately \$3,200,000,000 and a yearly sale in Chicago alone of over \$250,000,000 worth, bespeak the need of all that learning and skill can do for the fostering of this great industry. Another consideration is that the normal permanent fertilization of the soil is dependent upon the live stock kept, and that where there is a deficiency of animals, the productiveness of the land is steadily exhausted ; so that the health and improvement of animals and the fostering of animal industry lie at the very foundation of our national wealth. Another, and no less potent argument, for the highest standard of veterinary education, is its influence upon the health of the human race. With a long list of communicable diseases, which are common to man and beast, and with the most fatal of all human maladies—tuberculosis—also the most prevalent affection in our farm herds in many districts, it is to the last degree important that measures for the extinction of such a contagion in our live stock should receive the best attention of the most highly trained experts.

To justify the liberality of the State in creating this seat of learning, it will be the aim of the College to thoroughly train a class of veterinarians for dealing with all diseases and defects that depreciate the value of our live stock, and with the causes which give rise to them ; to recognize and suppress animal plagues, which rob the stock owner of his profits and cause widespread ruin ; to protect our flocks and herds against pestilence of foreign origin, and to protect human health and life against diseases of animal origin. It will further aim, so far as it has the means and opportunity, at establishing a center of investigation, looking toward such improvements in the breeding, care and management of animals, as may enhance their market value and make returns more speedy and profitable ; toward discoveries in therapeutics, and the immunization of animals and men from contagion ; and toward the production of organic compounds to be employed in diagnosis, treatment and immunizing. So much has been recently discovered in these directions and present knowledge points so unmistakably to coming discovery, that to neglect this field at the present time would be decidedly reprehensible. Apart from discovery, the mere production of reliable articles of these organic products which are coming into increasing demand by the State and the private practitioner, for prevention, diagnosis, and treatment, is an object not to be lightly set aside. The combination, in one institution, of educational facilities with scientific investigation, and the production of the organic extracts to be employed in modern medical methods,

is a feature calculated to insure the best work in all departments, and the most exceptional advantages for the diligent student.

BUILDINGS.

The buildings of the State Veterinary College are eight in number, as follows :

The Main Building, 142 feet by 42 feet and three stories high, overlooks East Avenue and an intervening park 220 feet by 300 feet. The walls are of dull yellowish buff pressed brick, on a base of Gouverneur marble, window and door facings of Indiana limestone and terra cotta ornamentation. On the first floor are the museum and rooms of the director, clerk and professor of surgery. The second floor is devoted to the laboratories of physiology and pharmacology, a lecture room, reading room, library, and rooms for professors. The third floor is devoted to laboratories of pathology and bacteriology and the necessary subsidiary offices.

Connected with the main building and forming its east wing is a structure of 90 feet by 40, and one story high. This contains the laboratories and lecture room of anatomy, physiology, surgery, and medicine. Its floors are of impermeable cement, the walls lined by enamelled white brick, and the ceilings covered with sheet steel.

The second extension from the main building is the boiler and engine room, where power is generated for heating and ventilation.

The Surgical Operating Theatre is a separate building in the rear of the main building, and is furnished with room for instruments, water heater, etc. The lighting and equipment and the facilities for demonstration have received special attention.

The General Patients' Ward, 100 feet by 31, is furnished with box and other stalls, heating apparatus, baths, and all necessary appliances. The floor is of impermeable cement, and the ceilings of painted sheet steel. There is also a fodder room of 20 by 30 feet.

The Isolation Ward, 54 feet by 15, has its stalls absolutely separated from one another, and each opening by its own outer door. It has an impermeable floor, with walls of vitrified brick, and painted sheet steel ceilings.

The Mortuary Building has impermeable floor, wall of enamelled brick, and painted steel plate ceilings, and is fitted with every convenience for conducting post-mortem examinations and preparing pathological specimens.

The Kennel, 36 by 20 feet, is a building devoted to the clinics for dogs and cats. It has a hot water plant of its own and is well provided with commodious cages and the ventilation is well arranged.

The floor is of cement and provided with drains connecting with the sewer, insuring cleanliness with the minimum of effort.

The Shed and Forge Room, 36 by 20 feet, next the kennel, is devoted to clinical uses.

These, with a cottage for the stud groom, complete the list of State buildings erected for the Veterinary College. The equipment has been made as complete as possible for both educational uses and original research.

VETERINARY COLLEGE YEAR.

The Veterinary College year for 1906-1907 begins Friday, September 28, 1906, and closes Thursday, June 20, 1907, being divided into two terms, with one intermission of twelve days at Christmas, and one of ten days in the spring. Students must present themselves for registration in the days fixed for that purpose.

ENTRANCE EXAMINATION.

[All inquiries about entrance should be addressed to the Registrar of Cornell University, Ithaca, N. Y.]

Candidates for admission to the State Veterinary College, except those specified below must pass satisfactory examinations in the following subjects :

1. English.
2. American History and Civil Government.
3. Plane Geometry.
4. Algebra, as much as is contained in the larger American and English text-books, and any three of the following :
 5. Elementary French.
 6. Elementary German.
 7. Latin Grammar and Cæsar.
 8. Vergil, Cicero and Latin Composition.
 9. Entrance Greek.
 10. An amount of any group of the following, making the equivalent of four years of high school work : Physics, Botany, Geology, Vertebrate Zoology, Invertebrate Zoology, Advanced French, Advanced German, or other high school subject.

For details as to subjects and methods of admission, see pp. 33-58.

ADMISSION ON "REGENTS' VETERINARY STUDENTS CERTIFICATE."

Students are admitted without further examination on the Regents' *Veterinary Student Certificate*.

Full information may be obtained by addressing "Education Department, State of New York, Albany, N. Y."

ADMISSION TO ADVANCED STANDING.

Admission to Advanced Standing.—Applicants for admission to advanced standing as members of the 2d or 3d year class must pre-

sent the necessary educational qualifications for admission to the first year class (see page 332), and must pass a satisfactory examination in all the work gone over, or offer satisfactory certificates of the completion of such work in other schools whose entrance requirements and courses of study are equivalent to those of this college. No person will be admitted to any advanced class except at the beginning of the college year in September.

Applicants for advanced standing from other colleges must send or present letters of honorable dismissal, and furnish the Director, Dr. James Law, with a catalog containing the courses of instruction in the institution from which they come with a duly certified statement of the studies pursued and their proficiency therein, and also a statement of the entrance requirements with the rank gained. To avoid delay these credentials should be forwarded at an early date in order that the status of applicants may be determined and information furnished concerning the class to which they are likely to be admitted.

Graduates of veterinary colleges whose requirements for graduation are not equal to those of the New York State Veterinary College may be admitted provisionally upon such terms as the faculty may deem equitable in such case, regard being had to the applicant's previous course of study and attainments. In this connection, attention is called to the legal requirements of academic and professional education for the practice of Veterinary Medicine in the State of New York.

Admission to Advanced and Special Work.—The ample facilities for advanced and special work in the New York State Veterinary College, with allied departments in Cornell University, are open to graduates of this institution and of other colleges whose entrance requirements and undergraduate courses are equivalent.

COURSES IN VETERINARY MEDICINE.

With the view of raising the standard of veterinary instruction, it is intended to establish a graded course extending over four years, as in the various departments of Cornell University, and in the best veterinary schools abroad. As a step toward this a three year course has been laid out. This is a decided advance upon any Veterinary College in America, as the majority of even the three-year schools give only five months' instruction per year, amounting to but fifteen months in all; while with an academic year of nine months, the New York State Veterinary College furnishes a total instruction period of twenty-seven months. Add to this that the Veterinary Practice Statute, prescribing four years of high school work for admission in 1905, adds more than an additional year to anything demanded on the part of American

Veterinary schools, and insures that a student with a mind already trained to mental processes, will acquire much more in the same length of time than the untrained mind can possibly do.

THE HORACE K. WHITE PRIZES.

These prizes established by Horace K. White, Esq., of Syracuse, are awarded annually to the most meritorious students in the graduating class of the college. One prize of \$15 to the first in merit; to the second in merit, a prize of \$10.

THE COURSE LEADING TO THE DEGREE OF DOCTOR OF VETERINARY MEDICINE.

<i>First Year.</i>	No. Course.	1st Term.	2d Term.
Inorganic Chemistry.....	I	6	-
Elementary Organic Chemistry.....	32	-	2
Microscopy, Histology and Embryology....	I	-	8
Anatomy.....	{ 10	3	-
	{ 11	5	-
	{ 12	-	5
Comparative Physiology Recitations.....	20	2	-
" " Lectures.....	21	-	3
" " Laboratory.....	22	-	2
Animal Husbandry.....	36	3	-

<i>Second Year.</i>	No. Course.	1st. Term.	3d Term.
Anatomy.....	{ 13	4	-
	{ 14	6	-
Comparative Physiology Recitations.....	20a	-	1
Pharmacology.....	25	2	-
Materia Medica and Pharmacy.....	26	2	-
General Surgery.....	30	1 1/3	-
Surgical Exercises.....	31	2/3	-
Obstetrics and Zootechnics.....	36	-	4
Medical and Surgical Clinics.....	34-53	-	6
General Pathology.....	40	4	-
Bacteriology.....	43	-	6
Medicine.....	50	3	3
Sanitary Science or Parasitism.....	51 or 52	2	2

<i>Third Year.</i>	No. Course.	1st Term.	2d Term
Urine Analysis.....	23	2	-
Diagnosis and Therapeutics.....	27	2	-
Materia Medica Recitations.....	28	-	2
Surgical Exercises.....	31	$\frac{2}{3}$	-
Surgery (Head, etc.).....	32	2	-
Surgery, (Limbs, etc.).....	33	-	4
Jurisprudence.....	35	$\frac{1}{3}$	-
Medical and Surgical Clinics.....	34-53	6	6
Special Pathology.....	41	2	-
Infectious Diseases and Meat Inspection..	42	-	2
Medicine.....	50	3	3
Parasitism or Sanitary Science.....	52 or 51	2	2
Research and Thesis.....	-	3	3

Microscopy, Histology and Embryology.

1. **Microscopy, Histology and Embryology.** Second half-year. Credit 8 University hours. The exercises each week are as follows: Laboratory work M. and W., 2-5; Th., and F., 2-5. Demonstrations, lectures, W., and F., 4; recitations, Th. and S., at 8. Professor GAGE, and Assistants READ, HATHAWAY and SWEET.

Microscopy.—The aim is to give a working knowledge of the theory and use of the microscope and its accessories, methods of mounting microscopical specimens, etc. It serves as a basis for all the subsequent work of the department. The work begins with the second term and continues two weeks.

Histology.—This includes the study of the fine anatomy of the domestic animals and of man, and also the fundamental methods of histologic investigation and demonstration. The work continues seven weeks.

Embryology.—This deals with the elements and methods of embryology in the amphibia, in the domestic animals, especially the chick and the pig, and in man. The work continues seven weeks.

For the advanced courses consult the courses on page 79. The advanced courses are open to Veterinary as to other properly qualified students.

Anatomy.

10. **Comparative Osteology.** Three hours. First term. Two lectures, recitations or written reviews, T., Th., 9. From September to February there will be five periods of laboratory work. M., T., Th., F., P.M.; S., 10:30. From February to June there will be three

periods, M., A.M. ; T., P.M. ; S , A.M. Professor HOPKINS and Demonstrators.

11. **Arthrology and Myology.** Five hours. First term. This course immediately follows course 10. Lectures, written reviews and laboratory work the same as in course 10. Professor HOPKINS and Demonstrators.

12. **Myology, Thoracic and abdominal Viscera.** Five hours. Second term. Lectures and written reviews, T., Th., 9. One weekly recitation. Laboratory work, M., A.M. ; T., P.M. ; S., A.M. Professor HOPKINS and Demonstrators.

13. **The Vascular System.** Four hours. First term. Lecture, or quiz., F., 9. One weekly recitation. Laboratory work, 20 hours, or more, per week. M., T., Th., F., P.M. ; S., A.M. Professor HOPKINS and Demonstrators.

14. **The Nervous System and Organs of Special Sense.** Six hours. First term. Lecture, recitation and laboratory work the same as in course 13. Professor HOPKINS and Demonstrators.

15. **Research and Thesis or Special Regional Anatomy.** Seven and one-half hours weekly throughout the year. Professor HOPKINS.

Comparative Physiology.

20 **Physiology Recitations.** Two hours weekly. First term. Sec. I, M., 9, T., 10; Sec. II, T., 11, W., 10. Professor FISH and Dr. MCNAIR.

20a. **Physiology Recitations.** One hour weekly. Second term. Two sections, S., 10, 11. Professor FISH and Dr. MCNAIR.

21. **Physiology Lectures.** Three hours weekly. Second term. T., Th., F., 10. Professor FISH.

22. **Physiological Laboratory.** A portion of the course is devoted to chemical physiology. Artificial digestive juices are tested upon the various kinds of foodstuffs by the students and careful notes kept of the various changes. Milk, Bile and Blood are also studied, including a spectroscopic examination of the latter. A larger proportion of the work is devoted to a study of the phenomena associated with the circulatory, respiratory, muscular and nervous system. Students are to obtain and preserve graphic records of these phenomena, wherever possible. Certain experiments requiring special apparatus and care are performed by the instructors as demonstrations, students assisting when possible, Five hours each week. Second term. T., 11-1; W., 9-1. Professor FISH and Dr. MCNAIR.

23. **Course in Urine Analysis.** Laboratory work devoted to the comparative study of urine. Examinations are made of human urine

and that of the domestic animals, especially the horse. In addition to the chemical examination, some time will be devoted to a microscopic study of urinary deposits. So far as possible each student is expected to prepare and preserve a series of, "typical slides." Three hours weekly. First term. W., 10-1; S., 11-1. September to December. Professor FISH and Dr. MCNAIR.

24. **Research and Thesis.** Seven and one-half hours per week throughout the year. Professor FISH.

Pharmacology.

25. **Materials of Medicine.** A study of the actions and uses of the various drugs and their preparation. A varied collection of the crude drugs and their official preparations is available and examined at the lectures. The course is conducted in the form of lectures with short weekly examinations. First term. Th., F., 10. Professor FISH.

26. **Materia Medica and Pharmacy Laboratory.** The work in this course consists of the study of a selected group of inorganic drugs; the study of certain crude organic drugs and their official preparations; in making pharmaceutical preparations, such as syrups, emulsions, spirits, liniments, tinctures, fluid extracts, extracts, ointments, pills, and others. Some exercises will also be devoted to the study of the direct physiological action of a few selected drugs upon some of the lower animals.

In their study the students are required to write concise notes of the physiological action of the drugs examined and to make tests of their incompatibility. In addition to this each student will have practical experience in writing and compounding prescriptions. The importance of a discriminating and accurate system for dispensing medicines is thoroughly emphasized. Five hours each week. First term. M., 10-1, T., 10-1. Professor FISH and Dr. MCNAIR.

27. **Clinical Diagnosis and Therapeutics.** Two recitations per week in Diagnosis for the first half of the first term. S., M., 10. Professor FISH. The recitations will be supplemented by practical experience in the medical clinics.

Therapeutics. The treatment and cure of disease. This subject, standing along with pathology, unites physiology, anatomy, chemistry and botany with medicine and surgery. It is therefore necessary to have some knowledge of these branches in order to obtain a full appreciation of the means employed in the restoration of health.

This course must be preceded by the first and second years course in physiology and pharmacology, or their equivalents. Two lectures

each week. Second half of the first term. S., and M. Professor FISH.

28. **Recitations in Materia Medica.** Second term. M., W., 10. Professor FISH.

29. **Research and Thesis.** Seven and one-half hours weekly throughout the year. Professor FISH.

Surgery.

30. **General Surgery.** Two lectures per week, September to December, W., 9, F., 4. Professor WILLIAMS.

For admission to this course, students must have passed courses 10, 11 and 12 in Anatomy, course 21 in Physiology, and course 1 in Histology and Embryology.

31. **Surgical Exercises.** Three hours per week of Laboratory work in minor surgery. (2d year), Sept. to Dec. W., 10-1.

31a. **Surgical Exercises.** Three hours per week of laboratory work in major surgery. (3d year), Sec. I, Sept. to Dec. T., 9-12; Sec. II, Th., 9-12. Professor WILLIAMS and Dr. TAYLOR.

Requirements for admission as in course 30

32. **Surgery of the Head, Neck and Chest.** Two lectures or recitations per week. First term, M., T., 4. Professor WILLIAMS.

For admission students must have passed courses 30 and 31.

33. **Surgery of the Limbs, Skin, Abdominal Organs, Genito-Urinary System and Castration.** Four lectures or recitations weekly. Second term, M., W., Th., F., 4. Professor WILLIAMS.

The requirements for admission are the same as for course 32. The course will be given to second and third year students in 1907-1908. See course 36 with which it alternates.

34. **Surgical Clinics.** Twelve actual hours or more per week throughout the year. M., W., F., 2-4 P.M. Professor WILLIAMS and Dr. TAYLOR.

For second year students attendance is required for a portion of the second term; for third year students attendance is required throughout the year.

For admission students must have passed courses 30 and 31. The time given above includes the medical clinics, conducted by Professor LAW. See course 53, under medicine.

35. **Jurisprudence.** Two lectures per week during the month of January. W., F., 4. Professor WILLIAMS.

36. **Obstetrics and Zootechnics.** Four lectures or recitations per week, second term. M., W., Th., F., 4. Professor WILLIAMS.

For admission students must have passed courses 30 and 31.

This course alternates with course 33. It will be given to second and third year students in 1906-1907.

37. **Research and Thesis.** Seven and one-half hours weekly throughout the year. Professor WILLIAMS and Dr. TAYLOR.

Comparative Pathology, Bacteriology and Meat Inspection.

40. **General Pathology.** First term. This course is open to students who have had Normal Histology and at least one year's work in Anatomy and Physiology. Two recitations and six hours laboratory work each week. Recitations T., and Th., 9. Lab. W., 2-6, Th., 11-1. Professor MOORE, Instructor BURNETT.

41. **Special Pathology.** First term. Open to students who have taken course 40. One lecture and one laboratory period each week. Lecture, W., 9. Laboratory work, F., Sec. I, 9-11, Sec. II, 11-1. Professor MOORE and Instructor BURNETT.

42. **Pathology of Infectious Diseases and Meat Inspection.** Second term. Open to students who have taken courses 40 and 41 and have taken or are taking course 43. Two hours. Lectures T., and Th., 9. Professor MOORE.

43. **Bacteriology.** Second term. This course is open to students, who have had, or are taking Course 1 in Microscopy. Two lectures and ten hours laboratory work each week. Lectures, M., and W., 9. Laboratory work T., W., F., and S. Professor MOORE, Instructor W. J. TAYLOR and Mr. WAY.

44. **Advanced Bacteriology.** Laboratory work throughout the year. Professor MOORE and Instructor TAYLOR.

The course is designed for those preparing theses and for those wishing later to undertake original investigation in Bacteriology. This course is open to students who have taken Course 43, or its equivalent in some other university. Elementary chemistry and a reading knowledge of French and German are indispensable for successful work in this course.

45. **Advanced Pathology.** Laboratory work throughout the year. This course is open to students who have taken Course 40 and have taken or are taking Course 43, or the equivalent in some other university. Professor MOORE and Instructor BURNETT.

46. **Clinical Examination of the Blood.** Second term. One lecture and three hours Laboratory work. Two hours. Open to students who have taken Course 40. Lecture, F., 12. Lab. work by appointment. Instructor BURNETT.

47. **Research in Bacteriology and Pathology.** This course consists in Laboratory work. It is open to students who have taken

courses 40, 43, and 44 or 45. Professor MOORE and Instructors BURNETT and W. J. TAYLOR.

Veterinary Medicine; Zymotic Diseases, Veterinary Sanitary Science; Parasites and Parasitism.

50. **Veterinary Medicine, Principles and Practice.** Three lectures or recitations per week throughout two years. M., W., F., 8. Professor LAW.

51. **Contagious Diseases; Veterinary Sanitary Science.** Two lectures or recitations per week throughout the year. T., Th., 8. Professor LAW.

[This course will be given to second and third year students in 1906-1907. See course 52.]

52. **Parasites and Parasitisms.** Two lectures or recitations per week throughout the year. T., Th., 8. Professor LAW.

Course 52 alternates with 51. It will be given to second and third year students in 1907-1908.

53. **Clinical Veterinary Medicine.** Twelve hours or more per week throughout the year. M., T., W., Th., F., S., 2-4 P. M. Professors LAW and FISH.

For second year students attendance is required during the second term, for third year students attendance is required throughout the year.

The clinical work in Medicine and in Surgery is combined. For the amount of time required see under Surgery, Course 34.

54. **Research and Thesis.** Seven and one-half hours weekly throughout the year. Professor LAW.

NEW YORK STATE COLLEGE OF AGRICULTURE.

THE AGRICULTURAL COLLEGE AND EXPERIMENT STATION COUNCIL.

JACOB GOULD SCHURMAN, President of the University.
FRANKLIN C. CORNELL, Trustee of the University.
LIBERTY H. BAILEY, Director of the College of Agriculture.
EMMONS L. WILLIAMS, Treasurer of the University.
JOHN H. COMSTOCK, Professor of Entomology.
HENRY H. WING, Professor of Animal Husbandry.

Faculty.

JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President of the University.
LIBERTY HYDE BAILEY, M.S., Director of the College of Agriculture, Dean of the Faculty, and Professor of Rural Economy.
GEORGE CHAPMAN CALDWELL, B.S., Ph.D., Professor of Chemistry, Emeritus.
ISAAC PHILLIPS ROBERTS, M.Agr., Professor of Agriculture, Emeritus.
JOHN HENRY COMSTOCK, B.S., Professor of Entomology and General Invertebrate Zoology.
HENRY HIRAM WING, M.S. in Agr., Professor of Animal Husbandry.
JOHN CRAIG, M.S. in Agr., Professor of Horticulture.
THOMAS FORSYTH HUNT, M.S., D.Agr., Professor of Agronomy and Manager of the University Farms.
RAYMOND ALLEN PEARSON, M.S. in Agr., Professor of Dairy Industry.
THOMAS LYTTLETON LYON, Ph.D., Professor of Experimental Agronomy.
MARK VERNON SLINGERLAND, B.S. in Agr., Assistant Professor of Economic Entomology.
GEORGE WALTER CAVANAUGH, B.S., Assistant Professor of Chemistry in its Relations with Agriculture.
JOHN LEMUEL STONE, B.Agr., Assistant Professor of Agronomy.
JAMES EDWARD RICE, B.S. in Agr., Assistant Professor of Poultry Husbandry.

GEORGE NIEMAN LAUMAN, B.S.A., Assistant Professor of Rural Economy, and Secretary to the Faculty of the College of Agriculture.

ALEXANDER DYER MacGILLIVRAY, Ph.D., Assistant Professor of Entomology.

WILLIAM ALBERT RILEY, Ph.D., Assistant Professor of Entomology.

JOHN WASHINGTON GILMORE, M.S. in Agr., Assistant Professor of Agronomy.

HERBERT HICE WHETZEL, A.B., Assistant Professor of Botany.

ELMER O. FIPPIN, B.S. in Agr., Assistant Professor of Agronomy with reference to Soils.

GEORGE FREDERICK WARREN, Ph.D., Assistant Professor of Agronomy.

WILLIAM ALONZO STOCKING, JR., M.S. in Agr., Assistant Professor of Dairy Bacteriology.

JAMES GEORGE NEEDHAM, Ph.D., Assistant Professor of Limnology.

— — Assistant Professor of Horticulture.

CHARLES SCOON WILSON, A.B., M.S. in Agr., Instructor in Horticulture.

MERRITT WESLEY HARPER, M.S., Instructor in Animal Husbandry.

ROLLA CECIL LAWRY, Instructor in Poultry Husbandry.

Other Officers of Instruction and Administration.

HUGH CHARLES TROY, B.S. in Agr., Assistant in Dairy Laboratory.

WALTER WAGER HALL, Assistant in Cheese-Making.

WEBSTER EVERETT GRIFFITH, Assistant in Butter-Making.

JOHN WALTON SPENCER, Supervisor in Extension Department.

ANNA BOTSFORD COMSTOCK, B.S., Lecturer in Nature-Study.

ALICE GERTRUDE McCLOSKEY, Assistant Supervisor in Extension Department.

MARTHA VAN RENSSELAER, Supervisor Farmers' Wives' Reading-Course.

— — Supervisor Farmers' Reading-Course.

JAMES ADRIAN BIZZELL, Ph.D., Assistant Chemist in the Experiment Station.

CHARLES FREDERICK CLARK, B.S., Assistant Agronomist in the Experiment Station.

HARVEY LYON AYRES, Assistant in Dairy Industry.

JAMES MALCOLM SWAINE, M.S. in Agr., Assistant in Economic Entomology.

SEYMOUR MORTON HERRICK, B.S.A., Assistant in Chemistry.

CYRUS RICHARD CROSBY, A.B., Assistant Entomologist in the Experiment Station.

HAROLD ELLIS ROSS, B.S.A., Assistant in Dairy Industry.

CHARLES HERBERT VAN AUKEN, Assistant in Animal Husbandry.

MARGARET E COOK, Assistant in Nature-Study.

JAMES ELIOT COIT, M.S. in Agr., Assistant in Horticulture.

WARREN H. MANNING, Lecturer in Rural Art.

BRYANT FLEMING, B.S.A., Lecturer in Rural Art.

WILFORD M. WILSON, M.D., Lecturer in Meteorology (detailed by Weather Bureau, United States Department of Agriculture).

JACOB G LIPMAN, Ph.D. (Soil Chemist and Bacteriologist of New Jersey State Agricultural Experiment Station), Special Lecturer in Soil Bacteriology.

GEORGE WALTER TAILBY, Farm Foreman.

CHARLES EDWARD HUNN, Gardener.

EDWIN S. DE LANY, Accountant.

CLARENCE AUGUSTINE MARTIN, Professor of Architecture (giving instruction in Farm Home Course).

HENRY NEELY OGDEN, C.E., Assistant Professor of Civil Engineering (giving instruction in Farm Home Course).

Officers of instruction in other faculties of the University give instruction in the fundamental preparatory branches.

Special lectures are given by practical farmers, educators and others, particularly in the winter season.

EQUIPMENT AND CURRICULUM.

The College of Agriculture is founded on the Land Grant Act of 1862, whereby Congress appropriated the proceeds of the sales of certain lands to the maintenance of a college in each State to give instruction in agriculture and the mechanic arts. This grant marks an epoch in the history of education, because it provides for a system of education that shall have direct and definite relations with the daily work of persons who must earn their own living in the arts and industries. The College of Agriculture, therefore, seeks to interest the farm man and the farm woman in the very things with which they live day by day,—the soil, the weather, the plant, the animal, the farm home, the school, and all the customary rural affairs,—and to educate broadly by means of these subjects. It aims both to give them power to make the most of the farm, and to inspire contentment with the daily life. The College seeks to elevate the ideals of country living. This it attempts to do in three general ways: by giving instruction to those who come to the University; by giving instruction by means of correspondence and other extension methods to those persons, old or young, who cannot come to the University or who can come but for a very limited time; by experimenting for the discovery of new truth in agricultural fields.

The College is provided with land, live-stock, orchards, gardens, libraries, and other equipment. The farm comprises nearly 250 acres. The buildings comprise two barns, poultry quarters and forcing-houses. There are herds of cattle, sheep and swine, flocks of poultry, various farm horses. Farm machinery and implements are also represented. The library facilities are ample.

Students entering the College of Agriculture are on the same footing as students in any other college or department. They become a part of the general student body. They are under the special supervision of the Director of the College. Two special societies or clubs are organized and maintained by the students in the College of Agriculture—the Agricultural Association, meeting every Tuesday night, and the Horticulturists' Lazy-Club, meeting every Monday night. In addition to these the winter-course students maintain organizations of their own. There is an "Agricultural Experimenters' League," to which all students are eligible, and which is designed for the furthering of experimental investigation and of arousing closer friendship amongst the farmers of the State. All students in the College of Agriculture are invited to meet with the Director of the College on the first Thursday evening of every month in an "Assembly."

Tuition is free in the College of Agriculture, (except in the winter-courses to those not resident in New York State).

Some of the details of the permanent equipment are as follows :

Agronomy and Animal Husbandry.—A four-story barn provides for housing the animals, machinery, tools, hay, grain and manures. The stationary thresher, feed-cutter, chaffer and other machinery are driven by steam power. The barn also provides facilities for investigations in feeding and rearing all classes of domestic animals. The barn is also furnished with a piggery and tool house. Not far from the main barn are several buildings, with suitable yards, and appliances for incubating eggs and rearing domestic fowls, and also a comfortable heated building in which the judging of stock is conducted. There are also buildings on the remoter parts of the farm. The College also has a good equipment of apparatus for soil physics work.

The agricultural rooms are provided with a collection of grains and grasses, implements of horse and hand culture, and various appliances to aid in instruction and investigation.

Horticultural Department.—The equipment comprises land variously planted, forcing-houses, a barn, and collections.

The forcing-houses are six in number and cover nearly 6,000 square feet of ground. These, in connection with store-rooms and pits, afford opportunities for nursery practice, for the study of the forcing of vegetables and for some kinds of floriculture. A laboratory with space for forty students is used for instruction in propagation of plants, pollination, and the commoner greenhouse operations. There is also a reading-room for horticultural students.

The museum comprises two main features—the garden herbarium and the collection of photographs. The herbarium, containing at present over 12,000 sheets, is designed to comprise varieties of all cultivated species of plants, and it is an indispensable aid to the study of garden botany and variation of plants. The collection of photographs comprises over 7,000 negatives, with prints, representing fruits, flowers, vegetables, illustrative landscapes, glass houses, and horticultural operations. A collection of machinery and devices for the spraying of plants is at the disposal of students. The horticultural library is large. Charts and specimens in considerable variety complete the museum and collection.

Entomological Department.—The entomological cabinet contains, in addition to many exotic insects, specimens of a large part of the more common species of the United States. These have been determined by specialists, and are accessible for comparison. The

collection includes many sets of specimens illustrative of the metamorphoses and habits of insects. The laboratory is also supplied with a large collection of duplicates for the use of students and is equipped with microscopes and other apparatus necessary for practical work in entomology.

The insectary of the Agricultural Experiment Station affords facilities to a limited number of advanced students for special investigations in the study of the life history of insects, and for experiments in applied entomology.

Chemical Department.—This Department is housed in two three-story brick buildings about 126 feet in length and of an average width of 60 feet. The Department is liberally equipped with varied appliances necessary to give instruction to several hundred students in General and Agricultural Chemistry.

The general University Library has on its shelves a representative collection of books in all agricultural fields and is particularly rich in complete files of agricultural journals, both domestic and foreign. Small reference libraries are maintained at the Forcing-houses and at the Dairy Building. The bulletins and reports of all the Experiment Stations in the United States and Canada and those of the United States Department of Agriculture are available in Morrill Hall. The exchange list of the College includes the principal agricultural periodicals published in this country.

New Buildings.—By act of the Legislature, approved by the Governor, May 9, 1904, an appropriation was made of \$250,000 for the erecting and equipping of buildings for the College of Agriculture. The act also establishes the College as "The New York State College of Agriculture at Cornell University." The buildings are now under construction, and the Dairy Building will be occupied early in the present academic year. These buildings will be described in the announcement for 1907-1908.

Instruction.—The regular instruction of the College of Agriculture is comprised in a four-year course leading to the degree of Bachelor of the Science of Agriculture. Aside from this there are winter-courses, not leading to credits in the University, and opportunities for students to pursue special work. A circular describing the winter-courses may be had on application.

Students may pursue agricultural subjects in the Graduate Department of the University, leading to the degree M.S. in Agr. and Ph.D.

Aside from the regular instructional work outlined in these pages, the College of Agriculture also has an Experiment Station, main-

tained by funds derived from the federal government, and extension work maintained by the State.

Expenses.

Tuition is free to regular and special students in the College of Agriculture.

Fees are as follows :

Matriculation ----- \$5 00

Degrees.

Baccalaureate ----- \$10 00

Advanced ----- 20 00

Incidentals.

Post-graduates, fee each term ----- \$7 50

Regular students, 3d and 4th years, each term ----- 7 50

Specials, each term ----- 7 50

Other deposit fees are required in various laboratory courses.

The expense of text-books, instruments, etc., varies from \$10 to \$75 per annum.

The cost of living in Ithaca, including board, room, fuel and lights, varies from \$4.50 to \$7 per week.

A fair estimate of the yearly expenses is from \$300 to \$500, but much depends on the personal tastes of the student.

The cost of board, rent of furnished room, fuel, and lights, in Sage College or Sage College Cottage, which are exclusively for women, varies from \$5 to \$6.50 a week. A student occupying alone one of the best rooms pays \$6.50 a week. If two occupy such a room together, the price is \$5.75. Those occupying less desirable rooms, with two in a room, pay \$5 a week each. Both buildings are warmed by steam, lighted by electricity, and, in most cases, the sleeping apartment is separated from the study. The responsibility for the conduct of the students living in Sage College and the Cottage rests with the Warden of Sage College. Letters of inquiry in regard to board and rooms at the Sage College and the Cottage should be addressed to Mr. G. F. Foote, Business Manager of Sage College, Ithaca, N. Y.

There is a limited amount of work on the farms, that will be given to students who apply for it. Those desiring work should write early to Professor T. F. Hunt, who will furnish application blanks.

Scholarships in Agriculture.—At its 31st annual meeting, held at Cortland, February 4, 1904, the New York State Grange resolved to “appropriate annually \$200 to be given to members of the Order in the form of four scholarships to any of the agricultural courses in

Cornell University." The scholarships are each of a value of \$50, to be awarded to two men and two women who attain the highest standing on competitive examination. For 1906-7 there are six scholarships, the examinations for which were held in May. The candidate should apply to the Master of the Pomona Grange in his home county, or to the Deputy in counties that have no Pomona.

Mr. Harrison L. Beatty of Bainbridge, Chenango County, offers for this year a scholarship of \$75 for the winter-course to a properly qualified student from the town of Bainbridge.

The Stafford Grange also offers a scholarship.

A *fellowship* is awarded to the College of Agriculture and Veterinary College. The fellow for 1906-7 is John P. Stewart, in the College of Agriculture (specializing in horticulture).

I. COURSES LEADING TO A DEGREE.

The regular course in the College of Agriculture is four years, and leads to the degree of Bachelor of the Science of Agriculture. There is a combined course with the State Veterinary College comprising six years and leading to two baccalaureate degrees.

Candidates for admission to the regular or four year course must be at least sixteen years of age, or, if women, seventeen. They must have certificates of good moral character, and students from other colleges or universities are required to furnish from those institutions certificates of honorable dismissal. Students are admitted on examination, or on presenting credentials of the Education Department of the State of New York, or on acceptable school certificates.

Candidates for admission must file their credentials and obtain permits for examination at the Registrar's office, *Morrill 11*. The results of examination may be ascertained from the Registrar.

The subjects that may be offered for admission are named in the following lists:

Elementary Subjects.

The following Elementary Subjects are required for admission to all colleges of the University:

English.

Plane Geometry.

History.*

Elementary Algebra.

Advanced Subjects.

In addition to the Elementary Subjects, an applicant must offer from the following list the Advance Subjects required by the college to which he seeks admission. The figure following each subject indicates its relative weight:

*One of the following: (1) American (including Civil Government), (2) English, (3) Ancient (to 814 A.D.), (4) Mediæval and Modern European (from 814 A.D.)

Advanced Mathematics (6).	Latin (18).
Solid Geometry (2)	Latin Grammar and Caesar (6).
Advanced Algebra (2).	Latin Composition and
Plane Trigonometry } (2).	Cicero (6)
Spher. Trigonometry }	Virgil (6).
German (12).	Greek (12).
Elementary German (6).	Greek Grammar, Xenophon (6).
Advanced German (6)	Greek Composition, Homer (6).
French (12).	Physics (6).
Elementary French (6).	Chemistry (6).
Advanced French (6)	Botany (6).
Spanish (12).	Geology or Physiography (6)
Elementary Spanish (6).	Zoology (6).
Advanced Spanish (6).	Drawing (6).

For admission to the College of Agriculture an applicant must offer the Elementary Subjects and also 30 units from the list of Advanced Subjects, including 12 units either in French or in German.

For other details as to subjects and methods of admission, see pages 33-58.

For admission to the Freshman class and to advanced standing from other colleges and universities, all communications should be addressed to the Registrar. See pages 33-58.

For admission as special student, communications should be addressed to the Director of the College of Agriculture and attention is called to the paragraphs under II below.

For admission to graduate work and candidacy for advanced degrees, communications should be addressed to the Dean of the University Faculty. See page 73.

Six-Year Course in Agriculture (B.S.A.) and Veterinary Medicine (D.V.M.), on the Basis of the Requirements for 1905-6.

<i>Freshman Year.</i>	No. Course.	Hours	
		1st half-year	2d half-year
English	1	3	3
Drawing	12C	2	2
Botany	1	3	1
Botany	2	-	2
Geology	2	3	3
Invertebrate Zoology	1	2	-
Vertebrate Zoology	2	2	-
Entomology	3	-	3

In addition to the above the required military drill must be taken.

<i>Sophomore Year.</i>	No. Course	Hours	
		1st half-year	2d half-year
Physics.....	I	-	4
Chemistry	I, 8I	6	6
Physiology of Domestic Animals.....	2I	-	3
Soils	I	3	-
Electives in Agriculture	-	4	4
Animal Husbandry	36	3	-
Physiology Recitations.....	20-20a	2	I

In addition to the above the required physical training must be taken.

<i>Junior Year.</i>	No. Course	Hours	
		1st half-year	2d half-year
Political Science.....	5I	3	3
Agronomy	II, 12	4	4
Veterinary Anatomy	IO-II-12	8	5
Elective in Agriculture.....	-	3	6

<i>Senior Year.</i>	No. Course	Hours	
		1st half-year	2d half-year
Electives in Agriculture	-	9	9
Microscopy, Histology and Embryology....	I	-	8
Pharmacology	25	2	-
Materia Medica and Pharmacy.....	26	2	-
General Surgery.....	30	1 $\frac{1}{3}$	-

The fifth and sixth years are as given in the State Veterinary College.

II. SPECIAL WORK.

Opportunities are provided for persons who desire to pursue special work. Students must be at least eighteen years of age to take advantage of this work, and applications will be received until September 15. They are admitted by the Director of the College of Agriculture.

1. **Special Work in General Agriculture.**—This work is designed to meet the needs of young men and young women from the farm who have not the time to give to a four years' course. They must satisfy the Director that they are well enough grounded in the secondary school subjects to enable them to pursue the work with credit to themselves and with honor to the University, and also that they desire to take the work because of direct interest in agricultural affairs. They must present an honorable dismissal from the school last attended and certificates of good moral character, and will be re-

quired to present such other certificates and letters as may be desired. This work is not a definite "course" in the sense of having a program or a prescribed set of studies. The student chooses any of the agricultural "electives" that he may be able to pursue. Certain courses are to be given by some of the departments for those who lack some of the fundamental work usually required in those subjects. Admission as a special student by the Director does not admit to classes. The student is admitted to the various classes by the heads of the departments when he has satisfied such officers that he is able to pursue the work.

2. **Nature-Study Special Course.**—This course, of two years, is open to teachers, or to such students in regular University courses as signify their intention to teach, who desire to prepare themselves in nature-study and country-life subjects. In this course the work is largely prescribed. The course comprises two categories of work: the subject-matter studies, and the pedagogical practice. The subject-matter is secured in the regular classes of the University, largely in the biological departments. The pedagogical practice is to be had with children in regular nature-study classes and clubs in the public schools of Ithaca and in school-garden work with children.

III. EXTENSION WORK.

The extension work of the College of Agriculture is designed to help persons directly on their farms, and to aid those who desire definite instruction but cannot take a long or regular course in agriculture in the University. It supplements the teaching and experimenting of the College of Agriculture. It is professedly a popular work. It endeavors to reach the common problems of the people, to quicken the agricultural occupations, and to inspire a greater interest in country life. It is also a bureau of publicity, whereby there is an exchange of all important matters connected with the progress of the agriculture of the State.

The extension work comprises many efforts, the leading ones being:

- (a) Experimenting and testing about the State and at Ithaca, for the purpose, primarily, of aiding the farmer in handling his own problems.
- (b) The Farmers' Reading-Course; the Farmers' Wives' Reading-Course.
- (c) The Nature-Study work, comprising the junior gardeners, junior naturalists, work in connection with county and local fairs, improvement of school premises, home nature-study

course, lectures and demonstrations in schools and at teachers' meetings.

(d) Coöperation with schools in introducing agricultural and country life topics.

(e) Winter-courses of eleven weeks at Cornell University in General Agriculture, Dairy Industry, Poultry Husbandry, Horticulture, Home Economics.

Several reports of the Extension work have been published as bulletins. These may be had on application until the supply is exhausted. Applications to join any of these extension enterprises may be made to the Director of the College of Agriculture.

IV AGRICULTURAL EXPERIMENT STATION.

The Agricultural Experiment Station is a department of the New York State College of Agriculture. Incidentally, students may acquire instruction from observing and discussing the experiments that are being conducted. The federal law passed March 2, 1887, briefly outlines the objects of the experiment stations in the following words: "To aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science."

It further provides "That bulletins or reports of progress shall be published at said station at least once in three months, one copy of which shall be sent to each newspaper in the states or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same and as far as the means of the station will permit." A federal Act, approved March 16, 1906, provides funds for extending the work of Experiment Stations. The entire plant of the College of Agriculture is used, as occasion demands, for conducting experiments in animal and plant growth and reproduction, and in applied, comparative and scientific research and investigations. The Cornell University Agricultural Experiment Station was first organized in 1879. It was reorganized in 1888, after the passage of the federal law.

The publications of the Agricultural Experiment Station include to date eighteen annual reports and two hundred and forty bulletins. These publications are distributed free to such residents of the State as apply for them so far as the means of the station will permit and as they are available.

PROGRAM OF INSTRUCTION IN THE FOUR-YEAR COURSE.

The Regular Four-Year Course in Agriculture Leading to the Degree of Bachelor of the Science of Agriculture.

The work is prescribed and elective. Graduation follows the completion of 120 hours and the military drill and physical training. The prescribed work, for students entering 1906, is as follows :

<i>Freshman Year.</i>	No. of Course.	Hours 1st Half-Year.	Hours 2nd Half-Year.
English	I	3	3
Botany	I	3	1
Botany	2	-	2
Chemistry	1	6	-
Chemistry	6	-	5
Invertebrate Zoology	1	2	-
Vertebrate Zoology	2	2	-
Entomology	3	-	3
		—	—
Total		16	14

In addition to the above the required military drill must be taken.

<i>Sophomore Year.</i>	No. of Course.	Hours 1st Half-Year.	Hours 2nd Half-Year.
Geology	I	3	3
Drawing	DI	2	2
Chemistry	85	6	-
Soils	I	-	3
Physiology of Domestic Animals*	2I	-	3
Physics**	I	4	-
Physics	5	-	2
Physics	IO	-	2
		—	—
Total		15	15

In addition to the above the required physical training must be taken.

<i>Junior Year.</i>	No. Course.	Hours 1st Half-Year.	Hours 2d Half-Year.
Political Science	5I	3	3
Agronomy	II, 12	4	4

*Students not wishing to take Physiology of Domestic Animals may elect Elementary Human Physiology 3 in first term of the Junior year.

**Students taking Physiology of Domestic Animals take Physics in the first half year, while those taking Elementary Human Physiology take Physics in the second half year.

The elective work may be chosen from the courses described on the following pages. At least one-half of the entire elective work of each year must be chosen from these agricultural subjects.

Special students follow no prescribed course; but at least two-thirds of all their work must be in the agricultural subjects described on the following pages. They are obliged to follow the same regulations as the regular students in not entering on any particular work until they have satisfied all previous requirements for that work, or have made special arrangements with the head of the department.

Courses in Other Colleges Allowed as Agricultural Electives.

Botany, 6 (Exotics); New York State Veterinary College, 51 and 52 (Contagious Diseases, Parasites and Parasitism).

Thesis.

The student may elect a thesis with the head of any department in the College of Agriculture. The thesis work must continue for at least one year. It counts a credit of two hours for each half-year.

Agricultural Chemistry.

85. **Agricultural Chemistry.** General Course. Treats of the fertility of the land and deals with such subjects as the composition of plants, the sources of their food, the chemical and physical properties of soils and the composition and behavior of fertilizers and manures. Must be preceded by Chemistry Course 1. Required of Sophomores. Special students may elect the lectures and recitations without the laboratory work. Second half-year. Credit, 6 hours. Lectures, M., W., F 11, *Morse Hall Lecture Room No. 4*. Two laboratory periods. T., Th., 2-4:30, *Morse Hall* and one recitation, F., 8, *Morse Hall*. Assistant Professor CAVANAUGH.

86. **Agricultural Chemistry.** Advanced course. First half-year. Credit, two hours. Lectures, W., F., 10, *Morse Hall Lecture Room No. 4*. Assistant Professor CAVANAUGH.

87. **Agricultural Analysis.** Laboratory practice. Foods and feeding stuffs, and dairy products. Must be preceded by Chemistry courses 1 and 6, or courses 7 and 12. First half-year. *Morse Hall*. Assistant Professor CAVANAUGH and Mr. HERRICK.

88. **Agricultural Analysis.** Laboratory practice, soils, fertilizers, insecticides and fungicides. Must be preceded by Chemistry courses 1 and 6, or courses 7 and 12. Second half-year. *Morse Hall*. Assistant Professor CAVANAUGH and Mr. HERRICK.

89. **Dairy Chemistry.** Must be preceded by Chemistry 1 and 85. First half-year. Credit, two hours. Lectures, T., Th., 8, *Morse Hall Lecture Room No. 4*. Laboratory practice in Dairy Chemistry is given in course 87. Assistant Professor CAVANAUGH.

90. **Advanced Agricultural Analysis.** This course is designed to meet the needs of those doing research work in agriculture chemistry. *Morse Hall*. Assistant Professor CAVANAUGH.

Entomology and General Invertebrate Zoology

1. **Invertebrate Zoology.** General course. First half of the first half year. Credit, 2 hours. M., W., F., 10, *McGraw 5*. Professor COMSTOCK; and one practical exercise by the class in sections. 1st section, W., 2-4:30; 2d section, Th., 2-4:30; 3d section, F., 2-4:30, *McGraw 5*. Assistant Professors MACGILLIVRAY and RILEY and Mr. SHAFER.

This course is followed by course 2 in Vertebrate Zoology, which occupies the corresponding hours in the last half of the first half-year.

2. **Morphology of Invertebrates.** Comparative study of the anatomy of representatives of the principal groups of invertebrates. Special laboratory course. Laboratory open T., 8-5, Th., 8-1, *White 20*. Assistant Professor MACGILLIVRAY.

Course 2 is open only to students who have taken or are taking course 1.

3. **General Entomology.** Lectures on the characteristics of the orders, suborders, and the more important families and on the habits of representative species. Second half-year. Credit, 2 hours or 3 hours. M., W., 10, *McGraw 5*. Professor COMSTOCK; and one practical exercise in sections for those who have not had courses 4 and 5. W., Th., F., 2-4:30 *McGraw 5*. Assistant Professors MACGILLIVRAY and RILEY and Mr. SHAFER.

Course 3 is open only to students who have taken course 1.

4. **Elementary Morphology of Insects.** Laboratory work. Credit, 3 hours. Laboratory open M., T., 8-5, W., Th., F., 8-1, *White 20*. Assistant Professors MACGILLIVRAY and RILEY.

Course 4 should precede or accompany course 3.

5. **Elementary Systematic Entomology.** Laboratory work. Credit, 2 hours. Laboratory open M., T., 8-5. W., T., F., 8-1, *White 20*. Assistant Professors MACGILLIVRAY and RILEY.

Course 5 is open only to students who have taken course 4, and are taking or have taken course 3.

6. **Advanced Systematic Entomology.** Laboratory work.

Credit, 3 hours. Laboratory open T., 8-5, Th., 8-1, *White 20*. Assistant Professor MACGILLIVRAY.

7. **Histology of Insects.** Laboratory work. Introductory course. Laboratory open M., 8-5 ; W., F., 8-1, *White 12*. Assistant Professor RILEY.

Course 7 is open to students who have taken courses 4 and 5.

8. **Economic Entomology.** Lectures and field work. Discussion of the more important insect pests and of methods of controlling them. At opportune times the class will be taken into the field in sections to observe insect pests at work. Second half-year. Credit, 2 hours. T., Th., 10, *White 12*. Assistant Professor SLINGERLAND.

Course 8 is open only to students who have taken courses 1 and 3.

9. **Advanced Economic Entomology.** Lectures, seminary and field work. Economic problems connected with applied entomology discussed, reported upon, and field observations made. Experimental methods in breeding, photographing, investigating and controlling insects discussed and studied. Designed for advanced students in entomology who desire to fit themselves for Experiment Station work. One afternoon a week by appointment throughout the year. Credit, one hour each term. *Insectary*. Assistant Professor SLINGERLAND.

Course 9 is open only to graduates and to students who have taken courses 1, 3, 4, 5 and 8.

[10. **Classification of the Coccidæ.** A course designed to familiarize the student with the more injurious species of scale insects, the method of preparing specimens for study, and the systematic arrangement of the species. Lectures and laboratory work. Second half-year. T., 11-1, 2-5, *White 20*. Credit, 2 hours. Assistant Professor MACGILLIVRAY. Not to be given in 1906-7.]

Course 10 is open only to students who have taken courses 4 and 5.]

11. **Morphology and Classification of the Arachnida.** Special laboratory course. Laboratory open M., T., 8-5 ; W., Th., F., 8-1, *White 20*. Professor COMSTOCK and Assistant Professors MACGILLIVRAY and RILEY.

12. **Morphology and Development of Insects.** Lectures and demonstrations. Second half-year. T., Th., 9, *White 12*. Credit, 2 hours. Professor COMSTOCK and Assistant Professor RILEY.

Course 12 is open only to students who have taken courses 1, 3, 4, and 5. Students are advised to take course 7 also before taking this course.

13. **Research in Entomology.** Advanced laboratory course. Special work arranged with reference to the needs and attainments

of each student. Laboratory open daily ex. S., 8-5, S., 8-1. *White 20.* Professor COMSTOCK and Assistant Professors MACGILLIVRAY and RILEY.

14. **Seminary.** The work of an entomological seminary is carried on by the *Jugatae*, an entomological club which meets for the discussion of current literature and of the results of investigations. Attendance at the meetings may be counted as laboratory work. M., 4:30-5:30, *White 12.*

15. **Materials for Nature-Study with Insects.** Laboratory and field work. Credit, 3 hours. W., 2:30-5, and other hours by appointment. Professor COMSTOCK and Assistant Professors MACGILLIVRAY and RILEY.

Course 15 is open only to students who have taken courses 1 and 3.

16. **Elementary Economic Entomology.** Lectures and field work. Diseases of insects in general, and the lives of the more important agricultural pests, with remedial suggestions. At opportune times the class will be taken into the field in sections to observe insect pests at work. First half-year. T., Th., 10. *White 12.* Credit 2 hours. Assistant Professor SLINGERLAND.

Course 16 is not open to students who are prepared to take course 8.

17. **Literature of Entomology.** A systematic study of bibliographies, indexes, and general entomological literature; the preparation of catalogues of insects; the evolution of the rules of zoological nomenclature; and the methods of determining the priority of generic and specific names. Lectures. Second half-year. Credit 1 hour. W., 9, *White 12.* Assistant Professor MACGILLIVRAY.

[18. **Embryology of Insects.** Lectures and demonstrations. Second half-year. S., 9, *White 12.* Credit 1 hour. Assistant Professor RILEY. Not to be given in 1906-7.]

Course 18 is open only to students who have taken courses 1, 3, 4 and 5.

Agricultural Botany.

[1a. **Agricultural Botany.** An elementary course in plant structure, physiology, ecology and evolution. The subject will be treated throughout from the economic or agricultural point of view. Two lectures and two laboratory periods each week. Some field work during the spring. Open only to special students in agriculture. Throughout the year. Credit four hours. Assistant Professor WHETZEL. Not given in 1906-7.]

2a. **Plant Diseases.** The course will undertake a very practical consideration of the more common bacterial, fungus and physiological diseases of cultivated plants. Ability to recognize these diseases

and a practical knowledge of how to treat them, will be the aim of this course. One lecture and two laboratory periods each week. Excursions will be made during the Spring to study these diseases in the field. Open to special students in agriculture who have had Agricultural Botany or its equivalent. Open to regular students in agriculture who have had University Botany 1 and 2. Second half-year. Lectures, T., 12-1; laboratory, Th., 2-4:30 and S., 9-11:30. Rooms to be announced. Credit three hours. Assistant Professor WHETZEL.

Agronomy.

1. **Agricultural Soils.** An elementary course covering the origin, formation, classification and function of soils, with particular reference to their management in plant production. Required of Sophomores. Must be preceded or accompanied by Chemistry 1. First half-year. Credit three hours. Lectures M., W., 10, *Morse Hall Lecture Room No. 2*. One laboratory hour, which will include field excursions for the inspection of soils in the vicinity of Ithaca, N. Y. M., W., or F., 2-4:30, *Morse Hall 24*. Assistant Professor FIPPIN.

After 1906-7 this course will be given in second half-year and must be preceded by Chemistry 1, 6, and 87, Botany 1 and 2, and Geology 1a.

[101. **Agricultural Soils.** An elementary course covering the origin, formation, classification and function of soils, with particular reference to their management in plant production. Must be preceded or accompanied by Chemistry 1. Botany 1 and 2 are also recommended to precede or accompany this course. First half-year. Credit three hours. Lectures, M., W., 10, *Morse Hall Lecture Room No. 2*. One laboratory hour, which will include field excursions for the inspection of soils in the vicinity of Ithaca, N. Y. M., W., or F., 2-4:30, *Morse Hall 24*. Assistant Professor FIPPIN. Not given in 1906-7.]

[2. **Soils of the United States.** Treats of the soil provinces, series and types of the United States, and particularly of New York State, with reference to their distribution, agricultural importance and management. Illustrated with maps and slides. Must be preceded by Agronomy 1 or 101. First half-year. Credit three hours, Lectures, T., Th., 10. Excursion or recitation, F., 2-4:30, *Morse Hall 24*. Assistant Professor FIPPIN. Not given in 1906-7.]

3. **Soil Mapping.** Preparation of large scale plane table maps of selected areas and a detailed survey of the soils. Also excursions in the vicinity of Ithaca to study the use of large scale soil maps. Must

be preceded by Agronomy 1 or 101. First half-year. Credit two hours. Field practice, S., 8-1. Assistant Professor FIPPIN.

4. **Advanced Agricultural Soils.** Treats of the physical properties and mechanical analysis; retention and movement of soil moisture; chemistry of the soil solution; "alkali" and irrigation. Lectures, collateral reading and reports. Must be preceded by Agronomy 1. Second half-year. Credit one hour. T., 10, *Morse Hall Lecture Room No. 2*. Assistant Professor FIPPIN.

5. **Advanced Laboratory in Soils.** A series of experiments illustrating the physical and chemical properties of the soil in their relation to moisture and plant development; principles of soil investigation. Must be preceded or accompanied by Agronomy 4 and must be accompanied by Agronomy 15. Throughout the year. Credit one hour. T., 9-12, *Morse Hall 24*. Assistant Professor FIPPIN.

11. **Field Crops.** Lectures and recitations on the history, production, cultivation and marketing of farm crops. Practice with growing and dried specimens, including cereals, grasses, clovers and other forage crops. Limited to 70 students. Must be preceded by Agronomy 1. Required of Juniors. First half-year. Credit four hours. Lectures, M., W., F., 9, *Morrill 12*. Practice one afternoon per week, T., or Th., 2-4:30, *Morrill 19*. Assistant Professor GILMORE.

111. **Field Crops.** Lectures and recitations on the history, production, cultivation and marketing of farm crops. Practice with growing and dried specimens, including cereals, grasses, clovers and other forage crops. Limited to 40 students. Must be preceded by Agronomy 1. After 1906-7 must be preceded by Agronomy 101. Second half-year. Credit four hours. Lectures, M., W., F., 9, *Morrill 19*. Practice one afternoon per week, T., or Th., 2-4:30, *Morrill 19*. Assistant Professor GILMORE.

12. **Farm Management.** Lectures and recitations on present agricultural methods in various countries, cost and relative profit of various farm operations and systems. Limited to 70 students. The expenses of the required excursions in this course are estimated not to exceed five dollars. Must be preceded by Agronomy 11. Required of Juniors. Second half-year. Credit, 4 hours. Lectures, M., W., F., 9, *Morrill 12*. Practice one afternoon per week, T. or Th., 2-4:30, *Morrill 20*. Professor HUNT.

[112. **Farm Management.** Lectures and recitations on present agricultural methods in various countries, cost and relative profit of various farm operations and systems. The expenses of the required excursions in this course are estimated not to exceed five dollars.

Must be preceded by Agronomy 111. First half-year. Credit, 4 hours. Lectures, M., W., F., 9. Practice one afternoon per week, T. or Th., 2-4:30. Professor HUNT. Not given in 1906-7.]

13. **Advanced Agronomy.** Laboratory and research work upon the best methods of crop production, including a detailed study of experimental results with one or more field crops, supplemented with lectures and recitations. Must be preceded by Agronomy 11 and must be accompanied by Agronomy 15. First half-year. Credit, 2 hours. Practice two afternoons per week. M., F., 2-4:30, *Morrill 20*. Professor HUNT.

14. **Advanced Agronomy.** Laboratory and research work upon the best methods of crop production, including a detailed study of experimental results with one or more field crops, supplemented with lectures and recitations. Must be preceded by Agronomy 11 and must be accompanied by Agronomy 15. Second half-year. Credit, 2 hours. Practice two afternoons per week. M., F., 2-4:30, *Morrill 20*. Professor HUNT.

15. **Seminary.** Discussion of research work and reports upon special topics. Required of all students taking graduate work in Agronomy. Required of undergraduate students taking Agronomy 5, 13 and 14. Not open to other students. Throughout the year. Credit, one hour. W., 2-4:30, *Morrill 20*. Professors HUNT and LYON, Assistant Professors STONE, FIPPIN, GILMORE, WARREN, and Mr. CLARK.

16. **Tropical Agriculture.** Lectures and recitations on the history, production, cultivation and marketing of Tropical and subtropical crops. Practice with dried specimens and products, including fiber plants, tea, coffee, sugar cane and rice. Must be preceded by Agronomy 11. First half-year. Credit, 3 hours. Lectures, T., Th., 11, *Morrill 12*. Practice F., 2-4:30, *Morrill 19*. Assistant Professor GILMORE.

19. **Farm Practice.** An elective course throughout the Freshman and Sophomore years, especially designed for students who are not familiar with ordinary farm methods and practices. Throughout the year. Credit, one or two hours. One or two afternoons per week by appointment. Assistant Professor STONE and Mr. TAILBY.

Special Lectures in Soil Bacteriology. A two-weeks course of lectures on soil bacteriology will be delivered by Jacob G. Lipman, Soil Chemist and Bacteriologist of New Jersey State Agricultural Experiment Station. All students in the Department of Agronomy will be expected to arrange their work to attend these lectures, which will occur December 3-7 and 10 to 14 inclusive at 9. Laboratory demonstrations

will be given on Tuesdays and Thursdays at 2-4:30 to a limited number of students.

Horticulture.

Courses 1 and 2 in Botany are prerequisites to all courses in Horticulture, except No. 23.

20. **Nursery and Orchard Practice, with Greenhouse Management.** Deals with the multiplication and subsequent care of plants, grafting, budding, making cuttings, pollination, pruning, spraying, garden tools, management of crops grown under glass, etc. Two hours with laboratory. Three hours. Throughout the year. *Morrill 19.* T., Th., 11, W., or F., 2-4:30. Mr. WILSON and Mr. COIT.

The classes in Nursery and Orchard Practice and Pomology (20 and 24) are required to participate in such excursions as may be arranged from time to time through the fruit-growing regions of the State. The expense of these excursions in each course will not exceed ten dollars, and may be much less.

21. **Greenhouse Construction.** A study of the principles of greenhouse construction and laboratory work consisting of the drawing and erection of sections illustrating the leading types of greenhouses. First half-year. Two hours. *Morrill 12.* W., 8, M. or T., 2-4:30. Mr. WILSON.

22. **Olericulture.** A study of the principles of vegetable gardening with special reference to trucking, accompanied by field practice in the actual growing of the plants. Second half-year. Two hours. *Morrill 12.* M., F., 8. Assistant Professor ———.

23. **Garden and Greenhouse Practice.** Practical work in the forcing-houses and gardens, with familiar talks. One or two hours by appointment. Throughout the year. Limited to 12 students first term, 18 second term. Mr. ———.

24. **Practical Pomology.** Lectures, text-book and other class and field exercises on the cultivation of fruits. Three hours. Second half-year. *Morrill 12,* M., W., F., 11. Course 20 a prerequisite. Assistant Professor ———.

24a. **Sub-tropical Pomology.** A study of citrus, tropical and sub-tropical fruits, with special reference to American conditions. Two hours. First half-year. *Morrill 12,* T., Th., 8. Course 20 a prerequisite. Assistant Professor ———.

25. **Systematic Pomology.** Advanced course in classification and systematic study of fruits. Two hours. First half-year. *Morrill 12.* Lectures, M., 10. Laboratory, T., 2-4:30. Must be preceded by Course 24. Professor CRAIG and Mr. COIT.

26. **The Literature of Horticulture and Landscape Gardening.** An examination of the writings of European and American authors, with special reference to the evolution of horticultural methods. Open to Juniors and Seniors, and required of graduates. First half-year. Two hours. Room to be announced. T., Th., 11. Professor CRAIG.

27. **Plant-Breeding**, with special reference to the improvement of orchard fruits. Juniors and Seniors; required of graduates. Second half-year. Two hours. Room to be announced. T., Th., 11. Professor CRAIG and Mr. COIT.

28. **German Horticultural Reading.** A study of periodical literature relating to horticulture. Each student is required to subscribe for one periodical and make translations from assigned paragraphs. Open to students who have a reading knowledge of German. First half-year. Two hours. Room to be announced. W., F., 10. Mr. WILSON.

28a. **French** of the same character and conducted in the same way as Course 28. Second half-year. Two hours. W., F., 10. Mr. WILSON.

29. **Investigation** incident to previous courses. For graduates and advanced students. Hours by appointment. Professor CRAIG, Assistant Professor ———.

30. **Seminary Work for Advanced Students.** Required of graduates. One hour. W., 8 and 9. Professor CRAIG and Assistant Professor ———.

Animal Husbandry.

31. **Animal Husbandry.** The principles of breeding, including the history, development, creation and improvement of the various races and breeds of farm animals; the principles of feeding, care, selection and management of dairy and beef cattle, sheep and swine. Credit 4 hours. Lectures, T., Th., S., 9. Practice one hour in sections. W., Th., or F., 2:30-4:30 by appointment. *Judging Pavilion.* Professor WING and Mr. HARPER.

32. **Advanced and Seminary Work in Animal Technology.** Lectures, conferences and reports. The work will be largely individual and will afford opportunity for intimate and close study of the various breeds of improved stock. Must be preceded by course 31. Credit, 1 to 3 hours. M., afternoon. Professor WING.

33. **Practice in Feeding and Stable Management.** The student will be put in charge of a certain number of animals and will be required to prepare the foods and keep records of consumption and production. The ability to milk well is required. Must be preceded

by course 31. Credit, 3 hours. Daily, 7:30-9, *Barns and Stables*. Professor WING and Mr. HARPER.

34. **The Horse.** History, characteristics of breeds, selection, judging, feeding, care, training and development. Lectures, recitations and practicums. 1st half year. Credit 2 hours. Lectures or recitations, M., W., 10. Practice by appointment. Must be preceded by course 31. Professor WING and Mr. HARPER.

35. **Animal Mechanics and Exterior.** Lectures and recitations upon animal mechanics, proportions and the relation of the latter to specific uses. Practice in measuring animals and testing the value of given measurements for given purposes. Second half-year. Credit, 4 hours. Lectures or recitations, M., W., F., 10. Practice, M., 2-4:30, *Judging Pavilion*. Mr. HARPER.

36. **Animal Husbandry.** Special course for students in the New York Veterinary College. Not open to students in the College of Agriculture. The principles of breeding and feeding animals, with the history of improved breeds and practicums in compounding rations and stock judging. First half-year until Christmas. Credit, 3 hours. M., W., F., 9. Practice, Th., 11-1, *Judging Pavilion*. Professor WING.

37. **Poultry Husbandry.** Lectures and recitations on the origin, history, and classification of the domestic breeds of poultry; judging, breeding, feeding, and management; construction of buildings and laying out of plants; caponizing, killing, marketing, hatching, brooding, etc. Tuesday and Thursday, 10. Credit, two hours. *Poultry Building*. Assistant Professor RICE.

38a. **Poultry Practice.** Poultry carpentry, judging poultry, study of poultry feeds. Study of the egg; anatomy of poultry; caponizing; excursions and special work on the poultry plant. Monday and Wednesday or Tuesday and Thursday afternoons. To be given first half-year up to Dec. 6th, and second half-year after Feb. 27th. Credit, one hour. Course 38 (a) should accompany course 37 but it is not required.

38b. **Practice in Managing and Keeping Records of a Pen of Fowls for Three Weeks.** First half-year up to Dec. 6th, and second half-year after Feb. 27th. Morning, noon, and afternoon. By appointment. Credit, one or more hours.

38c. **Operating Incubators or Brooders and Keeping the Records for Four Weeks.** Second half-year after Feb. 27th. Morning, noon, and afternoon. By appointment. Credit, one or more hours.

The practice courses 38 (a), (b), and (c) must accompany or follow

course 37. *Poultry Building*. Assistant Professor RICE and Mr. LAWRY.

39. **Poultry Seminary.** For advance study and conference. Includes systematic reading and a written report by each student, also lectures and practice in speaking on poultry topics. Credit, one or more hours. Open only to those students who have taken courses 37 and 38. By appointment. *Poultry Building*. Assistant Professor RICE.

40. **Poultry Research.** Includes lectures on experiment station methods and the conducting of an original investigation of a problem in poultry husbandry, to be presented in a written report by each student. Credit, one or more hours. Open only to those students who have taken course 37 and 38. By appointment. *Poultry Building*. Assistant Professor RICE.

Dairy Industry.

40. **Elementary Course.** The character and composition of milk. Contamination and fermentations. Lactometer. Babcock fat test. Acid tests. Fermentation test. Tests for preservatives. First half-year. Credit, 2 hours. Lectures and text-books, W., II; laboratory practice, one afternoon period each week by appointment. *Dairy Building*. Professor PEARSON and Mr. ROSS.

41. **Creamery Methods.** Must be preceded or accompanied by course 40. The principles and practice of butter-making in creameries and farm dairies. Cream separation, pasteurization, starters, churning, marketing, etc. Uses of skimmed milk. Apparatus and buildings. Creamery book-keeping and mechanics. First half-year. Credit, 3 hours. Lectures and text-books, F., II. Practice, by appointment; each exercise will require from three to four hours but the total hours will not exceed the equivalent of two periods or five hours per week. Professor PEARSON and Mr. AYRES.

42. **Cheese-Making.** Must be preceded by course 40. The principles and practice of cheddar cheese making. Starters, rennet action, milling, pressing, etc. Apparatus and buildings. Factory book-keeping. Second half-year. Credit, 2 hours. Lectures and text-book, W., II. Practice, by appointment; each exercise will require from four to six hours but the total hours will not exceed the equivalent of one period or two and one-half hours per week. *Dairy Building*. Professor PEARSON and Mr. HALL.

43. **Market Milk and Milk Inspection.** Must be preceded by course 40. The production and control of market milk with special reference to its improvement. Milk as a food. Shipping stations.

Transportation and sale. Pasteurizing. Standardizing. Certified milk. Milk laws. Duties of milk inspectors. Apparatus and buildings. Practice includes a review of numerous milk tests and visiting dairies in the vicinity of Ithaca; a short inspection trip in neighboring counties may be arranged. Second half-year. Credit, 2 hours. Lectures, F., 11; practice, S., 8-10:30. *Dairy Building*. Professor PEARSON.

44. **Dairy Bacteriology.** Must be preceded or accompanied by course 40. Laboratory methods. Counting bacteria in milk. Studies of different species of dairy bacteria. First half-year. Credit, 4 hours. Lectures and text-book, M., 11; practice, M., W., F., 2-4:30. *Dairy Building*. Assistant Professor STOCKING.

45. **Seminary.** For advanced students. Throughout the year. Credit, 1 hour. By appointment. *Dairy Building*. Professor PEARSON, Assistant Professor STOCKING, and Mr. ROSS.

46. **Investigation.** For advanced students. Special problems. Throughout the year. Credits and assignments as arranged. *Dairy Building*. Professor PEARSON, Assistant Professor STOCKING, Mr. ROSS and Mr. AYRES.

Rural Engineering and Architecture.

[51. **Field Engineering.** Lectures, recitations and practice in surveying and plotting the farm, designing farm buildings, roads, fences and water supply; drainage and irrigation. Second half-year. Credit, 3 hours. Lectures, T., Th., 11. Practice, T., 2-4:30. Assistant Professor GILMORE. Not given in 1906-7.]

52. **Farm Machinery.** Capital invested, construction, cost, life, uses and draft of tillage, seeding, harvesting, threshing, cleaning, grinding machinery, vehicles, and farm motors. Second half-year. Credit, 3 hours. Lectures, T., Th., 11, *Morrill 12*. Practice, T., Th., 2-4:30. Assistant Professor GILMORE.

The Farm Home.

61. **The Homestead.** The externals of the farm home, lay out, buildings, landscape gardening, ornamenting, lawn making, the home garden, water supplies, rural architecture, sanitation. First half-year. Credit, 2 hours. T., Th., 10, *Morrill 12*. Mr. FLEMING, Professors CRAIG, MARTIN, OGDEN and others.

(The first part of this course is also given to Rural Art students, course 81.)

62. **Woman's Work and Home Economics.** Social conditions past and present, shelter, house and clothing, sanitary equipment in

the home, decorating and furnishing, household service, food, maintenance, hospitality, health and conservation of strength. First half-year. Credit, 2 hours. W., F., 10, *Morrill 12*. Miss VAN RENSSELAER and others.

63. **Literature and Art for the Farm Home.** A discussion of popular books in all branches of science, biographies of men prominent in American History and readings from recent American fiction which represents truthfully different phases of the development in different sections of our country, also a discussion of the periodicals and pictures attractive and suitable for the farm home. Second half-year. Credit, 2 hours. W., F., 10, *Morrill 12*. Mrs. COMSTOCK.

Rural Economy and Sociology.

71. **Rural Economy.** A study of the economic problems of agriculture. Must be preceded by Agronomy 11 and 12 and Political Science 51. Lectures, discussion and reports. First half-year. Credit, 2 hours. M., W., 9, *Morrill 19*. Assistant Professor LAUMAN.

72. **Rural Sociology.** The social status and problems of the rural community. Must be preceded by Agronomy 11 and 12 and Political Science 51. Lectures, discussions and reports. First half-year. Credit, 2 hours. T., Th., 9, *Morrill 12*. Assistant Professor LAUMAN.

73. **History of Agriculture.** An outline of the development of agriculture in its more important phases. Open to Juniors and Seniors. Lectures, assigned readings and reports. Second half-year. Credit, 2 hours. T., Th., 9. Room to be announced. Assistant Professor LAUMAN.

74. **Advanced Rural Economy.** The subject will be the transportation of agricultural products. Must be preceded by course 71, and requires a reading knowledge of German or French. Second half-year. Credit, one or more hours. M., 9, *Morrill 12*. Assistant Professor LAUMAN.

75. **Advanced Rural Sociology.** The subject will be a study of education for agriculture. Lectures, discussions and reports. Must be preceded by course 72. Second half-year. Credit, one or more hours. W., 9, *Morrill 20*. Assistant Professor LAUMAN.

76. **Advanced History of Agriculture.** A detailed study of special chapters in the development of agriculture. Lectures and assigned readings. Must be preceded by course 73, and requires a reading knowledge of German or French. First half-year. Credit, 2 hours. F., 9, *Morrill 20*. Assistant Professor LAUMAN.

77. **Farm Accounting.** Occasional lectures on the principles of

accounting, with practice. Must be preceded by Agronomy 11 and 12. Second half-year. Credit, 2 hours. F., 9, *Morrill* 20. Assistant Professor LAUMAN.

78. **Seminary.** Devoted to current literature and the study of monographs. Open to graduates and to seniors by special permission. By arrangement. Assistant Professor LAUMAN.

79. **Investigation.** Primarily for graduates. By arrangement. Assistant Professor LAUMAN.

Rural Art.

Not open to Special Students in Agriculture.

This is a two-year course intended to comprise junior and senior years in the College of Agriculture. Before the student enters on the senior year of the Rural Art course he must have had the following subjects :

Land surveying 10 (College of Civil Engineering), 3 hours either half-year.

Before graduating he must also have completed the following subjects :

Dendrology 9, 3 hours throughout the year.

Economic entomology 8, 2 hours second half-year.

Literature of horticulture and landscape gardening 26, two hours first half-year.

Greenhouse construction and management 21, 2 hours first half-year.

Handicraft in horticulture 23, 1-3 hours.

The Homestead 61, 2 hours first half-year.

Field engineering 51, 3 hours second half-year.

Special Rural Art work for 1906-7 will be as follows (rooms and hours to be announced) :

81. **Theory and Aesthetics of Rural Art and Landscape Design.** Lectures, text-book and discussion. Credit, 2 hours. By appointment. *Morrill*. Messrs. MANNING, FLEMING and others.

82. **Landscape Design.** Work with plans, drafting, planting, specifications, etc. Credit, 2 hours. By appointment. *Forcing Houses*. Mr. MANNING, Mr. FLEMING, and others.

83. **Freehand Sketching.** Rendering in pencil, pen, ink and water color of outdoor subjects, with particular reference to landscape and plant forms. Credit, 2 hours. By appointment. Mr. ———.

84. **History of Landscape Design.** Lectures, reading and investigation. Credit, 1 hour. Mr. FLEMING.

86. **Plant Material of Rural Art.** Lectures and other exer-

cises. First half-year. Credit, 2 hours. Mr. MANNING, Mr. FLEMING, Mr. TAYLOR and others.

89. **Advanced Problems in Rural Art.** For advanced undergraduate and graduate students. Mr. MANNING and Mr. FLEMING.

Two-Year Special Course in Nature-Study.

This course is designed to help persons who expect to teach nature-study and country-life subjects in the public schools. Persons actually engaged in teaching and also all persons in the University who signify their intention to teach are eligible. A certificate will be given on the completion of 60 hours in the courses prescribed below, together with such other work in the College of Agriculture as may be approved by the Director.

(a) SUBJECT-MATTER COURSES.

Botany 1, 2, 3 hours, throughout the year.

Botany 5, 2 hours, second half-year.

Invertebrate Zoology 1, 2 hours, first half of first half-year.

Entomology 3, 3 hours, second half-year.

Entomology 15.

Systematic and Economic Vertebrate Zoology 6, 3 hours, throughout the year.

Physical Geography 1, 3 hours, throughout the year.

Soils 1, 3 hours, first half-year.

The Homestead 61, 2 hours, first half-year.

(b) LABORATORY PRACTICE IN NATURE-STUDY.

91. **Nature-Study.** Lectures and discussion of methods. Second half-year. Credit, 3 hours. M., W., F., 12, *Insectary*. Mrs. COMSTOCK.

92. **Home Nature-Study Work.** Work in the training classes in the Ithaca schools in which students are also to take part. Second half-year. Credit, 1 hour. By appointment. Mrs. COMSTOCK.

93. **Practice Work in Nature-Study** in the public schools of Ithaca, comprising school room work, excursions, and other exercises with children. First half-year. Credit, 2 hours. By appointment. Miss McCLOSKEY.

94. **School Gardens,** comprising actual garden making with children on school grounds and in the University school gardens. In winter the work will be conducted in the forcing houses where plant growing subjects will be taken up in such a way as to adapt them to elementary school conditions. Second half-year. Credit, 2 hours.

99. **Nature-Study.** Advanced course. Individual work on special problems. Registration only after consultation. Mrs. COMSTOCK, and Miss MCCLOSKEY.

Students are requested to attend Professor DEGARMO'S "Philosophy of Education," Course I. Attention is also called to the summer work in entomology.

Miscellaneous Courses.

[101. **Lectures in General Agriculture.** First half-year. Credit, one or more hours. T., Th., 11, *Morrill 19*. Professor ROBERTS. Not given in 1906-7.]

103. **Meteorology and Climatology.** Lectures, laboratory work and weather observations; designed to acquaint the student with the general circulation of the atmosphere; development, movement and conditions that attend cyclones, tornadoes and special storms; practical weather forecasting from weather maps and local observations; the use of meteorological instruments; general and special climatology and its relation to agriculture. Second half-year. Credit, 3 hours. Lectures, M., W., F., 10, *Morrill 19*. Mr. WILFORD M. WILSON.

WINTER-COURSES.

The Winter-Courses now offered are five, all opening Dec. 6, 1906, and closing Feb. 27, 1907. They are:

1. General Agriculture.
2. Dairy.
3. Poultry.
4. Horticulture.
5. Home Economics.

A special program describing these courses will be sent on application to the New York State College of Agriculture, Ithaca, N. Y.

COLLEGE OF ARCHITECTURE.

FACULTY.

JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President.

CLARENCE A. MARTIN, Professor of Architecture in charge of the College of Architecture.

CHARLES BABCOCK, A.M., Professor of Architecture, Emeritus.

JEAN HÉBRARD, A.D.G., Acting Professor of Architecture, in charge of Design.

OLAF M. BRAUNER, Assistant Professor of Drawing and Painting.

ALBERT C. PHELPS, B.S., M.Arch., Assistant Professor of Architecture.

HIRAM SAMUEL GUTSELL, B.P., A.M., Instructor in Freehand Drawing and Modeling.

ALDEN KITTREDGE DAWSON, Instructor in Freehand Drawing (Absent on leave).

GEORGE RAY CHAMBERLAIN, M.E., Instructor in Freehand Drawing.

ROBERT NORTH, B. Arch., Instructor in Architecture.

THE COURSES IN ARCHITECTURE.

The study of Architecture naturally divides into four principal groups : 1. Construction, in theory and practice ; 2. Expression, or the proper technical representation of architectural or decorative ideas ; 3. Composition, which includes the science of convenient and effective planning and the art of architectural and decorative design ; 4. That broad field which includes the History of Architecture and the many interesting and important questions arising in connection with the practice of architecture and which often belong to the allied professions, such as Engineering and Law.

Construction and Practice.

Under this head are grouped all of those courses bearing on the purely practical work of the profession as distinguished from the aesthetic. The aim is to give the student a thorough grounding in the principles underlying sound construction, sanitation, and the best practice in the installation of all modern conveniences. After the pure mathematics, the technical work begins with a course in Me-

chanics of Materials in which the theory of mechanics is taught and the strength of materials discussed. This is followed by the work in Structural Details, which makes direct application in a special way of the principles taught in the preceding course.

The ordinary problems relating to materials and construction are taken up in the Masonry Construction, Specifications, and Working Drawings. This work consists of lectures, recitations, general discussions and drawing. In the lectures, recitations, etc., the work of the various trades is taken up and materials, methods, and workmanship thoroughly discussed, ending with a careful and systematic study of specifications. Heating and ventilation are studied in a separate course and under a specialist. Plumbing and sanitary engineering of buildings, and the discussion of building contracts are subjects for special work in the seminaries. The drawing in connection with the above work is made to conform as closely as possible to the work done in the preparation of working drawings in an office, with the advantage that it can be arranged in a consecutive and progressive order. In conjunction with the lectures on the planning of domestic buildings the student makes sketch plans and designs for a series of buildings ranging from the simple laborer's cottage to the most elaborate mansion built without the hamper of a cost limit. Following this special drill in planning and design, he is required to design a building of moderate cost—usually a dwelling house—under such limiting conditions as might be imposed by a client, to prepare the complete scale working drawings, and to make typical full size details for its construction.

Throughout his work the student is required to construct carefully and scientifically. By the middle of the junior year he is prepared to take up the course in advanced construction, which is devoted to the consideration of steel and fire-proof construction, and consists of a series of fully illustrated lectures and the working out of steel framing plans, foundations for heavy buildings, and the details of steel columns, girders and trusses. The work in construction is concluded in the senior year by a study of the principles of reinforced concrete construction.

Expression.

This includes free-hand drawing, drawing from the antique and from life, modeling, sketching from nature, elements of architecture, shades and shadows, and perspective. The aim of this work is to train the eye to a sense of form and color, the hand to steadiness and delicacy of touch, and the judgment to a nice distinction between values. In all of this work the attitude of the architectural student

is precisely that of the sincere art student. False, exaggerated effects for the sake of attracting attention are discountenanced, but vigorous, effective presentation of architectural ideas, in harmonious tones inspired from nature is heartily encouraged.

Architectural Composition.

This subject is taught by means of a succession of problems in design throughout the second, third and fourth years. The design of the second year is usually referred to in the College as Second Class Design, and that of the third and fourth years as First Class Design. Programs of competition are issued upon pre-arranged dates, and each student is required to hand in a set of drawings showing his own interpretation of the problem as governed by the conditions. These drawings are judged by a jury composed of the entire faculty of the College of Architecture, the acceptable drawings being graded mention, first mention, second medal, and first medal, according to the excellence of solution and presentation. The author of each design is then credited with counts or "values" that in design take the place of the numerical marks given in other subjects. In the larger problems a mention counts 1 value; 1st mention, two values; 2d medal, three values; 1st medal, four values; and in sketch problems these grades count one-half as much as in the larger problems. In the judgment, each member of the faculty pays particular attention to that part of the work which is the result of his special teaching. For example, the Professor of Construction studies the designs to determine whether or not they admit of direct and rational construction, while the Professor of Freehand Drawing criticises the sculptural details and the general color schemes of the designs. Thus not only do the drawings receive careful criticism, but the Professors are able to follow the results of their teaching, while all in the Faculty maintain a lively interest in the progress of architectural design. That the students may not lose sight of purely practical considerations, the course in working drawings, described under construction, is introduced after the first year in design. Experience has shown that this work has a wholesome influence upon the later work in design, rendering it more practical and sensible.

History of Architecture, etc.

The study of the History of Architecture is begun with the Freshman year and continues through the first half of the Sophomore year, during which time the ancient, mediaeval and Renaissance styles are considered. The critical analysis of modern architecture

is not undertaken till the second term of the Senior year, when the more mature judgment of the student will enable him to appreciate more fully the tendencies of modern work.

The aims of the courses in History are to trace the origin, growth, and decline of the architectural styles and to show how they have reflected the great movements of civilization ; to familiarize the student with the master-pieces of architecture ; and to cultivate a taste for and an appreciation of what is good in modern as well as in ancient work. A careful study is made of the more important styles, examining historical conditions, local and inherited influences, materials, structural systems, special ornaments and the purposes and designs of the buildings. Particular attention is given to tracing the gradual evolution and survival of architectural forms. The wholesale adaptation of historic motives is discouraged, but it is believed that the best architecture of all times has been based upon the principle of evolution, and that while intelligent originality is commendable, the knowledge and inspiration of historic works are essential in the production of an appropriate and rational architecture. The lectures in History are fully illustrated by means of models, photographs, and lantern slides.

Special subjects, such as legal questions, professional practice, special engineering problems, etc., are gone into as fully as may be without encroaching too much upon the time necessary for the more strictly architectural subjects. The students become familiar with the breadth of the field in these directions and are advised to employ experts for the solution of all problems that do not come properly within the scope of an architect's practice. Eminent specialists are invited each year to talk before the students on subjects that are allied to architecture but that cannot be specially taught in the College.

EQUIPMENT.

The College occupies the third and fourth floors of White Hall and the third floor of Franklin Hall immediately adjoining. On the third floor of White Hall are the offices, library, lecture room, exhibition rooms, etc. On the fourth floor, thoroughly lighted by large skylights, are the drafting rooms where all of the students in design work together. The rooms in Franklin Hall are devoted to the work in freehand drawing, life class, etc.

The material equipment along those lines wherein the student needs most help and guidance is especially complete and is undergoing constant revision and increase. The library, of course, takes first place. It comprises nearly all works of any note that have

been published during the last century on the subject of architecture or architectural construction ; a large number of photographs and plates mounted and arranged for ready reference ; and the bound volumes and current numbers of the leading architectural periodicals, both foreign and American. Not only is the library most complete, but above all, it is accessible at all times, and the students have free and unhampered access to books, plates and photographs, and are encouraged and urged to use the best of the material for direct reference in the drafting rooms.

Next to the library in direct helpfulness to the students in design is the constantly increasing collection of drawings made by advanced students and graduates of the *École des Beaux Arts*. Aside from any question of style, these are easily among the best architectural drawings ever made, and as they hang about the halls and drafting rooms of the College, their value as examples of drawing and rendering can hardly be over estimated.

A very complete collection of plaster casts furnishes subjects for freehand drawing in pencil and charcoal ; and choice pieces of pottery, faience, terra cotta, etc., are used as studies for such of the water color work as is taken indoors.

Through the patient and untiring efforts of Professor Babcock over a period of twenty-five years, the College now has in its possession a large and valuable equipment of wood, stone and plaster models illustrating the historical development of architectural form and construction.

For the work in construction and practice there is, in addition to the library and models, a fine collection of working drawings of well known modern buildings which is being constantly added to by contributions from the offices of leading architects from all parts of the country.

An important part of the equipment for lecture work and illustration is an electric lantern and between seven and eight thousand lantern slides.

Fellowships and Prizes.

The University, upon the recommendation of the College of Architecture, awards annually a resident fellowship of the value of \$500, and has since 1898 awarded biennially a travelling fellowship of the value of \$2,000. The resident fellowship is open to all graduates of schools of architecture of approved standing in the world. The award is made in June for the following year, and each candidate must submit drawings and other credentials and file a formal applica-

tion with the Registrar of the University on or before April 15th. Application forms may be obtained of The Registrar, Ithaca, N. Y.

The Traveling Fellowship has been awarded in alternate years to the winner of an architectural competition. The first competition was held in October, 1898, and the fifth was held during the summer of 1906. Candidates are required to be under the age of thirty, and must be either graduates of the College of Architecture, or those who have satisfactorily completed the two year special course. This fellowship may be discontinued with the close of the academic year 1907-8.

The Clifton Beckwith Brown Memorial Medal was founded by Mr. John Hartness Brown in memory of his brother Clifton Beckwith Brown, killed on the field of battle at San Juan Hill. A silver replica is awarded to the senior attaining the highest standing in design during his senior year, and a bronze replica to the senior holding second place. These medals, however, are not awarded solely for order of merit, the award being withheld unless the standard reached in design is considerably higher than that required for mere graduation.

The Charles Goodwin Sands Memorial Medal, founded by the family of the late Charles Goodwin Sands of the class of '90, is awarded for all designs of exceptional merit presented in the regular competitions. The medal drawings are ranked as first and second medal drawings, according to merit. The author of a first medal drawing is awarded a silver replica and the author of a second medal drawing a bronze replica of the medal. The award is for merit alone, and while the medal has occasionally been won by a fourth year student the standard is such that the honor is usually reserved for the graduate students.

The Central N. Y. Chapter A. I. A. Prize is a prize of \$20 given annually by the Central New York Chapter of the American Institute of Architects to the member of the senior class winning first place in a special competition in design. The award conveys with it an election to Junior Membership in the Chapter.

Other Prizes are frequently offered by friends of the College for competition in the regular or special problems in design. Ex-President Andrew D. White has frequently shown his interest in the college in this way, his latest prizes of \$50, \$30, and \$20, having been awarded in a special competition held in the spring of 1906.

ADMISSION.

Elementary Subjects.

The following Elementary Subjects are required for admission to all colleges of the University :

English.
History.*

Plane Geometry.
Elementary Algebra.

Advanced Subjects.

In addition to the Elementary Subjects, an applicant for admission to the College of Architecture must offer from the following list of Advanced Subjects a total of at least 30 units, among which must be included Solid Geometry, Advanced Algebra, and Plane Trigonometry—Spherical Trigonometry not required (6); German (12) or French (12)—French preferred; and Physics (6). The figure following each subject indicates its relative weight:

Advanced Mathematics (6).	Latin (18).
Solid Geometry (2).	Latin Grammar and Caesar (6).
Advanced Algebra (2).	Latin Composition and
Plane Trigonometry	Cicero (6).
Spherical Trigonometry } (2).	Virgil (6).
German (12).	Greek (12).
Elementary German (6).	Greek Grammar, Xenophon (6).
Advanced German (6).	Greek Composition, Homer (6).
French (12).	Physics (6).
Elementary French (6),	Chemistry (6).
Advanced French (6).	Botany (6).
Spanish (12).	Physiography (6).
Elementary Spanish (6).	Zoology (6).
Advanced Spanish (6).	Drawing (6).

DRAWING. If drawing is offered for entrance the requirement includes simple plane and solid geometrical figures, simple still life and groups or pieces of machinery, and a fair knowledge of the rules of perspective and light and shade as applied in freehand sketching. The preparation may also include the drawing of simple pieces of architectural ornament, decoration, and simple plant forms, etc. This requirement represents about 300 hours of actual work.

Applicants offering drawing must present samples of their work and a teacher's statement showing time and proficiency, but for the present, applicants who have passed the examination in drawing given by the College Entrance Examination Board or the Regents' examination in advanced drawing will be credited with entrance drawing.

For details as to subjects and methods of admission, see pages 33-57.

* One of the following: (1) American (including Civil Government), (2) English, (3) Ancient (to 814 A.D.), (4) Mediæval and Modern European (from 814 A.D.)

For admission to the freshman class or to advanced standing from other colleges and universities communications should be addressed to the Registrar. See pages 33-58.

For admission as special students communications should be addressed to the College of Architecture. See page 57.

For admission to graduate work and candidacy for advanced degrees, communications should be addressed to the Dean of the University Faculty. See page 73.

ADVANCED CREDIT IN DRAWING AND DESIGN.

In order to encourage early and thorough preparation in drawing and in architectural design, due and proper credit will be given toward graduation for all such work done in or under the direction of regularly organized studios or ateliers, with the reservation that the work shall in each case be submitted to and passed upon by the Faculty of the College and that the credit so given shall not cover more than the first two years of college work in these subjects.

COURSE LEADING TO THE DEGREE OF BACHELOR OF ARCHITECTURE.

<i>Freshman Year.</i>	No. Course.	1st Term.	2d Term.
History of Architecture.....	10	3	3
Analytic Geometry.....	2	5	-
Dif. Calculus.....	2	-	2
Int. Calculus.....	2	-	3
Elements of Architecture.....	11	2	4
Freehand Drawing.....	12	3	3
Descriptive Geometry..... (Civil Eng.)	9	2	-
Shades and Shadows.....	13	1	-
Perspective.....	14	-	2

In addition to the above there will be required of each student 3 actual hours a week of physical training, the men taking this work in the Department of Military Science and Tactics and the women in the Department of Physical Culture.

<i>Sophomore Year.</i>	No. Course.	1st Term.	2d Term.
History of Architecture.....	20	3	-
Mechanics..... (Civil Eng.)	21	3	-
Design.....	21	8	8
Drawing from the Antique.....	22	3	3
Masonry Construction.....	23	-	2
Clay Products and Building Stones (Geol.)..	46	-	2
Water Color Painting.....	27	-	2

In addition to the above there will be required of each student 3 actual hours a week of physical training, either in the Department of Military Science and Tactics or in the Department of Physical Culture as he may elect.

<i>Junior Year.</i>	No. Course.	1st Term.	2d Term.
History of Painting and Sculpture.....	30	1	1
Structural Details.....(Civil Eng.)	71	2	-
Design.....	31	-	10
Modeling.....	32	2	-
Planning of Domestic Buildings.....	34	2	-
Specifications.....	34a	1	-
Working Drawings.....	34b	5	-
Steel Construction and Fireproofing	35	3	-
Heating and Ventilating.....	36	-	1
Pen and Ink Drawing.....	37	2	-
Physics.....	1	-	4

<i>Senior Year</i>	No. Course.	1st Term.	2d Term.
Modern Architecture.....	40	-	2
Historic Ornament.....	40a	-	1
Reinforced Concrete Arch.....(C.E.)	72	2	-
Design.....	41	12	12
Life Class	42	2	-
Seminary.....	43	1	1

Students who wish to do so may elect course 30a or 30b in History of Art instead of Seminary, course 43.

One registered hour means about three hours of actual work per week. In subjects given by means of lectures or recitations, each registered hour means one hour for the lecture or recitation, plus an average of two hours for study or work in connection with the subject. In design, twelve registered hours would require thirty-six hours per week (more or less, according to the ability of the student) of actual work in the drafting room.

Architectural Engineering.

Students in Architecture wishing to specialize in Construction, for Architectural Engineering, may do so by taking all of the first three years of the regular course in Architecture, except the Mechanics of the Sophomore year for which should be substituted Mechanics Course 20 in the College of Civil Engineering; and by taking special work during the Senior year arranged to suit individual cases. For this special work are offered advanced work in the College of Archi-

ecture and any or all of the following subjects—for description see under College of Civil Engineering :

	No. Course.	1st Term.	2d Term.
Engineering Laboratory	22	2	2
Materials of Construction	25	-	3
Testing Materials	57	3	-
Structural Design	71	5	3
Reinforced Concrete Arch	72	2	or 2
Bridge Engineering	73	3	or 3
Masonry Foundations	74	3	or 3

A Two Year Special Course in Architecture.

Special students are admitted to the College of Architecture without formal examination, provided they give evidence of ability to do creditable special work in the College and have not already been admitted to the University, nor, having applied for admission, been rejected.

The privilege of admission as special students without examination is not intended for students coming directly from secondary schools, but rather for those who have been engaged in practical work that may have fitted them for the advanced work of the special course.

A special student must be at least twenty-one (21) years of age ; he must have had a good high school training or its equivalent, including particularly a good working knowledge of geometry and algebra ; and should be familiar with the details and proportions of the classic orders of Architecture as given in the Vignola. He shall have had at least three (3) years of experience in some good architect's office, or its equivalent ; and shall submit with his application examples of architectural drawing done by himself and examples of drawing—if he have such—from the cast or from life.

Should a special student desire to graduate in the College, he may do so on condition of passing all the entrance examinations and doing the required work of the regular course. He will not, however, be permitted to make up deficiencies in entrance subjects by attending university instruction in such subjects.

The following course has been arranged for special students. It does not lead to a degree, but a certificate will be issued upon its satisfactory completion. Candidates proficient in any of the subjects herein scheduled will be allowed to substitute other architectural subjects in their stead. For further information address the Professor in Charge of the College of Architecture.

First Year.

	No. Course.	1st Term.	2d Term.
History of Architecture	10	3	3
Design	21	8	8
Freehand Drawing	12	3	3
Descriptive Geometry (Civil Eng.)	9	2	-
Shades and Shadows	13	1	-
Perspective	14	-	2
Elective [Course No. 27, 32, 37 or 40]	-	-	2

Second Year.

	No. Course.	1st Term.	2d Term.
History of Architecture.....	20	3	-
Design.....	41	12	12
Drawing from the Antique.....	22	3	3
Elective [Course No. 27, 32, 37 or 40] ...	-	-	2

Summary of Courses of Instruction.

D 1a. **Elementary Freehand Drawing.** Two university hours per week throughout the year. T., Th., 10-1. Mr. GUTSELL.

D 1b. **Elementary Freehand Drawing.** Three university hours per week throughout the year. M., W., F., 2-5 Mr. GUTSELL.

D 2. **Advanced Freehand Drawing.** Two or three university hours per week, as may be arranged, throughout the year. M., W., F., 2-5. Mr. GUTSELL.

NOTE. Course D 1a is required of first year students in the College of Agriculture. D 1b and D 2 are offered for all students in the University for election under such conditions as their separate faculties may prescribe. These may be taken as either 2 or 3 hour courses, but a student will not be permitted to take course D 2 unless he has had the full equivalent of 3 hours in course D 1b.

10. **History of Architecture.** First term: Egyptian, Greek, Roman and Byzantine Architecture. Second term: Romanesque and Gothic Architecture. Three lectures per week throughout the year. T., Th., S., 9. Assistant Professor PHELPS, with special lectures on Vaulting by Professor BABCOCK.

11. **Elements of Architecture.** The classic orders of architecture drawn and rendered in India ink and water color. Six drafting hours per week throughout the first term and twelve drafting hours per week throughout the second term. Mr. NORTH.

12. **Freehand Drawing.** Charcoal drawing from the cast. Nine hours of drawing per week throughout the year. M., W., F., 9-12. Assistant Professor BRAUNER and Mr. CHAMBERLAIN.

13. **Shades and Shadows.** Lectures and drawing equivalent to

one university hour. Latter part of first term. Assistant Professor PHELPS.

14. **Perspective.** Six hours per week, lectures and drawing, during the second term. T., F., 2-5. Professor MARTIN.

20. **History of Architecture.** First term: Renaissance Architecture. Three lectures per week. M., W., F., 9. Assistant Professor PHELPS.

21. **Design.** Periodical problems arranged to occupy about twenty-four drafting hours per week throughout the year. Professor HEBRARD and Mr. NORTH, assisted in rendering by Assistant Professor BRAUNER.

22. **Drawing from the Antique.** Charcoal and pastel work from the cast. Nine hours per week throughout the year. M., W., F., 10-1. Assistant Professor BRAUNER and Mr. CHAMBERLAIN.

23. **Masonry Construction.** Second term. Lectures and recitations. Two hours per week, M., F., 12; supplemented by drawing and by inspection of actual work. The course is preparatory to courses 34 to 35. Professor MARTIN.

27. **Water Color Painting.** Six actual hours per week in the second term, in painting from still life groups and from nature. M., F., 2-5. Assistant Professor BRAUNER.

30. **History of Painting and Sculpture.** A brief survey of the history of painting and sculpture from the artist's standpoint. One lecture per week throughout the year. W., 4. Assistant Professor BRAUNER.

30a. **History of Art in Italy.** Condition of the arts on the decline of the Roman Civilization. The revival of the arts of design in the thirteenth century. The development of painting and sculpture until the sixteenth century and a brief review of their decline. Lectures. T., Th., 12. Mr. GUTSELL. This course will not be given in 1906-7.

30b. **Art North of the Alps.** A survey of the beginnings of art in the Germanic communities. Painting, engraving and woodcutting. The Flemish and Dutch masters of the sixteenth and seventeenth centuries. Lectures. T., Th., 4. Mr. GUTSELL.

31. **Design.** Periodical problems arranged to occupy about thirty hours per week during the second term. Professor HEBRARD, assisted in rendering by Assistant Professor BRAUNER.

32. **Modeling.** First term. Six hours work per week in clay modeling. Mr. GUTSELL.

*34. **Planning of Domestic Buildings.** First term. Five lectures and thirty hours drafting per week during the early part of the term. The work contemplates a systematic and analytical study

of house planning, with special reference to American conditions. Professor MARTIN.

*34. **Specifications**; *34b. **Working Drawings**. First term. Three to five lectures and thirty hours drafting per week during the intermediate and latter part of the term. These courses continue the work of course 34 by the study of specifications and ordinary methods and details of construction with the preparation of one-quarter inch scale working drawings and full size details for a house designed by the student himself, under such limiting conditions as a client would be likely to impose. Professor MARTIN.

35. **Steel Construction and Fireproofing**. Latter part of first term. Lectures and drawing equivalent to six university hours per week during the first half of the term. This course follows course 34b with a study of special foundations, steel construction, and fireproofing of high or heavy buildings; the fireproofing being studied with reference to its application to the cheaper domestic buildings as well as to the larger steel buildings. Professor MARTIN.

36. **Heating and Ventilating**. Two lectures per week during the second half of the second term, supplemented by practical problems. W., F., 8. Professor CARPENTER.

37. **Pen and Ink Drawing**. Work in pen and ink rendering, sketching and illustration. Six hours' drawing per week throughout the first term. Mr. CHAMBERLAIN.

40. **Modern Architecture**. Two lectures per week during the second term. M., W., 9. Assistant Professor PHELPS.

40a. **Historic Ornament**. Historic motives employed in architecture; their origin, evolution and application. Some of the great historic styles of decoration will be analyzed and studied in detail and the development of furniture, textiles and other minor arts briefly outlined. One lecture per week during the second term. F., 9. Assistant Professor PHELPS.

41. **Design**. Periodical problems arranged to occupy about thirty-six drafting hours per week throughout the year. Professor HEBRARD, assisted in rendering by Assistant Professor BRAUNER.

42. **Life Class**. Two afternoons per week throughout the year, drawing from the nude model. First term required, second term elective. Assistant Professor BRAUNER and Mr. CHAMBERLAIN.

43. **Seminary**. Lectures and discussions upon subjects of professional interest not covered by other courses. One hour per week throughout the year. Assistant Professor PHELPS and other members of the University Faculty.

*Since Courses 34, 34a and 34b are but the successive steps in a single scheme, they should be taken consecutively and in one term.

COLLEGE OF CIVIL ENGINEERING.

FACULTY.

- JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President.
- EUGENE ELWIN HASKELL, C.E., Director of the College of Civil Engineering and Professor of Experimental Hydraulics.
- CHARLES LEE CRANDALL, C.E., M.C.E., Professor of Railway Engineering and Geodesy.
- IRVING PORTER CHURCH, C.E., M.C.E., Professor of Applied Mechanics and Hydraulics, in charge of the College Library.
- HENRY SYLVESTER JACOBY, C.E., Professor of Bridge Engineering.
- HENRY NEELY OGDEN, C.E., Assistant Professor of Sanitary Engineering, in charge of Descriptive Geometry, and Secretary of the College Faculty.
- ELMER JAMES McCAUSTLAND, C.E., M.C.E., Assistant Professor of Mining Engineering and Surveying, in charge of the Laboratory for Testing Materials.
- JOHN THOMAS PARSON, Assistant Professor of Drawing, in charge of the Photographic and Drawing Collections.
- OSCAR AUGUSTUS JOHANNSEN B.S., A.M., Ph.D., Assistant Professor of Structural Engineering and Registrar of the College.
- ERNEST WILLIAM SCHODER, B.S., Ph.D. Assistant Professor of Experimental Hydraulics in charge of the Hydraulic Laboratory.
- FRED ASA BARNES. C.E., M.C.E., Assistant Professor of Railroad Engineering and Surveying.
- ORA MINER LELAND, B.S., Assistant Professor of Geodesy and Astronomy.
- MILES ALBION POND, Ph.B., Instructor in Civil Engineering and in Descriptive Geometry.
- SAMUEL R. BOOTHROYD, B.S., Instructor in Civil Engineering and in Descriptive Geometry.
- ROSS MILTON RIEGEL, C.E., Instructor in Civil Engineering.
- SIDNEY GONZALES GEORGE, C.E., Instructor in Civil Engineering.
- WILLIAM COLEMAN McNOWN, B.S., Instructor in Civil Engineering.
- ROBERT WILLIAM THOROUGHGOOD, C.E., Instructor in Civil Engineering.

- FRANCIS J. SEERY, S.B., Instructor in Civil Engineering.
 DONALD DERICKSON, B.S., Instructor in Civil Engineering.
 JOHN R. ELDRED, M.E., Instructor in Civil Engineering.
 HERBERT AUGUST GEHRING, C.E., Instructor in Civil Engineering.
- JOHN CHARLES DAVIS, C.E., Instructor in Civil Engineering.
 GEORGE IRVING GAVETT, B.S., Instructor in Civil Engineering.
 ELBERT ALLAN GIBBS, B.S., Instructor in Civil Engineering.
 CHARLES LEOPOLD WALKER, C.E., Instructor in Civil Engineering.
- SEYMOUR STANTON GARRETT, C.E., Instructor in Civil Engineering.
- ALFRED JOSHUA EDGE, C.E., Instructor in Civil Engineering.
 KENNETH BERTRAND TURNER, C.E., M.C.E., Instructor in Civil Engineering.
- FRANK W. SKINNER, C.E., Associate Editor, *Engineering Record*.
 Lecturer in Field Engineering.

Members of the Faculty of Arts and Sciences who are heads of departments giving outside instruction to the students of this College. Arranged in the order of seniority of University appointments :

- THOMAS FREDERICK CRANE, A.M., LL.D., Professor of Romance Literature.
- WATERMAN THOMAS HEWETT, A.B., Ph.D., Professor of German Literature.
- EDWARD LEAMINGTON NICHOLS, B.S., Ph.D., Professor of Physics.
- JAMES MORGAN HART, A.M., J.U.D., L.H.D., Professor of Rhetoric and English Philology.
- JEREMIAH WHIPPLE JENKS, A.M., Ph.D., Professor of Political Economy, etc.
- LUCIEN AUGUSTUS WAIT, Professor of Mathematics.
- GEORGE FRANCIS ATKINSON, Ph.B., Professor of Botany.
- LOUIS MONROE DENNIS, Ph.B., B.S., Professor of Chemistry.
- HENRY SHALER WILLIAMS, B.S., Ph.D., Professor of Geology.
- FRANK ARTHUR BARTON, M.E., Professor of Military Science.
- CHARLES VAN PATTEN YOUNG, A.B., Acting Professor of Physical Culture.

Special Non-Resident Lecturers for 1905-1906.

- GEN. WILLIAM SOOY SMITH, Consulting Engineer, Chicago, Ill.
 "Requisites for the Modern Engineer."

ALBERTO F. SCHREINER, '97, Assistant Engineer, Bureau of Sewers, Long Island City, N. Y. "Practical Design of Sewer Systems."

JOHN C. HOYT, '97, Engineer, United States Geological Survey. "Work of Hydrographic Branch of U. S. Geological Survey."

M. N. BAKER, Associate Editor, *Engineering News*. "The Relation of Engineers and Engineering Schools to the Work of Boards of Health."

FRANK B. SANBORN, Professor of Civil Engineering, Tufts College. "Fire Protection of Factories."

H. H. STOEK, Editor of *Mines and Minerals*. "Preparation of Anthracite Coal for the Market."

GERTRUDE MARSH SANFORD, College Librarian.

WILLIAM ORLANDO STUBBS, College Mechanician.

CLINTON D. CASS, Assistant College Mechanician.

GENERAL PLAN OF STUDIES.

The courses of preparatory and professional studies have been planned with a view to laying a substantial foundation for the general and technical knowledge needed by practitioners in civil engineering ; so that our graduates, guided by their theoretical education and as much of engineering practice as can well be taught in schools, may develop into useful investigators and constructors.

The facilities for instruction and for advanced investigations are believed to be thorough and efficient. Laboratory work is required of the students in chemistry, mineralogy, geology, physics, botany and civil engineering ; for which purpose in addition to the special library and laboratories of the College, all the libraries, collections and laboratories of the University are open to the students of this College.

The work of the undergraduate student is based upon an extended course in the mechanics, and the graphics and economics of engineering. The object aimed at is to give as thorough a preparation as possible for the general purposes of the profession in the following subjects : the survey, location and construction of roads, railroads, canals, and water works ; the construction of foundations in water and on land, and of superstructures and tunnels ; the survey, improvement, and defense of coasts, and the regulation of rivers, harbors and lakes ; the astronomical determination of geographical coordinates for geodetic and other purposes ; the application of mechanics, graphical

statics, and descriptive geometry to the construction of the various kinds of arches, bridges, roofs, trusses, suspension and cantilever bridges ; the drainage of districts, sewerage of towns, and the irrigation and reclaiming of land ; the design, construction, application and tests of wind and hydraulic motors, electrical and heat engines, and pneumatic works ; the preparation of detail drawings, of plans and specifications, and the proper inspection, selection, and tests of the materials used in construction. Instruction is given in engineering and mining economy, finance and engineering jurisprudence. The latter subject deals in an elementary manner only with the questions of easements and servitudes, and the ordinary principles of the laws of contracts and riparian rights. A course in political economy, of three lectures per week, extending over one year, is given for the purpose of elucidating the economic value of the civil engineer as a director of industrial enterprises, and his rôle in the industrial development of the country.

To the fundamental instruction of a general undergraduate course, many special courses are added for graduates desiring advanced study in the separate branches of their profession. Admission to these courses is open to graduates of this college or of other institutions having undergraduate courses similar to our own. Advanced and special instruction is offered in the following subjects : bridge engineering, railroad engineering, sanitary, municipal, hydraulic, mining and geodetic engineering. The object of this instruction is to provide the young graduate with the means of prosecuting advanced investigations after such experience in professional life as may lead him to decide in the choice of a specialty. The same courses are open to teachers and professional men in a more advanced form and with larger liberty in the use of laboratory equipment. Lectures in the museum and laboratories are given to these students for the purpose of directing and aiding their original researches. All graduate work may alternate with a limited number of elective studies in other colleges of this University ; but the choice of electives implies suitable preparation for their prosecution, and must, besides, meet with the approval of the Director of the College.

The College of Civil Engineering is quartered in Lincoln Hall, a substantial brown stone structure, two hundred feet long and seventy feet wide, specially designed for the purpose of the College. In addition to the laboratories and museums, the building contains the working library of the College, aggregating about three thousand volumes, reading-rooms, class rooms, and draughting rooms. The building contains, also, the offices of the U.S. Weather Bureau for

the State of New York. The astronomical and portions of the geodetic equipment of this College are housed in the Fuertes Observatory containing all the instruments required to find time, latitude, longitude and azimuth. The instruments are duplicates, in the main, of similar ones in use by the U.S. Coast and Geodetic Survey. The large hydraulic laboratory with its buildings and equipment is located at the Fall Creek gorge, within a short distance of the College buildings.

LABORATORIES.

The **Civil Engineering Laboratories** within the College building, cover a floor area of about fifteen thousand square feet. They comprise :

1. **A General Laboratory** containing a large collection of machines and apparatus for the experimental study of subjects connected with the theoretical instruction of the lecture rooms, and as preparation for special laboratories.

2. **An Hydraulic Laboratory** with complete appliances, piping, mouth pieces, and special castings for the determination of coefficients ; weirs provided with different forms and heights of notches and orifices ; venturi and other water meters : gages of various kinds with electrical clock work or other automatic devices for the most accurate measurements either of weights, velocities, pressures, equilibrium, viscosity or heights of heads ; various machines or contrivances for determining the flow of liquids in closed and open conduits ; several models of water wheels ; dynamometers of various kinds ; a considerable variety of current meters, some of which record the speed automatically ; in others, the revolutions are determined by sound ; and still others record, by electrical devices, both the velocity and the direction of the current. On Fall Creek and near the College a curved concrete masonry dam some 100 feet long has been built, which stores up a large amount of water, forming the Beebe Lake, and the dam is provided with an ample spill-way capable of delivering with safety any flood from the 120 square miles which constitute the water shed of the stream.

A canal also built of concrete masonry, and 450 feet long, is located south of the south anchorage of the dam. Its up-stream end is provided with six gates, baffle boarding, and a standard weir to which various devices are attachable for measuring heads, and regulating the amount of air imprisoned under the water sheet. The canal is sixteen feet wide and ten feet in depth of water ; but the head of water, in some of the experiments, can be increased to 225 feet. Heads of twenty feet may be utilized within the canal ; of eighty feet

in the lower part of one of the laboratory buildings ; and, for special experiments, a ten inch pipe supplies water from the reservoir of the University water works, which is one hundred and forty-five feet above the canal. This head can be utilized through a stand pipe at the bottom of the gorge, below the canal, in the large laboratory building. The canal is provided with an electric motor placed on a steel truck running upon rails fastened to the top of its walls, and the speed of the truck can be regulated at pleasure, marking its speed and position on various chronographs.

The water waste of the canal can be regulated by means of valves and terminal weirs until required water velocities are obtained within the canal. At the west end of the canal there is a vertical six foot steel pipe to which water can be admitted either by a lateral channel from the main canal or through a forty-eight inch pipe which taps the dam and Beebe Lake. This subdivision of heads and water volumes enables the performing, simultaneously, class work and experiments, without interfering with the regular conditions of each experiment. The lateral canal is also provided with weirs and gages upon the removable portion of the walls of this sub canal. The lower laboratory building is a slightly, solid structure eighty feet long and about eighty feet high, and contains a fifty thousand pound scale and tank. This building shelters and hides from view the steel stand pipe to the north of which a suitable staircase carries within its well-hole all the necessary piping of iron and glass manometers.

It may be desirable to add that further improvement of devices is in contemplation for the measurement of large volumes of water, beyond the capacity of the canal, stand pipe and the present weighing scales.

Although the laboratory needs still further additions to its very expensive equipment, and its work has hardly begun, the utility of this plant has been demonstrated by calls from all parts of the country, and from abroad, for the performance of experiments of great importance. Among these may be mentioned the valuable results obtained for the U.S. Deep Waterways Commission, the Michigan Lake Superior Power Company, the work done for the City of New York in connection with its water supply, and for the U.S. Geological Survey. It now seems assured that this hydraulic laboratory will soon become the center of information and reference for the solution of the numberless hydraulic questions awaiting just such opportunities as the conditions of this laboratory offer and which exist nowhere else in this country or in Europe.

3. **A Cement Laboratory** provided with automatic machines for the establishment of standard tests. The apparatus of this laboratory

has been designed by specialists in view of its needs. Standard conditions are aimed at in all tests. The sifting of cements, moulding, condensing and testing are performed mechanically. The laboratory contains : Three machines for tension tests, three machines for crushing tests ranging from two to two hundred tons, one impact machine, one rattler cylinder of the dimensions recommended by the National Association of Brick Manufacturers, one abrasion machine, and a special machine for determining, automatically, the rate of setting and hardening of cements.

There are also a large number of briquette moulds, scales, plate glass mixing tables, thermometers for cement test purposes, a Bunsen pump and apparatus for testing the permeability of cements, several sets of apparatus for measuring linear and volume changes during the setting of cements, their specific gravity, and fineness, a large number of scales for various purposes, varying from the most delicate chemical balances to a 400,000 pound machine. This laboratory has a water tank capacity for the storage of three thousand briquettes, and many of its appliances are utilized for tests of building materials, such as paving and other bricks, building stone, masonry arches, walls and piers up to twelve feet in height ; in addition there are many smaller machines, appliances and tools that are used in common with the equipment of other laboratories. The apparatus designed by the Massachusetts Highway Commission for testing the cementing qualities of roadway materials is now in use.

4. **A Geodetic Laboratory** for the study of instruments of precision. The room contains a sidereal chronometer by Negus, and an accurately compensated mean time Howard astronomical clock, which furnishes the standard of time for the University. There are a large number of surveying and portable astronomical instruments for the study of instrumentul errors and their constants, and this laboratory is provided with collimators, micrometric level testers, and a reversible Kater pendulum to which noddies may be attached. Also a Kew magnetometer and Barrows circle ; the manipulation of these instruments, and some of their constants, are obtained in the laboratory, but the magnetic constants and results relating to the earth's magnetism are determined, each year in the field, in connection with the systematic surveys of the Lake region of Central New York, which began in 1874. This room has also several meteorological instruments devised for special purposes, like the study of wind gusts in violent storms. A Richards three-cylinder machine gives the direction of the wind, and its horizontal and vertical velocity ; but when the velocity exceeds twenty miles per hour, another specially devised machine, modified by E. T. Turner, is then started automatically, and

describes upon a rotating cylinder, a curve whose ordinates are proportioned to the wind's velocity for each meter of travel. This machine works so long as the velocity exceeds twenty miles per hour; and an ingenious contrivance prints the time, at intervals of five minutes, upon the endless paper band carried by the revolving cylinder. There are also in this laboratory standard and other mercury barometers, a Draper self-recording barometer, and several other minor instruments bearing upon the studies carried on in this laboratory.

5. **A Metric Laboratory** for the comparison of lengths, provided with a line and end measure comparator and a small Geneva dividing engine. This room is built with hollow, double walls, and the daily range of temperature is less than one degree F. In this laboratory are placed other machines and apparatus for experimentation in such portion of optics, thermodynamics, etc., as form special parts of the educational equipment of the engineer. The four meter comparator rests on two independent piers, with two micrometer microscopes sliding on a beam, also mounted on independent piers, and the whole comparator is properly covered by a substantial tight case. Projecting handles give motion to the cradle under the microscopes without disturbing the internal temperature of the case. A Geneva steel meter bar of the international type forms the standard of length; it has been compared at the U. S. Coast Survey Office with the International Standard. There is also a Rogers speculum metal decimeter and four-inch scale, accurately divided and compared, and a brass yard, used as subsidiary length standards. Tonnelot and Boudin thermometers, standardized at the Paris International Bureau, form the basis for temperatures. The room also contains a four-foot comparator for the study of leveling rods, while an iron standard rod fifty feet long, inlaid on the floor of the main museum, is used as the standard for steel tapes. A Mendenhall half-seconds pendulum, constructed in this College, is mounted upon a pier for determinations of the force of gravity. This pendulum is a reproduction, from patterns loaned by the Coast Survey Office, of the instruments used for the above purposes by the International Association of Geodesists, and contains improvements suggested by the experience with older instruments.

6. **A Testing Laboratory for Materials of Construction** and for full-sized members, joints and structures. The 400,000 pound testing machine has a clear width of 19 inches between standards and an effective length of 12 feet for specimens in both tension and compression, the tension grips taking widths up to 8 inches for plates and 4-inch legs for angles. The capacity for beams and girders is up to 19 inches in width and to 18 feet in length, the center load at the latter limit being only 100,000 pounds.

The standard rattler with cast iron shot for paving brick and the Deval abrasion machine and Page impact machine for macadam material furnish excellent facilities for the study of roadway materials, while the stone saw and grinding wheel allow of preparing stone specimens with smooth plane beds for the testing machine without danger of injury from hammer and chisel.

The one fourth scale steel bridge model furnishes an excellent opportunity for comparing computed stresses with those actually existing in different members of the structure due to various loadings, the stress being found from the measured change in length of the member.

7. **A Bacteriological Laboratory** in which students may become acquainted with bacterial forms and such portions of bacteriology as bear upon sanitary engineering. The optical apparatus has been expressly manufactured for us by Rickert of Vienna ; and, as the result of consultation with biologists, physicians, and sanitary engineers, the balance of the equipment for the special purposes of this laboratory has been made by Dr, Rhorbeck of Berlin. With these exceptions the equipment contains apparatus especially manufactured by the mechanics of the College.

8. **A Photographic Laboratory** for reproducing the appearance of tested specimens, for the purposes of the lecture room, as aid in topographical surveys, and for the distribution, to graduates and purchasers, of reprints of the great collection of progress photographs of engineering structures owned by this College. A revolving transit camera has been added to the collection of photographic appliances ; its inventor, Mr. G. W. Parsons, having generously permitted its duplication by the mechanic of the College. This machine is capable of photographing with accuracy through an angle of 360° upon a flexible film 6 inches wide and 60 inches long.

9. **The Fuertes Astronomical Laboratory and Training Observatory** which contains an astronomical transit by Troughton and Simms and one by Fauth ; two sidereal clocks and a mean time clock ; a four-and-a-half inch Clark equatorial ; two large altazimuths reading to seconds by levels and micrometers ; and two three-and-three-eighths inch zenith telescopes by Fauth, besides sextants, chronographs, chronometer, etc.

Students here become familiar with methods of observing, adjusting instruments, and making reductions and computations for the determination of time, latitude, azimuth and longitude.

The building of the College of Civil Engineering contains the offices and observatory of the U. S. Weather Bureau, being the central office for the reception of climate and other data for the State of

New York, and for the dissemination of weather forecasts to the region tributary to this center.

The Museums of the College of Civil Engineering contain the following collections: 1. The Muret collection of models in descriptive geometry and stone cutting. 2. The DeLagrange general and special models in topography and geognosy. 3. The Schroeder models in descriptive geometry and stereotomy with over fifty brass and silk transformable models made in this College after the Oliver models. 4. The M. Grund collection of bridge and roof details, trusses and masonry structures, such as right, oblique and annular arches and domes, and several intricate models in stone cutting, supplemented by similar models by Schroeder and other makers. 5. A model railroad bridge of one hundred foot span, one-fourth natural size, and a numerous collection of models of track details. 6. The Digeon collection of movable dams, artificial harbors and working models in hydraulic engineering. 7. Working models of water wheels, turbines and other water engines. 8. Several large collections of European and American progress photographs of engineering works showing the progress of construction, and many other photographs, blueprints, models and diagrams. 9. An extensive collection of instruments of precision, such as a Troughton and Sims astronomical transit; a universal instrument by the same makers, reading to single seconds; sextants, astronomical clocks, chronographs, a Negus chronometer, two equatorials—the larger having an objective, by Alvan Clark, four and a half inches in diameter, two large zenith telescopes of improved construction for latitude work, by the eye and photographic methods; spherometers and other instruments, like pier collimators, etc., necessary to complete a most efficient equipment of a training observatory. 10. A geodesic collection, consisting of a four meter comparator, built at this College of the University; a set of improved pendulums for gravimetric investigations; a secondary base line apparatus made under the direction of the Coast Survey; two new base line bars designed and constructed in the laboratories of this college, and all the portable astronomical and field instruments needed for extensive triangulations, including sounding machines, tachometers, deep water thermometers and heliotropes. 11. Among the usual field instruments, there is nearly every variety of engineers' transits, theodolites, levels, solar and other compasses, omnimeters and tachometers, with a large number of special instruments, such as planimeters, pantographs, eliptographs, arithmometers, computing machines, altazimuths, sextants, telemeters, and altimeters, hypsometers and self-recording meteorological instruments of all descriptions. 12. A very complete set of all appliances and instruments for

making reconnaissance in topographical, hydrographical and mining surveys, in addition to the instrumental equipment which is common to the museums and the nine engineering laboratories of this College, as described above.

REQUIREMENTS FOR ADMISSION.

The subjects that may be offered for admission are named in the following lists :

Elementary Subjects.

The following Elementary Subjects are required for admission to all colleges of the University :

English
History*

Plane Geometry.
Elementary Algebra.

Advanced Subjects.

In addition to the Elementary Subjects, an applicant must offer from the following list the Advanced Subjects required by the college to which he seeks admission. The figure following each subject indicates its relative weight :

Advanced Mathematics (6)
Solid Geometry (2)
Advanced Algebra (2).
Plane Trigonometry (2).
Spherical Trigonometry (1).
German (12).
Elementary German (6).
Advanced German (6).
French (12).
Elementary French (6).
Advanced French (6).
Spanish (12).
Elementary Spanish (6).
Advanced Spanish (6).

Latin (18).
Latin Grammar and Caesar (6),
Latin Composition and
Cicero (6).
Virgil (6).
Greek (12).
Greek Grammar, Xenophon (6).
Greek Composition, Homer (6).
Physics (6).
Chemistry (6).
Botany (6).
Geology or Physiography (6).
Zoology (6).
Drawing (6).

For admission to the College of Civil Engineering an applicant must offer the Elementary Subjects and also one (30 units) of the following groups of Advanced Subjects :

A. Advanced Mathematics (6) ; and any two of the following languages : German (12), French (12), Spanish (12).

B. Advanced Mathematics (6) ; and German (12) ; and French (6), or Spanish (6) ; and any other 6 units from the Advanced Subjects.

* One of the following : (1) American (including Civil Government), (2) English, (3) Ancient (to 814 A.D.). (4) Mediæval and Modern European (from 814 A.D.)

C. Advanced Mathematics (6) ; and French (12) ; and German (6), or Spanish (6) ; and any other 6 units from the Advanced Subjects.

D. Advanced Mathematics (6) ; and German (12) ; and any 12 units in Latin.

Special Students are admitted only when they are graduates of other institutions and wish to pursue advanced work, and are not candidates for a degree. See page 52.

[For details as to subjects and methods of admission see pages 33-57.

For admission to the Freshman class and for admission to advanced standing from other colleges and universities communications should be addressed to the Registrar. See pages 33-57.

For admission as special students, communications should be addressed to the Director of the College of Civil Engineering. See page 56.

For admission to graduate work, communications should be addressed to the Dean of the University Faculty. See page 73.)

DEGREES.

First Degree.

The degree of *Civil Engineer (C.E.)*, is conferred upon such candidates as may successfully complete the four-year undergraduate course (see page 382) and present a satisfactory thesis, upon the recommendation of the faculty of the *College of Civil Engineering* to the *Board of Trustees*.

Graduate Courses and Advanced Degrees.

Graduate courses may be pursued by resident and non resident graduates under the regulations mentioned on pages 73, 76-78. Such courses are also open to graduates of any institution having an equivalent curriculum, when such graduates are accepted as candidates by the Faculty of this College. All graduate students are under the jurisdiction of the University Faculty.

The degrees of Master of Civil Engineering (M.C.E.), and Doctor of Philosophy (Ph.D.), are conferred after the conditions are fulfilled which are detailed on pages 77 and 78.

For fellowships and Scholarships see pages 69-72.

The Fuertes Medals, founded by Professor E. A. Fuertes and consisting of two gold medals, each of the value of one-half the amount of the income provided by the endowment fund will be awarded under the following conditions :

PRIZES.

One of these medals will be awarded annually by the University Faculty to that student of the College of Civil Engineering who may

be found, at the end of the first term of his senior year, to have maintained the highest degree of scholarship in the subjects of his course, provided he has been in attendance in the University for at least one and one-half years; and the other medal will be awarded annually by the Faculty to that graduate of the College of Civil Engineering who may write a meritorious paper upon some engineering subject tending to advance the scientific or practical interests of the profession of the civil engineer. It is desired that papers be presented on or before April 15th. If a paper is presented in a printed form, it will not be received if it has been printed earlier than the next preceding April 15th.

Neither medal shall be awarded unless it appears to the Faculty of the College of Civil Engineering that there is a candidate of sufficient merit to entitle him to such distinction. Candidates will be nominated to the University Faculty by the College of Civil Engineering annually.

When no medal is awarded, the money thus left unexpended shall be added to the principal of the Fuertes Fund; or it may, at the discretion of the Board of Trustees, be given to aid needy and meritorious students of any college or department of the University.

The William C. Seidell Book Fund of one thousand dollars, founded by Gerrit S. Miller, the income of which is to be used for the purchase of books for poor young men who are working their way through the College of Civil Engineering, is available as follows: Payments will be made by the Treasurer of the University upon the recommendation of the Director of the College, preference being given to members of the freshman class.

A FOUR-YEAR COURSE LEADING TO THE DEGREE OF CIVIL ENGINEER.

<i>Freshman Year.</i>	No.	Course.	1st Term	2d Term.
Analytics.....	2	-----	5	-----
Differential Calculus.....	2	-----	-	-----
Integral Calculus.....	2	-----	-	-----
Physics.....	1	-----	4	-----
Physics.....	6	-----	-	-----
Physics.....	10	-----	1	-----
Chemistry.....	1	-----	6	(or 6)
Drawing.....	1	---	(or 4)	-----
Land Surveying.....	10	---	(or 3)	-----

In addition to the above the required Drill and Gymnasium must be taken.

<i>Sophomore Year.</i>	No. Course.	1st Term.	2d Term.
Dendrology	31	2	-
Geology	45	3	3
Descriptive Geometry	8	5	-
Mechanics	20	5	5
Engineering Laboratory	22	2	2
Materials of Construction	25	-	3
Drawing	4	-	2
Higher Surveying	11	-	2

In addition to the above the required Physical Training must be taken.

<i>Junior Year.</i>	No. Course.	1st Term.	2d Term.
Political Economy	51	3	3
Railroad Engineering	60	4	4
Structural Design	71	5	3
Hydraulics	23	5	-
Hydraulic Laboratory	40	-	1
Municipal Engineering	52	-	4
Engineering Problems	29	-	2
Field Construction (in alternate years)	75	-	1

During vacation.

Geodetic and Topographic Surveys..... Course 15, 4 hours.

<i>Senior Year</i>	No. Course.	1st Term.	2d Term.
Reinforced Concrete Arch	72	2	(or 2)
Geodesy and Astronomy	13	5	-
Cartography	16	-	2
Water Supply	32	2	-

<i>Senior Year.</i>	No. Course.	1st Term.	2d Term.
Electrical Engineering (E.E.)	11	4	-
Steam Machinery (M.E.)	10	-	4
Engineering Design	91	-	3
Specifications and Contracts	90	-	2
Field Construction (in alternate years)	75	-	1
*Elective	—	3	3
Thesis	92	1	2

*All electives must be chosen by the student at the beginning of the year with the previous approval of the Director. The College reserves the right to withdraw any elective course which is not chosen by a sufficient number of students. The electives include Courses 17, 18, 26, 31, 41, 42, 43, 54, 55, 57, 61, 73, 74, 80, 81, 82, and 83. Students in this College desiring to take work in the Dynamo Laboratory (Physics 34) are first required to take certain preparatory experiments in the Junior Laboratory (Physics 14), for which a credit of 2 hours will be given, after which they will be permitted to register in Physics 34 for any number of hours that may be desired. The work in Physics 14 consists of the same class of electrical experiments as is required in electrical engineering. In Chemistry, Courses 18 and 66 are recommended; and in Medicine, Course 43.

A Six-Year Course Leading to the Two Degrees A.B. and C.E.

Seniors in good standing in the College of Arts and Sciences, who have been in actual residence at least six terms, exclusive of summer sessions, and have a credit of at least ninety hours, may be registered both in the College of Arts and Sciences and also in the College of Civil Engineering.

In accordance with this provision the following suggestion is given for a six-year course leading to the degrees of A.B. and C.E.

The following subjects are to be included in the course of study of at least ninety hours in the College of Arts and Sciences during the first three years of residence :

	No. Course.	1st Term.	2d Term
Analytics.....	2	5	-
Differential Calculus.....	2	-	2
Integral Calculus.....	2	-	3
Physics.....	1	4	-
Physics.....	6	-	4
Physics.....	10	1	1
Chemistry.....	1	6	(or 6)
Geology.....	45	3	3
Botany.....	31	2	-
History and Political Science.....	51	3	3

The following subjects in Civil Engineering are to be taken during the fourth year, when registered in both colleges.

	No. Course.	1st. Term.	2d. Term.
Drawing.....	1	2	2
Drawing.....	4	-	2
Descriptive Geometry.....	8	5	-
Land Surveying.....	10	3	-
Higher Surveying.....	11	-	2
Mechanics.....	20	5	5
Engineering Laboratory.....	22	2	2
Materials of Construction.....	25	-	3

The satisfactory completion of the above courses will lead to the degree of A.B. The work for the fifth and sixth years is to include the subjects of the junior and senior years of the regular four-year course leading to the degree of C.E., except that course 51 in Political Economy is replaced by some elective for each term, for which the student has the required preparation.

The completion of these additional courses will lead to the degree of C.E.

Students desiring to take both degrees of A.B. and C.E. are recommended to complete the plans of their courses with the advice of the Deans of the Faculties concerned.

The student must satisfy the entrance to the Course in Arts provided he wishes to register in the above six-year course leading to the degrees of Bachelor of Arts and Civil Engineering.

Courses of Instruction.

The numbers following the names of instructors refer to the rooms in Lincoln Hall.

Drawing.

1. **Drawing.** Geometrical problems, conventional cross-sectioning, detail and dimension drawing, tracing details, isometric drawing, pen topography, freehand and mechanical lettering. Twelve hours per week. This course is given in each half-year. First half-year. Section *a*, M., W., F., S., 10-12:30; F., 2-4. Section *b*, T., Th., 10-12:30; M., W., 2-4:30; Th., 2-4. Assistant Professor PARSON, 54. Second half-year. Before the Easter recess: T., Th., F., S., 10-12; M., W., F., 2-4. After the Easter recess: T., F., S., 10-12:30; M., 2-4:30. Mr. ELDRED, 54.

4. **Drawing.** Lettering, tinting and shading. Six hours per week. Second half-year. Section *a*, M., W., F., 8-10. Section *b*, T., Th., S., 8-10. Section *c*, Th., 10-1; F., 2-4:30; Section *d*, T., Th., 2-4:30. Section *e*, M., 2-4:30; S., 10-1. Section *f*, T., 10-1; W., 2-4:30. Assistant Professor PARSON, 42.

8. **Descriptive Geometry.** For students in Civil Engineering. A study of the representation of lines, planes, surfaces, and solids, and of their relations; tangencies, intersections and developments; warped surfaces; shades, shadows, and perspective. The text-books are Mac Cord's Descriptive Geometry and Hill's Shades, Shadows, and Perspective. The original problems are intended to be illustrations and applications of the principles given in the text-books. First half-year. Lectures, three hours per week. T., Th., S., 8. Assistant Professor OGDEN. Original problems, six hours per week. Sections *a*, *b* and *c*, M., W., F., 8-10. Sections *d*, *e*, *f*, T., Th., F., 11-1. Assistant Professor OGDEN, Messrs. POND, ELDRED and WALKER, 31, 42, 47.

9. **Descriptive Geometry.** For students in Architecture. Original problems, three exercises of two hours each per week. First half-year. M., W., F., 2-4. Mr. GAVETT, 42.

Surveying and Geodesy.

10. **Land Surveying.** An elementary study of surveying methods and instruments. The recitations are supplemented by lectures. The field work affords practice in the use of the chain and tape, in making farm surveys with the compass and transit, and in leveling. The field practice of the second half-year is preceded by exercises devoted to a careful study of each instrument. Johnson's *Theory and Practice of Surveying* is used as a text-book. The course is given each half-year. Lectures and recitations, one hour per week. First half-year. Section *a*, M., 10. Section *b*, T., 10. Section *c*, W., 10. Section *d*, Th., 10. Sections *e* and *f*, S., 8. Second half-year. Sections *a* and *b*, F., 9. Section *c*, S., 9. Field work, six hours per week. First half-year. Section *a*, T., Th., 1:30-4:30; section *b*, F., S., 9-12. Second half-year. Examination of surveying instruments, two hours per week during first part of term, Th., 2-4. Field work, nine hours per week during second part of term, T., Th., 1:30-4:30, Th., 10-1. Assistant Professor BARNES, Messrs. MCNOWN, THOROUGHGOOD, SEERY, ELDRED, DAVIS, GIBBS and WALKER, 27, 34, 38, 40.

11. **Higher Surveying.** Accurate methods of measuring distances and angles; grading and contouring; street grading; city surveys and monuments; mining survey methods. Reference books: Pence and Ketchum's *Surveying Manual*, Raymond's *Plane Surveying*, and Johnson's *Theory and Practice of Surveying*. Second half-year. Recitations, one hour per week. Section *a*, T., 10; section *b*, W., 2; section *c*, Th., 10; section *d*, Th., 11; section *e*, F., 11; section *f*, S., 12. Field work, four hours per week during the latter half of the term. Section *a*, F., 8-12; section *b*, S., 8-12. Assistant Professor BARNES, Messrs. MCNOWN, THOROUGHGOOD, DAVIS and WALKER, 34, 38, 40.

13. **Geodesy and Astronomy.** The lectures and recitations cover the description and theory of the adjustments and methods of use of the field and observatory instruments of the college, including transits, zenith telescopes, altazimuths, and sextants, together with the auxiliary apparatus needed, such as clocks, chronographs, collimators, etc. Observations and computations are made to determine time, latitude, longitude and azimuth, by different methods. Lectures, night observations and computations. **Geodesy.** Historic development. Construction and use of instruments with special reference to the elimination of instrumental errors. Field work of the triangulation, including reconnaissance, signals, methods of observing, etc. Precise leveling. Methods of sounding. Figure of the earth, with the development of the formulas required in the reduction

of surveys, "L.M.Z." work, map projections and the location of geodetic lines. Development of the method of least squares, with application to survey problems, to the adjustment of a triangulation, and to astronomical work. Mimeograph notes are employed. First half-year. Recitations and lectures, four hours per week. Section *a*, M., W., Th., F., 9; section *b*, M. T., Th., F., 9; section *c*, M., W., F., S., 10; section *d*, M., T., W., Th., 10; section *e*, M., T., Th., F., 10. Observations one evening per week. Section *a*, M.; section *b*, T.; section *c*, W.; section *d*, Th.; section *e*, F. Professor CRANDALL, Assistant Professor LELAND, and Messrs. BOOTHROYD and GAVETT, 27, 29, 30.

15. **Geodetic and Topographic Surveys.** Requires courses 10, 11 and 60. The work will be conducted from a camp near Dryden, N. Y., in continuation of a survey of the Fall Creek watershed, begun in 1898. A triangulation is extended over the area as a tertiary system connected with the primary and secondary stations of the New York State Survey. Latitude and azimuth observations are taken at one of the stations. A line of precise levels, referred to mean sea level by the Erie Canal bench marks and those of the U. S. Geological Survey, is carried along the valley. Transit stadia lines, connected with the triangulation stations, form the basis for the topography, and some plane-table practice is given in filling in the details. The maps are plotted to a scale of 400 feet to an inch from the coordinates of the stadia lines, adjusted to the triangulation, and 10-foot contours are drawn. Field work, computations and drawings, daily, for four and one-half weeks in the summer vacation, beginning June 8. Professor CRANDALL, Assistant Professors MCCAUSTLAND, BARNES and LELAND, Messrs. RIEGEL, MCNOWN and GAVETT.

16. **Cartography.** Computations and reductions of the astronomical and geodetic data obtained on the Fall Creek survey in June 1906, together with a map of the triangulation and topography, using 20 foot contours. Second half-year. Computations and drawing, six hours per week. Section *a*, M., 8-11, 2-4:30; section *b*, W., 8-11, 2-4:30; section *c*, F., S., 8-11. Professor CRANDALL, Assistant Professor LELAND and Mr. GAVETT, 23.

17. **Advanced Geodesy and Astronomy.** A special course of reading as may be arranged: *e.g.*, Helmert's Higher Geodesy, Chauvenet's Astronomy. Second half-year. Three hours per week, M., W., F., 12. Professor CRANDALL, 44.

18. **Geodetic and Astronomical Laboratory.** The laboratory and observatory are well equipped for the study of standards of length, dividing engines, micrometer microscopes, standard thermometers,

pendulum observations, investigations of instruments, and astronomical observations with portable instruments. Second half-year. Seven and one-half hours per week, as arranged. Professor CRANDALL, and Assistant Professor LELAND, 9, 24.

Applied Mechanics and Hydraulics.

20. **Mechanics of Engineering.** For students in Civil Engineering and Sibley College courses. (N. B. No student is admitted to this course who has not successfully pursued University courses in analytic geometry and in the differential and integral calculus.) A study of the principles and applications to engineering, of the mechanics of solids ; as relating to the mutual actions, motions, pressures, strength, stiffness, and resilience of the members of structures and machines. Original problems form a prominent feature. Statics of a material point and of rigid bodies. Centers of gravity. Chains and cords. Dynamics, (kinetics) of a material point. Impact. Virtual velocities. Centrifugal and centripetal forces. Pendulums. Moments of inertia of plane figures and of rigid bodies. Dynamics (kinetics) of rigid bodies. Work. Power. Energy. Fly-wheels. Friction. Graphical statics of mechanism. Dynamometers. General theorem of work and energy applied to machines. Stresses and strains. Tension. Shearing. Compression. Torsion. Flexure. Elastic curves. Safe loads. Columns. (Towards the close of the year nearly three weeks are devoted by Civil Engineering students to curved beams, the theorem of three moments and the mechanics of reinforced concrete beams ; while the Sibley College students take up hydrostatics and flotation during the same period.) Text-books : Church's *Mechanics of Engineering*, and *Notes and Examples in Mechanics*, supplemented by other printed notes and problems. Lectures and recitations, daily except S., throughout the year. Sections for Civil Engineering students : Sections *a*, *b*, *c*, *d* and *e*, at 10 ; section *f*, M., W., 2, T., Th., 10, F., 12. Sections for Sibley College students : Four sections at 8 ; four sections at 11, and four sections at 2. Professor CHURCH, Assistant Professors OGDEN and JOHANNSEN, Messrs. POND, BOOTHROYD, RIEGEL, GEORGE, HOPKINS, SEERY, GEHRING, DAVIS, GARRETT and EDGE, 27, 32, 34, 38, 40, 43, 45.

21. **Mechanics.** (Resistance and elasticity of materials. For students in Architecture.) Tension, compression, and shearing. Riveted joints. Cantilevers and simple beams. Restrained beams. Safe loads. Elastic curves. Deflections. Beams of uniform strength. Columns. Combined stresses. Temperature stresses. Horizontal

shear in beams. Text-book : Merriman's Mechanics of Materials. First half-year. Lectures and recitations, three hours per week. Hours to be arranged Assistant Professor MCCAUSTLAND, 44.

22. **Engineering Laboratory.** (Students must take course 20 simultaneously with this course unless they have already had the former.) Use of engineers' computing devices, viz : The common slide rule, the Fuller spiral slide rule, Thacher calculating instrument, and Goodchild chart. Use of the planimeter, adjustments and use of the cathetometer. Experiments involving the parallogram of forces (funicular polygons.) Determination of specific gravity with the Jolly balance. Centers of gravity of plates and prisms (models.) Efficiency of the inclined plane. Systems of levers. Harmonic motion of masses, etc. Experiments in testing materials. Use of the 50,000 lb. Olsen machine in tensile tests of bars of iron and steel. The Thurston and Riehlé torsion machines ; determination of their constants ; and tests of specimens for the determination of shearing stresses and of the modulus of elasticity for shearing. Flexure of steel bars ; deflections and modulus of elasticity. Elongation of steel wires with observations by cathetometer. Breaking tests of wooden columns. Moments of inertia of beam sections by graphic and analytical methods ; and also by the use of the mechanical integrator. Use of the Kew magnetometer. Determination of specific gravity, fineness, soundness, expansion, activity, time of set and strength of cements. Study of sands. Studies of proportions and kinds of materials to be used in structures when cement is employed. Five hours per week until the Christmas vacation. Section *a*, M., W., 8-10:30 ; section *b*, T., Th., 10-12:30 ; section *c*, T., Th., 2-4:30 ; section *d*, W., F., 2-4:30 ; section *e*, M., 2-4:30, S., 9-11:30 ; section *f*, F., 9-11:30, S., 2-4:30. During January and the first half of the second term the time is increased to seven hours per week, and then reduced to an average of two hours per week for the remainder of the year. Professor CHURCH, Messrs. POND, HOPKINS, DAVIS, WALKER, and GARRETT, 8, 14, 15, 4.

23. **Hydraulics.** With topics in hydrostatics and pneumatics. (Must be preceded by course 20). Fluids at rest. Hydrostatic pressure. Manometers. Strength of pipes. Pressure of water against walls and dams. Earth pressure. Immersion and flotation. Compressed air motors. Air compressors. Gas engines, Barometric leveling. Steady flow of liquids through pipes and orifices, and over weirs. Fluid friction. Losses of head. Time of emptying vessels. Steady flow of water in open channels. Kutter's formula. Steady flow of gases through pipes and orifices. Impulse and resistances of fluids.

The Pelton water motor. Backwater. Overshot, breast, and under shot water wheels. Theorem for flow in a revolving pipe. Turbines and reaction wheels. Theory of turbine testing. Other hydraulic motors and machinery. Text books: Church's Mechanics of Engineering, and Hydraulic Motors. First half year. Lectures and recitations, daily except S. Sections *a* and *b*, at 8; sections *c*, *d* and *e* at 12. Professor CHURCH, Messrs. RIEGEL, GEORGE and GEHRING, 27, 30, 38, 40.

24. **Hydraulics.** Required for students in Sibley College. (Must be preceded by Course 20.) Steady flow of liquids through orifices and pipes and over weirs. Losses of head in flow through pipes, etc. Steady flow of water in open channels. Kutter's Formula and diagrams based thereon. Theory of the various kinds of hydraulic motors. Impulse wheels, overshot, undershot, Poncelet, and breast wheels, impulse and reaction turbines, etc. Supply-pipes, penstocks, open conduits, draft-tubes. Theory and mode of turbine-testing. Centrifugal pumps. Hydraulic rams. Pressure machinery. Text-books:—Church's Mechanics of Engineering, and Hydraulic Motors; also Diagrams for Open Channels. Second half-year. Recitations and lectures, two hours per week.

Sections *a* and *b*, M., T., 9; sections *c* and *d*, M., T., 10; sections *e* and *f*, M., W., 12; sections *g* and *h*, W., Th., 9; sections *i* and *j*, W., Th., 10; sections *k* and *l*, F., S., 9. Professor CHURCH, Messrs. RIEGEL, GEORGE and HOPKINS, 32, 43.

25. **Materials of Construction.** This course embodies the study of the methods of manufacture of iron and steel, and of cement; the study of the physical and mechanical properties of all the more important materials of construction and the methods of testing; an examination and comparison of the results of actual tests. The question of the determination of safe unit stresses for each class of material, and the data necessary for such determination will be constantly urged upon the attention of the student. Second half year. Lecture, one hour per week, F., 12. Assistant Professors MCCAUSTLAND and JOHANNSEN. Recitations, two hours per week. Section *a*, M., W., 8. Section *b*, M., W., 9. Sections *c* and *d*, M., W., 10. Section *e*, T., Th., 9. Section *f*, T., Th., 11. Assistant Professors MCCAUSTLAND and JOHANNSEN, Messrs. RIEGEL and GAVETT, 29, 30, 38, 40.

26. **Advanced Mechanics.** Linear arches. Curved beams. Special cases of flexure. Problems in the mathematical theory of elasticity. Thick hollow cylinders and spheres. Plates. Castigliano's Theorem of least work. Elastic potential and its derivatives. Applications. Recitations. First half-year. Three hours per week. M., W., F., 11. Professor CHURCH, 27.

29. **Engineering Problems.** The object of this course is to provide additional practice in using the principles and methods of Applied Mechanics, both of solids and fluids. A series of problems, such as occur in ordinary engineering practice, and covering a wide range of topics, is given out for solution. Computations and reports; six hours per week. Second half-year. Section *a*, M., 8-11, 2-4:30. Section *b*, T., 8-11, 2-4:30. Section *c*, Th., 8-11, 2-4:30. Professor CHURCH, Assistant Professors OGDEN and MCCAUSTLAND, Mr. GAVETT, 47.

31. **Hydraulic Constructions.** The study of modern hydraulic constructions: Dams, reservoirs, conduits, levees, etc. Structures relating to water power canals and irrigation. Lectures, with collateral reading and reports. Preparation required: Courses 23 and 32. Three hours per week. The course is given each term. M., W., F., 11. Mr. SEERY, 40.

32. **Water Supply.** The design, construction, operation and management of municipal water supply systems. Lectures, reading and reports. Preparation required: Course 23. First half-year. Two hours per week. T., Th., 12. Mr. SEERY.

Experimental Hydraulics.

40. **Hydraulic Laboratory.** Experiments and written reports. The flow of water over weirs and through orifices and pipes. Logarithmic plotting of hydraulic data. Efficiency of water motors. Rating and use of current meters. Second half-year. Two and one-half hours per week. Section *a*, M., 8-10:30; section *b*, T., 8-10:30; section *c*, W., 8-10:30; section *d*, Th., 8-10:30; section *e*, F., 8-10:30; section *f*, S., 8-10:30; section *g*, M., 2-4:30; section *h*, T., 2-4:30; section *i*, Th., 2-4:30. Assistant Professor SCHODER, Mr. RIEGEL and Mr. GEHRING.

41. **Experimental Hydraulics.** Practical problems in hydraulic measurements and reduction of data. Current meters and floats in open channels and streams. Weirs. Flow in pipes. The Venturi meter. Water meters. The Pitot tube. Turbines. Special problems and tests. First half-year. Three afternoons per week as arranged. Assistant Professor SCHODER, Mr. GEORGE and Mr. GEHRING.

[42. **Experimental Hydraulic Motors and Pumps.** The determination of efficiency, horse-power, and capacity of hydraulic machinery. Assistant Professor SCHODER. This course will not be offered in 1906-07.]

43. **Advanced Experimental Hydraulics.** The facilities of the hydraulic laboratory are available for thesis work and for experi-

mental investigations by graduate students. Subject to special arrangements in each case. Assistant Professor SCHODER.

44. **The Measurement of the Flow of Water in Open Channels.** Second half-year. Three days per week. Hours to be arranged. Professor HASKELL.

Municipal and Sanitary Engineering.

52. **Municipal Engineering.** (a) *Sewerage and sewage disposal.* A study of the design, construction and operation of sewer systems, together with the various methods of sewage disposal. Water purification. (b) *Roads and pavements.* Location and construction of broken-stone roads and of city pavements, their cost and economic value. Street cleaning and garbage disposal. Second half-year. Lectures and recitations, four hours per week. T., Th., S., 11; F., 12. Assistant Professor OGDEN, and Mr. SEERY.

54. **Design of Sewerage Works.** This course gives a detailed view of the field of sewerage design and construction, and more particularly of sewage disposal. Modern plants are described, fully illustrated with lantern slides, the principles involved as well as the relative efficacy of the treatment being considered. Second half-year. Lectures, three hours per week. M., W., F., 11. Assistant Professor OGDEN, 44.

55. **Sanitary Laboratory.** This course offers a practical demonstration of some of the topics considered in courses 52 and 54. Reports are required on sand analysis, on coefficients of friction of water in sand, on the examination of plumbing installations, and on the study of ventilating plants. Preparation of culture media and of cultures of typical bacteria. Measurements of velocities and grades in the city sewers, and a study of their inter-relation with sizes of pipe and depths of flow. Second half-year. Seven and one-half hours per week. Th., F., 2-5:45. Assistant Professor OGDEN, 46.

Water Supply. See Applied Mechanics and Hydraulics.

57. **Testing Materials.** Open only to students who have completed course 22 or its equivalent. Special work will be arranged for students electing this course, upon consultation with the professor in charge. Tests may be made upon full-sized sections in iron and steel; upon wooden columns, beams, and trusses; standard tests of paving brick and blocks; tests of road metal according to the standards of the Massachusetts Highway Commission; extended series of tests upon cements, cement mixtures and concrete, with and without steel reinforcement; tests of brick piers. Marten's Testing of Materials and Johnson's Materials of Construction are used as reference works.

First half-year. Seven and one-half hours per week. Section *a*, T., Th., 2-5:45. Section *b*, W., F., 2-5:45. Assistant Professors MC-CAUSTLAND and JOHANNSEN, 4, 10, 15.

Railroad Engineering.

60. **Railroad Engineering.** The field work includes the laying out of curves, turnouts, etc., and the staking out of structures, in addition to making the reconnaissance, preliminary and location surveys for about five miles of railway in the Inlet Valley. The work is cross-sectioned and the positions of the structures determined. The drawing includes a map and a profile of the located line and a plan for one or more of the structures. The earthwork is computed from the cross-sections, and complete estimates are made of quantities and costs, including all structures. The recitations and lectures take up the field problems, the computation of earthwork, the cost of earthwork, sub grade and track structures, track work, and the economics of railroad location and operation. Searle's Field Engineering; Crandall's Transition Curve, Earthwork Tables, and Mimeograph Notes on Railroad Engineering; Beahan's Railway Location, and Gottshall's Electric Railway Economics form the basis of the work. First half-year. Recitations, lectures, field work and drawing, ten hours per week. Section *a*, M., W., 8-11; alternate, S., 8-6. Section *b*, T., Th., 9-12; alternate, S., 8-6. Second half year. Lectures and recitations, three hours per week. Section *a*, M., 12, W., F., 9; sections *b* and *c*, M., W., F., 2; sections *d* and *e*, T., Th., S., 12. Drawing, nine hours per week for four weeks before the computations in bridge design begin, using the periods assigned for that work. Professor CRANDALL, Assistant Professor BARNES, Messrs. RIEGEL, MCNOWN, and THOROUGHGOOD.

61. **Advanced Railroad Engineering.** This course is mainly along the line of operation and maintenance. The subjects treated are: Track work and accessory structures; improvement in gradients and alinement; sorting yards; terminals; block signaling and interlocking; street and electric roads; rapid transit; and railroad management. First half-year. Reading, lectures, and recitations, three hours per week. M., W., F., 11. Professor CRANDALL, 30.

Bridge Engineering.

71. **Structural Design.** Structural Details. The lectures treat of the forms and strength of joints and fastenings used in heavy framing; of the design and construction of beams, columns, roof trusses, and other wooden or combination structures, including some cast and

wrought-iron details ; and of the results of timber tests and the determination of safe unit stresses. The recitations cover the graphic analysis of simple beams and roof trusses in Chapters I and II of Merriman and Jacoby's *Roofs and Bridges*, Part II. The computations and drawing include complete detail designs and working drawings of two joints to resist large tensile stresses, and of a wooden roof truss for given specifications. First term for ten weeks. Lectures one hour per week. F., 9. Professor JACOBY. Computation and drawing, six hours per week. Sections *a* and *b*, M., 9-11, 2-4 ; W., 9-11 ; sections *c* and *d*, T., Th., 9-12. Professor JACOBY, Assistant Professor JOHANNSEN, Mr. DERICKSON and Mr. GIBBS, 26, 23.

Bridge Stresses. Analytic and graphic methods. Principal modern forms of simple trusses. Stresses due to dead, live and wind loads, initial tension, centrifugal load and impact. Panel loads, excess loads, axle loads, and equivalent uniform loads. Stresses in trusses, bracing and floors. Construction and use of moment diagrams. Text-books : Merriman and Jacoby's *Roofs and Bridges*, Parts I and II. First half-year. Recitations and lectures two hours per week for ten weeks and after that five hours per week. Sections *a* and *b*, T., Th., 8 ; section *c*, T., Th., 12 ; section *d*, T., Th., 3 ; sections *e* and *f*, W., F., 12. Professor JACOBY, Assistant Professor JOHANNSEN, Mr. DERICKSON and Mr. GIBBS, 29, 29.

Bridge design. Lectures and recitations on the design of plate girders, riveted and pin bridges. Details. Economic proportions. Analysis of weights. Complete computations and drawings for the design of a steel railroad bridge of short span. Text-book : Merriman and Jacoby's *Roofs and Bridges*, Part III. Second half-year, Computations and drawings, nine hours per week. Section *a*, M., T., 8-11, T., 2-4:30 ; section *b*, W., F., 8-11, W., 2-4:30 ; section *c*, Th., S., 8-11, Th, 2-4:30. During the first four weeks of the term, these exercises will be replaced by two recitations per week, the three hour periods being devoted to mapping in course 60. Hours for recitations to be arranged. Professor JACOBY, Assistant Professor JOHANNSEN, Mr. DERICKSON and Mr. GIBBS, 23, 26.

72. **Reinforced Concrete Arch.** Complete design of an arch of reinforced concrete construction, including its abutments and centering. Investigation of stresses. Determination of form and proportions. Lectures, computations, and drawing. Six hours per week. The course is given during each half-year. First half year. Section *a*, T., Th., 2-4:30 ; section *b*, W., F., 2-4:30. Second half-year. Section *a*, M., T., 2-4:30 ; section *b*, Th., F., 2-4:30. Professor JACOBY, Assistant Professor JOHANNSEN, and Mr. DERICKSON, 36.

73. **Bridge Engineering.** Determination of the loading and stresses in continuous girders and trusses, draw bridges, cantilever bridges, suspension bridges, and metallic arches. The metallic arches include arched ribs and trussed arches of three, two and no hinges, respectively, both for roofs and bridges. Analytic and graphic methods. Study of the designs of typical examples of these classes of structures. Text-book: Merriman and Jacoby's *Roofs and Bridges*, Part IV. Recitations three hours per week. The course is given each term. First half-year. T., Th., S., 11. Second half-year. M., W., F., 11. Professor JACOBY and Assistant Professor JOHANNSEN, 29.

74. **Masonry and Foundations.** Cofferdams, cribs, sheet piling, metal cylinder piers, pumping and dredging, the foundation, and the location and design of piers. Text-book for the preceding topics: Fowler's *Ordinary Foundations*. Piles and pile driving. Pneumatic caissons. Open caissons. Caisson sinking. Deep and difficult foundations. Foundations of buildings; pile, caisson, steel, concrete. Underpinning. Examination of selected modern examples described and illustrated in the *Engineering periodicals and transactions*. Recitations, lectures, collateral reading, and reports. Three hours per week. The course is given each term. First half-year. M., W., F., 11. Second half-year. T., Th., S., 11. Professor JACOBY, 29.

75. **Field Construction.** The erection of girder bridges and viaducts; of bridges on trestle falsework and on special supports; of cantilever bridges; of movably erected and suspension bridges; of steel buildings and of long span roof trusses. The framing and details of steel buildings. Equipment of tall buildings. Underpinning and reconstructing buildings. Moving and razing buildings and other structures. Foundations of buildings and of engineering structures. Second half-year. Lectures, one hour per week. Hours to be arranged. Non-resident lecturer. FRANK W. SKINNER.

Testing Materials. See *Municipal and Sanitary Engineering*.

Mining Engineering.

80. **Principles of Mining.** A general course introductory of the subject of mining engineering. Prospecting, boring, shaft sinking and timbering. Location of plant and problems of hoisting, haulage and drainage. Development of deposits, systems of winning underground and at daylight. Text-book: Foster's *Elements of Mining and Quarrying*. First half-year. Recitations and lectures, three hours per week. M., W., F., 11. Assistant Professor MCCAUSTLAND, 44.

81. Ventilation of Mines and Coal Mining. Methods of mine ventilation. Theory of ventilation. Special problems under varying conditions. Text-book: Beard's Ventilation of Mines. Coal Mining. Occurrence of Coal. Determination of character and extent of coal deposits. Methods of coal mining. Description and critical study of coal cutters, conveyors, coal breakers, washers and tipples. Preparation of coal for the market. First half-year. Lectures, three hours per week. T., Th., S., II. Assistant Professor MCCAUSTLAND, 44.

82. Metal Mining, Milling and Ore Dressing. Brief sketch of mining law. Law of apex. Location of claims. Mine sampling and estimation of ore reserves. Milling and concentrating machinery. Crushers, stamp mills, amalgamators, vanners, jigs, and concentrators. Theory of concentration of values. Reference book: Richard's Ore Dressing. Second half-year. Lectures, three hours per week. M., W., F., II. Assistant Professor MCCAUSTLAND, 30.

83. Hydraulic and Dredge Mining. Location of deposits suitable for hydraulic or dredge mining. Prospecting gravel deposits. Hydraulic plant. Duty of water. Gold saving devices. Construction and operation of mining dredges. Second half-year. Lectures, three hours per week. T., Th., S., II. Assistant Professor MCCAUSTLAND, 30.

Design of Mine Plant. (See Engineering Design, course 91.) Tipples, ore bins, head frames, skips and cages, mine cars. Engine planes. Gravity planes. Rope haulage. Cornish pumps. Problems involving the design of portions of mine plant, requiring preparation of working drawings, together with bills of materials, specifications and estimates. Second half-year. Nine hours per week as arranged. Assistant Professor MCCAUSTLAND.

Specifications, Design and Thesis.

90. Specifications and Contracts. Synopsis of the law of contracts as applied to engineering construction. Study of typical contracts and specifications. Riparian rights, boundary lines, survey descriptions, etc. Johnson's Contracts and Specifications is used as a text, and Wait's Law of Operations in Engineering Construction as a reference book. Second half-year. Lectures and recitations, two hours per week. Section *a*, M., W., II; section *b*, T., Th., II; section *c*, M., W., 12. Professor CRANDALL, 32.

91. Engineering Design. The student is required to make complete designs in one of the following sub-divisions: (a) Hydraulic Engineering; (b) Sanitary Engineering; (c) Railroad Engineering; (d) Bridge Engineering; (e) Mining Engineering. Second half-year. Computations, drawings, etc. Nine hours per week. Hours

to be arranged. Professors CRANDALL, CHURCH, and JACOBY. Assistant Professors OGDEN, MCCAUSTLAND, and Mr. SEERY.

92. **Thesis.** The thesis is intended to demonstrate the ability of the student for independent investigation, or his capacity to apply the fundamental principles acquired in this course to the study of some special problem related to Civil Engineering. The latest date for announcing the subject which is to be approved by the Director of the College, is October 15. The plan of work should be submitted for approval to the professor having charge of the subject, to whom also regular reports are to be made, showing the progress of the investigation. The latest date for presenting the completed thesis is June 1.

Special and Graduate Courses.

Special Courses. All of the elective courses are suitable for graduate and advanced students, and may be taken by them in the regular classes. Other special courses will be arranged to suit the requirements of graduate students. These courses are intended to be pursued under the immediate direction of the professor in charge, the student being usually free from the restrictions of the class room and working either independently or in conjunction with others taking the same course.

SIBLEY COLLEGE

OF MECHANICAL ENGINEERING AND THE MECHANIC ARTS.

FACULTY.

JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D., President.

ALBERT WILLIAM SMITH. B.M.E., M.M.E., Director of the College, Dean of the Faculty, and Professor of Mechanical Engineering.

B.M.E., Cornell University, 1878; M.M.E., 1886. Machinist and Contractor, Brown, Sharpe Mfg. Co., Providence, R. I., 1879-80. Machinist and Foreman Straight Line Engine Co., Syracuse, N. Y., 1880-83. Superintendent Kingsford Foundry and Machine Works, Oswego, N. Y., 1883-86. Fellowship Cornell University, 1886-87. Assistant Professor Mechanical Engineering, Sibley College, Cornell University, 1887-91. Professor Machine Design University of Wisconsin, 1891-92. Professor Mechanical Engineering, Leland Staufford Jr. University, 1892-04. Draughtsman and Designer, Dickson Mfg. Co., Scranton, Pa., 1898-99. Engineer with Westinghouse, Church, Kerr & Co., 1900-02. Engineer with Westinghouse, Church, Kerr & Co., 1903 (Summer).

ROLLA CLINTON CARPENTER, M.S., C.E., M.M.E., Professor of Experimental Engineering.

C.E., University of Michigan, 1875; M.E., Michigan Agricultural College, 1877; M.M.E., Cornell University, 1888. Assistant Engineer D. & B. C. R.R. 1875-6. Professor of Mathematics and Engineering: Superintendent of Mechanical Construction, Michigan Agricultural College, 1876-90. Consulting Engineer, Lansing Iron Works, 1885-90. Professor of Experimental Engineering Sibley College, Cornell University, 1890. Consulting Engineering, Ithaca Street Railroad, 1893. Consulting Engineer, Cortland Street Railroad, 1895. Consulting Engineer, Utica Belt Line R. R., Utica, N. Y., 1897. Consulting Engineer, Apple River Power Station, 1898. Consulting Engineer, Helderberg Cement Co., 1899. Consulting Engineer, Great Northern Portland Cement Co., 1900. Consulting Engineer, Cayuga Lake Portland Cement Co., 1901. Absent from University on leave; Consulting Engineer for Belleville Portland Cement Co., Toledo Portland Cement Co., Quaker Portland Cement Co., Mississippi Valley Portland Cement Co., Samuel Horner Jr., Portland Cement Co., 1903.

HERBERT WADE HIBBARD, A.B., A.M., M.E., Professor of Mechanical Engineering of Railways.

A.B., Brown University, 1886; M.E., Cornell University, 1891; A. M., Brown University, 1899. In shops of Rhode Island Locomotive Works, 1886-89. Mechanical Department Pennsylvania R.R., 1891-94. Mechanical Department Lehigh Valley R.R., 1894-95. Assistant Professor Machine Design and Locomotive Engineering, University of Minnesota, 1895-98.

DEXTER SIMPSON-KIMBALL, A. B., Professor of Machine Design.

A. B., Leland Stanford Jr. University, 1896. Served apprenticeship with Pope & Talbot, Port Gamble, Wash., 1881-87. Machine Shop, Union Iron Works, San Francisco, 1887-93. Drafting Room, Union Iron Works, San Francisco, 1896-98. Designing Engineer for Anaconda Mining Co., Montana, 1898 (Summer). Assistant Professor of Machine Design, Sibley College, Cornell University, 1898-01. Works Manager, Stanley Electric Mfg. Co., Pittsfield, Mass., 1901-04. 1904-1905, Professor Mechanic Arts, Sibley College, Cornell University.

HENRY HUTCHINSON NORRIS, M. E., Professor of Electrical Engineering.

M. E., Cornell University, 1896. Practical Work and Special Student, Johns Hopkins, Baltimore, 1890-92. Assistant Instructor in Electrical Engineering and had direct charge of Experimental Laboratory work covering all parts of electrical work, Johns Hopkins, Baltimore, 1892-94. Student in Sibley College, Cornell University, 1894-96. Instructor in Electrical Engineering, Sibley College, Cornell University, 1896-01. Assistant Professor of Electrical Engineering, Sibley College, Cornell University, 1901-03. Superintendent Electrical Railway Test Commission, Universal Exposition, St. Louis, Mo., 1904. Special Expert in connection with reorganization of American Street Railway Association, 1905.

CARL CLAPP THOMAS, M. E., Professor of Marine Engineering.

M. E., Cornell University, 1895. Globe Iron Works Company, Engineers and Shipbuilders. Draftsman, 1895-96; Assistant Engineer, 1896-97; Chief Engineer, 1897-98. Maryland Steel Company, Marine Department, Draftsman, 1898; Chief Draftsman, 1899-1901. New York University, 1901-03. Professor Marine Engineering and Naval Architecture. Consulting Engineer New York Construction and Dry Dock Co., 1902-03. Moran Bros., Shipbuilders, 1902; design of special marine machinery. University of California, 1903-4; Instructor, Mechanical Engineering.

GEORGE ROBERT McDERMOTT, Professor of Naval Architecture.

Graduated Andersonian Institute, Glasgow, 1878. Shops and Draughting Offices, 1880-83. Chief of Scientific and Designing Staff, 1884-86. Naval Architect and Assistant to Shipyard Manager, 1887-89. Clydebank Shipbuilding and Engineering Co. (John Brown & Co.), Clyde, Scotland. Naval Architect and Assistant to General Manager, Southampton Naval Works, England, 1890-91. Member of Technical Committee, U. S. Standard Registry of Shipping, 1895-1904. Designer of twin S. S. "Eastland," S. S. "Ravenscraig," and other important vessels on Great Lakes and coast.

HERMAN DIEDERICHS, M. E. Assistant Professor of Experimental Engineering.

M. E., Cornell University, 1897. Assistant in Mechanical Laboratory, Sibley College, Cornell University, 1897-98. Instructor in Mechanical Laboratory, Sibley College, Cornell University, 1898-02. Assistant Professor of Experimental Engineering, Sibley College, Cornell University, 1902. Consulting Engineering and work of investigation; Boiler Tests, Rochester, N. Y., 1901; Boiler Tests, New York City, 179th Street Station, 1904; Engine Tests, New York City, 1903; Engine Tests, New York City, 179th Street Station, 1904; Engine Tests, Brooklyn, Milburn Station, 1904; Investigation of Cold and Hot Rolled Steel, Jones & Laughlin, Pittsburg, Pa., 1902; Tests of Reeves Simple and Compound Engines, 1904.

WILLIAM NICHOLS BARNARD, M. E., Assistant Professor of Power Engineering.

M. E., Cornell University, 1897. Assistant and Instructor in Machine Design, Sibley College, Cornell University, 1897-1900. Designing high duty pumping engines, 1900. Chief Draughtsman and Mechanical Engineer, Russell Engine Co., 1900-03. Mem. Am. Soc. M. E.

VLADIMIR KARAPETOFF, C.E., Assistant Professor of Experimental Electrical Engineering.

C.E., Institute of Ways of Communication, Russia, 1897. Russian Government Engineer, 1897-99. Assistant to Professor of Hydraulics and Electrical Engineering, Ways of Communication Institute, 1897-99. Student in Electrotechnical Institute at Darmstadt and short apprenticeship courses in construction work with Laymayer Electric Co., and the Allgemeine Electricitats-Gesellschaft, Germany, 1899-1900. Russian Government Engineer and Instructor of Electrical Engineering at the following institutions: (a) Ways of Communication, (b) Electro-technical, (c) Polytechnic Institute of St. Petersburg, 1900-02. Conducted evening classes in Experimental Physics and Mechanics in a Free School of St. Petersburg, 1898-99 and 1900-01 (Winters). Assistant Professorship, Institute Ways of Communication, 1902. Apprenticeship Course with Westinghouse Electric and Mfg. Co., 1903-04. With Joint Westinghouse Cos., St. Louis, Mo., Louisiana Purchase Exposition, 1904. With Bullock Elec. Mfg. Co., 1906.

GEORGE STANLEY MACOMBER, M.E., Assistant Professor of Electrical Engineering.

M.E., Cornell University, 1900. With Bell Telephone Co., Pittsburg, Pa., and Instructor in Physics and Electrical Engineering, Washington University, St. Louis, Mo., 1900-01. Instructor in Electrical Engineering, 1902 to 1905. With Stromberg-Carlson Telephone Mfg. Co., 1905-06. With N. Y. Tel. Co., 1906.

CLARENCE FLOYD HIRSHFELD, M.E., Assistant Professor of Power Engineering.

B.S., University of California, 1902. Instructor Experimental Engineering Sibley College, Cornell University, 1903. Risdon Iron Works, San Francisco, 1899 (Summer). Risdon Iron Works Drafting Room, San Francisco, 1901-02 (Summers). Engineering Salesman, Chas. C. Moore & Co., San Francisco, 1904.

HOWARD DRYSDALE HESS, M.E., Assistant Professor of Machine Design.

M.E., Lehigh University, 1896. Draftsman and Computer in Mechanical Department of Pencoyd Iron Works and American Bridge Co., 1897-1902. Mechanical Engineer for Eastern Steel Co., 1902-03. Instructor in Mechanical Engineering, Drexel Institute, 1903-04. Associate Professor of Mechanical Engineering, University of Kansas, 1904-05.

C. FRANCIS HARDING, S.B., Acting Assistant Professor of Electrical Engineering. Absent on leave.

S.B., Worcester Polytechnic Institute, 1902. With Testing Department of the General Elect. Co., at Schenectady, N. Y., June to Sept., 1902. For two years Electrical Engineer of the Worcester & Southbridge St. Ry. Co., Worcester, Mass. For ten months Electrical Engineer for the D. & W. Fense Co., Providence, R. I. and Instructor in Electrical Engineering in Providence night school. More recently Mangr., Publication Dept., of the Fort Wayne Elect. Works, Fort Wayne, Ind. With Stone & Webster, 1906.

GEORGE FREDERICK BLESSING, B.M.E., M.E., Ph.D., Assistant Professor of Machine Design.

B.M.E., Kentucky State College, 1897; M.E., 1905; Ph.D., Hanover College, 1906. Draftsman with the Sneed Iron Works, Louisville, Ky., 1897-98. Draftsman Brown-Ketchum Iron Works, Indianapolis, Ind., 1898-99. Draftsman Louisville Bridge & Iron Co., Louisville, Ky., Summer, 1899. Assoc. Prof. Mechanical Engineering, Nevada State University, 1899-1900. Draftsman, Jos. McWilliams & Co., Contractors, Louisville, Ky., Summer, 1900. Professor Mechanical Engineering, Nevada State University, 1900-1905. Assistant to Engineer of Tests, Southern Pacific R. R., Sacramento, Cal., Summer, 1902. Design and research work on oil burning devices, San Francisco, Cal., Summer, 1903. Designer, Pacific Foundry, San Francisco, Cal., Summer, 1904. Design and research work in Turbine Pumps, with Platt Iron Works, Dayton, Ohio, 1905-06. Designer in Steam Turbine Dept. of General Electric Co., Lynn, Mass., 1906.

LEWIS ANDREW DARLING, B.M.E., E. in M.E., Assistant Professor in Machine Design.

B.M.E., Kentucky State College, 1900. E. in M.E., Leland Stanford Jr. University, 1904. Machinist with R. K. Le Blond Machine Tool Co., Cincinnati, 1900 (Summer). Instructor in Mechanical Engineering and Drawing, Nevada State University, 1900-03. Draftsman with Southern Pacific R. R., Sacramento, Cal., 1902 (Summer). Experimental work for Eureka Hydro-Carbon Burner Co., San Francisco, 1903 (Summer). Instructor in Mechanical Engineering, Leland Stanford Jr. University, 1903-04. Assistant Professor Mechanical Engineering, Swarthmore College, 1904-05. Steam Turbine Bucket and Nozzle Designing, etc., and Director of the Thomson Houston Apprentice School for the General Electric Co., Lynu, Mass., 1905-06.

EDGAR HARPER WOOD, M.M.E., Instructor in Machine Design.

M.E., Cornell University, 1892; M. M. E., Cornell University, 1893. Principal of the Dayton Manual Training School, 1895-99

ROBERT LEE SHIPMAN, M.M.E., Instructor in Experimental Engineering.

VIRGIL OLDBERG, M.E., Instructor in Experimental Engineering.

CALVIN DODGE ALBERT, M.E., Instructor in Machine Design.

M.E., Cornell, 1902. With Columbia Iron Works, Shipbuilders, St. Clair, Mich., June, 1902, to Sept., 1903. Great Lakes Engineering Works, Detroit, Mich., Sept., 1903, to May, 1904. Olds Mobile Works, May, 1904, to June, 1904. Instructor in Experimental Engineering, Sibley College, Cornell University, Sept., 1904.

WILL MILLER SAWDON, B.S. in M.E., Instructor in Experimental Engineering.

B.S. in M.E., Purdue University, 1898. Detroit School for Boys, Sept., 1898, to June, 1899. Cincinnati Shaper Co., June, 1899, to Sept., 1899. Assistant in Mechanical Engineering, Kansas State Agriculture College, Sept., 1899, to Oct., 1902; Assistant Professor of Mechanical Engineering, Armour Institute of Technology, Oct., 1902, to June, 1904; Instructor in Experimental Engineering, Sibley College, Cornell University, Sept., 1904.

WALTER STEBBINS FORD, M.E., Instructor in Experimental Electrical Engineering.

M.E., Cornell, 1900. With Johnson & Morton Electric Co., 1900-1904.

JOHN T. WILLIAMS, Instructor in Machine Design.

ALBERT WINFIELD STONE, M.E., Instructor in Machine Design.

M.E., Cornell, 1904.

BOYD COE DENNISON, M.E., Instructor in Experimental Electrical Engineering.

M.E., Cornell, 1904. G. E. Co., 1904-05.

SAMUEL RENWICK DODDS, E.E., Instructor in Experimental Electrical Engineering.

E.E., Western University of Pennsylvania, 1903. With P. & L. E. R. R. three years. With Westinghouse Elec. & Mfg. Co. two years. Member A. I. E. E.

GEORGE BURR UPTON, Instructor in Experimental Engineering.

M.E., Cornell, 1904; M.M.E., Cornell, 1905. With D. & H. R. R. Summer 1903. Sigma Xi.

ALBERT EDWARD WELLS, Superintendent of Shops and Instructor in Machine Construction.

Served apprenticeship with Whitney Electric Instrument Co., Sherbrooke, Quebec, 1892-95. Shop Foreman and also in charge of outside erection, Stanley Electric Mfg. Co., Pittsfield, Mass., 1895-98. Superintendent Cunningham Engineering Co., Boston, 1898-1901. Superintendent Detail Department Stanley Electric Mfg. Co., Pittsfield, Mass., 1901-04.

ALTON LEROY STEWART. Instructor in Electrical Experimental Engineering.

Ohio State University, 1904. With Rochester Railway & Light Company, 1904-5.

IRVING COLES PETTIT, M.E. Instructor in Electrical Experimental Engineering.

Cornell, 1903. General Electric Co., 1903-05.

CHARLES HOMER TOWER, S.B. Instructor in Electrical Experimental Engineering.

Worcester Polytechnic Institute, 1905. Stanley Electrical Works, summer of 1905. Instructor in Sibley College, 1905-06. Stanley Electrical Works, summer of 1906.

FRANK ARTHUR BURR, M.E. Instructor in Experimental Engineering.

CURTIS CLARK MYERS, M.M.E. Instructor in Machine Design.

M.E., Cornell University, 1903. M.M.E., Cornell University, 1905. Asst. Engineer Lackawanna Steel Co., 1903-04. Instructor in Machine Design, Cornell University, 1904-05. Designer with Smith Premier Typewriter Co., 1905-06.

WILLIAM EDWARD HOGAN, M.E. Instructor in Machine Design.

M.E., Sibley College, 1906.

MARK LLOYD LOVELL. Instructor in Machine Design.

CHARLES EDMUNDE MANNING, M.E. Instructor in Machine Design.

Cornell University, C.E., 1874-75. U. S. Naval Academy, M.E., 1876-80. Asst. Engineer, U. S. Navy, 1880-88. Inspecting Engineer, U. S. N. Building, U. S. S. Concord, Bennington and 1st Maine, 1888-92. N. Y. Agent Belmont Engine Company, 1892-95. Asst. and Chief Engineer, American Luxfer Prism Company, Chicago, 1896-1901. Erecting Engineer, N. Y. Safety Steam Power Co., Chicago, 1901-02. Instructor Steam Engineering, Lewis Institute, Chicago, 1902-03. Asst. Professor Armour Institute, of Tech., Chicago, 1903-04. Instructor College of Civil Engineering, Cornell University, 1905-06.

GEOEGE CASTLEMAN ESTILL, M.E. Instructor in Machine Design.

M.E., Sibley College, 1906.

JOHN RANDOLPH CAUTLEY, M.E. Instructor in Machine Design.

M.E., Sibley College, 1906.

FRED HUTTON KROGER, M.S. Instructor in Electrical Experimental Engineering.

B.S. University of Colorado 1904. M.S. University of Colorado 1905. Apprentice Course W. F. & M. Co., '05-'06. In charge of Western Tower of Fessenden System of Wireless Telegraphy, '06.

ASSISTANTS.

WILLIAM CARGILL CAPRON. Assistant in Machine Design.

STERLING GRAYDON. Assistant in Machine Design.

HERVEY SMILEY BAILEY. Assistant in Machine Design.

JAMES EUGENE VANDERHOEF. Foreman in Foundry.

Apprentice with Ithaca Mfg. Works, Ithaca, N. Y., 1871-1875. Foreman with Ithaca Mfg. Co., 1875-1877. Worked in Reynold & Lang's, Treman & King's and other foundries, 1877-1886. Foreman of Foundry, Cornell University, since 1886.

WILLIAM FREDERICK HEAD, Foreman in Forge Shop.

Apprentice with David McGibbons, Westport, Pa., 1873-74, with J. B. Hagon, Union, N. Y., 1874-78; proprietor of smithshop, Cooper, N. Y., 1878-81; with Union Hardware Co., Union, N. Y., 1881-83. with Cortland Top and Rail Co., Cortland, N. Y., Foreman, 1883-89; Foreman Cortland Forging Co., 1889-91; Foreman E. D. Clapp Mfg Co., Auburn, N. Y., 1891-92; with Ithaca Forging Co., Ithaca, N. Y., 1892-93; Assistant in Forge Shop, Cornell University, 1893-1901; Foreman of Forge Shop, Cornell University since 1901.

CLINTON BYRON BURKE, Foreman of Woodshop.

Assistant Foreman in charge of repairs, with J. Barker Mfg. Co., Pittsfield, Mass., 1886-89. General Woodwork, with E. B. Hume, Pittsfield, Mass., 1889-1894. Student, 1894-96. Pattern maker, Stanley Electrical Mfg. Co., Pittsfield, Mass., 1896-1904.

ROBERT VANDERHOEF, Assistant in Foundry.

Apprentice with Ithaca Agricultural Works, Ithaca, N. Y., 1872-76. Assistant to foreman with John O. Spencer Mfg. Co., Union Springs, N. Y., 1876-77. Foreman, Ithaca Mfg. Works, Ithaca, N. Y., 1877-83. With various manufacturing companies in Ithaca as foreman and in other capacities, 1883-87. In charge of Sibley College buildings and boiler plant, 1887-91. Assistant in Foundry, Cornell University, since 1891.

WALTER LISTON HEAD, Assistant in Forge Shop.

Apprentice with Cortland Forge Co., 1890-93; with Ithaca Forging Co., 1893-95; with J. B. Williams Drop Forge Co., Brooklyn, 1895-98; with McKay Dorntig Co., Buffalo, 1898-1900; Foreman Canadian Motor Cycle Co., 1900-01; with Ithaca Gun Co., 1901-02; Assistant in Forge Shop, Cornell University, since 1902.

RAYNOR EGBERT SEAMON, Assistant in Wood Shop.

In Cornell University Repair and Construction Shop, 1894-1901. Assistant in Sibley College Pattern Shop, 1901-04.

FRANK A. LYNHAM, Assistant in Machine Shop.

Served apprenticeship with Montpelier & Wells River R. R., Montpelier, Vt., 1888-92. Stationary Engineer in various places, 1892-97. Chief Engineer, Consolidated Lighting Co., Montpelier, Vt., 1897-1900. Mechanician in Experimental Laboratory, Stanley Electric Mfg. Co., Pittsfield, Mass., 1900-04.

FRANK HERBERT THOMPSON, Assistant in Wood Shop.

Served apprenticeship with American Ginning Co., Watertown, Me., 1893-97. Patternmaker with Carver Cotton Gin Co., East Bridgewater, Mass., 1897-1900. Salesman with American Ginning Co., Watertown, Me., 1900-03. Patternmaker with E. D. Jones Sons Co., Pittsfield, Mass., 1903-05.

BIRDETTE NEWTON HOWE, Assistant in Machine Shop.

Served apprenticeship and machinist with Williams Bros., 1889-1902. Machinist with American Locomotive Co., Schenectady, 1902-03. Machinist with Lang & Button, Ithaca, N. Y., 1903-1905.

LEO BARR TURNER, Assistant in Machine Shop.

HOWARD STANLEY BUSH, Assistant in Wood Shop.

GEORGE WASHINGTON RACE, Mechanician in Sibley College.

EDGAR WARREN GREGORY, Mechanician in Sibley College.
MARGARET ISABELLE COLQUHOUN, Clerk in Experimental
Engineering.

CHARLES ALFRED CULLIGAN, Mechanician in Sibley College.
FANNY ELMA MIX, Secretary to the Director of Sibley College.
CHARLES BEDELL, Engineer.

SPECIAL SIBLEY LECTURERS, 1905-06.

Jan. 11.—PRESIDENT SCHURMAN, "Engineering and Other Things."

Jan. 18.—H. G. REIST, "Construction of Steam-Turbine Generators."

Feb. 8.—PROFESSOR E. W. HUFFCUT, "The Liability of an Employer."

Feb. 17.—JESSE M. SMITH, "The Engineer as an Expert Witness before the Courts."

Feb. 24.—PROFESSOR J. H. COMSTOCK, "The General Basis of the Theory of Evolution."

Mar. 3.—WALTER C. KERR, "The New York Extension of the Pennsylvania Railroad."

Mar. 8.—DR. W. R. WHITNEY, "The Production of Light."

Mar. 15.—GUY MORRISON WALKER, "Interurban railways, from an economic standpoint."

Apr. 5.—PROFESSOR J. W. JENKS, "Great Fortunes, their Winning and Use."

Apr. 12.—MR. JOHN H. BARR, "The Manufacture of Interchangeable Machine Parts."

Apr. 19.—PROFESSOR E. H. WOODRUFF, "The Law Regarding Contracts."

Apr. 26.—JUDGE IRVINE, "The General Basis of the Law."

May 3.—MR. E. G. ACHESON, "Discovery and Invention."

GENERAL OUTLINE OF COURSES.

The Sibley College of Mechanical Engineering and Mechanic Arts receives its name from the late Hiram Sibley of Rochester, who between the years of 1870 and 1887 gave \$180,000 toward its endowment and equipment. Mr. Hiram W. Sibley has added more than \$130,000 for later constructions.

The College is organized to train men in the fundamental principles that underlie all mechanical engineering and to give such actual engineering work as may be possible in a technical school. A man must supplement a technical course by experience in practice and contact with life before he can attain his greatest power as an engi-

neer, but an effort is being made in Sibley College to bring the student in contact with teachers fresh from practical experience so that he may become familiar with some of the methods used in modern practice for the solving of engineering problems. It is hoped thus to shorten somewhat the period of adjustment for the graduate when he begins practical engineering work.

The success of an engineer has come more and more to depend upon his ability to meet men of education and culture on equal terms, and since the work of the college is almost purely technical the student before entering upon it should have a thorough general education, and if possible, the training of a liberal college course.

The work of the first two years is common to all students in the College and includes work in pure Mathematics, Physics, Chemistry and Mechanics of Engineering, which are given in other departments of the University, together with the more technical work of the College itself. During the third year, and to a greater extent during the fourth year, opportunity is offered for specialization in different lines of Mechanical Engineering as indicated below.

Sibley College includes the following departments: 1. Mechanic Arts; 2. Machine Design; 3. Experimental Engineering; 4. Power Engineering; 5. Electrical Engineering; 6. Naval Architecture; 7. Marine Engineering; 8. Railway Mechanical Engineering. The work of these departments in outline is as follows:

1. **Department of Mechanic Arts.** The object of the instruction in the department is to familiarize the student with shop methods and processes and the workability of the materials used in engineering construction. The principles of manufacturing and duplication of parts are illustrated by carefully selected exercises while the administration of the shops is expected to give the student a general idea of modern methods of shop operation including time-keeping and pay systems.

In connection with the several courses listed below, suitable talks are given bearing on the extension of the above shop methods and processes to work of larger dimensions than can be illustrated with the college equipment.

Pattern Making. The course begins with a series of graded exercises in wood working designed to give the student familiarity with the tools of the trade and also to teach him to work from dimensioned drawings. These exercises are expected to give him manual skill sufficient to take up the elementary details of pattern making which follow and lead up to the making of complete patterns and core-boxes. Instruction is also given in large pattern work, sweep work, etc., the

aim of the whole course being not only to develop manual skill but to also give the student a good working knowledge of the art of pattern making.

Foundry Work. In the foundry, instruction is given in molding, core-making, mixing of metals, operation of cupola, etc. Such operations as sweep work, etc., are illustrated by suitable working apparatus and the methods and appliances used in the art in large work are fully explained by the instructors in charge.

Forge Work. In the forge shop the student receives manual instruction in forging, tempering, welding, etc., both in iron and steel. The methods used in manufacturing, such as drop hammer work, are illustrated and the application of the principles taught, to large work is fully discussed.

Machine Work. In the machine shop an effort is made not only to train the student manually and teach him correct shop practice, but also to instruct him in the principles of economical manufacturing. Carefully graded exercises are arranged to teach him the use of measuring instruments, hand tools and then machine tools. Manufacturing methods are fully explained and illustrated by modern tools and appliances. The administration of this shop in particular is intended to illustrate as far as possible approved methods of shop operation and give the student a general idea of time keeping, piece work and premium plan, wage systems, etc.

The above instruction is given to a great extent in connection with the construction of commercial machines or parts of same.

2. **Department of Machine Design.** The work in this department begins with instruction and practice in the use of drawing instruments. During the same time the student receives instruction in descriptive geometry, so that by the time he has acquired proficiency in the use of instruments, he is ready to take up the elements of mechanical drawing, and apply the principles of descriptive geometry in making working drawings according to best modern practice in commercial drafting rooms. In the sophomore year the student is taught the principles of mechanism, the drawing room work being closely related to the class room instruction, and consisting of the solution of cams, gearing, linkages, etc., and concluding with the application of the principles discussed to the kinematic design of one or more machines. In the Junior year the student having received instruction in mechanics in the preceding year is ready for instruction in the mathematical side of machine design, and the concluding work of this year consists in the complete design of one or more machines, the student laying out the mechanism on the drawing board and making all calculations

for strength and stiffness required for the complete design of the machine. The work of the Senior year is a more advanced discussion of the work of the Junior year, the student undertaking larger and more complex problems and receiving instruction in the principles of design as applied to manufacturing and the production of work in quantity. In the latter part of the year the student is allowed to elect his own problems, thus giving him a chance to specialize along the lines of his own inclination.

3. **Department of Experimental Engineering.** The work in this department comprises a systematic course of instruction intended not only to give the student skill in the use of apparatus of exact measurements, but to teach him also the best methods of research. Its courses of instruction include the theory and use of machines for testing the strength and determining other valuable properties of the materials of construction, of lubricants, and of fuels, etc., the processes of belt testing, and of power measurement, the standard system of gas and steam-engine and of steam boiler trials. In the electrical section of the laboratories are covered the testing of electric generators, motors, transformers, and other apparatus. Methods of installing electric wires and of standardizing electrical instruments are among the features of this work.

Commercial testing of prime movers or materials is at times done at the University or elsewhere, and affords to such students as are prepared an opportunity for practical experience and investigation.

4. **Department of Power Engineering.** The object of the work of this department is to train the student in the methods of solution of problems involved in design of Heat Engines and auxiliary apparatus considered separately and in combination in Power Plants.

A preliminary course in steam machinery is given, which includes the study of elementary thermodynamics, and of different types of steam engines, steam generators and accessories.

More advanced courses are given which consider the problems involved in Power Plants, with special attention to economic factors.

In the senior year a more extended discussion is given of the principles of design as applied to the steam engine and gas engine. The student makes all calculations necessary for the design of the motor discussed together with complete working drawings.

5. **Department of Electrical Engineering.** The student at the beginning of the third year of the course in Mechanical Engineering may, if he chooses, substitute the special work in electrical engineering for the prescribed work of the regular course. The special work of the third and fourth years comprises the study, under the direction

of the Professor of Electrical Engineering, of the construction, the characteristics of operation and the design of electrical machinery.

The study includes that of the problems involved in the distribution of electric light and the electrical transmission of power, besides practice in every variety of measurement, computation and testing, as applied to the construction and maintenance of electric lighting and power plants, telephone and telegraph lines and cables, and to the general purposes of investigation. By the selection of certain optional courses the student may have special instruction in electric railways, in telephone engineering and in other electrical branches. In the electrical section of the laboratories of Sibley College a very practical course is given under the joint direction of the departments of experimental and electrical engineering.

6. The Department of Naval Architecture. The work of the department has for its object, to provide a course of instruction and opportunities for research in the design, construction, and the propelling of vessels of all classes and types.

As a foundation for the work of the department, the student follows for the first two years the regular Sibley College courses in Mechanical Engineering. During the Junior year special work in Naval Architecture and Shipbuilding is introduced; this, together with a certain amount of work in the department of Marine Engineering, involves about one-third of the time of the year. In the Senior year the work is continued along the same lines to the extent of about one-half and three-fourths the time of the first and second terms respectively. A descriptive outline of the several divisions of the course will be found on page 442.

The undergraduate course is intended to give the student a thorough working knowledge of the fundamental principles underlying the science and a close acquaintanceship with the developments and present-day condition of the art of ship design and construction, so that on graduation he may be fitted to take up with business intelligence and usefulness the work as found in the shops and designing offices of the shipbuilding and naval dockyards of the country.

In the graduate course an opportunity is afforded for further advanced study, research and experiment along special lines relating to the strength, stability, oscillations, resistance, propulsion of vessels, screw propellers and other propelling agents, and at the same time broadening and strengthening the work of the undergraduate course. The methods of work of the graduate year are to a large extent individual, varying with the subject involved, and include directed courses of reading and study, special conferences with the professor, or courses of lectures dealing with the topics under examination.

An important division of the work of the Junior, Senior, and Graduate years consists of model experiments, carried out under the direction of the department, in the Experimental Tank, which is equipped with the latest dynamometric and other apparatus for the measurement of the resistance of planes, ship-shaped bodies, as also the efficiency of screw propellers and other propelling agents. This affords excellent opportunities for important experimental research work in solving the many hydro-dynamical problems encountered in designing vessels of all types.

7. **The Department of Marine Engineering.** This department teaches the principles of operation and the design of the engines, boilers and auxiliary machinery used for propelling ships.

Actual working drawings are made by the student, based on his own calculations, and the work of marine machinery design is carried out, so far as possible, just as it is done in the engineering departments of shipyards. Courses of lectures are given in the Junior and Senior years upon the principles of design and construction of marine machinery, including fire-tube and water-tube boilers, steam engines, steam turbines and the general auxiliary equipment of steamships.

It is the object of the course to give students a working knowledge of marine engineering practice, and to equip them for working into responsible positions in connection with ship and engine building concerns.

Marine engineering students are required to take a considerable amount of work in the department of Naval Architecture and to do experimental tank research work. For detail of the courses, see page 444.

8. **The Department of Railway Mechanical Engineering.** The courses of this department have special relation to the designing, manufacture, service in operation, repairing, and the trials of locomotives and other rolling stock and their equipment; and with the problems connected with the other kinds of machinery employed in railway operation. They are particularly adapted to the needs of the young engineer seeking to find his way into the mechanical departments of railways and into the positions, ultimately, of superintendents of shops and of motive power. These courses are also suitable for those who desire to become locomotive or car builders, as managers eventually of so-called "contract shops"; and for those whose interests lean towards the railway supply business, as the mechanical engineer, superintendent of works, or traveling representatives of firms furnishing equipment, supplies and tools for locomotives, cars and shops.

In addition to the courses offered in Sibley College, as purely professional, there will be found in the scheme of the special courses leading to advanced degrees, opportunities for pursuing work in economics, in law, and in allied professional and scientific departments, in all that great variety characteristic of the University.

The Department so arranges its work, also, as to connect closely with the regular work of Sibley College. In the Junior year the Railway Club becomes available. Juniors who are ahead of their course and have the proper preparation and time, may still further specialize by elections from the senior courses in the Railway Department. In the senior railway year, about half the student's time is devoted to railway subjects. The graduate courses carry the specialized instruction to far greater thoroughness, handling the various problems with the strictly engineering completeness of the actual railway motive power department. Railway seniors, who have the available time, may elect some of this advanced graduate work. In general, with the above additions, the railway course is identical with the regular course in mechanical engineering for the first three years.

Graduates of engineering schools who have had the equivalent of the senior year in the regular course, can take a special graduate year, made up of the senior railway subjects and such electives from the graduate subjects as may be desired.

Particular attention is called to the opportunity offered for practical experience in railway and locomotive shops during the summer vacation. From 1899 there have been about thirty shops open each summer to the students for this three months of work, at wages more than covering expenses, of which from sixty to eighty students of all classes have annually availed themselves, some for three successive seasons. The importance of this work, as preparatory to the courses of the Railway Department, for developing character and self reliance, and for a better standing at the later entrance into permanent positions after graduation, cannot be overestimated.

Inspection trips, accompanied by the head of the Department as field lecturer, are made to important railway and manufacturing centers during the year, with a long tour covering the spring recess, at reduced rates. The shop guides are always from among the highest shop officials, and several lectures are given by such specialists in the course of the tour.

Graduate Work. In all departments advanced work is arranged to meet the special needs of graduate students.

Opportunities for Specialization. Students specially interested in the industrial applications of Physics and Chemistry or in the ap-

plication of Geology and Civil Engineering to Mining may specialize in their senior year in the various courses given in the departments specified. See general outline of studies.

Degrees. Graduates of all departments of Sibley College are given the degree of Mechanical Engineer. If they have specialized in any department a certificate to that effect is also given signed by the head of the department and the Director of the College.

Special Students. Men at least twenty-one years of age who have had a considerable experience in some line of engineering work may be admitted as special students. They will need to have completed the mathematical preparation required of regular students, and may be held for examination in these subjects. No degrees are given to special students; but on fulfillment of all entrance requirements special students may become regular students and candidates for degrees.

Non-Resident Lecturers. Supplementing the regular course of instruction, lectures are delivered from time to time by specialists of the profession.

Persons desiring more information in regard to any subject connected with Sibley College should address the Director of Sibley College.

BUILDINGS AND EQUIPMENTS OF SIBLEY COLLEGE.

The buildings of Sibley College occupy a ground enclosed between East and Central Avenues, at the north end of the Campus, leased from the University for the purposes of the College, under an agreement with the late Hiram Sibley.

The main building of Sibley College is three hundred and seventy feet long, fifty feet in width, and three stories in height. It contains museums, the reading-room, drawing-rooms, lecture-rooms, large and well lighted auditorium, and the class-rooms and offices of the different professors. The workshops are placed in separate buildings and consist of a machine shop, a foundry, a blacksmith shop, and a wood-working shop, and include rooms devoted to the storage of tools. Besides these there is an additional building, one hundred and fifty feet by forty in dimensions, and two stories in height, occupied by the laboratories of the department of experimental engineering, and a building 50 x 70 feet devoted to electrical experimental engineering, besides several basements occupied by different branches of experimental work. The basement and first two floors of Franklin Hall are also occupied by the department of electrical engineering. A separate boiler house 30 feet by 40 feet contains the boilers for the use of the department of experimental engineering.

The Collections of Sibley College are of exceptional extent, value, and interest. A principal room on the first floor of the main building is devoted to the purposes of a museum of illustrative apparatus, machinery, products of manufacturing, and collections exhibiting processes and methods, new inventions, forms of motors and other collections of value in the courses of technical instruction. In this museum is placed a large Reuleaux collection of models of kinematic movements. Besides these are the Schroeder and other models exhibiting parts of machinery, the construction of steam engines and other machines, and a large number of samples of machines constructed to illustrate special forms and methods of manufacture.

A special museum building, 35 by 75 feet, has been erected for the Department of Railway Mechanical Engineering, in which is an important and growing collection of railway appliances, either new, or showing failures in service, or tested in Sibley laboratories. Here is located the Air Brake Instruction Rack and laboratory consisting of the full air brake equipment of locomotive, tender, passenger car (ordinary and "high speed") and 25 freight cars, and six cars' signal, all operated by compressed air from various types of air pumps and compressors.

The Workshops are fully equipped throughout with standard hand and machine tools from reputable makers, the machine tools having been selected with a view of not only giving manual instruction, but also to illustrate modern manufacturing methods. Many of the hand and machine tools are the product of the College shops.

The Sibley College Mechanical and Electrical Laboratories in charge of the department of experimental engineering contain the apparatus for demonstration and experimental research of Sibley College, in which instruction is given and investigation is conducted.

The Mechanical Engineering Section of the laboratory is supplied with the apparatus for testing materials and for experimental work in the determination of the power and efficiency of heat and hydraulic motors, and has facilities for testing the steam and hydraulic power plant employed in driving the machinery of the establishment, boiler testing plant and instruments; and with over twenty machines of the various standard types for testing the strength of metals, including machines of 50, 100 and 150 tons capacity; and one 60,000 and one 200,000 pound Emery machine, of extraordinary accuracy and delicacy. About thirty steam engines, air, oil and gas engines, fourteen dynamometers, ten lubricant-testing machines, about fifty standard pressure gauges and an equally numerous collection of steam engine indicators, together with other apparatus and instruments of

precision employed by the engineer in such researches as he is, in practice, called upon to make, are collected here. A large hydraulic "plant" is employed for experimental purposes and for research. All the motors of the University, and its boilers, amounting to 1000 horse-power, are available for test trials. The steam engines are set up adjacent to the boilers; among them a 200 H.P. "experimental engine," with several of smaller power, including 150 H.P. steam-turbine with dynamo attached, and a 20 H.P. quadruple expansion experimental engine and steam boiler, designed and built by students, and arranged to use with steam at 500 pounds pressure, exhibiting an efficiency without precedent at its date.

The laboratories have a total floor space exceeding 40,000 square feet and they are divided into several departments for instruction and investigation. The department of steam engineering possesses one triple-expansion Corliss engine, one triple-expansion slide valve engine of 60 horse-power, one quadruple-expansion engine and numerous examples of simple and compound engines and pumps; one Parsons steam turbine of 200 horse-power and one De Laval turbine of 25 horse-power capacity; it also contains two Babcock and Wilcox water tube boilers fitted with superheating apparatus, one Heine water tube boiler, one Roberts water tube boiler, one special water tube boiler for 1000 pounds steam pressure and several examples of shell boilers; it has also one Foster superheater; it also contains several surface condensers, heaters, traps and other accessories of a steam power plant; it also contains all apparatus necessary for the complete tests of steam engines and other motors, including about eighty indicators, and a large collection of gauges, thermometers, reducing motions, etc. The department of internal combustion motors includes a very complete collection of hot air engines, gas and oil engines of various types which are sufficient to illustrate all the principal improvements in this art which have been made since the earliest use of a successful gas engine; altogether, the department has fourteen working motors of this type, with all the facilities required for testing. The department of refrigeration and air compression includes one complete refrigerating plant of small size with all apparatus for testing, several air compressors of both the single and two-stage type; several fans and blowers with apparatus for testing; one complete set of air brake apparatus, a rock drill, and a number of compressed air tools; also a meter for the measurement of compressed air. The department of lubrication and friction contains a complete assortment of apparatus for the measurement of friction and the testing of lubricants, including eight oil testing machines; and apparatus for the measurement of viscos-

ity, and other physical properties of oil. It also contains a large collection of transmission and absorption dynamometers for the measurement of power. The department of hydraulic machinery possesses a number of hydraulic motors, pumps, hydraulic rams, and apparatus for testing the same; it also contains a number of small weirs, nozzles, and other apparatus for measuring the flow of water. The department for testing strength of materials is well equipped for this purpose, containing one Emery testing machine of 200,000 pounds capacity, and some twenty other machines ranging in capacity from 300,000 pounds to 50,000 pounds and adapted for the testing by transverse, tension, compression and torsion. The department of engineering chemistry possesses apparatus for making the approximate analysis and determining the heating value of coals; for analyzing flue gases and products of combustion; for the manufacture of small samples of Portland cement, and for testing the strength and other properties of cement.

The Electrical Section of the laboratories is fully supplied with modern apparatus for experimental lectures, laboratory practice, plant testing, standardizing of instruments and investigation. This apparatus has been selected primarily to exemplify modern shop tests and to familiarize the student with the practical apparatus as well as the theory of operation of electrical devices.

In addition to the usual complement of apparatus for demonstration, the lecture equipment includes an air-insulated, high-pressure transformer with necessary regulators for subjecting insulators and insulating material to alternating pressures up to 80,000 volts. This may be supplemented by additional transformers for raising the pressure still higher. A 30,000 volt inductorium provides current for wireless telegraphy. Large cathode ray tubes, supplied from a special multiple plate, power driven static machine, are used for the demonstration of alternating current phenomena. All the standard equipment, as well as many pieces of specially designed apparatus, are employed to show to the classes the operation of the principal laws applied in electrical engineering. Exhibits of apparatus, such as street railway car controllers, rail sections, insulating and line material, etc., are provided in profusion. This list includes a complete outfit for exhibiting in actual operation the multiple system of electric car control. The laboratory apparatus comprises a full complement of modern alternating and direct current machinery of all kinds. The alternating current equipment includes single and polyphase alternators and synchronous motors, induction motors, transformers and all apparatus auxiliary thereto. A large variety of direct current dynamos and

motors suitably mounted for testing, cover the field of direct current machinery. A De Laval steam turbine, geared to a double current generator, a direct-connected marine set and circuit breakers, switches, water rheostats, and other auxiliaries are in use for plant test experiments. The plant testing is done largely outside of the College building, and for this purpose a large variety of ammeters, voltmeters, wattmeters, and other instruments are maintained in adjustment at a high standard of accuracy. These instruments have capacity great enough for testing the largest power plants. Special facilities are provided for the standardization of all electrical apparatus. Board of Trade and Reichanstalt standards of resistance with large current carrying capacity, potentiometers and galvanometers, and reference standards of electro-motive force are among the facilities provided for this purpose. A remarkable set of generators recently installed produces a pressure of 14,000 volts, direct current by connecting in series, and most carefully insulating twenty-four 550 volt dynamos. The pressure thus available opens up a wide field of investigation. In addition to the apparatus in the laboratories, the students may observe in operation a three-phase power transmission in the local power and lighting service. Large direct-connected generators, rotaries, constant current regulators and induction motors, as well as the lighting and railway system are convenient for inspection. The University has recently installed a modern hydro-electric plant containing large three-phase alternators direct driven by Doble impulse water wheels. The power station also contains smaller units for direct current supply with all necessary auxiliary apparatus. This equipment is available for study.

SCHOLARSHIP AND PRIZES.

Sibley Prizes in Mechanic Arts. Under the gift of the late Hon. Hiram Sibley, made in 1884, the sum of one hundred dollars will be annually awarded to those students in the Sibley College who shall, in the opinion of the Faculty of that institution, show the greatest merit in Sibley College work.

The Frank William Padgham Scholarship, covering tuition and fees in Sibley College, will be assigned to the best competing candidate in the scholarship examination in the studies required for entrance to the regular course in Mechanical Engineering, who shall have had his preparatory education in the public schools of Syracuse, N. Y. The holder shall pursue the regular course in Mechanical Engineering in Sibley College, and will be excused from the payment of tuition and the regular Sibley College fee.

This special undergraduate scholarship cannot be held in connection with a New York State scholarship.

REQUIREMENTS FOR ADMISSION.

Elementary Subjects. The following subjects are required for admission to all colleges of the University :

English.	Plane Geometry.
History.*	Elementary Algebra.

Advanced Subjects. In addition to the Elementary Subjects, an applicant must offer from the following list the advanced subjects required by the college to which he seeks admission. The figures following each subject indicate its relative weight :

Mathematics (6)	Latin (18)
Solid Geometry (2)	Latin Grammar and Caesar (6)
Advanced Algebra (2)	Latin Composition and
Plane Trigonometry	Cicero (6)
Spher. Trigonometry } (2)	Virgil (6)
German (12)	Greek (12)
Elementary German (6)	Greek Grammar and
Advanced German (6)	Xenophon (6)
	Greek Composition and
French (12)	Homer (6)
Elementary French (6)	Physics (6)
Advanced French (6)	Chemistry (6)
	Botany (6)
Spanish (12)	Physiography (6)
Elementary Spanish (6)	Zoology (6)
Advanced Spanish (6)	Drawing (6)

For admission to the Sibley College of Mechanical Engineering and the Mechanic Arts an applicant must offer the elementary subjects and also one (30 units) of the following groups of advanced subjects ;

A. Mathematics (6) ; and any two of the following languages : German (12), French (12), Spanish (12).

B. Mathematics (6) ; and German (12) ; and French (6) or Spanish (6) : and any other 6 units from the advanced subjects.

C. Mathematics (6) ; and French (12) ; and German (6) or Spanish (6) ; and any other 6 units from the advanced subjects.

* One of the following : (1) American (including Civil Government), (2) English, (3) Ancient (to 814 A.D.), (4) Mediæval and Modern European (from 814 A.D.).

D. Mathematics (6) ; and German (12) ; and any 12 units in Latin.

[For details as to subjects and methods of admission see pages 33-56.]

For admission to the freshman class and to advanced standing from other colleges and Universities, communications should be addressed to the Registrar. See pages 33-58.

For admission as specials, communications should be addressed to the Director of Sibley College. See pages 56 and 410.

For admission to graduate work and candidacy for advanced degrees, communications should be addressed to the Dean of the University Faculty. See pages 69 and 78.]

COURSES IN MECHANICAL ENGINEERING LEADING TO THE DEGREE OF MECHANICAL ENGINEER.

All courses taught in Sibley College of Mechanical Engineering and Mechanic Arts are identical for the freshman and sophomore years.

REGULAR COURSE,

The letters and figures relate to the departments and courses in Sibley College as described on pp. 437, 446.

Freshman Year.	No.	Course.	1st Term.	2d Term.
Analytic Geometry	2		5 or 5	0 or 0
Differential Calculus	2		0 or 0	2 or 2
Integral Calculus	2		0 or 0	3 or 3
Chemistry	C.	1	6 or 0	0 or 6
Physics	P.	1	0 or 4	4 or 0
Physics	P.	5	0 or 2	2 or 0
Descriptive Geometry	M.D.	2	2 or 0	0 or 2
Drawing	M.D.	1	3 or 0	0 or 3
Pattern making	M.A.	1	0 or 4	4 or 0
Shop methods	M.A.	2	0 or 1	1 or 0
Military Drill			1 or 1	1 or 1

Sophomore Year.	No.	Course	1st Term.	2d Term.
Mechanics of Engineering	C.E.	20	5 or 5	5 or 5
Physical Laboratory	8 and	14	3 or 3	3 or 3
Chemistry		6	5 or 0	0 or 5
Kinematics	M.D.	6	0 or 0	2 or 2
Drawing	M.D.	5	3 or 3	3 or 3
Materials	X.E.	5	2 or 2	0 or 0
Foundry	M.A.	5	0 or 2	2 or 0
Forge	M.A.	6	0 or 2	2 or 0

In addition to the above three hours per week of either Military Drill or Physical Culture must be taken.

COURSES FOR THE JUNIOR YEAR.

The courses in Electrical Engineering, in Railway Mechanical Engineering, in Mining Mechanical Engineering, in Chemical Mechanical Engineering and in Physical Mechanical Engineering are all identical with the Regular Course throughout the *junior year*. The courses in Naval Architecture and Marine Engineering are different from the Regular Course as shown by the note following the schedule of studies.

Regular Course in Effect for Class of 1909 and thereafter.

Study.	No. of Course.	1st Term.	2nd Term
Steam Machinery	P.E. 10	4 or 0	0 or 4
Electrical Engineering Lab.	E.X.E. 10	2-2	2-2
Electrical Machinery	E.E. 11 and 10	0-4	4-0
Machine Design			
(a) Lectures and recitations	M.D. 16	3-3	3-3
(b) Drawing	M.D. 10	2-2	2-2
Mechanical Laboratory	X.E. 11	3-3	3-3
Machine Work	M.A. 10	2-2	2-2
Principles of Manufacturing	M.A. 11	2-2	0-0
Hydraulics	C.E.	0 or 0	2 or 2

Electrical Engineers will take E.E. 10 second term, all others will take E.E. 11 first term.

Junior Class of 1908, will take Physical Laboratory, Physics 8 and 14, 3 hours per term, in place of Electrical Laboratory, E.X.E. 10 as above. During the year 1906-7 Principles of Manufacturing will be taught the first term only and Hydraulics the second term only.

Juniors in Naval Architecture do not take Electric Engineering Laboratory (E.X.E. 10) and take second term, 2 instead of 3 hours of Machine Design (M.D. 16). In addition they take, Ship Design and Construction (N.A. 10), 2 hours first term and 3 hours second term and Naval Architecture (N.A. 11), 1 hour first term and 2 hours second term.

Juniors in Marine Engineering do not take second term Machine Design (M.D. 10 and 16). They take instead Propelling Machinery (Mar. E. 10) 3 hours and Naval Architecture (N.A. 11), 2 hours.

The following tables give the studies for the various courses for the Junior year for the class of 1908 in which the following abbreviations are used: Regular course, M.E.; Electrical Engineering, E.E.; Naval Architecture, N.A.; Marine Engineering, Mar. E.; Railroad Mech. Engineering, R.R.; Physical Mech. Engineering, P.; Chemical Mech. Engineering, C.; Mining Mech. Engineering, M.

Condensed Schedule of Studies, Junior Year for Class 1908.**First Term.**

Study.	No of Course	M. E. R. R. C M.	E. E. P.	N. A.	Mar. E.
Steam Mach. -----	P. E. 10	0	4	0	0
Elec. Mach. -----	E. E. 11	4	0	4	4
Mach. Design -----					
(a) Lec. and Rec. ---	M. D. 16	3	3	3	3
(b) Drawing -----	M. D. 10	2	2	2	2
Mech. Lab. -----	X. E. 11	3	3	3	3
Mach. Work -----	M. A. 10	2	2	2	2
Prin. Mfg. -----	M. A. 11	2	2	2	2
Phys. Lab. -----	P. 8 and 14	3	3	0	3
Ship Design -----	N. A. 10	0	0	2	0
Naval Arch. -----	N. A. 11	0	0	1	0

Second Term.

Steam Mach. -----	P. E. 10	4	0	4	4
Elec. Mach. -----	E. E. 10	0	4	0	0
Mach. Design,					
(a) Lec. and Rec. ---	M. D. 16	2	2	2	0
(b) Drawing -----	M. D. 10	2	2	2	0
Mech. Lab. -----	X. E. 11	3	3	3	3
Mach. Work -----	M. A. 10	2	2	2	2
Hydraulics -----	C. E.	2	2	0	2
Phys. Lab. -----	P. 8 and 14	3	3	0	3
Ship Design -----	N. A. 10	0	0	3	1
Naval Arch. -----	N. A. 11	0	0	2	0
Propelling Machinery	Mar. E. 10	0	0	0	3

Condensed Schedule of Studies, Junior Year for Class 1909.**First Term.**

Study.	No. of Course	M. E. R. R. C. & M.	E. E. and P.	N. A.	Mar. E.
Steam Mach. -----	P. E. 10	0	4	0	0
Elec. Mach. -----	E. E. 11	4	0	4	4
Elec. Lab. -----	E. X. E. 10	2	2	0	2
Mech. Lab. -----	X. E. 11	3	3	3	3
Mach. Design,					
(a) Lec. and Rec. ---	M. D. 16	3	3	3	3
(b) Drawing -----	M. D. 10	2	2	2	2
Machine Work -----	M. A. 10	2	2	2	2
Prin. Mfg. -----	M. A. 11	2	2	0	0
Hydraulics -----	C. E.	0	0	2	2
Ship Design -----	N. A. 10	-	-	2	-
Naval Arch. -----	N. A. 11	-	-	1	-

Second Term,

Steam Mach.	P.E. 10	----	4	----	0	----	4	----	4
Elec. Mach.	E.E. 10	----	0	----	4	----	0	----	0
Elec. Lab.	E.X.E. 10	----	2	----	2	----	0	----	2
Mech. Lab.	X.E. 11	----	3	----	3	----	3	----	3
Mach. Design,									
(a) Lectures	M.D. 16	----	3	----	3	----	2	----	0
(b) Drawing	M.D. 10	----	2	----	2	----	2	----	0
Machine Work	M.A. 10	----	2	----	2	----	2	----	2
Prin. Mfg.	M.A. 11	----	0	----	0	----	2	----	2
Hydraulics	C.E.	----	2	----	2	----	0	----	0
Ship Design	N.A. 10	----	-	----	-	----	3	----	1
Naval Arch.	N.A. 11	----	-	----	-	----	2	----	0
Propelling Machinery	MAR. E. 10	----	-	----	-	----	0	----	3

COURSES FOR THE SENIOR YEAR.

Senior Year. All Courses excepting Naval Architecture (D.)

	No. of Course.	1st Term.	2nd Term.
Steam Engineering	P.E. 20	----- 3	----- 0
Mechanical Laboratory	X.E. 20	----- 3	----- 3
Electrical Laboratory	E.X.E. 28 or 29	3 or 0	0 or 3
Thesis or substitute elective studies as approved by Sibley Faculty (maximum)		----- 0	----- 8

In addition to the above each student in his Senior year must complete *one* of the following groups of studies A—I (except D) :

A. Mechanical Engineering.

	No. of Course.	1st Term.	2nd Term.
Steam Machinery Design	P.E. 21	----- 3	----- 3
Designing and Drawing	P.E. 22	----- 3	----- 3
Elective (See list)		----- 3 or 6	----- 3 or 0

B. Mechanical Engineering.

	No. of Course.	1st Term.	2nd Term.
Machinery and Machine Tools	M.D. 22	----- 2	----- 2
Designing and Drawing	M.D. 23	----- 3	----- 3
Elective (see list)		----- 4 or 7	----- 4 or 1

Elective Studies in Mech. Engineering.	No. of Course.	1st Term.	2nd Term.
Pumping Machinery.....	P.E. 24	0	3
Power Plant Installation	X.E. 21	1	0
Motor Car Construction	X.E. 26	0	1
Internal Combustion Motors	X.E. 24	3	0
Internal Combustion Motor Design	P.E. 25	0	2
Engine Handling	X.E. 23	0	1
Engineering Research	X.E. 22	3	3
Physical, Chemical or Electrical Lab.		3	0
Heating and Ventilating	X.E. 25	0	2
Resistance and Propulsion of Ships.....	N.A. 11	0	2
Experimental Tank.....	N.X.E. 27	0	1
Motor-boat Design.....	N.A. 23	0	1
Refrigerating Machinery.....	X.E. 30	0	1
Steam Boiler Design.....	P.E. 23	0	2
Steam Turbines.....	MAR. E. 21	2	0

C. Electrical Engineering.

Electrical Engineering Laboratory	E.X.E. 28	0 Or 3	3 Or 0
Elec. Eng. Lab. Rec.....	E.X.E. 28	1	1
Electrical Engineering	E.E. 20	2	2
Electrical Engineering.....	E.E. 21	2	1
Elective.....		3	1

D. Naval Architecture

	No. of Course.	1st Term	2nd Term.
Steam Engineering.....	P.E. 20	3	0
Mechanical Laboratory	X.E. 20	3	0
Electrical Eng. Lab.	E.X.E. 28	3	0
Ship Design and Construction.....	N.A. 20	3	4
Naval Architecture.....	N.A. 21	2	2
Propelling Machinery and Equip	MAR.E. 20	2	0
Steam Turbines	MAR.E. 21	2	0
Experimental Tank	N.X.E. 27	1	1
Specifications, Contracts and Cost Systems	N.A. 22	0	1
Electives (including Thesis).....		-	8

E. Marine Engineering.

	No. of Course.	1st Term.	2nd Term.
Propelling Machinery and Equip.	MAR.E. 20	6	4
Steam Turbines	MAR.E. 21	2	0
Naval Architecture	N.A. 20 and 21	1	1
Naval Architecture.....	N.A. 11	0	2
Experimental Tank.....	N.X.E. 27	0	1
Specifications, Contracts and Cost Systems.....	N.A. 22	0	1
Thesis or other Electives.....	Mar.E. 22	0	7

F. Railway Mechanical Engineering.

	No. of Course.	1st Term.	2nd Term.
Railway Machinery -----	R. 20	4	4
Designing -----	R. 21	4	0
Railway Club (elective 2nd term) -----	R. 22	1	(1)
Locomotive Testing (elective) -----	R. 23	(1)	0
Electric Railways -----	E.E. 25	0	2
Electives : Lectures, Designing -----	R. 30, 31	0	3

G. Applied Physics.

	No. of Course.	1st Term.	2nd Term
Alternating Currents -----	Physics 33	2	0
Electrical Measurements -----	Physics 34	3	3
Physics of Trans. of Intelligence -----	Physics 41	1	0
Elective as approved by Sibley Faculty -----		3	3

H. Chemical Engineering.

	1st Term.	2nd Term.
Courses as arranged for with Dept. of Chemistry -----	9	6

I. Mining Engineering.

	1st Term.	2nd Term.
Geology and Mineralogy -----	4	3
Chemistry and Metallurgy -----	5	3

NOTES REGARDING COURSES.

Course in Mechanical Engineering.

This is the regular or fundamental course, from which the other courses differentiate to a greater or less extent, as shown in the various schedules.

Courses in Electrical Engineering.

The courses for the freshman, sophomore and junior years are identical with those in Mechanical Engineering, with exception of the Course in Electrical Machinery, E.E. 10. In the senior year laboratory work is increased, and advanced electrical engineering introduced, as scheduled in Group C. page 434.

Course in Naval Architecture.

The freshman and sophomore years, are identical with the course in Mechanical Engineering. In the junior year slight changes are made in order to begin introductory courses in Naval Architecture as already scheduled. In the senior year the work is scheduled under the heading for "All Courses" and Group D, page 434.

Course in Marine Engineering.

The freshman and sophomore years are identical with the course in Mechanical Engineering. In the second half of the junior year slight changes are made in order to begin introductory courses in Marine Engineering and Naval Architecture, as stated on page 432. In the senior year the work is scheduled under the heading for "All Courses" and Group D, page 433.

Course in Railway Mechanical Engineering.

The freshman, sophomore and junior years are identical with the regular course in Mechanical Engineering. For the work in the senior year see regular course and Group F, page 435.

Railway courses may be elected separately by seniors in other departments or by juniors who may have the proper preparation and time. The following work is advised in the summer vacation.

<i>Summer Vacation.</i>	No. Course.	Time,
<i>Locomotive Shopwork (advised)</i> -----	R. 10	3 months.

Applied Physics.

This course is identical with the regular course for Electrical Engineering during the freshman, sophomore and junior years. The course during the senior year is given in the schedule for "All Courses" and for Group G, page 435.

Chemical Engineering.

This course is identical with the regular course during the freshman, sophomore and junior years. It is given under the headings of "All Courses" and "Group H" for the senior year.

Mining Mechanical Engineering.

This course is identical with the regular course during the first three years. It is scheduled under heading of "All Courses" and Group I, of the senior year.

Courses of Instruction.

The courses in each department are numbered in accordance with the following plan :

Numbers	1 to 4	inclusive	denote	Freshman	subjects.
"	5 to 9	"	"	Sophomore	"
"	10 to 19	"	"	Junior	"
"	20 to 29	"	"	Senior	"
"	30 to 35	"	"	Graduate	"

About three hours in the shops or drawing rooms count as one hour in the schedule.

Unless otherwise noted the courses run continuously throughout the year.

THESIS.

The thesis is intended to represent the results of some special study or investigation, either theoretical or experimental, or preferably both. It is furthermore intended to enable the student to show the results of his training as an engineer, and his capacity for the intelligent study of special or original problems.

Those electing theses must submit their subjects for the approval of the Thesis Committee not later than the Christmas recess, and the theses in complete form must be handed in not later than the 15th of May following.

Departments of Sibley College.

Sibley College is divided into the following departments: (1) Machine Design (M.D.) and Construction (M.A.); (2) Experimental Engineering (Ex.E.); (3) Power Engineering (P.E.); (4) Electrical Engineering (E.E.); (5) Naval Architecture (N.A.); (6) Marine Engineering (Mar. E.); (7) Railway Mechanical Engineering (R.R.)

DESCRIPTION OF COURSES.

Department of Machine Design and Construction.

Machine Construction [M.A.]

1. **Pattern Making.** Use of Wood-working tools; elements of pattern making. Two hours. Daily 8-11, 11-2, 2-5 as assigned. Messrs. BURKE, SEAMAN, THOMPSON, and BUSH.

2. **Engineering Principles.** Lectures. One hour for one term. Discussion during the first half of the term of the general principles that underlie the development and transmission of Energy from Nature's Store, by Professor SMITH. During second half of the term the Application of Energy to Human Use, by Professor KIMBALL.

5. **Foundry Work.** Moulding, casting, mixing of metals, operation of furnaces, etc. Two hours. Daily as assigned, 8-11, 11-2, 2-5. Messrs J. E. and R. VANDERHOEF.

6. **Forge Work.** Forging, welding, tool dressing, tempering, etc. Two hours. Daily as assigned, 8-11, 11-2, 3-5. Messrs. W. H. and W. L. HEAD.

10. **Machine Work.** Use of measuring tools, hand and machine tools, fitting and assembling. Two hours per term, beginning in the

first term. Daily as assigned, 8-11, 11-2, 2-5. Messrs. WELLS, LYNHAM, HOWE and TURNER.

11. **Principles of Manufacturing.** Must be taken in connection with course 10. Theory of measuring and other shop tools; elementary theory of manufacturing; cost and time keeping systems, etc. Two hours first term. Mr. WELLS.

Machine Design. (M.D.)

1. **Drawing.** Freshmen. Nine hours per week for one term. Three hours credit. Either first or second term as assigned. Use of drawing instruments, machine sketching, lettering dimensioning, elements of projection. Assistant Professor BLESSING, Messrs. WILLIAMS, CAPRON, GRAYDON, and BAILEY.

2. **Descriptive Geometry.** Freshmen. Three drawing room periods of two hours each. Two hours credit. Assistant Professor BLESSING, Messrs. CAUTLEY and ESTILL.

5. **Machine Drawing.** Sophomores. Requires course M.D. 1. Three periods of three hours each first term as assigned. Three hours credit. Machine drawing and empirical designing. Messrs. WOOD, HOGAN, LOVELL, and ALBERT.

6. **Kinematics.** Sophomores. Requires course M.D. 2. Must be taken with course 7. Two recitations per week second term as assigned. Two hours credit. Theory of mechanism, linkages, cams, etc. Messrs. WOOD, HOGAN, LOVELL and ALBERT.

7. **Kinematic Drawing.** Sophomores. Requires courses 2 and 5 and must be taken with course 6. Three drawing periods of three hours each second term as assigned. Three hours credit. Messrs. WOOD, HOGAN, LOVELL and ALBERT.

10. **Drawing and Designing.** Juniors. Six hours per week. Two hours credit both terms. Requires course 6 and 7 and C.E. 20. Must accompany course 16. Drawing room problems in elementary design. Proportioning of parts as dictated by stress. Professor KIMBALL, Assistant Professor DARLING, and Messrs. STONE, MYERS and MANNING.

16. **Machine Design.** Juniors. Requires course C.E. 20. Two lectures and one recitation per week. Three hours credit both terms. Design of machine parts as dictated by stress and design of complete machines based on this analysis. Professor KIMBALL, Assistant Professor DARLING, Messrs. STONE, MANNING and MYERS.

22. **Machinery and Machine Tools.** Requires courses M.D. 10 and 16. Seniors. Two hours both terms. Lectures, T., Th., 12. Assistant Professor HESS.

23. **Designing and Drawing.** Requires courses M.D. 10, 16 and P.E. 10. Seniors. Credit, three hours, both terms. Designing of machine tools, transmission and hoisting machinery, etc. Must be accompanied by course M.D. 22. Drawing as assigned. Assistant Professor HESS.

30. **Advanced Designing.** Requires courses M.D. 22 and 23 Professor KIMBALL, Assistant Professor HESS.

Department of Experimental Engineering. [X.E.]

10. **Materials of Engineering.** Sophomores. Two hours. First term. Lectures. M., and W., 12, or F., 12 and S., 8. Professor CARPENTER, Assistant Professor DIEDERICHS, Mr. SAWDON.

11. **Mechanical Laboratory.** Three hours each term. Credit made up as follows: one hour for three hour laboratory period, one hour for written report and one hour for recitation. *Juniors.* Strength of materials, tension, transverse, compression, torsion, and impact testing; calibrating dynamometers, steam gauges, weirs, and meters; oil testing, flue gas analysis, calorimetry, thermometer calibration, and indicator practice; efficiency tests, water motors, centrifugal and steam pumps. Daily except Sat., 2-5 and Sat., 8-11. Recitation as assigned. Professor CARPENTER, Assistant Professor DIEDERICHS, and Messrs. UPTON, BURR, TAYLOR and ———.

20. **Mechanical Laboratory.** Three hours each term. Credit made up as follows: One hour for three hour laboratory period, one hour for written report and one hour for recitation. Seniors. Efficiency tests, steam boilers, steam engines, steam turbines water wheels, air compressor, hot air engines, blowing fans, injectors, refrigerating machinery, electric power stations, and electric apparatus. Application of Hirn's Analysis. Daily except Sat., 2-5 and Sat., 8-11. Professor CARPENTER, Assistant Professor DIEDERICHS, and Messrs. SHIPMAN, RILEY, CARPENTER and ———.

21. **Power Plant Installation and Operation.** Elective. First term. Seniors and Graduates. Lectures. Credit, one hour Professor CARPENTER.

22. **Special Research and Commercial Tests.** Elective. Juniors, Seniors and Graduates. Laboratory practice as assigned. Professor CARPENTER, Assistant Professors DIEDERICHS, KARAPETOFF, Mr. SAWDON and Mr. FORD.

23. **Operation of Engines.** Elective. Seniors. One hour second term beginning at Easter recess. Starting, stopping, adjustment, lubrication, and all problems connected with the practical operation of steam engines, gas engines and air compressors. Hours as assigned.

Professor CARPENTER, Assistant Professor DIEDERICHS, Mr. SHIPMAN and Mr. ———.

24. **Internal Combustion Motors.** Elective. Seniors and Graduates. Three hours first term. Lectures. Theory operation and methods of testing of internal combustion motors with special reference to the practical problems involved. Assistant Professor DIEDERICHS.

25. **Heating and Ventilation.** Elective. Seniors and Graduates. Two hours second term. Lectures. Professor CARPENTER.

30. **Mechanical Refrigeration.** Elective. Seniors and Graduates. Two hours second term with problems in the operation, testing and design of refrigerating systems. MR. SHIPMAN.

26. **Motor Car Construction and Operation.** Elective. Seniors and Graduates. Two lectures, one hour credit, second term. Laboratory work one to three hours, second term. Professor CARPENTER and Mr. ———.

N.X.E. 27. **Ship Resistance and Propeller Experiments.** Elective, second term. Required of Seniors in Naval Architecture and Marine Engineering. Experimental work as assigned. Credit, one hour per term, first term before Thanksgiving, and second term after Easter. Professors CARPENTER, MCDERMOTT and Mr. ———.

E.X.E. 28. **Electrical Engineering Laboratory.** Seniors in electrical engineering. Four hours, first and second terms. Credit made up as follows: two hours for laboratory periods, one hour for one recitation and one hour for preparation of report in addition to the work done thereon under Course 21. Professor CARPENTER, Assistant Professor KARAPETOFF and Messrs. DENNISON, DODDS, FORD, TOWER, PETTIT and STEWART.

E.X.E. 29. **Electrical Engineering Laboratory.** Seniors in mechanical engineering. Two hours, first or second term. Credit made up as follows: one hour for one laboratory experiment and one hour for one recitation per week. Daily except Sat., 2-5 and Sat., 8-11. Recitations as assigned. Professor CARPENTER, Assistant Professor KARAPETOFF and Messrs. DENNISON, DODDS, TOWER, PETTIT, STEWART and ———.

Department of Power Engineering. [P.E.]

10. **Steam Machinery.** Juniors. First term for E.E., second term for M.E. and C.E. Four hours credit for one term. Three lectures and one recitation as assigned. Assistant Professor HIRSHFELD.

20. **Steam Engineering.** Seniors. Theory of steam and other heat engines and treatment of the economic design of Power Plants, Five hours first term. Lectures, daily except S., 11, until Easter recess. Professor SMITH.

21. **Steam Machinery Design.** Requires courses M.D., 10, 16, and P.E., 10. Seniors. Three hours, both terms. Lectures. Assistant Professor BARNARD.

22. **Designing and Drawing.** Requires courses M.D. 10, 16, and P.E. 10. Seniors. Credit, three hours. Both terms. Design of engines, boilers, steam plants, etc. Must be accompanied by P.E. 21. Nine hours drawing as assigned. Assistant Professor BARNARD.

23. **Steam Boilers.** Senior Elective. Lectures and Drawing. Two hours second term. Assistant Professor BARNARD.

24. **Pumping Machinery.** Seniors. Elective. Lectures, daily except S., 11, from Easter till close of second term. Three hours credit. Professor SMITH.

25. **Internal Combustion Motor Design.** Seniors. Elective. Second term. Two hours. Requires course X.E. 24. Professor BARNARD.

30. **Advanced Steam Machinery Design.** Elective. Requires courses S.E. 20, 21 and 22. Work, hours and credit as arranged. Assistant Professor BARNARD.

Department of Electrical Engineering (E.E.)

10. **Electrical Machinery.** Juniors in electrical engineering. Four hours, second term. Recitations in four sections as assigned. One lecture per week on electrical laboratory practice, M., S. Professor NORRIS, Assistant Professors KARAPETOFF and MACOMBER.

11. **Elements of Electrical Engineering.** Juniors in mechanical and marine engineering and seniors in civil engineering and naval architecture. Four hours, first term. Lectures, M., W., F., 8. One recitation in sections as assigned. Professor NORRIS, Assistant Professors KARAPETOFF and MACOMBER.

20. **Electrical Engineering Practice.** Seniors in electrical engineering. Requires E.E., 10, C.E., 20, and junior physics. Two hours, first and second terms. Lectures, T., and S., 8. Professor NORRIS.

21. **Electrical Engineering.** Seniors in electrical engineering. Classroom exercises in structural details, performance characteristics, and other electrical problems. Two hours, first term, one hour second term. Hours as arranged. Assistant Professor MACOMBER and Mr. FORD.

22. **Design of Electrical Machinery.** Requires E.E. 20 and 21, (first term). Seniors in electrical engineering may elect four hours in this course in place of a corresponding number of hours of thesis

work. This will be the only course in electrical machinery design. Second term, Hours as arranged. Mr. FORD.

23. **Generation and Distribution of Electrical Energy.** Requires E.E. 20 and 21 (first term). Seniors in electrical engineering may elect four hours in this course in place of a corresponding number of hours of thesis work. Lectures, recitations and designing. Second term. Hours as arranged. Mr. ———.

24. **Telephone Engineering.** Requires E.E. 20 and 21 (first term). Seniors in electrical engineering may elect four hours in this course in place of a corresponding number of hours of thesis work. Lectures, recitations and laboratory work. Second term. Hours to be arranged. Assistant Professor MACOMBER.

25. **Elements of Electric Railway Practice.** Seniors in railway mechanical engineering. Lectures and recitations. Two hours, second term. Lectures, S., 10. Recitations as arranged. Professor NORRIS.

26. **Electric Railways.** Requires E.E. 20 and 21 (first term). Seniors in electrical engineering may elect four hours in this course in place of a corresponding number of hours of thesis work. Lectures, recitations and laboratory work. Second term, T., Th., and S., 10. Recitations and laboratory periods as arranged. Professor NORRIS.

28. **(E.X.E.) Electrical Engineering Laboratory.** Seniors in electrical engineering. Four hours, first and second terms. Credit made up as follows: two hours for two laboratory periods, one hour for one recitation and one hour for preparation of report in addition to the work done thereon under Course 21. Laboratory and recitations as arranged. Professors CARPENTER and NORRIS, Assistant Professor KARAPETOFF and Messrs. DENNISON, DODDS, TOWER, STEWART, PETTIT and ———.

29. **(E.X.E.) Electrical Engineering Laboratory.** Seniors in mechanical engineering. Three hours, first or second term. Credit made up as follows: two hours for one laboratory experiment and report, and one hour for one recitation per week. Laboratory and recitations as arranged. Professors CARPENTER and NORRIS, Assistant Professor KARAPETOFF, Messrs. TOWER, PETTIT, STEWART, DODDS, DENNISON and ———.

31. **Electrical Engineering.** Special work. Graduate students may register for two hours seminary work in this course. Graduates as assigned. Professor NORRIS.

Department of Naval Architecture. (N.A.)

10. **Ship Design and Construction.** General description of the different types of vessels. Derivation and conception of the "Ele-

ments of Form." Laying down and fairing a vessel's lines. Discussion of the general arrangement, and drawing out skeleton plans in accordance. Study of the functions of the structural elements, and preparation of scantling section according to the rules of the Registration Bureaus, etc. Lectures and office work. Two hours first term. Three hours second term. Professor MCDERMOTT.

11. **Naval Architecture.** Elementary theories underlying the design of vessels. Computations of the geometrical quantities. Initial stability. Credit, one hour first term. In the second term, the fundamental principles of the resistances of ships, and of propellers will be fully discussed, and practical rules deduced thereupon, of value in determining the horse power necessary for propelling vessels; and the most suitable dimensions and proportions of screw propellers.

This course is open as an elective to Seniors outside the department. Credit two hours second term. Professor MCDERMOTT.

20. **Ship Design and Construction.** Advanced study of structural elements. Preparation of various construction plans. Discussion and determination of the Freeboard and Tonnages. Approximate and detail estimates of the weights of vessels and their machinery. Lectures and office work. Three hours first term, four hours second term. Professor MCDERMOTT.

21. **Naval Architecture.** Advanced theories and their practical application, relating to statical and dynamical stability, oscillations and rolling of ships. Strength. Advanced studies of the resistance, propulsion and manœuvering of ships. Illustrative of the preceding, experiments are carried out in the experimental tank on planes moving at different angles, on ship forms, and propellers. (See N.X.E. 26.) Two lectures throughout the year. Professor MCDERMOTT.

22. **Specifications, Contracts, and Cost-Systems.** The leading principles to be observed in drawing up specifications and contracts for steam vessels are fully discussed. Various systems of cost keeping and cost accounts reviewed, and their advantages studied as checks upon the efficiency of production, and as furnishing reliable data for estimating purposes. One lecture per week, second term after Easter. Professor MCDERMOTT.

23. **Motor-boat Design.** Elective. Seniors and Graduates. The work will be largely office work with necessary lectures, illustrative of the fundamental principles of design, and the solution of the problems relating to the propulsion of motor-boats and similar small crafts. One hour second term. Professor MCDERMOTT.

N.X.E. 26. **Ship Resistance and Propeller Experiment.** Required of Seniors in Naval Architecture. Experimental tank work on planes and ship-shape bodies, first term up to Thanksgiving, and on screw-propeller, second term from Easter. Credit, one hour both terms. Seniors in other courses who have elected the second term work in ship resistance and propulsion (N. A. 11) are recommended to elect the second term work in this course, for which they will receive credit of one hour. Professors CARPENTER, MCDERMOTT and Mr. ALBERT.

30. **Ship Design.** Graduate work as assigned. Professor MCDERMOTT.

Department of Marine Engineering. (Mar. E.)

10. **Marine Boilers and Auxiliary Machinery.** General introduction to the study of the machinery used aboard ship. Materials used in marine engineering. Structural design of fire-tube and water-tube boilers. Assisted draft design. Arrangements for using liquid fuel. Auxiliary machinery.—Condensers, pumps, feed heaters, filters and purifiers. Evaporators and distillers. Miscellaneous outfit. Two three hour periods per week second term. Lectures and officework in designing. Three hours credit. Professor THOMAS.

20. **Propelling Machinery and Equipment.** Discussion of the various types of engines. General marine engine design. The balancing of engines. Structural design and laying down of propellers and paddle wheels. Principles of the general arrangement of machinery in the ship. Heating and ventilation of ships. Refrigerating machinery. Use of electricity aboard ship. Specifications, and estimates of weight and cost of machinery. Three lectures and three designing periods during first term. Two lectures and two designing periods, second term. Professor THOMAS.

21. **Steam Turbines.** Classification of turbines and description of leading features of the various types. Mechanical and thermal considerations underlying the action of steam in turbines. Calculations involved in turbine design. Discussion of building, erecting and testing. Adaptability to special conditions of service. Economic results of the use of turbines in engineering practice. Problems in turbine design are worked and handed in by the class, and returned after corrections have been made by the instructor. Two lectures per week during first term. Professor THOMAS.

22. **Seminary.** One hour per week, first term. Professor THOMAS.

30. **Marine Engineering.** Graduate work as assigned. Professor THOMAS.

Department of Railway Mechanical Engineering. (R.)

10. **Locomotive Shopwork.** At least one summer's work in constructing or repairing locomotives or cars is very emphatically advised and considered necessary previous to the railway senior year. Shops for the above are situated in all sections of the country. Wages have been paid to the inexperienced up to \$2.00 per day. Three and one-half months can usually be obtained, though three will be entirely satisfactory. Proper credit, in place of shopwork in the College, will be given after an examination satisfactory to the Department of Machine Design and Construction. Positions can be obtained through Professor HIBBARD.

20 **Railway Machinery.** The problems of the American Railway Mechanical Department, its scope, personnel and equipment, and its relations to the other departments of "Railroading." The designing, manufacture, service in operation, and repairing of locomotives, tenders, cars and their accessories. Lectures, reading, laboratory, and shop visits. Seniors and graduates. Credit, four hours each term. First term, M., T., W., Th., 10. 2nd term M., 8, T., Th., F. 10. Professor HIBBARD.

21. **Designing.** Problems arranged to suit the class of work expected to be undertaken by the student after graduation. Juniors, seniors, and graduates. Four hours (twelve hours in drafting room) per week 1st term. Daily, 8 to 1, as may be arranged. Professor HIBBARD.

22. **Railway Club.** Discussion upon previously assigned railway journals. Special papers and reports. Forming of the individual Card Index. Training in addressing an audience. Juniors, seniors, and graduates. One hour. F., 9. Professor HIBBARD.

E.E. 25. **Elements of Electric Railway Practice.** Required for railway seniors. Two hours second term. See Department of Electrical Engineering.

23. **Locomotive Testing.** "Instruction Tests" of boiler and engine, including traction dynamometer, by courtesy of the Delaware, Lackawanna & Western Railroad, giving acquaintance with the instruments, locomotive connections, and methods of commercial road tests. Open only to railway seniors and graduates, and to juniors who may wish for a preliminary experience without credit. Elective, one hour, first term. Professor HIBBARD.

25. **Locomotive Engineering.** General principles governing all locomotive designing, discussion of the various types into which the modern locomotive has been specialized, practical application of the theories of machine design and steam engineering to the specific prob-

lems of the locomotive as carriage, boiler plant and steam engine, the methods of elimination, selection and computation for principal dimensions of locomotive for a selected service as load, grade, speed, fuel and permanent way, all most largely from the view point of the railroad to secure maximum hauling efficiency and continuous use, coupled with minimum expense of operation, maintenance and repair. Elective for seniors in groups other than Railway. Lectures, one hour per week, M., 12, or S., 12, first and second terms Professor HIBBARD.

30. **Advanced Railway Mechanical Engineering.** Lectures, directed reading investigations, and seminary discussions in amplification of course 20. with selections from the following subjects: (a) Shop and Engine House arrangement, equipment and methods, (b) Organization, methods and records of motive power department, (c) Discipline and management of men in shops, (d) Wage system, (e) Drafting-room management, (f) Motive power supplies, (g) Railway testing and test department, (h) Railway supply business, (i) Freight car design, (j) Compound, superheat and balanced locomotives, (k) Foreign railway engineering, (l) Outlines of railway inception, construction, operation and management. Elective first and second terms. Subjects and hours as arranged in 1905-6 subjects c, d, e, and l were given T., 12, Th., 12, S., 11, second term. Professor HIBBARD.

31. **Plant Designing.** Rolling Equipment, Engine Houses and Shops. Advanced work in computation and drafting room. Seniors second term, and graduates. Elective. Work and hours as arranged. Professor HIBBARD.

THE UNIVERSITY LIBRARY

LIBRARY COUNCIL.

For the purpose of making recommendations to the Board of Trustees in regard to the business administration of the Library, there has been established a Library Council consisting of the President of the University (who is *ex-officio* chairman); the Librarian; one Trustee elected by the Board; and four professors elected by the University Faculty. The Council at present is constituted as follows:

JACOB GOULD SCHURMAN, President of the University.

CHARLES H. BLOOD, of the Board of Trustees.

GEORGE W. HARRIS, Librarian.

GEORGE P BRISTOL,

SIMON H. GAGE,

RALPH C. H. CATTERALL,

LOUIS M. DENNIS,

GEORGE W. HARRIS, Secretary.

} of the University Faculty.

LIBRARY STAFF.

GEORGE WILLIAM HARRIS, Ph B., Librarian.

ANDREW CURTIS WHITE, Ph.D., Assistant Librarian in charge of Classification.

WILLARD HENRY AUSTEN, Assistant Librarian in charge of the Reference Library.

KATHARINE DAME, A.B., Assistant Librarian in charge of the Catalogue.

WILLARD WALDO ELLIS, A.B., LL.B., Curator of the Shelves.

MARY FOWLER, B.S., Cataloguer.

JENNIE THORNBURG, B L., Cataloguer.

ELIZABETH SAGE INGERSOLL, Assistant in the Order Department.

MINERVA AUGUSTA STUBBS, Assistant in the Accession Department

EDITH ANNA ELLIS, B.L., Assistant in the Circulation Department.

BERTHA WILDER, Assistant in the Reference Library.

ALBERT BENNETT CUDEBEC, Assistant in the Reference Library.

HOMER ANDREW WATT, A.B., Assistant in the Reference Library.

GEORGE LINCOLN BURR, A.B., LL.D., Librarian of the President White Library.

HALLDOR HERMANNSSON, Amanuensis in charge of the Icelandic Collection.

ALEXANDER HUGH ROSS FRASER, LL.B., Librarian of the Law Library.

ROY THOMAS STRAHAN, Assistant in the Law Library.

ADAM HEBER WINDER, Assistant in the Law Library.

WILLIAM JACOB DOETSCH, Assistant in the Law Library.

EDNA GLADYS BRYAN, Librarian in charge of the Architectural Library.

The University Library comprises the General Library of the University, the seven Seminary Libraries, the Law Library, the Flower Veterinary Library, the Barnes Reference Library, and the Library of the State College of Forestry. The total number of bound volumes in the University Library is now three hundred and twenty-eight thousand three hundred and ninety-four, distributed as follows :

General Library	280,201
Seminary and Department Libraries	6,256
Law Library	35,997
Flower Veterinary Library	2,836
Barnes Reference Library	1,342
Forestry Library	1,076
Stimson Hall Medical Library	686
	328,394

The General Library of the University, the Seminary Libraries, and the Forestry Library are all grouped under one roof in the Library Building, while the Law Library has separate quarters in Boardman Hall, the Flower Veterinary Library in the State Veterinary College, and the Barnes Reference Library in Barnes Hall.

The University Library Building, the gift of the late Hon. Henry W Sage, stands at the southwest corner of the quadrangle formed by the principal University buildings. It is built of light grey Ohio sandstone, and its construction is fireproof throughout. It is heated by steam from the central heating station, is provided with a thorough system of artificial ventilation, and fully equipped with incandescent electric lights. The extreme dimensions of the building are one hundred and seventy by one hundred and fifty-three feet, and it has a storage capacity of four hundred and seventy-five thousand octavo volumes. The general outlines of the ground plan are somewhat in the form of a cross, the book stacks occupying the southern and western arms, the reading room and periodical room, the eastern, the White Historical Library, the seminary rooms, and the offices of

administration, the northern. The abundantly lighted and handsomely furnished reading room contains ample accommodations for two hundred and twenty readers, and the open book cases around its walls provide shelf-room for a carefully selected reference library of eight thousand volumes. In the basement, beneath the reading room, are stacks for the newspaper and patent collections, the circulating library, and a lecture room, with seating capacity for two hundred and forty auditors. In the tower are placed the great bell of the University, the gift of Mrs. Mary White, the chime of bells, the gift of Mrs. Jennie McGraw Fiske, and the University clock.

The income of an endowment fund of three hundred thousand dollars, the gift of the late Hon. Henry W. Sage, in 1891, devoted to the purchase of books and periodicals, provides for a large and constant increase of the General Library, the average annual additions being now about twelve thousand volumes. The number of periodicals, transactions, and other serials, historical, literary, scientific and technical, currently received, is over two thousand, and of many of these complete sets are on the shelves.

Among the more important special collections which from time to time have been incorporated in the General Library, may be mentioned : THE ANTHON LIBRARY, of nearly seven thousand volumes, consisting of the collection made by the late Professor Charles Anthon, of Columbia College, in the ancient classical languages and literatures, besides works in history and general literature ; THE BOPP LIBRARY, of about twenty-five hundred volumes, relating to the oriental languages and literatures, and comparative philology, being the collection of the late Professor Franz Bopp of the University of Berlin ; THE GOLDWIN SMITH LIBRARY, of thirty-five hundred volumes, comprising chiefly historical works and editions of the English and ancient classics, presented to the University in 1869 by Professor Goldwin Smith, and increased during later years by the continued liberality of the donor ; THE PUBLICATIONS of the Patent Office of Great Britain, about three thousand volumes, of great importance to the student in technology and to scientific investigators ; THE WHITE ARCHITECTURAL LIBRARY, a collection of over twelve hundred volumes relating to architecture and kindred branches of science, given by ex-President White ; THE KELLY MATHEMATICAL LIBRARY, comprising eighteen hundred volumes and seven hundred tracts, presented by the late Hon. William Kelly, of Rhinebeck ; THE CORNELL AGRICULTURAL LIBRARY, bought by the late Hon. Ezra Cornell, chiefly in 1868 ; THE SPARKS LIBRARY, being the library of Jared Sparks, late President of Harvard University, consisting of upward of five

thousand volumes and four thousand pamphlets, relating chiefly to the history of America ; THE MAY COLLECTION, relating to the history of slavery, and anti-slavery, the nucleus of which was formed by the gift of the library of the late Rev. Samuel J. May, of Syracuse ; THE SCHUYLER COLLECTION of folk-lore, Russian history and literature, presented by the late Hon. Eugene Schuyler in 1884 ; THE RHÆTO-ROMANIC COLLECTION, containing about one thousand volumes, presented by Willard Fiske in 1891 ; THE PRESIDENT WHITE, HISTORICAL LIBRARY, of about twenty thousand volumes (including bound collections of pamphlets) and some three thousand unbound pamphlets, the gift of ex-President White, received in 1891, especially rich in the primary sources of history, and containing notable collections on the period of the Reformation, on the English and French Revolutions, on the American Civil War, and on the history of superstition ; THE ZARNCKE LIBRARY, containing about thirteen thousand volumes and pamphlets, especially rich in Germanic philology and literature, including large collections on Lessing, Goethe, and Christian Reuter, purchased and presented in 1893 by William H. Sage ; THE DANTE COLLECTION, containing at present seven thousand volumes, presented in 1893-9 by Willard Fiske ; THE HERBERT H. SMITH COLLECTION of books relating to South America, purchased in 1896 ; a valuable collection of books on French and Italian society in the 16th and 17th centuries, presented by Professor T. F. Crane in 1896 ; THE FLOWER VETERINARY LIBRARY, the gift of ex-Governor Flower to Cornell University, for the use of the State Veterinary College, in 1897 ; THE FISENLOHR LIBRARY, containing about one thousand volumes on Egyptology and Assyriology, purchased and presented in 1902 by A. Abraham ; THE ICELANDIC COLLECTION, containing about eight thousand five hundred volumes, and the PETRARCH COLLECTION, containing about three thousand five hundred volumes, both bequeathed to the Library by the late Willard Fiske, and received in 1905 ; BAYARD TAYLOR'S Correspondence and journals and his collection of Goethe literature presented to the Library in 1905 by Mrs. Marie Taylor.

By the bequest of the late Willard Fiske the Library received in 1906 an endowment fund of about five hundred thousand dollars, the income of which is to be expended for the uses and purposes of the Library.

The library is primarily a reference library, but officers of the University have the privilege of taking books from the library for home use, and this privilege, to a limited extent, is granted to graduate students, and to seniors and juniors. Supplementing the reference

library is a separate circulating library from which books may be taken for home use by any member of the University. A library deposit of five dollars is required from students registering for the home use of books. The library is open on week days, during term time, from 8 A. M. till 10:45 P. M., except on Saturdays, when it is closed at 5 P. M. In vacation it is open on week days from 9 A. M. till 5 P. M.

All students of the University have free access to the shelves of the Reference Library of eight thousand volumes in the main reading room, but apply at the delivery desk for other works they may desire. This Reference Library comprises encyclopaedias, dictionaries, and standard works in all departments of study, together with books designated by professors for collateral reading in the various courses of instruction. In the same room, and accessible to all readers, is the card catalogue of the general library, including also the books in the seminary libraries. The catalogue is one of authors and subjects, arranged under one alphabet on the dictionary plan. Cards of admission to the shelves in the stack-rooms, and to the White Historical Library, will be issued by the librarian to graduate students for purposes of consultation and research, and also to undergraduate students, engaged in advanced work, upon the recommendation of the professor in charge of the work.

Since its incorporation with the general library in 1891, the valuable historical collections of the PRESIDENT WHITE LIBRARY are displayed in a spacious room, in the north wing of the Library building communicating directly with the historical seminary rooms. The White Library is open only to officers of the University, members of the seminaries, and others holding cards of admission. THE SEMINARY ROOMS in the Library Building contain the seminary libraries proper, supplemented by collections of works and periodicals from the general library deposited in these rooms for use in seminary work. Books so deposited in the seminary rooms are available for the use of students in the general reading room, except when in actual use in the seminaries. The books forming the seminary libraries proper are subject to such regulations as may be made for each seminary room by the professor in charge, to whom application for admission to the room must be made. In several of the scientific and technical departments similar collections of reference books have been formed, access to which may be obtained upon application to the department concerned.

The Law Library occupies the third floor of Boardman Hall. It includes the well known library of the late Nathaniel C. Moak, which

was presented in 1893, by Mrs. A. M. Boardman and Mrs. Ellen D. Williams, as a memorial to Judge Douglas Boardman, the first Dean of the College of Law. In reports of the Federal Courts, reports of the several American state jurisdictions, and in English, Scotch, Irish, and Canadian reports, the law library is practically complete to date. The other English-speaking countries are largely represented. The library also possesses a full complement of text-books and statutes, and complete sets of all the leading law periodicals in English, thus offering facilities for scholarly research second to none in the country.

The Barnes Reference Library was presented to the University by the late Alfred C. Barnes for the use of the Cornell University Christian Association, and occupies a room in Barnes Hall. It is distinctly a reference library, and its books are not to be taken from the room in which they are placed. As a library of Biblical literature it is intended to include, in the fields of history, biography, archæology, the history of religions, and theology, only such works as may be directly serviceable for the interpretation and understanding of the Biblical texts. The collection now numbers 1342 volumes, all fully catalogued as part of the University Library. There is also a printed catalogue of accessions prior to 1898, and an author catalogue on cards is kept for the use of readers in Barnes Hall. After the death of the donor his children gave to the University, for the maintenance and increase of the collection, an endowment of five thousand dollars.

BIBLIOGRAPHY.

The following courses are offered for 1906-07 :

1. **Introduction to the Use of Books.** A systematic study of Bibliographies, Indexes, Dictionaries, Cyclopædias, etc., including the principles of classification, cataloguing, indexing and preparing manuscript for printing. Lectures and exercises. First half year. T., 2:30.

1 a. Laboratory work covering the same subjects as course 1, intended for students wishing more of the practical work. Open to students who have had course 1. One afternoon from 2:30 to 5, each week. Second half-year. Assistant Librarian AUSTEN.

2. **General Bibliography.** The materials and form of books in ancient times; books in the middle ages, block books, early printed books, illustrated by examples of manuscripts and incunabula; book-illustration, book bindings; form-notation; systems of classification and cataloguing; general bibliographical aids. Second half-year. Lectures. T., 12. Mr. HARRIS.

THE SAGE CHAPEL AND BARNES HALL

By the terms of the charter of the University persons of any religious denomination or of no religious denomination are equally eligible to all offices and appointments ; but it is expressly ordered that " at no time shall a majority of the Board of Trustees be of any one religious sect or of no religious sect." Religious services, provided for by the Dean Sage Preachership Endowment, are conducted in Sage Chapel by eminent clergymen selected, in the spirit of the charter, from the various religious denominations. These services are supplemented by the Christian Association, a voluntary organization of students and professors formed for their own religious culture, and the promotion of Christian living in the University. It has a permanent secretary and a carefully selected biblical library. Bible study courses are carried on throughout the year. A committee of the Association, in attendance at Barnes Hall during the first week of each year, assists new students in the matter of rooms, board, examination schedule, etc.

The Sage Chapel was given to the University in 1873 by the Hon. Henry W Sage. In 1884 the University and estate of Jennie McGraw Fiske joined in erecting, upon the north of the original chapel, the Memorial Chapel, in memory of Ezra Cornell, John McGraw, and Jennie McGraw Fiske, whose remains there repose. In 1898 the University reconstructed the auditorium, or chapel proper, doubling the seating capacity, previously four hundred, and added the Memorial Apse, in memory of the original donor, the late Henry W. Sage, and as a repository of his remains and those of his wife, Susan Linn Sage, at whose suggestion the original gift was made. In 1903, through the generosity of Mr. William H. Sage, the chapel was not only again enlarged by the erection of an additional wing on the north side for the organ and choir loft, but in addition, the whole interior was subjected to an elaborate scheme of redecoration (the work of Cottier & Co. of New York), so that Sage Chapel is now one of the most beautiful places of worship in America. During the same year a beautiful Caen stone pulpit of elaborate design was erected in the Chapel "In memory of Dean Sage, 1841-1902, Founder of the Preachership in this chapel," by his surviving family.

The **Sage Chapel** proper, or auditorium, is in the Gothic style, built of red brick, with elaborately carved stone trimmings. There are two north and two south gables, each containing a rose window of ten feet diameter with stone tracery. In the west gable, which, with half the nave, is all that now remains of the old chapel, is a wheel window. The arched window formerly in the east end of the nave is now in the Memorial Apse. The place of the old tower, south transept, and east half of the nave is now included in two parallel transepts covering a space 64x66 feet.

The **Memorial Chapel**, built in the Gothic style of the second or decorated period, has exterior walls of red brick with stone trimmings, and interior walls of Ohio stone and yellow brick. It contains rich memorial windows by Clayton and Bell of London, designed to commemorate the connection of Mr. Cornell, Mr. McGraw and Mrs. Jennie McGraw Fiske with the University and to associate their names with other great benefactors of education in older times. Directly beneath the north window is a recumbent figure of Ezra Cornell, in white marble, of heroic size, by William W. Story of Rome; near the entrance, a smaller recumbent figure, that of Mrs. Andrew D. White, also in white marble, by Ezekiel of Rome.

The **Memorial Apse** is a semi-octagon, opening into the auditorium by a massive cut stone arch. The interior walls from window sills upward are of stone. The oaken ribs of the ceiling are carried on stone columns with carved capitals, supported by corbels. Below the line of the windows the wall of the Apse is covered by a scheme of Venetian mosaic, the work of Messrs. J. & R. Lamb of New York, which forms one of the most extensive schemes of figure mosaic yet attempted in this country. Processions of the Arts and the Sciences, impersonated in the figures of beautiful young women with appropriate symbols, lead up through Truth and Beauty, respectively, to a seated figure of Philosophy, "Philosophia", in the central space, over whose knees is unrolled the scroll of wisdom which he has been contemplating. On the vaulted ceiling above are emblazoned the symbols of Heaven, where angels and archangels stand or kneel in worship before the mysteries of the Cross. The heroic figures of the ceiling are depicted on a dark blue background. In the lower portion, the figures, which are all life-size, stand before a green hedge, with their faces depicted against a sky of gold.

Barnes Hall, the gift of the late Alfred S. Barnes, Esq., of New York, is the home of the Christian Association. This building is one hundred and twenty feet by eighty feet in dimensions, and three stories in height. The material is brick, with trimmings of Ohio

stone, brown stone, and granite. On the north, the main entrance is marked by a graceful tower rising to a height of one hundred feet. The building contains a secretary's room, assembly room, library, reading room, and all other needed accommodations for the work of the Association, in addition to a University trophy and lounging room, which has been recently fitted up on the first floor, and a spacious auditorium, which occupies a large part of the second floor. Besides the auditorium, there is a smaller class room on this floor, the two being separated by a screen which in case of need is easily removed, thus throwing the entire second floor into one hall, and furnishing seating room for one thousand persons. The rooms are open daily from 8 A. M. to 8 P. M. to all students.

THE CORNELL INFIRMARY

INFIRMARY COMMITTEE.

The Infirmary has been placed by the Board of Trustees in charge of a standing committee which consists of

ROGER B. WILLIAMS, of the Board of Trustees, Chairman,
JACOB GOULD SCHURMAN, President of the University,
EMMONS L. WILLIAMS, Treasurer of the University.

The Cornell Infirmary is the former mansion of the late Henry W. Sage, Chairman of the Board of Trustees. Its establishment is recorded by an inscription in the hall, which reads as follows: "This house built by Henry Williams Sage and occupied by him for seventeen years, was, at his death in 1897, endowed and given to Cornell University for a students' infirmary, as a memorial to their father, by his sons, Dean and William Henry Sage."

The building is a structure of Medina brownstone, 96 x 88 feet, including verandas and porches, and three stories in height, besides basement and a high attic. Through the first floor from south to north runs a wide hall having on the right a sitting room for young women, dining room, pantry and kitchen, and on the left the library, used as a sitting room for young men, the Matron's office, bathroom, lavatory, telephone closet, and Matron's room. The height of these rooms is 12½ feet in the clear. On the second floor are six large rooms for the sick, two large bathrooms, a small nurses' kitchen, linen closets, a large room for surgical work, with an instrument room containing sink, cold and hot water, and a slop closet not connected with the bathrooms. The rooms on this floor are 11 feet high in the clear. The third floor contains the smoking room, three large rooms for patients, two nurses' rooms, two servants' rooms, a bath room, nurses' kitchen, and slop closet. These rooms are 10½ feet in the clear. There is a balcony opening from one third-story sick room, upon which a bed can be rolled. The basement contains a laundry, servants' bathroom and heating apparatus. The house is supplied throughout with gas and electric lighting, and heated by a system of hot water.

The building is at all times available as a home for students suffering from any except contagious diseases. Room, nursing, and ordinary food are furnished to such students in the general ward for \$1.00 per day, with an extra charge for special rooms, special foods, and special nursing. In the course of the year 1905-06, 367 students were admitted.

ATHLETIC ASSOCIATION.

The Cornell Athletic Association is an independent organization incorporated under the laws of the State of New York. Its board of trustees is composed of one representative from the Executive Committee of the Board of Trustees, and four from the Faculties of the University, with one member at large, who together with representatives of the alumni, and eight students representing officially the different branches of athletics, besides the representative of the undergraduate wearers of the "C," and the representative of the Minor Athletic Sports Association constitute the Athletic Council. The Association owns Percy Field, the boats and boat houses, a steam launch and other athletic equipment. The Association issues an annual membership ticket on the payment of \$10 00. The holders of these membership tickets are entitled to free admission to every local athletic contest under the management of the Association, which includes all games of baseball, football and track. Members are also entitled to first choice of reserved seats, no reserved seat tickets for games or boat races being sold until the members of the Association have been supplied with the seats they require. No further subscription toward the support of athletics is solicited from holders of membership-tickets. The Athletic Council is charged with the active management of the athletic interests of the University. The graduate treasurer is custodian of the funds belonging to the Association and to the various branches.

Fifty-five acres of land adjoining the University campus have been set aside by the trustees of the University for a new University Playground and Athletic Field, the construction of which has been undertaken by the Alumni.

Officers.

FRANK IRVINE..... President
 CHARLES HAZEN BLOOD..... Graduate Treasurer
 JOHN LAWSON SENIOR..... Graduate Manager-Secretary

Members.

CHARLES HAZEN BLOOD..... Executive Committee
 DAVID FLETCHER HOY..... At Large
 EDWARD LEAMINGTON NICHOLS..... Faculty
 BLIN SILL CUSHMAN..... Faculty
 FRANK IRVINE..... Faculty
 ALBERT WILLIAM SMITH..... Faculty
 JOHN LAWSON SENIOR..... Graduate Manager
 JULIAN ALBERT POLLAK..... "C" Representative
 HENRY JOSEPH MILLER..... Navy Manager
 WILLIAM GORTON TAYLOR..... Commodore of Navy
 EDMOND SWAIN BROWN..... Baseball Captain
 WILLIAM JOHN DUGAN..... Baseball Manager
 GEORGE TANDY COOK..... Football Captain
 HAROLD FLETCHER WARDWELL..... Football Manager
 HOWARD MAXWELL ROGERS..... Track Captain
 FRANK CAREY CHAPMAN..... Track Manager
 LOU BAKER CLEVELAND..... "Minor Sports" Representative

SUMMER SESSION.

JULY 5TH TO AUGUST 15TH, 1906.

[The Summer Session of 1907 will begin July 4 and close Aug. 14.]

OFFICERS.

JACOB GOULD SCHURMAN, LL.D.,
President of the University.
GEORGE PRENTICE BRISTOL, A.M.,
Director of the Summer Session.
DAVID FLETCHER HOY, M.S.,
Registrar of the University.

GEORGE WILLIAM KNOX, D.D.,
(Professor in Union Theological Seminary, New York)
University Preacher.

FACULTY FOR 1906.

CHARLES EDWIN BENNETT, Litt.D., Professor of Latin.
ISAAC MADISON BENTLEY, Ph.D., Assistant Professor of Psychology.
ERNEST BLAKER, Ph.D., Assistant Professor of Physics.
ALBERT WILHELM BOESCHE, Ph.D., Instructor in German.
GEORGE PRENTICE BRISTOL, A.M., Professor of Greek.
ARTHUR WESLEY BROWNE, Ph.D., Instructor in Chemistry.
GEORGE LINCOLN BURR, LL.D., Professor of Mediæval History.
RALPH CHARLES HENRY CATTERALL, Ph.D., Professor of Modern European History.
JOSEPH HERSCHEL COFFIN, A.M., Assistant in Psychology.
ANNA BOTSFORD COMSTOCK, B.S., Lecturer in Nature Study.
JOHN HENRY COMSTOCK, B.S., Professor of Entomology and General Invertebrate Zoology.
HIRAM CORSON, LL.D., Professor of English Literature, Emeritus.
STANLEY COULTER, Ph.D., (Professor of Biology, Purdue University), Nature Study.
BLIN SILL CUSHMAN, B.S., Instructor in Chemistry.

- ARTHUR DAVIS DEAN, B.S., (First Assistant, Technical High School, Springfield, Mass.), Manual Training.
- LOUIS MUNROE DENNIS, B.S., Professor of Inorganic Chemistry.
- MELVIN DRESBACH, M.S., Instructor in Physiology.
- CHARLES REDWAY DRYER, A.M., (Professor in Indiana State Normal School, Terre Haute, Ind.), Physical Geography.
- ELIAS JUDAH DURAND, D.Sc., Instructor in Botany.
- AMOS WILLIAM FARNHAM, (Teacher and Supervisor, Oswego State Normal School), Home and Grammar Grade Geography.
- WILLARD JAMES FISHER, A.B., Instructor in Physics.
- WILLIAM BENJAMIN FITE, Ph.D., Assistant Professor of Mathematics.
- CHARLES WELLINGTON FURLONG, Drawing and Design.
- PAUL FREDERICK GAEHR, A.M., Instructor in Physics.
- OTIS AMSDEN GAGE, Ph.B., Instructor in Physics.
- LUDWIG REINHOLD GEISSLER, B.Lit., Assistant in Psychology.
- OTHON GOEPP GUERLAC, Licencié ès lettres, Assistant Professor of Romance Languages.
- WILLIAM FREDERIC HEAD, Foreman in Forging.
- ALBERT ROSS HILL, Ph.D., (Professor of Educational Psychology, and Dean of the Teachers College, University of Missouri), Education.
- JOHN IRWIN HUTCHINSON, Ph.D., Assistant Professor of Mathematics.
- JEREMIAH WHIPPLE JENKS, LL.D., Professor of Political Economy and Politics.
- OSCAR AUGUSTUS JOHANNSEN, Ph.D., Assistant Professor of Structural Engineering.
- GEORGE WILLIAM JONES, A.M., Professor of Mathematics.
- DEXTER SIMPSON KIMBALL, A.B., Professor of Machine Design.
- BENJAMIN FREEMAN KINGSBURY, Ph.D., Assistant Professor of Physiology.
- ALEXANDER DYER MACGILLIVRAY, Ph.D., Instructor in Entomology.
- CHARLES ALEXANDER McMURRY, Ph.D., (Director Northern Illinois Normal School), Education.
- THEODORE CLARENCE MITCHILL, A.M., (Head of Department of English, Boys' High School, Brooklyn, N. Y.), English Composition and Rhetoric.
- GEORGE SYLVANUS MOLER, B.M.E., Assistant Professor of Physics.
- CHESTER MURRAY, Ph.B., Instructor in Romance Languages.

CLARK SUTHERLAND NORTHUP, Ph.D., Assistant Professor of English Language and Literature.

ENERETT WARD OLMSTED, Ph D., Assistant Professor of the Romance Languages.

MILES ALBION POND, Ph.B., Instructor in Civil Engineering.

HUGH DANIEL REED, Ph.D., Instructor in Vertebrate Zoology.

WILLIAM ALBERT RILEY, Ph.D., Instructor in Entomology.

WILLARD WINFIELD ROWLEE, D.Sc., Assistant Professor of Botany.

RAYNOR EGBERT SEAMAN, Assistant in Wood Shop.

JOHN SANFORD SHEARER, Ph.D., Assistant Professor of Physics.

RALPH EDWARD SHELDON, Assistant in Zoology.

RALPH CUTHBERT SNOWDON, A B., Instructor in Chemistry.

EDWARD LAWRENCE STEVENS, A. M., (Associate Superintendent of Schools, New York City), Education.

HARVEY WATERMAN THAYER, Ph.D., (Preceptor in German, Princeton University), German.

WILLIAM CHARLES THRO, A. M., Instructor in Histology.

EDWARD BRADFORD TITCHENER, LL.D., Sage Professor of Psychology.

JAMES EUGENE VANDERHOEF, Foreman in Foundry.

CAMILLO VON KLENZE, Ph.D (Associate Professor of German, University of Chicago), German.

LUCIEN AUGUSTUS WAIT, A. B., Professor of Mathematics.

ALBERT EDWARD WELLS, Superintendent of Shops.

RAY HUGHES WHITBECK, A. B., (Supervisor New Jersey State Normal School, Trenton), Physical Geography and Geography Methods.

KARL MCKAY WIEGAND, Ph.D., Instructor in Botany

JOHN T. WILLIAMS, Instructor in Mechanical Drawing.

HENRY WILKES WRIGHT, Ph.D., Instructor in Logic.

ALICE WYSARD, Sage Chapel Organist.

GENERAL STATEMENT

OBJECT OF THE SUMMER SESSION.

The primary object of the instruction given in the Summer Session is to meet the needs of the following classes :

I. **Professors and Teachers** in colleges and schools, **superintendents**, and **supervisors** of special branches of instruction.

As the announcements of the different departments show, there is a wide range of work possible. In general this work is either advanced, and therefore suited for specialists who desire to pursue their individual investigations and study, or is of a more elementary character adapted to teachers who wish to start in a new field. In addition to the instruction of the class-room, full opportunity is afforded both of these classes by the ample facilities of the University's libraries, laboratories, and shops, all of which are open for their use. For superintendents and supervisors there are also courses in administration, and in general and special methods, besides lectures on educational philosophy and theory.

II. **College Students** in Cornell or other universities who wish to use some of the "long vacation." In the case of graduate students, some of the work offered may be counted toward an advanced degree. Undergraduates may anticipate work and thereby shorten their course, or may make up existing deficiencies. The conditions for receiving credit, and the amount which may be obtained, are stated below, p. -

III. **Students entering** the University and wishing to obtain advanced credit at entrance, or to complete the entrance requirements. It often happens that students have in June more or less than the requirements for admission to college. The Summer Session affords them the opportunity either to add to their surplus, and so, in some cases, to gain a year in time ; or to make up their deficiency.

IV. **All persons qualified** to pursue with profit any course given, whether or not they are engaged in study or teaching.

APPLIANCES AND FACILITIES.

All of the plant of the University, so far as it is needed, is available for use during the Summer Session, and students have all the advantages which the large and well equipped laboratories and shops, the

museums and collections of material, and the magnificent library afford. For all students whose study involves out-of-door work the opportunities offered by the country immediately around the University can hardly be surpassed. Few students who have done field-work at Cornell have failed to be enthusiastic over the subject, or to express the highest satisfaction at the way in which real work and enjoyment of nature are combined.

ADMISSION—ATTENDANCE—REGISTRATION.

There is no examination for admission to the Summer Session. Each person must, however, satisfy the instructor in charge of any course (unless it be elementary) that he is qualified to pursue the work. Any duly registered student of the Summer Session may visit such classes as he desires. Admission to the class-rooms is restricted to duly registered students. Persons wishing to have work done during the Summer Session counted towards an advanced degree must conform to the regulation stated under the heading "Credit for Work," page 463.

All students are required to register at the office of the Registrar, Room 9, *Morrill Hall*, *Thursday, July 4, 9 a. m.—5 p. m. or immediately upon arrival, if they reach Ithaca later than July 4.* The office is open from 9 a. m. to 4 p. m. every day except Saturday when it is closed at noon.

TUITION FEE.

The single tuition fee for the entire Summer Session, whether one course or more be taken, is \$25. This must be paid at the office of the Treasurer, Room 1, *Morrill Hall*, within five days after registration day. In case of withdrawal, for reasons satisfactory to the Treasurer and the Registrar, within five days from the first registration day, the tuition paid may be refunded and the charge cancelled. In case of withdrawal within two weeks of the first registration day, one-half the tuition paid may be refunded. In case of registration after the first three weeks of the session, students must pay two thirds of the full tuition fee. No student is admitted without the payment of this fee. Sibley College students taking shopwork are not exempted. Admission to classes is restricted to duly registered students.

LABORATORY FEES.

Chemistry. A fee is charged for material actually consumed, and the student must make such deposit with the Treasurer as the instructor may prescribe.

Physics, Botany, Physiology. In each of these departments the fee is at the rate of \$1 for every five hours per week per term (or part thereof) of work in the laboratory. The entire amount must be paid to the Treasurer at the beginning of the term.

Physical Geography. For course G a fee of \$1 must be paid in advance to the Treasurer to cover incidental expenses of the course.

Shopwork. The fee for shopwork is at the rate of \$1 for every eight hours of actual shopwork per week of the Summer Session (or part thereof). This must be paid in advance to the Treasurer. Students registered in Sibley College during the previous year are not required to pay this fee.

Vertebrate Zoology. See under Vertebrate Zoology, courses A and B, page 491.

Photography. See under Physics, course 18, page 482.

Library Deposit. See under Library, page 465.

ACADEMIC CREDIT FOR WORK.

In College of Arts and Sciences. The requirements for the degree of Bachelor of Arts are residence for eight terms (four years), and the completion of 120 hours of elective work. A student who has satisfied the entrance requirements of the College, and has afterward completed in two or more summer sessions at least 12 hours of work in courses approved by the departments concerned, may be regarded as having thus satisfied one term of residence. Under no circumstances shall work done in summer session be accepted as the equivalent of more than one term of residence, or be counted for more than twelve hours toward graduation. The maximum amount of credit which is allowed for the work of any *one* summer session is seven hours.

In other Colleges of the University. The nature and amount of credit allowed in these for summer session work may be learned from the statements made in connection with the announcement of each course.

In Graduate Department. In order that work done by resident students in the Summer Session shall be credited towards an advanced degree, permission to this effect must be obtained from the faculty before the work is undertaken. Application for such permission must contain a detailed statement of the conditions under which such work is to be performed, and bear the approval of the professor in charge, as well as of the special committee.

This application must be made through Dean T. F. Crane, as Chairman of the Committee on Graduate Work.

Certificates for Work Done. Students of the Summer Session who are not matriculated in the University may receive certificates of attendance and of work satisfactorily performed. These certificates will bear the signature of the Registrar of the University, and also, *if requested*, that of the professor under whom the work has been done.

Application for them must be made before August 15, and the applicant must leave at the office of the Registrar a large sized envelope, stamped and directed to his home address. The certificate will then be forwarded by mail. The regulations of each department for the granting of a certificate must be met in every case.

The Department of Education of New York City will accept these certificates in place of examinations in certain subjects for teachers' licenses.

COST OF LIVING.

The cost of living in Ithaca during the Summer Session runs from \$5 per week upwards. In some cases the cost has been reduced to \$4.50, or even to \$4, but it is not safe to count upon less than \$5.

The price of a single furnished room may be as low as \$1 per week, and from this the prices advance with the size and location of the rooms.

The price of table board runs from \$4 and \$4.50, in boarding houses, to \$7 and \$10 at the hotels. Room and board at the hotels costs from \$10.50 up.

The University has one residence hall, the Sage College, and this will as heretofore be opened through the summer session for women and for married men accompanied by their wives. The price of rooms in Sage College is from \$1 to \$2.50 per week, according to location, and of table board \$4. The entire capacity of the building is usually engaged in advance, and early application for accommodations is therefore advisable.

This should be made to the Manager, Mr. G. F. Foote, Sage College, Ithaca, N. Y. Every application for a room to be reserved must be accompanied by a deposit of \$5, otherwise the application is not registered. The amount of this deposit is deducted from the rent if the room assigned be occupied by the applicant; it is refunded if the applicant give formal notice to the manager on or before June 15th that it is desired to withdraw the application altogether.

Without special permission, no person will be allowed to room in Sage College or Sage Cottage during the Summer Session unless registered as a student in the Summer Session.

The whole expense of attendance at the Summer Session, not in-

cluding laboratory fees, may be estimated as follows: Lowest \$50, Medium \$60, High \$75.

A selected list of lodging and boarding houses in the vicinity of the University, with their prices, will be published, about April 1st next, as a part of a handbook of general information to be issued by the Cornell Christian Association. Copies of this book will be furnished free upon application to the Secretary of the Association, Mr. A. L. Thayer, Barnes Hall, Ithaca, N. Y.

THE LIBRARIES.

The University Library Building is open on week days from 9 A. M. to 5 P. M. In this are housed the main library, containing about 300,000 volumes, and most of the seminary and department libraries. The main reading room affords accommodations for over 200 readers, and contains a selected library of over 8,000 volumes of reference works. Adjacent to it is the periodical room in which are kept the current numbers of about 500 journals in various fields of knowledge. The library has complete sets of most of these which form one of its most valuable features. These rooms are open to all students. Students properly qualified are allowed the use of the seminary rooms and of the books in them. The main collection is primarily a library of reference for use in the building. Students are, however, allowed to a limited extent to take out books for home use. Persons wishing this privilege must make a deposit of \$5, which will be refunded upon the return of all books taken out. There are special libraries of Chemistry, in Morse Hall, and of Anatomy and Physiology, in Stimson Hall, which are open to students in these departments.

BARNES HALL.

This building stands in the center of the university grounds, and is the home of the Cornell Christian Association. It contains the offices of the association, several lecture rooms, and a library room with a choice collection of works on Biblical Literature. There is also a general reading room, supplied with papers and magazines, and a lounging room for men, and also for women. Students coming to the summer session may have their mail addressed to them here if desired. The building is open every day.

The Christian Association will issue about April 1st a small hand book of information for prospective students. This will be mailed upon application to the Secretary, Mr. A. L. Thayer, Barnes Hall, Ithaca, N. Y.

**GENERAL LECTURES. MUSICAL RECITALS.
READINGS.**

There will be a series of lectures during the summer session on successive Wednesday evenings. These will be free to all persons. The general subject treated in 1906 was the questions of national importance connected with race mixture, and with immigration into the United States.

Musical recitals on the organ in The Sage Chapel will be given each Tuesday and Thursday evening during the session.

Professor Hiram Corson gave illustrative readings from Shakespere every Monday at 8 P. M. in Barnes Hall.

RAILROAD ROUTES AND RATES.

Ithaca is reached by either the Lehigh Valley or the Lackawanna railroad. By the latter a branch leaves the main line at Owego. Through trains run from New York and Buffalo on the Lehigh, and through sleeping cars run daily from New York on both roads. From Philadelphia (Baltimore, Washington and the South *via* the Baltimore & Ohio), the Philadelphia & Reading connects with the Lehigh at Bethlehem. On the Lehigh through trains for Ithaca connect with the New York Central at Auburn and Canastota, and with the Pennsylvania and Erie at Elmira.

From points in Trunk Line Passenger Association territory a special railroad rate of a fare and a third will be granted students of the Summer Session. This reduction can be obtained only by application when buying tickets to Ithaca. For full information, and for directions as to form of application, apply to the Registrar, Cornell University.

From remoter points summer excursion tickets may be obtained.

COURSES OF INSTRUCTION.

The following pages contain a statement of the work carried on in the Session of 1906. Similar courses, with an extended range of work, will be offered in 1907. For fuller information address the Registrar, Cornell University, Ithaca, N. Y.

EDUCATION.

A. Principles of Education. Lectures, discussions, and readings. Daily except Saturday, 11:00. *White 10.* Professor HILL.

This course aims to lay the basis for a scientific theory of education, through a study of the fundamental principles—philosophical, psychological and sociological—on which educational procedure should rest. Special attention is given to the principles that determine the organization and curriculum of secondary education.

B. Educational Aspects of Psychology. Daily except Saturday, 9. *White 10.* Professor HILL.

This course presupposes an elementary course in general psychology, and outlines a system of functional psychology with indications of its significance to education. Some of the topics dealt with will be: instinct and impulse, habit, association of ideas, memory, purposive thinking, voluntary action and character.

C. School Organization and Management. Lectures, discussions, and conferences. Daily except Saturday, 10. *White 10.* Superintendent STEVENS.

This course will include a consideration of the problems found by the teacher, the principal, or the superintendent in organizing and conducting a public school. The following topics, among others, will be discussed:

The child, his nature and needs; the atypical child; classification and grading of pupils; the course of study and grading of a school; promotions; programs; the school building; the class room—school hygiene; the teacher, training, selection, tenure, salary; the improvement of the teacher; the recitation; the study period: examination of classes and inspection of the teacher's work; text-books, their selection, and their use; school records and reports; discipline; rewards and punishments; moral training; the helpful principal; the school and the needs of the public; finance of school management.

D. Special Method in Common School Branches. The selection and sequence of subjects in Literature and Reading, Language, History, Geography, Elementary Science, Arithmetic and Manual Arts. Daily except Saturday, 8, or at such hour as may be found more convenient. *White 9.* Professor MCMURRY.

1. Special problems in various studies: The place and value of Literature in early grades. The use of complete stories and poems as wholes in upper grades.

2. Excursions in Geography and Nature Study.

3. Type studies in Geography, History and Elementary Science.

4. The essential elements of Manual Training.

5. A simplified course in Arithmetic. Illustrative lessons in various studies. Criticism and discussion of lessons presented. Application of general principles to class work.

E. The Course of Study in the Elementary School. Brief history of the Common School in the United States. Daily except Saturday, 9, *White 9.* Professor MCMURRY.

Forces which have shaped our present Course of Study. The present aims of the Common School and the relative worth of studies for accomplishing them. The over crowding of the Course of Study. The basis for selecting materials in the different studies. The simplification and organization of the Course of Study.

Useful eliminations and economics in the present course. The helpful relation of studies to one another in the general plan.

The value of a detailed course of study to teachers. A carefully graded course: Advantages and defects. Relation of the Course of Study to text books, reference books and libraries.

State Courses of Study. Courses for ungraded schools. The adaptation of a course of study to local needs. Teachers need to survey the course of study as a whole.

PSYCHOLOGY AND LOGIC.

Psychology.

A. General Psychology: Lectures and Exercises. M., W., F., 9. Text-book: Titchener's *Primer of Psychology*. Professor TITCHENER. Three or five hours.

This course is intended to serve as a general introduction to the study of psychology from the experimental point of view. After a consideration of the subject-matter, method and problem of psychology, mental states and processes are discussed in detail, in the order of increasing complexity. The first part of the course treats of

sensation, affection and attention : the second part, of perception and idea, association, emotion, and the simpler forms of action ; the third part, of memory and imagination, thought and self-consciousness, sentiment, and the complex forms of action. Wherever it is possible, the lectures are illustrated by experimental demonstrations. Two concluding lectures deal with the psychology of the abnormal, and with the province and relations of psychology as a whole.

If only the lectures and examinations are taken, this course counts as three hours : if the prescribed exercises are done, it counts as five hours.

B. General Psychology : Laboratory Practice. M., W., F., 2:30-5, with prescribed work on literature and record books. Text-book : Titchener's *Experimental Psychology, Qualitative*. Assistant Professor BENTLEY, Mr. COFFIN and Mr. GEISSLER. Five hours.

In this course, the student repeats for himself, under experimental conditions, certain of the classical observations of human psychology. A wide range of selection is offered as regards individual experiments ; but the work will be restricted, for the most part, to experiments upon sensation and perception, affective process, attention and impulsive action. The course counts as five hours.

C. Abnormal and Animal Psychology. M., W. F., 8. Assistant Professor BENTLEY. Five hours.

The first part of the course will cover the typical forms of mental abnormality. The lectures will define and illustrate the terms 'abnormality,' 'derangement,' 'mental disease' and 'alienation,' and will discuss, in order, (1) minor mental derangements (illusions, hallucinations, dreams and hypnosis); (2) the more serious and permanent disorders (including hysteria, epilepsy, and the various insanities), and (3) deficient and exceptional minds (congenital blindness and deafness, color-blindness, aphasia, general arrested development, the phenomenal chess-player and calculator, the genius, the habitual criminal and the degenerate'). The last part of the course will include lectures on the psychology of selected animal forms (*e. g.*, unicellular organisms, the ant, the frog, the sparrow, the cat and the monkey). Besides an analysis of the animal consciousness, the course will include a discussion of the origin and development of mind in the race at large.

The lectures (three a week) will be supplemented by collateral reading, abstracts, and occasional essays by the student. This course may be taken along with Course A, and counts as five hours.

D. Advanced Psychology. Essays and prescribed reading; quantitative laboratory work ; laboratory problems. Hours to be

arranged. Professor TITCHENER, Assistant Professor BENTLEY, Mr. COFFIN and Mr. GEISSLER.

Logic.

Elementary Logic. Daily except Saturday, 10, *White 5*. Dr. WRIGHT. Text-book: Creighton's *Introductory Logic*. This course is intended to give the student a general knowledge of Elementary Logic. In introduction the standpoint and problem of Logic are briefly considered. Then the more essential and practical parts of Deductive Logic are taken up for study. The nature of syllogistic reasoning is explained and reference is made to the different classes of fallacies with the rules for their detection. Selected arguments are examined to give practice in the detection of fallacies. The second part of the course is devoted to a study of Inductive Logic. The inductive procedure of science is especially considered. The different methods of scientific induction, (Observation, Enumeration, Experiment, etc.) are analyzed and discussed. In conclusion an outline is given of modern theories of Judgment and the Evolution of Thought. Mention is made of the light thrown by the concept of evolution upon the nature of thought and the process of knowledge.

ENGLISH.

A. Literature.

Lectures and Illustrative Readings. Daily ex. S., 12. West Dome, *Barnes Hall*. Professor CORSON.

Course in Shakespeare :

Two lectures on Shakespeare bibliography.

Three lectures on the Chronological order of the Plays as determined by the evolution of the blank verse, etc.

Three lectures on the told element and the perspective of the Plays, and the moral spirit as exhibited in the dramatic movement.

Two or more lectures on the features of Shakespeare's dramatic art which distinguish it from that of the contemporary dramatists.

Special lectures on the *Midsummer Night's Dream*, *Merchant of Venice*, *Romeo and Juliet*, *King John*, *Much Ado about Nothing*, *Hamlet*, *Macbeth*, *Antony and Cleopatra*, and *Winter's Tale*.

The lectures will present the informing ideas of these plays, which must be read by the students in advance of the lectures.

The subjects of the interpretative readings, to be given every Monday evening during the Summer Session, in the main auditorium of Barnes Hall, will be announced from week to week.

Course in Milton :

Reading of Lycidas, with annotations, and commentary on the allegorical features of the Monody.

Two lectures on the artistic constitution of the Paradise Lost, and the special educating value of the poem.

One or two lectures on the organic pause-melody of the blank verse,

Two or more lectures on the English Sonnet—in which will be specially treated the Sonnets of Shakespeare, Spenser, Milton, Wordsworth, and Mrs. Browning.

Two lectures, with illustrative readings, on Bible elocution.

Course in Robert Browning :

This course will occupy the remaining time of the Summer Session. Students are requested to read, in advance of it, the following poems : 'My Last Duchess,' 'Popularity,' 'The Flight of the Duchess,' 'Old Pictures in Florence, Andrea del Sarto,' 'Fra Lippo Lippi,' 'Abt Vogler,' 'Childe Roland to the dark tower came. Rabbi Ben Ezra,' 'Saul, and A Death in the Desert.'

It may be found necessary in order to get over the whole course during the six weeks of the Summer Session, to reduce the number of lectures on some of the subjects.

Every student, attending the course, and wishing credit, will be required to hand in his or her original notes, and also the same carefully copied and expanded.

B. Composition and Rhetoric.

Lectures, Discussions, Conferences, and Theme Writing.
Daily except Saturday, 9. *White 6.* Mr. MITCHILL.

This course is designed primarily for teachers of English in secondary schools and for those intending to take up that line of work. At the same time it will be of profit to teachers in almost any school grade as well as to such as desire merely to improve their power of expression in language.

The course will consist, in the main, of lectures, discussions and conferences. Theme writing will be carried on to an extent to be determined by the needs of the individual student. The ground to be covered is indicated in the New York State Syllabus in English for Secondary Schools. After a general survey of rhetoric and of the various types of composition, attention will be paid to the nature of class-room work in these subjects. This will include a consideration of the elements of the complex term composition ; the points in the course where instruction in each of these elements should be emphasized, the kind and amount of work in rhetoric and composition to be done during each half-year of the secondary school course ;

the means of arousing the interest and the diligence of large classes, the pupils of which differ widely in equipment and tastes; the methods of developing progressive power in the individual pupil; and plans for reducing to the minimum the drudgery of theme correction without loss of efficiency in instruction.

For a more detailed study of class-room problems there will be arranged a weekly conference to be held at such time as may be most convenient for those taking the course.

While not absolutely essential, it is advisable that all students be fairly well acquainted with rhetoric and English composition as these subjects are presented in good modern text-books, and that they have a general knowledge of the *required literature* of the New York State Syllabus in English for Secondary Schools.

C. The History of the English Language.

Lectures on the relation of English to the other Indo-European languages, on the history of English sounds, inflections, and syntax, and on the various influences, both incidental and universal, which have helped to mould the standard speech. The class will read and discuss Jespersen's "Growth and Structure of the English Language." There will also be some reading of early authors, including Chaucer, to illustrate important changes in the language. Daily except Saturday, 10, *White 6*, Assistant Professor NORTHUP.

FRENCH.

A. **Grammar and Reading** for beginners. The grammar used will be that of *Fraser and Squair*. The object of the course is to give to those who have had no French the opportunity of learning the essentials of grammar and reading, which require, as a rule, almost a whole year's study. To accomplish this end very intensive work must be done. Two recitations a day will be held, with sufficient time between the two for the preparation of the second lesson, and the student is expected to devote his entire time to the subject. Daily, 8 and 12, *White 13*. Assistant Professor OLMSTED.

B. **The Rapid Reading of the Advanced Requirements** for admission in French:

Victor Hugo's *Les Misérables* (Super), Cameron's *Tales of France*, Kuhn's *Selections from the Poetry and Comedies of Alfred de Musset*. In addition to the reading required, the grammar will be reviewed and some time will be devoted to composition work. The purpose of this course is to enable those who have had the elementary requirement for admission to make up by extra work the advanced require-

ment. Two recitations a day will be held, with sufficient time between the two to enable the student to prepare for the second recitation. Students taking the course are expected to devote their entire time to the work. Daily, 8 and 12, *White 5*. Mr. MURRAY.

C. Conversation and Composition. The course is carried on entirely in French. It is intended for students and teachers having had at least two years of French and wishing to train their ear and tongue to the practice of the language. The work consists of daily drill in composition and conversation, frequent themes, short talks by the students on French literature and a rapid course in French history and institutions. Daily exc. Sat., 9, *White 13*. Assistant Professor GUERLAC.

D. Readings from Modern French Authors. A rapid reading course of French comedies and novels, with introductory talks, comments and general explanations in French. The course is intended to impart facility in reading French without translating. Important present day writers will be read and discussed. M., W., F., 11, *White 13*. Assistant Professor GUERLAC.

E. Lectures in French. These lectures dealing with present day problems of French literature, criticism, history, are intended to familiarize the students with some important topics of general and timely interest, but mainly to accustom them to hear spoken French. T., Th., 11, *White 13*. Assistant Professor GUERLAC.

GERMAN.

A. Elementary German Grammar and Translation. The text-books in this course will be Bierwirth's *Beginning German* and Hewett's *German Reader*. The object of this course is to afford an opportunity for those who have had no German, to master the essentials of the grammar and translation during the period of the Summer Session. An opportunity will thus be presented for those whose preparation in German is inadequate, to do the entire work in elementary German (German 1), required for admission. Two recitations a day will be held with ample time between the two for the preparation of the second lesson. The student is expected to devote his entire time to this subject. Daily, 8 and 12, *Morrill 6*. Dr. THAYER.

Dr. Thayer will be in attendance in *Room 6, Morrill Hall, T., Th.*, at 9, to afford special assistance to students who desire it.

B. The Rapid Reading with comment of the Advanced Requirements for Admission in German: Freytag's *Journalisten* Schiller's *Wilhelm Tell*, Goethe's *Hermann and Dorothea*. The purpose of this course is to enable students who are deficient in the

advanced requirements for admission to make up by extra work the entire amount required in this course. Two recitations a day will be held, with a sufficient interval to enable the student to prepare for the second recitation. Students electing this course are expected to devote their entire time to this subject. Daily, 8 and 12, *Morrill 13*.
Dr. BOESCHE.

Dr. Boesche will be in attendance in *Room 13, Morrill Hall, T., Th.*, at 9, to afford special assistance to such students as desire it.

C. The Evolution of German Lyrical Poetry. As the lyrical poetry of Germany faithfully reflects the intellectual and political ideas of the German nation, the course will attempt a survey of the cultural life of Germany during the eighteenth and nineteenth centuries. The work will include the reading of texts, lectures in German and the preparation of papers by the members of the class. Daily exc. Sat., 10, *Morrill 5*. Professor VON KLENZE.

The texts used will be : Klenze, *Deutsche Gedichte*. H. Holt & Co. Tille, *German Songs of To-day*. MacMillan Company. For collateral reading : Scherer, "Geschichte der Deutschen Literatur," last edition. This book costs about two dollars.

D. Advanced Composition. This course aims to cultivate in the students a feeling for German style. The materials for composition will be taken from Paszkowski's "Lesebuch zur Einfuhrung in die Kenntniss Deutschlands und seines geistigen Lebens," a book which deals with various phases of modern cultural life in Germany. Daily except Saturday, 9, *Morrill 5*. Professor VON KLENZE.

Text-book : Paszkowski's *Lesebuch*, 2d edition. Berlin, 1905.

GREEK.

A. Course for Teachers. The following topics are treated in lectures and practical exercises :

a. The elements of phonetics, and the analysis of sounds in Greek and in English. Theory and practice in the pronunciation of Greek. The development of the alphabet. The relation of Greek to Latin and to English. The knowledge of linguistics essential for a teacher. Anatomical preparations are used to study the physiology of speech, and selected Greek and Roman inscriptions to illustrate the development of the alphabet.

b. The teaching of Homer. Special consideration will be given to these points : The language, the metre, the principles of interpretation, the aim and method in translating, the English translations from Chapman to the present. The most helpful editions of the *Iliad* and other auxiliary works will be examined, with special attention to re-

cent school editions. Selected portions of books I–VI will be studied.

Daily except Sat. 8. *White 3 B.* Professor BRISTOL.

B. Lyric Poetry. Reading of selections from Hiller-Crusius *Anthologia Lyrica*. Discussion of literary questions, and of the aspects of Greek social life thus presented. Daily except S., 9. *White 3 B.* Professor BRISTOL.

Prospective students are advised to procure a copy of this text before coming to Ithaca. It is published by Teubner, Leipzig, and may be had of G. E. Stechert, New York, or of any importer of German books.

LATIN.

A. Course for Teachers.

a. *Pronunciation.* A brief discussion of the evidence in support of the Roman method. Practice in pronunciation and in the reading of Latin verse.

b. *Orthography.* Discussion of the standard of spelling and the orthography of special words.

c. *Hidden Quantity.* Means of determining the quantity of hidden vowels.

d. *Syntax of the Moods, especially the Subjunctive.* Meanings of the subjunctive in independent sentences. Development of the dependent clauses. Discussion of some of the more difficult constructions. Classification of examples found in parts of the preparatory authors.

e. *Purposes and Methods of Preparatory Study of Latin.* Why is Latin of value to the secondary student? The elementary work. In what order should the preparatory authors be read? The study of Caesar. Latin composition.

This course will be conducted largely by lectures. Prospective students should bring editions of Caesar, Cicero, and Virgil. Daily except Sat., 9, *Morrill 3.* Professor BENNETT.

B. Reading of the Captivi of Plautus and the Andria of Terence. The translation and interpretation of these plays will be accompanied by a study of their metrical forms, by reading the Latin and by lectures on the development of ancient comedy. Daily except Sat., 10. *Morrill 3.* Professor BENNETT.

HISTORY AND POLITICAL SCIENCE.

History.

A. American History. The United States from 1850 to the present. Primarily for teachers. Attention will be given first to the slavery conflict, pointing out the growth both of the sentiment for

and of the sentiment against slavery. Beginning with the Compromise of 1850, a study will be made of the publications pro and con; the Kansas Nebraska Act, with the repeal of the Missouri Compromise; the Struggle in Kansas; the Congressional conflicts; the futile attempts at further compromise and the secession of the Southern States. The War will then be discussed briefly. The period of Reconstruction, on the other hand, will be treated at some length, taking up both the Northern and the Southern side of the question; the amendments to the Constitution; the Carpet-bag invasion; the Ku-Klux Klan; the withdrawal of Federal control, and present day conditions. A brief survey will then be given of the later industrial and colonial growth of the United States. Daily except Saturday 9, *Morrill II*. Professor CATTERALL.

B. European History. The History of Europe from 1815 to the present. This course will be devoted almost entirely to the history of continental Europe, English history being treated only in so far as it affects continental affairs. A rapid survey will be made of the settlement of Europe by the Congress of Vienna; the aims and acts of the Holy Alliance; the Revolution in Greece; the Revolution of 1830; the Revolution of 1848; the growth of Prussia under the leadership of William I and of Bismarck; the second French Empire; the War between Austria and Prussia; the Creation of the Austro-Hungarian Monarchy; the war between France and Prussia; the founding of the third French Republic; the establishment of the German Empire; the Colonial projects of the Powers; the Revolutionary movements in Russia; the war between Russia and Japan, and the present situation in Russia. Daily except Sat., 11, *Morrill II*. Professor CATTERALL.

C. The Age of Renaissance and Reformation, 1453-1555. A study of the beginnings of modern life and thought, with especial attention to the rise of intellectual and religious liberty. The course will deal with the birth of the modern states; the rise of absolute monarchy; the revival of letters, of art, and of science; the advent of firearms and of printing; the age of discovery; the revolution in religion and in society; the beginnings of tolerance and of freedom of thought. Daily except S., 10, *Barnes Hall*. Professor BURR.

D. Historical Method. A practice course preparatory to the teaching of history and to historical research. The course will discuss the nature, the scope, and the aims of history; the methods and resources of the historical teacher; the processes of historical investigation, criticism, and interpretation, the literature of history as a science and as an art. The class will be a co-operative one, and all its

members may expect to be set definite tasks. Daily except Sat., 8, *Barnes Hall*. Professor BURR.

E. Palæography and Diplomatics. Professor BURR will be glad to give instruction, should any desire it, in the reading of historical manuscripts and the interpretation of historical documents. Place and hours to be arranged to meet the convenience of such a class.

POLITICAL SCIENCE.

A. The Principles of Government. This course is designed especially for teachers of Civil Government. For those who wish to pass examinations, readings will be assigned covering the main facts in Civil Government, as indicated in the Regent's Syllabus. In the classroom, however, the emphasis will be laid upon the discussion of the nature of Politics, of the State, and of Government; the relations of Politics to History, Geography, Economics, and other social sciences; the political motives of rulers and citizens; the nature of the suffrage; the principles of representation; the nature of the work of the legislative, executive, and judicial branches of the Government; as well as the study of written and unwritten laws governing international relations, and the best method by which adult citizens and pupils may be led to see the nature and importance of their work as citizens. The aim, of course, is not so much to give facts as to consider methods of teaching, and especially the best methods of training pupils for citizenship. M., T., W., 8, *Morrill 12*, and one two hour session each week for special discussion led by students. The hour for this seminary work will be arranged at some time most convenient for the class, presumably either in the afternoon or evening. Professor JENKS.

B. Practical Economic Questions. In this course, after a preliminary discussion of the nature of industrial society and of methods of economic study, the class will take up for more detailed investigation some important economic questions, most of which will be of present day interest; such, for example, as the Government Regulation of Railway Rates, Trusts and Monopolies, the Wage Question, Emigration and Immigration, the Protective Tariff, the Race Problem, etc.

The purpose of the course is, primarily, to suggest to teachers methods of investigating economic problems and methods of teaching Economics. It is thought that the best results in so short a course can be secured, especially for teachers who are familiar with the general principles of the subject, by a somewhat detailed study of a few special questions rather than by an attempt to cover the whole field. M., T., W., 9, *Morrill 12*, and one session of two hours at some time to be arranged at the convenience of the class. Professor JENKS.

MATHEMATICS.

A. Elementary and Advanced Algebra. An advanced course on the elementary principles of Algebra. (a) Parts of Jones' Drill book in Algebra. Daily ex. Sat., 10. *White 21.* Professor JONES.

(b) Lectures on the theory of equations, series, and measures and multiples. M., W., F., 11. *White 21.* Professor JONES.

B. Solid Geometry. Books VI-IX, Phillips and Fishers' *Elements of Geometry*. Daily except Sat 9. *White 17.* Assistant Professor FITE.

C. Trigonometry. An elementary course covering parts of Jones' Drill Book in Trigonometry. (a) Plane Trigonometry. Daily except Sat., 8, *White 21.* Assistant Professor HUTCHINSON.

(b) Spherical Trigonometry T., Th., S., 11. *White 21.* Professor JONES.

D. Analytic Geometry. An elementary course covering parts of Tanner and Allen's Analytic Geometry. Daily ex. Sat., 12. *White 22.* Professor WAIT.

E. Differential Calculus. An elementary course covering Snyder and Hutchinson's Differential Calculus. Daily except Sat., 11. *White 22.* Professor WAIT.

F. Integral Calculus. An elementary course covering Snyder and Hutchinson's Integral Calculus. The leading topics treated are: The first principles of integration, methods for integrating rational fractions, trigonometric, exponential, and irrational functions; definite simple and multiple integrals; applications to geometry, particularly to determining areas, lengths of curves, and volumes. Two sections. Daily except Sat., 8 and 11, *White 17.* Assistant Professors HUTCHINSON and FITE.

Courses A, B, and C are equivalent to the advanced entrance requirements in engineering and architecture.

Courses D, E, and F are equivalent to the courses in mathematics required of freshmen in engineering and architecture.

PHYSICS AND PHOTOGRAPHY.

Most of the courses announced below are given during the year as regular University work. Both recitation and laboratory work will be adapted as far as possible to meet the individual needs of teachers who wish to review special portions of the subject or who are unable to take complete courses.

The work will be given during the Summer of 1906 in the New Physical Laboratory for the first time.

Courses recommended for teachers are 1, 5, 6 and 10 and those having the requisite preparation to pursue more advanced work with advantage may take Courses 14, 25 or 25a.

Regular University students may receive credit on any of the courses corresponding to the work of the regular year and requirements for entrance to any of these courses for such students will be the same as during the regular school year. (See end of each course announced for amount of possible credit.)

Course 18 in Practical Photography may be taken by anyone registered in the summer school, but if University credit is desired a knowledge of Physics and Chemistry, such as may be expected of students who have completed Course 1 in each subject will be required.

A. 1. Lectures in General Physics. The aim of this course is to show the experimental basis of physical science. The work covers one-half of that given during the regular year and no previous knowledge of Physics is required. For those who possess a general knowledge of the subject and for teachers the course will afford a review useful for laboratory and advanced work and giving suggestions as to means of illustration of essential phenomena of Physics which may be applicable where the equipment is much less extensive. The topics for 1906 will be Mechanics, Heat and Electric Current. Daily except Saturday at 12. Assistant Professor SHEARER.

University credit for this course is 2 hours.

5. Recitations in connection with Lecture Course 1. This course combines supervision of lecture note books and explanation of points not fully covered in the lectures. Suitable exercises and problems with references to text-books will be given in connection with this course. Daily except Saturday at 8. Mr. GAGE.

University credit 1 hour.

6. Recitations for those who have completed Course 1 or Courses 1 and 5 or their equivalents. This course is intended to develop the theory of the subject and to give a fairly rigid drill in its applications. Considerable attention will be given to graphic methods and to problems. Watson's Text Book of Physics will be used. The first half of the work of the regular year will be covered in 1906.

Daily except Saturday at 9. Mr. GAGE. University credit 2 hours.

8. Recitations in General Physics. This course is intended for those students who have had the requisite elementary training in general physics and who wish to pursue the subject more in detail with a view to going into more advanced work in Physics or into engineering. The work in recitations is to be accompanied by work

in the laboratory in course 14. Courses 1 and 5 or 1 and 10 lead up to this course. During the summer session this course will not be given *but Course 6 may be substituted for it.*

See Course 6 for time of recitations and topics to be covered during the summer session of 1906.

10. Physical Laboratory. This course is one primarily designed for teachers of elementary physics and those students who desire to study more thoroughly elementary physical principles in the various branches. In general the simpler forms of apparatus are used but of such a grade as to adapt them to the needs of careful investigators. In general the apparatus is not set up, in order that the student may get the practice not only of making observations but also of making things go. The apparatus available affords study in units and their relations, statics, kinetics, molecular physics, light, sound, electricity and magnetism. For the work in the summer session courses may be arranged at the beginning of the term for each individual student covering as many or as few of the general divisions of the subject as seems desirable. These courses may be varied to meet the needs of the students as the work progresses, as in all cases individual instruction is given, and it is not necessary for any two students to follow the same outline. The idea is to make the work as flexible as possible giving each student work in his chosen line.

Occasional discussions of general interest may be held covering such subjects as methods of making observations and of using them to the best advantage, accuracy of results, computations, errors, the interpretation of data by means of curves, the theory of particular experiments and such other topics as may come up from time to time.

University students having the requisite requirements for admission to course 10 in Physics as given in the Register for the year 1905-06 may elect this course, following the schedule prescribed for regular work during the academic year.

One to five three hour periods per week throughout the session. Daily ex. S., 9-12. Assistant Professor BLAKER and Mr. FISHER.

14. Physical Experiments. Theory and method of Physical Measurements. This course presupposes a thorough course in elementary physics both in text and laboratory. It consists in the setting up and adjustment of apparatus and the performing of fundamental experiments; a study of limitations, errors, and methods of computation; and interpretation of results, both analytically and graphically.

The apparatus available makes it possible to make accurate measurements in the different branches of general physics. A few of the sub-

divisions that may be covered are in friction, work, power, efficiency, uniformly accelerated linear and angular motions, moments of inertia, coefficients of expansion of solids, liquids, and gases, vapor tension and vapor density, the usual determinations in heat; the study of thermometers, their accurate calibration and comparison, a thorough study of the analytical balance, including a determination of its errors and limitations. In sound, studies may be made in resonance and interference. The work in light comprises a study of lenses, the grating, the adjustment and use of the spectrometer, photometry of various light sources. The equipment in electrical and magnetic apparatus is such as to afford special facilities for the determination of electrical and magnetic constants and work in electrical measurements such as the measurement of current, electromotive force, resistance, self and mutual induction, capacity, study of the magnetic properties of iron and the use of standard instruments of theoretical and practical nature.

The work being individual, courses may be planned to suit the needs of the student which may cover as many or as few topics as seem desirable. Reports on the work done are to be submitted covering theory and results. These reports form the basis of criticism of the work done.

In connection with the laboratory there is a reading and computing room in which may be found many works of reference which will be found very useful in working up the subjects studied.

The regular University credit that it is possible to receive in this course during the summer session varies from one to four hours.

One to five three hour periods per week during the summer session. Daily ex. S., 9-12. Assistant Professor BLAKER and Mr. GAHR.

18. Practical Photography. Lectures and Laboratory work. The lectures in this course will be fully illustrated and demonstrations of all the fundamental processes will be included. The laboratory will be open daily (except Saturday) from 2 to 5 with the exception of Tuesday and Thursday 4-5, which is reserved for lectures. Students have the privilege of taking Department cameras for outdoor work forenoons and Saturdays, when the laboratory is closed. Instruction and practice will be given in *exposing, developing, printing and mounting*. Also in *enlarging* from negatives or pictures, *copying* and *photo-micrography*. *Special attention will be given to making lantern slides from negatives and pictures* and to the adjustment and use of the projection lantern. The department equipment for this work consists in part as follows:—Hand and view cameras, 4 x 5 and 5 x 8, a fine Reflecting camera with a Unar lens for very short ex-

posures of moving objects, an enlarging camera, with a 5 x 8 Planar lens, and a Photo-microphotographic camera for enlarging from microscope slides. For exposure in dark weather Cooper Hewitt Mercury Vapor Lamps are used. Many other pieces of apparatus show the application of photography in various phases of scientific work.

The natural beauty of the campus and the surrounding lake, hills and ravines, afford ample scope for outdoor work. The opening of the photographic laboratory to summer students offers a fine opportunity to receive instruction in a useful and delightful subject and at the same time to secure views making valuable reminders of their visit.

Students furnish their own plates, paper and developer and may use either their own cameras or those belonging to the Department as they choose. The laboratory fee which covers incidental expenses of the department is \$3.00. At least eight hours of laboratory work per week is required for University credit. Daily except Saturday, 2 to 5. Lectures, Tuesday and Thursday at 4. Assistant Professor MOLER.

25. Advanced Laboratory Practice. This course in general physics is open to those students who have had Course 14 or its equivalent and are desirous of taking up special subjects for a detailed study putting in much more time on a single problem than is advisable in Course 14. One of the features of this course is the performing of classical experiments and the study in detail of errors and instrumental constants and correcting for them or eliminating them to the greatest degree possible.

The course is intended for those students who desire at some time to do advanced laboratory work in research, and for teachers in laboratory physics in colleges. Such research problems as can be completed in the time available may be undertaken by special arrangement. The apparatus available for this work is of a superior quality and lends itself to the best grade of work.

The University credit to be given in this course varies with the amount of work done. The laboratory will be open daily from 9 to 12 excepting Saturday. Assistant Professors BLAKER and SHEARER.

25a. Laboratory Practice in Applied Electricity. This course is designed for those students and teachers in physics who desire to get a knowledge of the principles of direct and alternating current dynamos and motors, transformers, induction motors, etc. The apparatus consists of such machines as are easily taken apart and reassembled to work in different ways. The characteristics and efficiencies of the different systems may be studied.

This course is not open to Engineering students for University credit.

The hours of University credit for students in Arts and Sciences depend on the hours put in in the laboratory and the work done. Daily except S., 9-12. Assistant Professors MOLER and BLAKER.

CHEMISTRY.

A. Introductory Inorganic Chemistry. a. Lectures. Daily, except Sat., 12, *Ch. L. R. 1*. Professor DENNIS. The lectures deal with the fundamental theories and laws of chemistry and with the more common elements and their compounds. They are profusely illustrated by experiments. The course is primarily designed to meet the needs of teachers in secondary schools, and to that end emphasis is laid upon methods of lecture presentation and experimental demonstration. Students other than teachers must, before registering, satisfy the Department that they are properly prepared to carry on the work.

b. Laboratory work. M., W., F., 8-12, and T., Th., 9-12. Mr. SNOWDON. In the laboratory there is given a series of experiments designed to illustrate the fundamental laws of chemistry and to acquaint the student with the properties of the principal elements and their compounds. For the benefit of teachers that may take the course, especial attention will be given to methods of laboratory instruction, quantitative experiments and to the blowing of simple glass apparatus.

c. Recitations. T., Th., 8. Mr. SNOWDON. The recitations deal with the subject matter of the lectures and with the experimental work carried on in the laboratory; they also comprise thorough drill in the solution of chemical problems.

Course A is equivalent to Course 1 in Chemistry, offered during the University year.

C. Qualitative Analysis. Elementary. Lectures and recitations. M., W., F., 11. Laboratory, daily except Sat., 1:30 to 4:30. Dr. BROWNE. Elementary course for those who have had the equivalent of course A. A study in laboratory and class room of the methods for detecting and separating the principal bases and inorganic acids. This is followed by the analysis of various substances, either in solution or in solid form, the composition of which is unknown to the student. Considerable emphasis is laid upon the writing of equations expressing the reactions involved in the work.

D. Qualitative Analysis. Lectures and recitations. T., Th., 11. Laboratory, daily except Sat., 1:30 to 4:30. Dr. BROWNE. A more

advanced course for those who have had the equivalent of Course C. This course will include :

1. A study in laboratory and class-room of the methods of detecting each of the important acids in the presence of the others, together with the reactions involved, followed by the analysis of more complex mixtures than those assigned in Course C.

2. A comparative study in the laboratory of different methods for detecting and separating the bases ; 1 and 2 may be taken together if desired.

E. Quantitative Analysis. Elementary. Two lectures, and 10 hours in the laboratory per week, at hours to be arranged. Mr. CUSHMAN. An introduction to quantitative methods and the chemistry upon which these methods are based. Lectures, explanatory of the methods used, are first given ; each student then performs simple analysis which involves the use of the apparatus ordinarily employed in analytical work.

Advanced work (see Course F) may be taken by students who complete this course before the close of the session.

F. Quantitative Analysis. Advanced. Laboratory practice. Mr. CUSHMAN. Special methods of quantitative analysis, both gravimetric and volumetric, such as are employed in the analysis of organic substances, iron ores, iron and steel, slags, paints, lubricants, coal and coke, cements and cement materials, alloys, ores of copper, lead, zinc, mercury, manganese, tin, etc.

GEOGRAPHY.

The object of the courses in this department is two-fold ; first to give instruction on subject matter and method in physical geography, including laboratory and field work, for teachers in high schools, normal schools, and colleges, and secondly, to offer in connection with these courses others on subject matter, and especially on method for geography teachers in the grades. The work embraces lectures, conferences, excursions, laboratory work and supplementary reading. The laboratories are equipped with an excellent teaching collection of maps, specimens and models, besides fully 5,000 lantern slides on geographic and geologic subjects. The region about Ithaca is rich in geographic features, both physical and industrial, and frequent excursions are made to places of special interest.

University Credit. Upon handing in the required reports and passing examinations regularly matriculated students may receive University credit for the three courses F, G, and H combined, of three hours. Persons desiring credit in this work must confer with

Professor DRYER at the opening of the term. To receive credit in any of the other courses requires special permission of the instructor in charge.

A. Home Geography. Conversations and studies designed to show what the elements of home geography are: when and how they may be presented, To this end excursions will be made to fields, shops, and local industries. How such excursions may be made with classes of children will be discussed. The value of pictorial teaching will be illustrated. Occupations modified by seasonal weather will be noted. The relation of home geography to the geography of regions beyond the pupils' horizon will be considered. *Geological Lecture Room.* T., Th., 10. Mr. FARNHAM.

B. The World as a Whole. A series of globe lessons introduced by a consideration of well-known and important commodities used to meet human needs. These lessons illustrate climatic influence on plants, animals, and human activities. The use of raw material and manufactured products to Home Geography and to later studies will be traced. *Geological Lecture Room.* T., Th., 9. Mr. FARNHAM.

C. Studies of North America. The seven great human industries. Subject matter, method of treatment, use of specimens, pictorial illustrations, maps, and use of text-book discussed and illustrated. Ideas gained from Home Geography and from lessons on the world as a whole furnish a basis for the first treatment of North America.

The movement from North America to the other continents is discussed at length. In combination with the previous courses this will give a full survey of the whole elementary course in geography. *Geological Lecture Room.* M., W., F., 9. Mr. FARNHAM.

D. Aims and Problems in Geography. Designed more particularly for Grammar School teachers. The course consists of lectures, discussions and exercises dealing with the actual problems of the class room. Some of the topics treated are:—the chief aims in teaching geography; the relative value of different kinds of geographical knowledge; methods of conducting the recitation; the proper use of the text book; the use and misuse of supplementary books; map modelling, map drawing, and the use of outline maps; use of pictures; field and factory trips; simple laboratory exercises; simple methods of teaching the earth's movements, the tides, etc. Course J is recommended, though not necessary, to accompany this course. *Geologic Lecture Room.* T., Th., 12. Supervisor WHITBECK.

E. Geographic Influences and Relations. Lectures and studies

designed to show the influence of physiographic and climatic conditions upon human activities ; the influence of soil, coast line, mountains and valleys, plains and plateaus, gaps and passes, winds, rainfall, ocean currents ; geographical causes leading to the location and growth of cities, the location and migration of industries ; man's reaction upon his environment and his conquest of natural obstacles. *Geologic Lecture Room. M., W., F., 12. Supervisor WHITBECK.*

F. Physical Geography. A lecture course upon modern physical geography, including the lands, the seas, and the atmosphere. The development and systematic classification of the leading physiographic features will form the basis of the course. Some of the topics discussed are : rivers, plains and plateaus, shore lines, mountains, volcanoes, glaciers and the glacial period ; the ocean, its composition, movements and work ; the atmosphere, general circulation, cyclones and special storms. The lectures will be fully illustrated by lantern slides. Students electing this course are advised to take also the two related courses, G and H. *Geologic Lecture Room. M., T., W., Th., 8. Professor DRYER.*

G. Laboratory Course in Physical Geography. This course includes both subject matter and methods. Although the course is arranged primarily for teachers in high schools, yet it is so planned as to be of advantage to grade teachers who anticipate teaching geography in the high school. The laboratory equipment used in the course consists of numerous models, charts, and maps ; much attention, however, is given to the possibilities open to teachers in schools having limited laboratory equipment. So far as possible the work offered will be arranged to meet the individual needs of teachers ; where desired by a teacher, personal suggestions will be made regarding the local field work he may carry on with his classes. Among the specific topics treated are the following ; the interpretation and use of topographic maps ; study of topographic maps and models illustrating type land forms ; the assembling and mounting of topographic sheets into useful type maps ; physiographic influences ; the use of photographs ; common rocks ; weather maps. *Physical Geography Laboratory. T., Th., 2-4. Professor DRYER.*

H. Field Course in Physical Geography. One afternoon each week and two Saturday all-day excursions are devoted to the study of physiographic phenomena in the field. In this field work a study is made of river valley forms, both young and mature ; waterfalls ; lakes ; and typical glacial deposits, including moraines, drumlins, kames, eskers, and overwash plains. See Synopsis of excursions, pp. 487, 488. Monday afternoon. If necessary two sections of the class

will be formed ; the second section on Wednesday afternoon. Professor DRYER and Supervisor WHITBECK.

I. Round Table Conference in Geography. There will be several evening conferences for instructors and students in Geography, at which discussions of important general topics in connection with geography will take place. Some topics discussed in previous years were Nature and Scope of Geography, Principles Determining the Course of Study in Geography, Excursions and Laboratory Work in Geography, Sources of Geographic Knowledge.

Attendance on this course is purely voluntary and cannot be counted for University credit ; but such free interchange of views among teachers and students is expected to throw much light on problems of teaching and on working methods.

J. Elementary Earth Science. Six field trips ; matter and method will both receive consideration ; suitable for grammar and high school teachers. (*See also Nature Study, p. 492.*)

- (1) How the soil is made ; collection of samples.
- (2) The work of the smaller streams.
- (3) The work of the larger streams.
- (4) The story of the rocks ; collection of specimens.
- (5) The stories the pebbles tell ; collection of types.
- (6) Some changes wrought by the great glaciers.

Friday afternoon, 2-4:30. Or at the most generally convenient time. Supervisor WHITBECK.

SYNOPSIS OF EXCURSIONS OFFERED IN COURSE H.

Afternoon Excursion.

(1) Physiography of the campus and immediate vicinity ; young and mature valleys ; difference in form ; in other characteristics ; evidence of glaciation ; evidence of former higher level of lake ; origin of Lake Cayuga ; influence of the physiography on the settlement and industrial development of the region.

(2) Excursion to Six Mile Creek, to study the gorge and waterfalls : the evidence of interglacial gorges ; effect of the terminal moraine on the valley form ; the difference of the valley form in drift and in rock ; influence of these facts on the questions of water supply and water power.

(3) Excursion to shore of Lake Cayuga, to study wave form and movement, effects of wave erosion and transportation ; the filling of lakes and the accompanying formation of strata ; influence of stream action in lake filling ; the resulting shore forms ; nature and origin of joint planes ; influence on man.

(4) Excursion to Coy Glen to study the elevated deltas : a study of their form, and evidence of former ice dams, holding up the waters of Lake Cayuga to higher levels ; influence of these deltas in causing the Coy Glen gorge to be formed ; a study of the gorge and its waterfalls ; comparison between the lake history of this valley and that of the Great Lakes.

(5) Excursion to South Hill, to study the broader physiographic features of the region : the maturely dissected plateau, the lake valley ; the lake delta ; and the influence of physiography on settlement and transportation routes.

(6) Excursion to North Spencer, to study the characteristics of a typical terminal moraine ; its dissection by postglacial streams ; its relation to the preglacial Cayuga Valley ; overflow channel and outwash deposits ; cultural adaptation to topography and streams. Expense about \$1.00.

All-Day Excursions.

(7) Excursion to Enfield, to study the preglacial valley : interglacial gorge ; postglacial gorge ; influence of hard layers on valley form ; influence of joint planes ; hanging valleys ; lateral moraine of Cayuga lake lobe of great ice sheet ; elevated deltas ; glacial erosion. (All day Saturday.) Expense about \$1.00.

(8) Excursion to Freeville, to study the upper Fall Creek valley ; its change from a young lower course to a mature upper course ; the extension of the terminal moraine up the valley ; characteristics of eskers, of kames, and of overwash plains ; the relation of these deposits to the moraine ; influence of glacial deposits on agriculture. (All day Saturday.) On this excursion a visit to the George Junior Republic is usually made. Expense about \$1.00. In past years a two-day voluntary excursion to Watkins Glen and Havana Glen has been made.

BOTANY.

The courses here announced are especially designed to aid teachers in their work with elementary classes, and at the same time to furnish training and information for those not intending to teach. Excursions will be undertaken, from time to time, in connection with each course. These excursions will, as a rule, be substituted for periods in the laboratory. Several all-day excursions on Saturday have been planned in connection with the various courses, and besides one general excursion of all the classes to a very interesting region near Ithaca known as Junius. It is desirable that students taking courses D, E and F, should have had some training in botany. Lectures in

the various courses will be illustrated with photographs, lantern slides, projection apparatus, and as far as possible with living material.

A. Elementary Physiology and General Morphology of Plants. A general elementary course in Botany. The aim of the earlier part of the work will be to familiarize the student with the general principles underlying the processes of absorption, nutrition, growth, etc., in plants, as well as with the methods of performing experiments to illustrate these phenomena. The latter part of the work will be devoted to a comparative study of the form and reproduction of representative species of all the great plant groups: algae, fungi, liverworts, mosses, ferns, gymnosperms, and angiosperms. Emphasis will be placed on the homologies of the vegetative parts and organs of reproduction. Lectures, M., W., F., at 8. Laboratory, M., W., F., 9-12. Dr. DURAND.

B. Special Morphology of the Higher Plants. A comparative study of the vegetative and floral structures of the angiosperms. Types are selected representing the various groups of angiosperms will be studied from the point of view of their comparative form and their adaptation to special functions. Field studies will be undertaken for the purpose of illustrating and amplifying the work done in the laboratory. Excursions from time to time will be made to nearby localities. Drawings, notes and photographs will be utilized in connection with the course. Lectures, T., Th., at 12. Laboratory and Field work, T., Th., 9-12. Assistant Professor ROWLEE.

C. Organography and Identification of the Higher Plants. A study of the kinds of plants with special reference to structure, identification, habit and distribution of the species. Lectures, laboratory, and field work. Special training in the methods of studying a local flora, use of manuals and keys. Students may prepare an herbarium in addition to the regular work. There will be frequent short excursions to points of interest about Ithaca, and one all-day Saturday excursion to some particular locality. The region about Ithaca is especially rich in plant forms, easy of access, and affords unusual opportunity for this work. Students having sufficient preparation may take some special group of plants for study. Lectures F., 12: Laboratory T., Th., F., 2-5. Dr. WIEGAND

D. Taxonomy and Embryology of the Bryophytes and Ferns. Practice in the collection and identification of liverworts, mosses and ferns. The student will become familiar with the commoner genera and species, especially those usually employed in class work. Attention may also be given to certain phases of the embryology and development of typical plants of the same groups, or of the gymnosperms or angiosperms, if found desirable.

The region about Ithaca offers exceptional opportunities for the study of bryophytes and ferns. Part of the time will be spent in field work and excursions. In addition students taking this course will be expected to join the all-day excursion to Enfield gorge, on Saturday, the date to be announced.

Lectures, M., W., 10. Laboratory and field work, M., W., afternoons. Dr. DURAND.

E. Trees and Shrubs. Biological and Taxonomic Study of Trees. The subject will be approached from the point of view of a tree as an organism which has adapted itself to special conditions of nature. In studying the kinds of trees, their adaptation to special conditions will be kept constantly in view. Much of the work will be done in the field. The sylvan conditions in the immediate vicinity of the University afford a fine opportunity for acquiring familiarity with many kinds of trees growing under a variety of conditions. A brief study of the structure and development of wood will also be undertaken. Lectures, M., W., at 12. Laboratory and Field Work, T., Th., afternoons. Assistant Professor ROWLEE.

F. Ecology of Plants. A study of the relation of plants to their environment, including the following topics:—adaptations, both external and internal, environmental factors, sequence and growth in plant societies, training in ecological methods. Lectures, laboratory and field work. Frequent short excursions will be made, and one all day trip on Saturday, in connection with Course C, to some point of special ecological interest. Special attention will be given to teachers of nature study who desire to obtain more information regarding the adaptations of plants. Students having sufficient preparation may elect some special problem in histological ecology. Lectures, T., Th., 8; Laboratory, T., Th., 9-12. Dr. WIEGAND.

ZOOLOGY AND NATURE STUDY.

Entomology and General Invertebrate Zoology.

A. Elementary Invertebrate Zoology. Lectures T., Th., 8. *McGraw 5*; and one practical exercise by the class in sections, *White 11*. 1st section T., Th., 9-11:30; 2d section T., Th., 2-4:30. This course is designed to meet the needs of teachers of zoology in high schools. Professor COMSTOCK and Dr. MACGILLIVRAY.

Course A is open only to students who are taking Course A in Vertebrate Zoology. Credit for the two courses 5 hours. Laboratory fee for the course in Invertebrate Zoology, \$2.00.

B. Elementary Entomology. Lectures on the classification of

insects and on the habits of insects, with special reference to materials available for nature-study. M., W., F., 8. *White 12*. Professor COMSTOCK. University credit 1 hour.

C. Elementary Entomology. Laboratory and field work. By appointment. The laboratory is open daily ex. S., 8-5. Credit 1 university hour for each 38 actual hours. Laboratory fee 50 cents for each university hour. Professor COMSTOCK and Drs. MACGILLIVRAY and RILEY.

D. Research in Entomology. Special work arranged with reference to the needs and attainments of each student. Daily ex. S., 8-5. Professor COMSTOCK and Drs. MACGILLIVRAY and RILEY.

Courses 6, 7, 10, 11 and 14 in the Announcement of Courses for the Academic Year may be taken during the Summer Session.

VERTEBRATE ZOOLOGY.

A. Elementary Vertebrate Zoology. Lectures, M., W., F., S., *McGraw 5*; and one practical exercise by the class in sections, *McGraw 7*. First section M., W., F., 9-11:30; Second section M., W., F., 2-4:30 DR. REED and MR. SHELDON. This course is designed to meet the needs of teachers of Zoology in High Schools. The lectures will treat of the structure, development, systematic relationship, life-histories and habits of Chordate Animals and their relation to their environment. The laboratory periods will be devoted to the dissection and study of representative forms beginning with the simplest or "lowest." Those to which special attention will be paid are: the lancelet, hag, lamprey, ray, shark, a bony fish, necturus, frog, turtle, bird, rabbit. In addition an opportunity will be given to study *Balanoglossus*, a tunicate, a chimaeroid, and the cat.

Course A is open only to students who are taking course A in Invertebrate Zoology. Credit for the two courses, 5 hours. Laboratory fee for the course in Vert. Zoology, \$6.00.

B. Ornithology. This course will consist of one lecture, one laboratory period, two field excursions and one conference each week. Hours are to be arranged, upon day of Registration, at MCGRAW, 8. The lectures will treat of the origin, extent, manner and method of migration; migratory routes and the summer and winter homes of birds; mating habits; song and its uses; types, location and construction of nests; the number, size and coloration of eggs; types, habits and care of young; protective and sexual coloration; dichromatism, altruism and melanism; moult, feather-wear and disintegration; the relation of the bird to its environment.

As laboratory work, practice in classification with the aid of a manual will be given. About eighty species will be identified.

The field excursions, two each week, will occur from six to seven A. M. and from four-thirty to six P. M. The nearness of the University to Cayuga Lake and its marshes is especially favorable for the study of birds in the field. The objects of the field work are the training of the powers of observation and learning the ways and means of recognizing birds in the field. It is possible for a beginner in bird study to become acquainted with forty or more species during the summer term.

Field or opera glasses are necessary in order to accomplish the best results in the field.

Dr. REED, Mr. SHELDON and Mr. THRO. University credit 2 hrs. Laboratory fees, \$1.50.

Chapman's "Handbook of the Birds of Eastern North America" will be used as a text-book.

Nature-Study.

Course A. **The Nature-Study Idea.** Lectures on the history and development of the nature-study idea : its educational significance and position under existing conditions ; its pedagogics ; logical and progressive courses for grades below the high school ; its materials and their use ; field trips ; the literature of the subject and other general topics fundamental to the proper presentation of the subject. A part of the time assigned in this course will be given to lectures upon the selection and organization of material, the illustrations being drawn from plant life. Daily except Saturday 9, *White 2*. Professor COULTER.

Course B. **Plant Life in Nature-Study.** Field and laboratory work. The general subjects treated will include light and soil relations ; seasonal changes ; recognition of dominant plant families ; protective devices ; seed dissemination ; weeds ; trees and shrubs ; pollination, economic relations.

The course will also involve much experimental work, covering a wide range of experiments suitable for the various grades and emphasizing the observational work developed. The endeavor will be to make the course of extreme practical value to teachers and supervisors. M., W., 2-4:30. *White 13*. Professor COULTER.

Course C. **Nature-study Material and its Uses.** Lectures M., W., 10. *White 9*. Mrs. COMSTOCK. Laboratory work T., 2-4:30. *White 13*. Mr. THRO. The object of this course is to put the teacher

in touch with nature study as a practical and pedagogical help to the general work of the school. It will include discussion of what nature-study should do for the child, what it may do for the teacher and how it may be successfully correlated with the teaching of reading, language, geography and drawing. The laboratory work conducted by Mr. Thro will include the preparation of the appliances for the study of animal life in the school-room, such as breeding cages, aquaria, terraria, ant-nests, and observation hive. It will also include the care of the animals which may be placed in these various school-room vivaria. One afternoon per week will be given to the construction of the vivaria and to excursions for the purpose of collecting the animals which shall live in them; in addition to this at least a half hour each day for six days in the week must be given to the care of vivaria and their inmates.

Course D. Nature Literature. This Course will consist of readings from literature which deals with nature, including the writings of Gilbert White, Richard Jeffries, Isaak Walton, Thoreau, and the nature verse of many of the modern poets. It will also include discussions of popular books on nature, of which so many have recently appeared. Two evenings per week from 7 to 8. Mrs. COMSTOCK and Professor COULTER.

E. The Study of Insects. See Entomology B, p. 490.

F. The Study of Birds. See Vertebrate Zoology B, p. 491.

G. Botany. See Botany A and B, p. 489.

H. Geography. See Geography A and J, p. 485, 487.

I. Zoology. See Invertebrate Zoology A, p. 490, and Vertebrate Zoology A, p. 491.

PHYSIOLOGY.

A. General Human Physiology. Lecture Conversations. This course is designed as a beginning course in Physiology, especially arranged for those who expect to teach Physiology in the secondary schools, and who wish to cover the entire subject.

Lee's American edition of Huxley's Physiology will be followed as a text book from which assignments will be made in advance. The topics assigned will be discussed, expanded and illustrated in the lecture periods. The lantern slides, charts, diagrams and physiological apparatus with which the department is well equipped will be used in illustration of the subject wherever possible. M., W., F., 10 Stimson Hall, Amphitheatre. Assistant Professor KINGSBURY.

B. Anatomical Physiology. Laboratory work. This course will consist in the careful and systematic dissection, under direct super-

vision, of the cat's body, together with the heart and brain of the sheep, in illustration of the structure, location and functions of the organs of the human body. Comparison will be made at every step with the conditions in the human body.

Microscopic preparations will be made showing the finer structure of the organs as they are studied in the gross dissection.

Designed for those who lack the necessary preliminary knowledge of anatomy as a basis for Physiology. Course B may be taken with advantage in connection with course A. M., W., F., 11-1. *Stimson Hall*, room 34. Assistant Professor KINGSBURY and Dr. DRESBACH.

C. Advanced Physiology. Lecture course. Selected topics. The field of Physiology is so large that it cannot be satisfactorily covered in detail in a short time. Divisions of the subject will be chosen to suit as nearly as possible, the needs of those who take the course. The lectures will be illustrated by means of experiment and lantern slides. A general knowledge of the gross and fine structure of the body is presupposed in this course. The work may count, hour for hour, in the work in Physiology required of medical students at Ithaca. T., Th., 9. *Stimson Hall*, Amphitheatre. Assistant Professor KINGSBURY.

D. Laboratory Work in Physiology. This course is designed to meet the needs of the general student of Physiology. The following subjects will be considered: (a) Chemistry of the Food Stuffs, (b) Physiology of Digestion and Nutrition, (c) Muscle and Nerve, (d) Circulation, (e) The Nervous System and Organs of Special Sense (Eye in particular). T., Th., 10-1, *Stimson Hall*, Room 34. Dr. DRESBACH.

The experiments selected are adapted to the time available and will be supplemented and unified by laboratory talks, consultations and explanations. The course seeks to emphasize the practical points in the subject matter.

E. Experimental Physiology. Laboratory Work. The course will cover (a) The Blood and Lymph, (b) Muscle and Nerve, (c) Heart and Circulation, (d) Respiration, (e) Vision. Any one division of the work may be taken or selected experiments performed. Six or more hours per week. Mornings, at hours to be arranged. *Stimson Hall*, Room 34. Assistant Professor KINGSBURY and Dr. DRESBACH.

The work done in this course is more technical than that of course D. and will be accepted, hour for hour, in place of the laboratory work required of students of medicine at Ithaca.

The Department is well equipped with physiological apparatus for demonstration, illustration and experiment, such as ophthalmoscopes,

perimeters, etc., kymographs and other recording apparatus; sphygmomanometers, sphygmographs, cardigraphs, and other heart and circulation apparatus; pneumographs, stethographs, etc., diagrams, lantern slides, etc.

MANUAL TRAINING.

General Statement. This course is designed especially for the needs of teachers of manual training in elementary, secondary and normal schools. Its aim is to unite the thorough technical training which is given in the regular summer course in the various branches of the mechanic arts with sound professional instruction in the science and art of education.

More and more is it recognized that the teacher of manual training needs a larger appreciation of the true educational significance of the subject. Not only does he need a thorough technical knowledge of the subject matter but also a better understanding of the pedagogical problems governing the best development.

Admission. The courses are open to men and women, and will meet the needs of (a) Teachers of manual training who wish to perfect themselves in technical skill and professional study; (b) Men or women who have had teaching experience or who possess technical ability and wish to qualify as teachers of manual training.

Course of Study. 1. A thorough training in the mechanic arts.
2. Instruction in mechanical drawing.
3. Class room study of various methods and problems of manual training.
4. Lectures, discussion and reading in Principles of Education.

EQUIPMENT.

The shops and drawing rooms of Sibley College are the largest and best equipped of any college in the country. They are being used by 1100 students and can accommodate 1500. They are at the disposal of the students of the Summer Session, who have the further advantage of seeing the regular instruction given to Sibley College students. They include a machine shop, a foundry, a blacksmith shop, and a wood working shop. The shops are exceptionally well supplied with machines and tools for the most complete instruction in the various subjects.

LECTURES.

Lectures on the following Topics will be given by members of the instructing staff. Wherever possible they will be illustrated by sketches and models. *Sibley, 105.*

1. History and Growth of Manual Training. Mr. DEAN.
2. Spirit and Purpose of Manual Training. Mr. DEAN.
3. Problems met in Organizing Manual Training in Public Schools. Mr. DEAN.
4. Manual Training in Villages and Small Towns. Mr. DEAN.
5. Some Phases of Industrial Education outside of the Public School Curriculum. Mr. DEAN.
6. The Manual Training Outlook. Mr. DEAN.
7. Current Problems in Secondary School Education. Professor HILL.
8. Industrial Work as a Factor in Education. Professor MCMURRY.
9. Relation of the Manual Training High School to the Engineering School. Professor KIMBALL.
10. Manual Training in its Relation to the Manufacturing Industries. Professor KIMBALL.

CONFERENCES.

A number of conferences will be conducted by Mr. Dean assisted by the instructors in charge of the various shop courses. The subjects will be such as may be suggested by the lectures and the daily work.

The following topics are suggestive of the possibilities in conference work : General Principles in Planning a Building in which Manual Training is Taught. Planning Arrangements and Equipments for the various courses in Mechanic Arts. Principles to be Taught, and Methods of Presenting Manual Training. Typical Courses. Use of Equipment for Supplemental Education, etc.

DAILY PROGRAM.

9:00 to 11:00. Demonstration lesson, with work under the guidance of Mr. DEAN and of the instructor.

11:00 to 12:00. Principles of Education. Professor HILL. (Omitted Saturdays).

12:00 to 1:00. General lecture or conference. Mr. DEAN.

2:00 to 5:00. Shop or drawing-room practice (omitted Saturdays).

Further information as to the methods and scope of the departmental work may be obtained by addressing Professor KIMBALL.

MECHANICAL DRAWING.

Under the direction of Professor Kimball. Office 205 Sibley.

A. **Mechanical Drawing.** An elementary course in Drawing for beginners, covering use of instruments, orthographic and isometric

projection, inking, tracing, conventions, working drawings, etc. 2-5 P. M. daily except Saturday, *Sibley 201*. Mr. WILLIAMS.

B. Machine Sketching and Drawing. A more advanced course in mechanical drawing for those who have had the equivalent of Course A. Sketching of machine parts, machine drawing from sketches, empirical design. This course is an application of the work in Course A to such machine designing as can be done without a knowledge of mechanics. 2-5 daily except Saturday, *Sibley 201*. Mr. WILLIAMS.

SHOP WORK.

Under the direction of Professor Kimball. Office 205 Sibley.

A. Pattern Making. Use of wood working tools; elements of pattern making. Mr. BURKE.

B. Foundry Work. Moulding, casting, mixing of metals, operation of cupola, etc. Mr. VANDERHOEF.

C. Forge Work. Forging, welding, tool dressing, tempering, etc. Mr. HEAD.

D. Machine Work. Use of measuring tools; hand and machine tools; fitting and assembling. Each of the above courses daily except Saturday, 8-12, 1-5, and Saturday, 8-1. Mr. WELLS.

E. Principles of Manufacturing. Must be taken in connection with Course D. Theory of measuring and other shop tools, elementary theory of manufacturing; cost and time keeping systems, etc. Four lectures per week, M., T., W., Th., 11, *Sibley 105*. Mr. WELLS.

F. Manual Training. The scope of the above courses in shop work is the same as that of the corresponding courses given to the regular Sibley College students. They are intended for prospective engineering students or those who have already matriculated. In addition to these, special courses are offered in each shop, designed to meet the wants of manual training teachers, and given in close connection with the technical work of manual training. (See pp. 495, 496.) Teachers having special needs may have courses made up to suit their wants. At the same time it is greatly to their advantage to see the work as given to the regular engineering students. Blue prints of all exercises used can be had at a nominal price.

DRAWING AND PAINTING.

This work will comprise two courses:—A. **Representation**; B. **Pure Design**. One or both of these courses may be elected, but their correlation is advised. The aim of this course is to give, by theory and practice, a thorough understanding of those fundamental principles upon which the art of drawing and painting is based; to

enable the student not only to express himself adequately through the art of drawing and painting, but to have an intelligent understanding and use of its terms. The work will consist of studio work, daily individual criticism and informal lectures. Examples will be studied at the University Museum of Casts, Museum of Natural History and Library. Weekly criticism of outside work will be given to those desiring it. Lists and necessary materials for each course may be obtained at the Cornell Co-op. Society, and should be brought at the first session.

A. Representation. M., T., W., 8-11, *Lincoln Hall*, Mr. FURLONG. This course deals with the truth of imitation, with the representation of objects as they appear to the normal eye as distinguished from the conventional and decorative, known as pure design. It is intended for art students, supervisors of drawing and teachers in the public schools. Special attention will be given to the needs of the grade teachers. The following subjects will be considered in theory and practice: Observation. Visual-mental thinking in tones, positions, measures and shapes. Drawing. The graphic expression of observation. Elements of Perspective. The laws of foreshortening and appearance. Drawing in Chiaroscuro. Consideration of Composition in Drawing and Painting. Design in Representation. Consideration of Methods of Teaching Drawing.

B. Pure Design. Th., F., 8-11. Mr. FURLONG. This course deals with the truth of imagination, the recording of ideas, and is intended for students and teachers desiring a practical working basis upon which to form some definite conception of the elements of pure design. It is intended to assist the student in obtaining a definite knowledge of terms of drawing, in an understanding of tone—(colors, intensities, neutralities, values)—relations in the analysis and synthesis of pure design and inducing a finer visual discrimination and power of graphic expression in this subject. The topics to be considered in theory and practice are as follows:—Observation. Visual-mental thinking in tones, positions, measures and shapes. Differentiation of Pure Design and Representation. Consideration of the Elements of Pure Design,—tones, positions, measures and shapes in forms of balance, rhythm and harmony, in forms of order, and in forms of beauty. Tones. Quantities and qualities of light. Tone Classification and Definition. Tone Relations. The Analytic and Synthetic Application of Tone-Relations to Pure Design.

MECHANICS OF ENGINEERING.

A. Mechanics. This course is the equivalent of the first term of course 20, College of Civil Engineering. Admission to this course is

restricted to those already having a fair knowledge of the subject. Students in Cornell University Engineering courses are not admitted to this course, unless they have taken the first term of course 20 in University classes during the regular University year and received a mark of at least 41. Those taking it are not, in the main, permitted to take other work in the University. Problems form the basis of this work ; a rapid review of parts of Church's " Mechanics of Engineering " is also involved. A study of the principles and applications to engineering of the mechanics of solids. Statics. Centers of gravity. Chains and cords. Dynamics of a material point. Impact. Virtual velocities. Centripetal and centrifugal forces. Moments of inertia of plane figures. Elementary principles of work and energy. Stresses and strains. Tension. Shearing. Compression. Torsion. Elementary problems in flexure. Lectures, recitations and problems, daily, except Saturday, 9, 10. *Lincoln Hall 32.* Assistant Professor JOHANNSEN.

B. Mechanics. This course is the equivalent to the second term of course 20, College of Civil Engineering. The restrictions in this course are the same as in Mechanics A above. Advanced problems in flexure. Elastic curves. Safe loads. Continuous girders. Moments of inertia of solids. Dynamics of rigid bodies. General principles of work and energy. Power. Fly-wheels. Friction. Dynamometers. Belting. Graphic statics of mechanism. Elementary principles of hydraulics. Recitations, lectures, and problems, daily, except Saturday, 10, 11. *Lincoln Hall 32.* Assistant Professor JOHANNSEN.

DESCRIPTIVE GEOMETRY

A. Descriptive Geometry. This course is equivalent to courses 8 or 9, Register, page 398. A study of the representation of lines, planes, surfaces, and solids ; and of their inter-relation ; tangents, intersections, and developments ; warped surfaces ; shades and shadows ; perspective. The subject is presented by lectures and notes, and the student is expected to establish the principles and methods presented by graphical solution of original problems, worked out in the drawing hours. Lectures, daily ex. S., 8. Drawing, daily ex S., 9-12. *Lincoln Hall.* Mr. POND.

The above indicates the general character of the work of the Summer Session. In detail it applies only to the session of 1906. Similar courses and more of them, will be offered in 1907. July 4-Aug. 14.

For detailed information send for a circular to

THE REGISTRAR, Cornell University, Ithaca, N. Y.

STUDENTS IN THE 1906 SUMMER SESSION.

Abaraca, Henry,	<i>San Juan, Porto Rico</i>
Abbey, Samuel Hamill,	<i>Smithtown Branch</i>
Abbott, Lewis Washburn,	<i>Blasdell</i>
Achaval, Angel, B.A. (Arg. Rep. National Coll.), 1905,	<i>Buenos Aires. Arg. Rep.</i>
Agcaoili, Francisco,	<i>Piddig, Ylocos Norte, P. I.</i>
Aguirre, Jose Urbano,	<i>Santa Fe, Arg. Rep.</i>
Aitken, John Winfield, Jr., C.E. (Penn. Mil. Coll), 1904,	<i>New York City</i>
Allen, Anna,	<i>Buffalo</i>
Allen, Arthur Augustus,	<i>Buffalo</i>
Allen, Charles Clinch,	<i>Galveston, Tex.</i>
Allen, Henry Lummus,	<i>Vicksburg, Miss.</i>
Allen, Marguerite Sheldon, A.B. (Bryn Mawr Coll.), 1902,	<i>Cleveland, O.</i>
Allen, John Edwin,	<i>New York City</i>
Almeida, Manuel Buarque,	<i>Rio de Janeiro, Brazil</i>
Almy, Mary Tibbits,	<i>Norwich, Conn.</i>
Almy, Maud Emerson, B.A. (Wellesley), 1898,	<i>Syracuse</i>
Ammidown, Eva Blossom, B.A. (Mt. Holyoke), 1901,	<i>Boston, Mass.</i>
Anderson, Elizabeth Neeley,	<i>Philadelphia, Pa.</i>
Anthony, Clarence Douglas,	<i>New York City</i>
Arbogast, Evelyn Frances	<i>Pittsburg, Pa.</i>
Argetsinger, James Cameron,	<i>Burdette</i>
Arnold, Carter Alston,	<i>Elberton, Ga.</i>
Arnold, Frances Martha,	<i>Duke Center, Pa.</i>
Arnold, William Henry, Jr.,	<i>Clyde</i>
Arosemena, Pablo Gaspar,	<i>Panama, S. A.</i>
Ashmun, Jennie Cordelia,	<i>Brooklyn</i>
Baggs, Martha, A.B., 1906,	<i>Fulton</i>
Bailey, Elmer James, Ph.B. (Univ. of Rochester), 1894 ;	
Ph.M. (same), 1897 ; A.M. (Hamilton Coll.), 1905,	<i>Ithaca</i>
Bailey, Guy Andrew,	<i>Geneseo</i>
Baker, Myrtle Hazard,	<i>Buffalo</i>
Baldwin, Frederick Walker, M.E. (Toronto Univ.), 1905,	<i>Toronto, Can.</i>
Baldwin, Wesley Manning,	<i>Brooklyn</i>

- Ballard, Charles McElvy, B.L. (Kenyon Coll.), 1906, *New York City*
- Barlow, John, B.S. (Middlebury), 1895; A.M. (Brown Univ.), 1896,
Kingston, R. I.
- Barlow, Richard Shaw, *Trenton, N. J.*
- Barrett, Mary Franklin, B.L. (Smith), 1901; A.M. (Columbia Univ.),
 1905, *Plainfield, N. J.*
- Barton, Aida Winifred, *Brooklyn*
- Barton, William Hill, *Ash Grove, Mo.*
- Bassett, Donald Lewis, *Carbondale, Pa.*
- Bateman, James Garfield, *Mt. Carmel, Pa.*
- Bates, Grace Margaret, A.B. (Normal Coll.), 1901, *New York City*
- Batungbacal, Jose, *Balanga, Bataan, P. I.*
- Bauer, Amelia Cecelia, *Irvington, N. J.*
- Bautista, Mariano, B.A. (Ateneo de Manila), 1902 *Manila, P. I.*
- Beam, John Vanderbeck, *New York City*
- Beavers, Mary Frances, *Washington, N. J.*
- Beck, Emma, *Wilmington, Del.*
- Bedford, Flora, *Philadelphia, Pa.*
- Behnken, Erma Lucie, *Brooklyn*
- Behnken, Henry Emile, A.B., 1904, *Brooklyn*
- Belcher, Katherine Fisher, A.B. (Vassar), 1898, *East Orange, N. J.*
- Bell, Bertha Sage, A.B. (Vassar), 1901, *Ithaca*
- Bell, Mary Amelia, *Eureka, California*
- Bennett, Ray, *Geneva*
- Bidstrup, Gerda, *Brooklyn*
- van Bijleveld, Joannes Samuel, *The Hague, Holland*
- Bishop, Alma, *Schuylerville*
- Bliss, Mary Campbell, A.B. (Wellesley Coll.), 1899, A.M., (same),
 1904 *Newburyport, Mass.*
- Block, Paul *New York City*
- Blumenstock, Jacob, *Brooklyn*
- Bocker, Dorothy, *New York City*
- Bolton, Frank Cleveland, B.S. (A. & M. Coll. of Minn.), 1905,
Pontotoc, Miss.
- Bouldin, Harriet Lane, *Saginaw, Mich.*
- Bovard, John Kenneth, *Kittanning, Pa.*
- Bower, Frank Albert, *Brooklyn*
- Bracken, Sarah John, *Colerain, O.*
- Bradley, Charles Holmes, *Jersey City, N. J.*
- Bragg, Everett Eugene, *Evanston, Ill.*
- Brandenburg, Ellen Klapp, B.S. (Columbia Univ.), 1904,
Washington, D. C.

Broadhurst, Philip Harvey,	<i>Brooklyn</i>
Broquet, Fernando Jose,	<i>Ithaca</i>
Brookman, Horace Dwight,	<i>Wellsville, O.</i>
Brown, Emily Hulme,	<i>Germantown, Phila., Pa.</i>
Brown, Martha Avery, B.S., 1893,	<i>Aurora, Ill.</i>
Brown, Mary Louise, B.A. (Wellesley), 1893, M.A., same, 1903,	<i>Round Lake</i>
Brown, Melville Gilfillan,	<i>Brooklyn</i>
Brown, Robert Harry,	<i>Detroit, Mich.</i>
Brownell, Clinton DeWitt,	<i>Scheneetady</i>
Bruce, Harry Alexander,	<i>Evanston, Ill.</i>
Buchwalter, Morris Lyon, Jr.,	<i>Cincinnati, O.</i>
Buckle, Mary Estelle,	<i>Plainfield, N. J.</i>
Buckman, Kate Dana, B.L. (Univ. of Wis.), 1894,	<i>Washington, D. C.</i>
Burke, Bertha,	<i>Loray P. O., N. C.</i>
Burns, Eleanor Irene,	<i>Bristol, Pa.</i>
Burr, Georgella White,	<i>Oakdale</i>
Burr, Georgia Lois,	<i>Ithaca</i>
Burr, Henry Frank.	<i>Oakdale</i>
Burritt, Maurice Chase,	<i>Hilton</i>
Bush, Mary,	<i>Dunkirk</i>
Butterfield, Cassius Folts,	<i>Hornell</i>
Calkins, Charlotte Aurora,	<i>Lancaster</i>
Campbell, Harold George,	<i>Brooklyn</i>
Capron, Eva Emeline, B.S., 1906,	<i>Brooklyn</i>
Cardozo, Louis Lopes,	<i>Brooklyn</i>
Casper, William Lee,	<i>Brooklyn</i>
Cauthen, Edward Francis, B.S. (Univ. of Nashville), 1895,	<i>Hamilton, Ala.</i>
Cautley, John Randolph, M.E., 1906,	<i>Baltimore, Md.</i>
Cautley, Mrs. Lucy R.,	<i>Ithaca</i>
Cavanaugh, Andrew Francis, M.E. (Ohio State Univ.), 1900,	<i>Dayton, O.</i>
Chapin, Ernest Pitney, M.E., 1893,	<i>Louisville, Ky.</i>
Chapman, Elsie May,	<i>Philadelphia, Pa.</i>
Chapple, Louis Albert,	<i>Brooklyn</i>
Cisneros, Anibal,	<i>New York City</i>
Clapp, Percy Edwin,	<i>North Rush</i>
Clarke, James Joseph, A.B., 1900,	<i>Brooklyn</i>
Clemens, Lilian Adele,	<i>Bayonne, N. J.</i>
Clement, Clara Torrey,	<i>Canandaigua</i>
Clinkscales, John George, A.B. (Wofford Coll.), 1876,	<i>Spartansburg, S. C.</i>

Coats, William, Jr., B.S. (St. Lawrence Univ.), 1905,	<i>Raymondville</i>
Coe, Edith Mary, A.B. (Radcliffe Coll.), 1901,	<i>New York City</i>
Cohen, Etta	<i>Buffalo</i>
Coker, Edward Caleb, B.A. (Univ. of Va.), 1897,	<i>Rock Hill, S. C.</i>
Colby, Mary Tyler,	<i>Newburyport, Mass.</i>
Cole, Edwin Oswald,	<i>Charlotte, N. C.</i>
Comstock, Elizabeth Tompkins,	<i>New York City</i>
Comstock, Ida Caroline, A.B. (N. Y. Normal Coll.), 1903,	<i>New York City</i>
Conklin, Kennedy,	<i>New York City</i>
Conley, James,	<i>Ithaca</i>
Conover, Hugh Bedle,	<i>Atlantic Highlands, N. J.</i>
Conway, George Kenyon,	<i>Cheyney, Pa.</i>
Corlies, James Archibald,	<i>Newark, N. J.</i>
Cornwall, Perry Hamlin,	<i>Portland, Conn.</i>
Corvalan, Patricio,	<i>Salta, Arg. Rep.</i>
Cottle, Arthur Preston,	<i>Worcester, Mass.</i>
Craig, Ira Lynn, M.Di. (Iowa Normal), 1905,	<i>Ames, Ia.</i>
Cramp, Helen,	<i>Philadelphia, Pa.</i>
Cramp, Laura,	<i>Philadelphia, Pa.</i>
Cresswell, Howell Scott,	<i>Ottumwa, Ia.</i>
Crew, Alfred, Jr.,	<i>Paterson, N. J.</i>
Critchlow, Howard Thompson,	<i>Prospect, Pa.</i>
Crocheron, Bertram Hanford,	<i>Brooklyn</i>
Curran, Isabelle Gladys,	<i>Brooklyn</i>
Curran, Mary Thaddeus,	<i>Brooklyn</i>
Cushman, Hannah Mary,	<i>Reading, Pa.</i>
Cushman, R. A.,	<i>Philadelphia, Pa.</i>
Cutter, R. D.,	<i>Bethlehem, Pa.</i>
Darling, Joshua Ferris,	<i>Buffalo</i>
Daudt, Ralph Bruere,	<i>Toledo, O.</i>
Daugherty, Garrard,	<i>Paris, Ky.</i>
Davey, Roy Edward,	<i>Barnard</i>
Davidson, James Holroyd, C.E. (Penna. Mil. Coll.), 1905,	<i>Denver, Colo.</i>
Davies, Edward Livingston,	<i>New York City</i>
Davis, Mary Ellin,	<i>New York City</i>
Dawn, Emily,	<i>Athens, Pa.</i>
Dean, Jennie Archer,	<i>Ithaca</i>
DeBard, Davis Meade,	<i>McMinnville, Tenn.</i>
DeGarmo, Robert Max,	<i>Ithaca</i>
Deshon, John James,	<i>New York City</i>

Dexter, Bayard Putnam,	<i>Orange, Mass.</i>
Dew, Luther Calvin,	<i>Portsmouth, Va.</i>
Dinoso, Silverio,	<i>Botolan, Zambales, P. I.</i>
Dobbs, Helen Adelle,	<i>Ithaca</i>
Doerflinger, Lillie,	<i>Dunkirk</i>
van der Does de Bye, Armond Jacob Joris,	<i>The Hague, Holland</i>
Donaldson, Roderick Douglas,	<i>New York City</i>
Donaldson, Mrs. Salle Ould,	<i>Charleston, W. Va.</i>
Doughty, Elizabeth Almy,	<i>Matteawan</i>
Drum, Martin Linnaeus, Ph.B. (Bucknell), 1902,	<i>Lewisburg, Pa.</i>
Duggan, May Lilian, B.S. (Monroe Coll.), 1906,	<i>Sparta, Ga.</i>
Duggan, Nannie Sue,	<i>Sparta, Ga.</i>
Dumm, Clarence Luther, Ph.B. (Dickinson Coll.), 1905,	<i>Mackeyville, Pa.</i>
Dunkley, Maud Helen Gray,	<i>Paget East, Bermuda</i>
Dunseith, Frederick Harvey Mead,	<i>Cold Spring</i>
DuPre, Arthur Mason, A.B. (Woffard Coll.), 1895, A.M., same, 1896,	<i>Abbeville, S. C.</i>
Duroe, Laura Eliza,	<i>New Berlin, N. Y.</i>
Dutt, Hira Laul, B.A. (General Assembly's Institution), 1902,	<i>Calcutta, India</i>
Earle, Harold Asbury,	<i>Brooklyn</i>
Eddy, Sula Sperry,	<i>Elmira</i>
Egbert, Lily Garland, A.B. (Randolph-Macon), 1898,	<i>Richmond, Va.</i>
Ellery, Eloise, A.B. (Vassar), 1897,	<i>Rochester</i>
Ellis, Jane,	<i>Buffalo</i>
English, Clarence Arthur,	<i>Chicago, Ill.</i>
Espindola, Dario,	<i>New York City</i>
Essex, Harry,	<i>Buffalo</i>
Evans, William White,	<i>Bloomsburg, Pa.</i>
Everson, Anna Emma	<i>Schenectady</i>
Exner, Carolyn Dell,	<i>Clyde</i>
Fairbank, Frank Latta,	<i>Ithaca</i>
Farley, Otis Lord,	<i>Osterville, Mass.</i>
Ferrill, Lucy Mason,	<i>Ithaca</i>
Ferris, Ralph,	<i>Ithaca</i>
Fielding, William Edgar,	<i>So. Orange, N. J.</i>
Finch, Ellis Jerome,	<i>New York City</i>
Fisher, George Farnsworth,	<i>Chicago</i>
Fleck, Aaron J.,	<i>Altoona, Pa.</i>
Flood, Rose Elizabeth,	<i>Sandy Hill</i>
Florez, Fernandez Luis,	<i>Santiago, Chili</i>

Focke, George Cleveland,	<i>Galveston, Tex.</i>
Foote, Alice Bradford,	<i>Cincinnati, O.</i>
Foote, Susan Louisa Bowler, B.S. (Univ. of Cincinnati), 1898,	<i>Cincinnati, O.</i>
Ford, Agnes,	<i>Wolcott</i>
Ford, Edward Hyndman,	<i>Marshwood, Pa.</i>
Ford, Ella May, B.S. (Geo. Washington Univ.), 1901, M.A. (same), 1901,	<i>Washington, D. C.</i>
Ford, Nellie Sophronia,	<i>Washington, D. C.</i>
Forrest, Gertrude Edith,	<i>Madison, N. J.</i>
Foster, Walter Eugene, A.B. (Williams Coll.), 1899,	<i>Brooklyn</i>
Frost, Arthur Frank,	<i>Waldwick, N. J.</i>
Fung, Hing Kwai,	<i>Canton, China</i>
Funk, Kieffer,	<i>Chewsville, Md.</i>
Gache, Caesar Thomas,	<i>Buenos Aires, Arg. Rep.</i>
Gale, Ella,	<i>Groton</i>
Gallego, Alejandro,	<i>Santiago, Arg. Rep.</i>
Garner, Enoch Francis, B.S. in M.E. (Md. Agr. Coll.), 1903,	<i>College Park, Md.</i>
Garritt, Albert Warner, B.S. (City Coll. of N. Y.), 1890,	<i>Brooklyn</i>
Garrow, Theodore Alexander, B.S. (Oregon Agr. Coll.), 1905,	<i>Corvallis, Oregon</i>
Gaskill, Raymond Gifford,	<i>Wilson</i>
Gaston, y Herrera Luis,	<i>Camaguey, Cuba</i>
Gates, Grandon Dumars,	<i>Helena, Mont.</i>
Gauntlett, John McGraw,	<i>Ithaca</i>
Gause, Angie Leah, B.E. (West Chester State Nor.), 1902,	<i>Quarryville, Pa.</i>
Gause, Ella Townsend,	<i>Philadelphia, Pa.</i>
Gibb, Walton,	<i>Philadelphia, Pa.</i>
Gibson, Elinore Eurie,	<i>Wilkes-Barre, Pa.</i>
Gilbert, Grace Russell,	<i>Brooklyn</i>
Gillet, Langdon,	<i>New York City</i>
van Gilluwe, Emma Annette,	<i>Ocean Grove, N. J.</i>
Gilmore, Alvin Leroy,	<i>Ithaca</i>
Girvan, Stanley Fowler,	<i>Little Falls</i>
Glynn, Frank Lawrence,	<i>Oswego</i>
Godoy, Juan Carlos,	<i>Buenos Aires, Arg. Rep.</i>
Godoy, Raul,	<i>Buenos Aires, Arg. Rep.</i>
Gomez, Jose Antonio, Ph.D. (Vicente Rocafuerte Coll.), 1904,	<i>Guayaquil, Ecuador</i>
Goodrich, Moses Foster, S.B. (Worcester Poly. Inst.), 1893,	<i>New York City</i>

Goodwin, Frank Perry, M.D., 1906,	<i>Jamestown</i>
Goodwin, Melvin Biggs,	<i>Ithaca</i>
Gould, Carl Alvord,	<i>Muskegon, Mich.</i>
Gracy, Leonard Rider,	<i>Jamaica</i>
Graham, Christina Murdock,	<i>Brooklyn</i>
Grandy, Lillie Gregory, A.B. (Hollins Inst.), 1889,	<i>Elizabeth City, N. C.</i>
Grant, Frank Lincoln,	<i>Brooklyn</i>
Graves, Alice Amelia, A.B. (Lake Forest Coll.), 1904,	<i>Plainfield, Ill.</i>
Graves, Mrs. Elizabeth Marie, A.B. (Vassar), 1877,	<i>Albany</i>
Green, Vennis Alden, A.B. (Grove City Coll.), 1895, A.M. (same) 1897,	<i>Wilkinsburg, Pa.</i>
Greenlaw, Frank Murray, S.B. (Mass. Inst. Tech.), 1890,	<i>Quincy, Mass.</i>
Greig, Julie Froward,	<i>Eldred</i>
Gresham, Frank Spencer,	<i>Galveston, Tex.</i>
Gwillam, Clarence,	<i>Gloversville</i>
Haas, Clara Alice,	<i>Buffalo</i>
Halbert, Anna Evelina,	<i>Brooklyn</i>
Haldrum, Ruth Anna,	<i>Selma, Ala.</i>
Hall, Gilbert Phelps,	<i>Brooklyn</i>
Hall, James Donald,	<i>Houston, Tex.</i>
Hall, Sadie Anne,	<i>Brooklyn</i>
Halley, Erskine Burt,	<i>Troy</i>
Hapgood, Edith Dora,	<i>Keene, N. H.</i>
Harmon, Herbert Wm., M.L. (Hobart Coll.), 1897, B.L., 1895, B.L. (same), 1893,	<i>Geneva</i>
Harrison, Eloise Ambler, L.I. (Peabody Coll.), 1904,	<i>Farmville, Va.</i>
Harrison, Howard Griswold,	<i>Addison</i>
Haskell, Clifton Roy,	<i>Jersey City, N. J.</i>
Hatcher, Emily Carr,	<i>Harlem, Ga.</i>
Hathaway, Henry Mona,	<i>Seattle, Wash.</i>
Haug, Frederick William,	<i>New York City</i>
Hawkins, Mrs. L. S., A.B. (Vassar), 1891,	<i>Cortland</i>
Hawkins, Layton S., A.B. (Amherst Coll.), 1904,	<i>Cortland</i>
Hayes, Ellen, B.A. (Oberlin) 1878,	<i>Washington, D. C.</i>
Henderson, Nellie Mae,	<i>Norwich, Conn.</i>
Hendrix, Adam Fremont Murray, A.B. (Central Coll.), 1894,	<i>Carthage, Mo.</i>
Hennessy, Elizabeth Irene,	<i>Binghamton</i>
Herrick, Glenn Washington,	<i>Agri. College, Miss.</i>

Herrick, Joseph Cawdell, B.A. (Univ. of Va.), 1896,	<i>Yonkers</i>
Herrington, Samuel Edgar, B.Sc. (Miss. A. & M. Coll.), 1904,	<i>Eugene, Miss.</i>
Hicks, John Ulrich,	<i>Salt Lake City, Utah</i>
Higgins, Ralph Holbrook,	<i>Newtonville, Mass.</i>
Highland, Caswell,	<i>Niagara Falls</i>
Higley, Levi Campbell,	<i>Horseheads</i>
Hildreth, Norman Evans,	<i>Flushing</i>
Hitch, Emmet Francis, A.B. (Washington Coll.), 1904,	<i>Seaford, Del.</i>
Hitchcock, Florence,	<i>Tallapoosa, Ga.</i>
Hodge, James Thacher,	<i>Cincinnati, O.</i>
Hoffmeister, Julia,	<i>Passaic, N. J.</i>
Holloway, Arthur Power,	<i>Montclair, N. J.</i>
Hook, Warren Howard,	<i>Ithaca</i>
Hooker, John Palmer,	<i>Watertown</i>
Hoover, Walter Wells, A.B., 1902,	<i>Wellsville, Pa.</i>
Horan, David Sander,	<i>Little Falls</i>
Hornthal, Samuel,	<i>New York City</i>
Horton, Harold Emery,	<i>Montclair, N. J.</i>
Horton, Phillip Zell,	<i>Peoria, Ill.</i>
Howe, Eugene Clarence, A.B. 1904,	<i>Brooklyn</i>
Howitt, John Eaton, B.S.A. (Toronto Univ.), 1905, M.S. in Agr. 1906.	<i>Guelph, Ont., Canada</i>
Hsia, Yuen-Il,	<i>Hangchow, China</i>
Hull, Anna May,	<i>East Islip</i>
Humphrey, William Erwin, Jr.,	<i>Livonia</i>
Hunter, Colus C.,	<i>Elmira</i>
Hyde, Justus Chauncey,	<i>Brooklyn</i>
Hyde, Tom Bruce,	<i>Mumford</i>
Isaacs, Anna	<i>New York City</i>
Ito, Jinjiro, A.B. (Waseda Univ), 1903,	<i>Tokyo, Japan</i>
Ito, Ryoza,	<i>Nagoya, Japan</i>
Jacob, Louisa Mary.	<i>Landsdowne, Pa.</i>
Jacoby, Bella Edith,	<i>Brooklyn</i>
Jacoby, Freeman Steel,	<i>Ithaca</i>
Jahn, Gustave Adolph, Jr.,	<i>Brooklyn</i>
Janes, Edward Allyn,	<i>Plainfield, N. J.</i>
Japhet, William Ernst, B.S. (A. & M. Coll. of Texas), 1904,	<i>Houston, Texas</i>
Jarvis, Tennyson Delbert, B.S.A. (On. Agr. Coll.), 1900,	<i>Montreal, Que., Canada</i>
Jijena, Delfin Modesto, B.A. (National College), 1903,	<i>Buenos Aires, Arg. Rep.</i>

Johnson, Chesley Heath,	<i>Babylon</i>
Johnson, Hannah May, A.B. (Geo. Wash. Univ.), 1896,	<i>Washington, D. C.</i>
Johnston, Chas. Watkins,	<i>Brooklyn</i>
Johnson, Julius Monroe, A.B. (Harvard), 1900,	<i>Greenfield, Mass.</i>
Johnson, Orson Tracy, Jr.,	<i>Riverside, California</i>
Jones, Eliza James, A.B. (Barnard Coll.), 1894,	<i>Brooklyn</i>
Jones, Frank Henry,	<i>Memphis, Tenn.</i>
Jones, Gordon Holmes,	<i>New York City</i>
Jones, Grover Houghton,	<i>Houston, Texas</i>
Jones, Lucy Thweatt,	<i>Salem, Va.</i>
Jones, Stanley Robert,	<i>Ithaca</i>
Kahanovitz, Samuel,	<i>Greensburg, Pa.</i>
Kahn, Albert Milton,	<i>Cincinnati, Ohio</i>
Keller, George Meinhard,	<i>Rochester</i>
Keller, Harriet Brown,	<i>Philadelphia, Pa.</i>
Kemple, Ida Louise, B.Ped. (Univ. of Buffalo), 1897,	<i>Buffalo</i>
Kennedy, Mrs. Bessie Bond,	<i>Pittsburg, Pa.</i>
Kennedy, Joseph Johnson, B.S. (Muskingum Coll.),	<i>Pittsburg, Pa.</i>
Kern, Chas. Allen, B.S. (Univ. of Vt.), 1901,	<i>Burlington Vt.</i>
King, Alfred Faris, B.S. (Princeton), 1905,	<i>New York City</i>
King, Jessie Luella, B.S. (Earlham Coll.) 1904,	<i>Richmond, Ind.</i>
Kingston, William Francis, B.A. (Toronto Univ.), 1903,	<i>Aylmer, Ont., Canada</i>
Kleniewska, Miss Boza,	<i>Lubelski, Russian Poland</i>
Kosminsky, Jennie,	<i>Brooklyn</i>
Kreiner, Miriam Rosella,	<i>New York City</i>
Kromer, Louise,	<i>Philadelphia, Pa.</i>
Lamberton, Albert Meredith,	<i>New York City</i>
Landis, Mark Homer,	<i>Waynesboro, Pa.</i>
Largent, Mrs. Virginia Rider,	<i>Huntington, W. Va.</i>
Largent, Robert Joseph, A.B. (W. Va. Univ.), 1903,	<i>Huntington, W. Va.</i>
Lasher, William Reuben, Ph.B., (St. Lawrence Univ.), 1899,	<i>Little Falls</i>
Laughlin, Hugh Clarence, A.B., (Ohio State Univ.), 1890, A.M.,	
(Univ. of Nebr.), 1895,	<i>New York City</i>
Lauren, Edness Chester,	<i>Auburn</i>
Lavers, Earl Roy, A.B. (Lafayette Coll.), 1904,	<i>Easton, Pa.</i>
Law, Bepin Behari,	<i>Calcutta, India</i>
Lee, Marguerite Thouron, B.S., 1894, A.M. (N. Y. Univ.), 1904,	
	<i>Brooklyn</i>

Leiser, William, 3d,	<i>Lewisburg, Pa.</i>
Lente, Minnie Bellefenille,	<i>New York City</i>
Leslie, Edward Andrew,	<i>Brooklyn</i>
Levin, Leah,	<i>Brooklyn</i>
Levin, Mignon,	<i>Baltimore, Md.</i>
Lewis, Dudley Leland, B.S. (Miss. A. and M. Coll.), 1906,	<i>Terry, Miss.</i>
Lewis, Katheriue Marion,	<i>Baltimore, Md.</i>
Lex, Charles Edwyn, Jr.,	<i>Philadelphia, Pa.</i>
Lindsay, Melvina Elizabeth,	<i>Cadiz, Ky.</i>
Lix-Klett, Ernesto,	<i>Buenos Aires, Arg. Rep.</i>
Llamado, Francisco Pascual,	<i>Washington, D. C.</i>
Locke, Helen Frances, Mrs.,	<i>Edmeston</i>
Lodge, Lilley Maud,	<i>Dover, Del.</i>
Loftus, John James, A.B. (St. Francis' Coll.), 1899,	<i>Brooklyn</i>
Lombard, Jose Oswald,	<i>Hormiguero, Cuba</i>
Longenecker, Aaron Miller, A.B. (Franklin and Marshall), 1899, A.M.	
(same), 1902,	<i>Manheim, Pa.</i>
Lopez, Carlos,	<i>Jaro, Iloilo, P. I.</i>
Loraditch, Harvey Andrew, B.E. (Indiana, Pa., State Nor.), 1899,	
	<i>Pocahontas, Pa.</i>
Lovejoy, William Henry,	<i>Buffalo</i>
Lowry, Arthur Thompson,	<i>Berwick, Pa.</i>
McAnulty, Samuel Grove,	<i>Blairsville, Pa.</i>
McArthur, Warren, Jr.,	<i>Chicago, Ill.</i>
McCann, Sue D., B.S. (Ky. State Coll.), 1904, M.S. (same), 1905,	
	<i>Lexington, Ky.</i>
McCarthy, Ellen S.,	<i>Cortland</i>
McCarthy, Julia Frances,	<i>Troy</i>
McClarín, Roland Taylor,	<i>Williamsport, Pa.</i>
McClelland, Annie Hart,	<i>Newark, N. J.</i>
McClelland, Helena,	<i>Newark, N. J.</i>
McCloskey, Erwin,	<i>Hamburg</i>
McConnell, Robert Alexander,	<i>Columbus, O.</i>
McCormick, Jay Gould,	<i>Monongahela, Pa.</i>
McCreary, Zalia Colvin,	<i>Cohoes</i>
McDowell, Louise Sherwood, B.A. (Wellesley), 1898,	<i>Rome</i>
McElroy, Clarence Underwood,	<i>Bowling Green, Ky.</i>
McElroy, Lilie Trigg,	<i>Bowling Green, Ky.</i>
McGowan, Hamilton Gordon,	<i>Ocean Springs, Miss.</i>
McHenry, Frank B., A.B. (Hobart College), 1904,	<i>Willard</i>
Mackey, Floyd Sherman,	<i>Gilboa</i>
Mackintosh, Donald Chase,	<i>Holyoke, Mass.</i>

Macleod, Norwood,	<i>Toronto, Can.</i>
McNeil Mary,	<i>Sandy Hill</i>
Madden, John Henry,	<i>Buffalo</i>
Malby, Seth Grant,	<i>Ogdensburg, Neb.</i>
Marks, Daisy May,	<i>Brooklyn</i>
Marks, Lillian Mathilde,	<i>Brooklyn</i>
Marks, Rachel Rose,	<i>Buffalo</i>
Marquina, Raphael,	<i>Lima, Peru, S. A.</i>
Marshall, Agnes Mary,	<i>Brooklyn</i>
Mason, Norman Clifford,	<i>Highland Park, Ill.</i>
Matty, Frank Joseph, C.E. (Penna. Mil. Coll.), 1905,	<i>Denver, Colo.</i>
Maurer, Ethel Tucker,	<i>Washington, D. C.</i>
Meads, Marcus Alanson Greendale, B.S. (Dartmouth), 1872,	<i>Buffalo</i>
Meinell, John Bradford,	<i>New York City</i>
Mellor, Alfred Carlos, Jr.,	<i>New York City</i>
Melville, Margaret,	<i>Upper Darby, Pa.</i>
Mettee, Carroll Russell,	<i>Baltimore, Md.</i>
Mickens, Charles Williams, A.M. (Univ. of Mich.), 1899,	<i>Adrian, Mich.</i>
Miller, Alice Etta,	<i>Deposit, Md.</i>
Miller, Armand Rudolph, B.S. (Univ. of Mich.), 1897,	<i>Boulder, Colo.</i>
Miller, Chester Arthur,	<i>New Berlin</i>
Miller, James Clinton, A.B. (Princeton), 1904,	<i>Walton</i>
Mills, James Evan,	<i>Waterloc</i>
Mitchell, William Churchill,	<i>Charlestown, W. Va.</i>
Moffat, Harold Wellington,	<i>Orange, N. J.</i>
Monasterial, Cenon,	<i>San Isidro, Nueva Ecija, P. I.</i>
Montgomery, Isabel Comrie,	<i>Walton</i>
Moore, Emmeline, A.B., 1906, M.A. (Wellesley), 1906,	<i>Churchville</i>
Moore, Ida, M.E., 1897,	<i>Phœnixville, Pa.</i>
Moore, William,	<i>Phœnixville, Pa.</i>
Morgenstein, Morris,	<i>Pittsburg, Pa.</i>
Morrison, Huber Lorenzo,	<i>Williamatic, Conn.</i>
Mott, Evelyn, M.E., 1898,	<i>Alleghany, Pa.</i>
Mulford, Anna Isabella, A.B. (Vassar), 1886, A.M. (same), 1886,	<i>Kansas City, Mo.</i>
Ph.D. (Washington Univ.), 1895,	
Milliner, Sarah Estelle,	<i>Camden, N. J.</i>
Naughton, John Augustine, A.B. (Fordham Coll.), 1902, Pd.B.	
(same), 1903,	<i>Albany</i>
Nickerson, Ralph Richard,	<i>Holyoke, Mass.</i>
Nickerson, Charles Willis,	<i>Stony Point</i>
North, Harold Diodate,	<i>Cleveland, O.</i>

Northrup, Elizabeth,	<i>Clifton, N. J.</i>
Norton, Grace Isabel, A.B. (Elmira Coll.), 1883,	<i>Newark</i>
Ochoa, Ramon,	<i>Manila, P. I.</i>
Ochs, Alfred Long,	<i>Allentown, Pa.</i>
Ogden, Nina Harriette, A.B. (Thiel Coll.), 1898, A.M. (same), 1901,	<i>Greenville, Pa.</i>
Olsen, William Christian,	<i>Canton, Miss.</i>
O'Neil, Fred Ernest,	<i>Malone</i>
O'Neil, Elizabeth,	<i>Canandaigua</i>
Orbison, Inez, B.A. (Wellesley), 1901,	<i>Sidney, O.</i>
Ormsby, Emily Celestia,	<i>Cortland</i>
O'Rourke, Bernard John,	<i>Syracuse</i>
Osborne, Florence Arnold,	<i>Van Etten</i>
Ostos, Jose Antonio,	<i>Ozuluama, Vera Cruz, Mexico</i>
Paddock, Ormond Howland,	<i>Toledo, O.</i>
Palliser, Helen Letitia, B.A. (Barnard Coll.), 1905,	<i>Brooklyn</i>
Palmer, Charles Warner,	<i>Media, Pa.</i>
Palmer, Everett Arthur,	<i>El Dorado, Kans.</i>
Pancoast, Joseph Wilmer, B.S. (Swarthmore Coll.), 1901,	<i>Mickleton, N. J.</i>
Parkman, Mary Rosetta,	<i>Washington, D. C.</i>
Paterno, Feliciano Primo, A.B. (Ateneo Coll.), 1905,	<i>Manila, P. I.</i>
Paterson, Lois,	<i>Lawrence</i>
Patteson, Sarah Gay, B.S. (Columbia Univ.), 1906,	<i>Ashmont, Mass.</i>
Peek, Mrs. Rebecca Medwin,	<i>DeLand, Fla.</i>
Pellet, Grace,	<i>Elmira</i>
Pennell, Amos Gartside,	<i>Chester, Pa.</i>
Pennewill, Effie,	<i>Philadelphia, Pa.</i>
Perrine, Chas., A.B., 1903,	<i>Brooklyn</i>
Phillips, Henry Ormsby,	<i>Bryn Mawr, Pa.</i>
Phillips, Mary Freelove,	<i>Middlesex</i>
Pierce, Howard Castner,	<i>Worcester, Mass.</i>
Piggott, Albert Brown,	<i>Falls Church, Va.</i>
Platt, Emilie Louise,	<i>Brooklyn</i>
Porter, William Franklin, B.E. (Millersville Normal), 1881, M.E. (same), 1883, Pd.M. (New York Univ.), 1905,	<i>White Haven, Pa.</i>
Pratt, James Gibbs,	<i>Sherman</i>
Pratt, Reginald,	<i>Valley Falls</i>
Preston, Edwin Murlin,	<i>Cortland</i>
Price, Philip M.	<i>Johnstown, Pa.</i>
Prior, Walter Westcott,	<i>Trenton, N. J.</i>

Privett, Elizabeth Ann, L.I. (Peabody Coll.), 1896,	<i>Jacksonville, Ala.</i>
Provost, Eva Marion,	<i>Brooklyn</i>
Prussing, Harry Frederick,	<i>Chicago, Ill.</i>
Pyle, William Henry, A.B. (Indiana Univ.),	<i>Carmi, Ill.</i>
Quick, Ray Louis,	<i>Ithaca</i>
Quinlan, Alice White,	<i>Brooklyn</i>
Quinn, Martin Joseph, B.S. (Univ. of Rochester), 1902,	<i>Rochester</i>
Ragland, Florence, A.B. (Bowling Green Female Coll.), 1882,	<i>Bowling Green, Ky.</i>
Rankin, George Atwater,	<i>Ithaca</i>
Rapelli, Oliver Luis Ricardo,	<i>Tucuman, Arg. Rep.</i>
Rapelli, Washington,	<i>Tucuman, Arg. Rep.</i>
Ray, Sophia Stella, A.B. (Oberlin), 1895,	<i>Painesville, O.</i>
Raynor, Francis Ketcham,	<i>Sag Harbor</i>
Reckard, Rufus Wm., A.B. (Ohio Wesleyan Univ.), 1905,	<i>Proctorville, O.</i>
Reed, Florence Emily,	<i>Williamsport, Pa.</i>
Reed, Harry Clifford,	<i>Ithaca</i>
Reidy, Margaret Mary,	<i>Ithaca</i>
Reiley, Fred Asbury,	<i>Harrisburg, Pa.</i>
Reill, Alice Louise,	<i>Scranton, Pa.</i>
Renwick, Allyn King,	<i>Ben Avon, Pa.</i>
Richardson, Carrie Augusta,	<i>Bath</i>
Rider, Catherine Mailler, Pd.B. (Normal Coll. Albany), 1893,	<i>Middletown</i>
Riter, Levi Jennings,	<i>Salt Lake City, Utah</i>
Robbins, Harold Walbridge,	<i>Winfield, Kans.</i>
Roberts, James Louis,	<i>Hempstead</i>
Roberts, Mary Lydia,	<i>Moorestown, N. J.</i>
Robinson, Horace Brady, Jr.,	<i>Oil City, Pa.</i>
Robison, Florence, B.A. (N. Y. Normal Coll.), 1902,	<i>New York City</i>
Rodes, Sally,	<i>Bowling Green, Ky.</i>
Rodman, Emma Atwood,	<i>Elmhurst</i>
Roe, Ralph Burt,	<i>Ithaca</i>
Rogalsky, George Frederick,	<i>Tonawanda</i>
Rogers, Howard Maxwell,	<i>Riverton, N. J.</i>
Rogers, John Clifford,	<i>Ithaca</i>
Rose, Lester Simon,	<i>Vicksburg, Miss.</i>
Rosemon, Ethel,	<i>Brooklyn</i>
Rowe, Miltanna, B.E. (West Chester, Pa. Normal), 1901,	<i>Atglen, Pa.</i>
Rowland, Theo. Sherwood,	<i>Greenport</i>
Ryan, James Henry,	<i>Monticello</i>

Salingré, Estelle,	<i>New York City</i>
Sameth, Blanche,	<i>Perth Amboy, N. J.</i>
Sameth, Elsie, A.B. (Normal Coll. of N. Y.), 1904,	<i>New York City</i>
Sampaio, Roberts de Mesquita,	<i>Sao Paulo, Brazil</i>
Sampaio, Vicente de Almeida, B.S. (Mackenzie Coll. and Union Coll.), 1903,	<i>Sao Paulo, Brazil</i>
Sanial, Marie Lucien,	<i>Northport</i>
Santillan, Julio A.,	<i>New York City</i>
Santos, Alyandro,	<i>Tagniig, Rizal, P. I.</i>
Saqui, Frederick Manuel,	<i>Papantla, Veracruz, Mex.</i>
Sarmiento, Arturo,	<i>Buenos Aires, Arg. Rep.</i>
Sawder, William Jacob, B.S. (Univ. of Chicago), 1897, A.M. (Univ. of Nashville), 1897,	<i>Denton, Tex.</i>
Sayer, Ruth,	<i>New York City</i>
Sayers, Grace Hawthorne,	<i>Wilmington, Del.</i>
Sayle, Walter Chester,	<i>Cleveland, O.</i>
Sayward, Mary Edith, A.B. (Smith College), 1894,	<i>Springvale, Me.</i>
Schaefer, Bertha Ada,	<i>St. Louis, Mo.</i>
Schickel, Morbert Henry,	<i>New York City</i>
Schlivinski, Charles,	<i>Brooklyn</i>
Schultheis, Leopold,	<i>Brooklyn</i>
Scott, Elbert John,	<i>Marshall, Mo.</i>
Scovill, Jennie Belle,	<i>Hartford</i>
Scully, Jennie Florence,	<i>Dunkirk</i>
Sealy, Winifred Lilian,	<i>Cedarhurst</i>
Seaton, Sara, A.B. (Wellesley), 1896,	<i>Cleveland, O.</i>
Seely, Hart Irving,	<i>Spencer</i>
Seiler, Justin Frank,	<i>Washington, D. C.</i>
Seymour, Grace Varick,	<i>Brooklyn</i>
Shafer, Beatrice Anne,	<i>Dunkirk</i>
Shallenberger, Charles Moore,	<i>Pittsburg, Pa.</i>
Shannahan, Willard Dean, A.B. (Williams Coll.), 1896	<i>Gloversville</i>
Shepherd, Susie Viola	<i>Columbia, Va.</i>
Sheridan, Edwin Everitt	<i>Montclair, N. J.</i>
Shilotri, Prabhaker Sadashiva	<i>Bombay, India</i>
Shull, Aaron Franklin	<i>Ann Arbor, Mich.</i>
Sill, Amy Louise	<i>Cohoes</i>
Simpson, Dwight Swain	<i>Powers, Minn.</i>
Smith, Mrs. Fannie Ward	<i>Newark, N. J.</i>
Smith, Frank Garrettson	<i>Brooklyn</i>
Smith, Frances Albee, A.B. (1905), Vassar	<i>Brooklyn</i>
Smith, George Carson, Jr.	<i>Pittsburg, Pa.</i>

Smith, Gertrude Heaton	<i>Haddonfield, N. J.</i>
Smith, Hattie May	<i>Potsdam</i>
Smith, Herbert Lacy	<i>Buffalo</i>
Smith, Maria Theresa	<i>Unadilla</i>
Smith, Martha Towne	<i>Ithaca</i>
Snow, Edna Jane	<i>Ithaca</i>
Snyder, Anna Mary	<i>Reading, Pa.</i>
Specht, Louise Fredericka	<i>New York City</i>
Spingarn, Herman	<i>Brooklyn</i>
Staber, Hilda Louise, B.A. (Columbia Univ.), 1905	<i>Brooklyn</i>
Staber, Maud Johanna, B.S. (Columbia Univ.), 1901	<i>Brooklyn</i>
Stafford, John Patrick, A.B. (St. Francis Coll.), 1899	<i>Brooklyn</i>
Stanclift, Henry Clay, Ph.D. (Leipzig), 1892	<i>Spencer</i>
Star, Harold	<i>Dallas, Tex.</i>
Steen, Mary Ellen	<i>Trenton, N. J.</i>
Stewart, Sidney VanderVeer	<i>Morrisville</i>
Stockton, Herbert John, A.B. (Allegheny Coll.), 1904	<i>Meadville, Pa.</i>
Stone, Roy Lynne	<i>Potsdam</i>
Stone, Ruth Chuley	<i>Linton, Ga.</i>
Stone, Sara	<i>Chester, N. J.</i>
Stone, Waterman	<i>Kansas City, Mo.</i>
Stull, Anna May	<i>Elizabeth, N. J.</i>
Sun, Genfong Arthur	<i>Shanghai, China</i>
Sun, Kia Loh Carlos	<i>Shanghai, China</i>
Sun, Taoyuh Clarence	<i>Shanghai, China</i>
Sun, Yuenfong Ralph	<i>Shanghai, China</i>
Swan, Augusta Mary	<i>Washington, D. C.</i>
Sweet, Ora Delia	<i>Jacksonville</i>
Sze, Lien Carlton	<i>Kiang Su, China</i>
Talbot, Hugh Ward	<i>Edmeston</i>
Tarkington, George William, B.S. (Central Univ.), 1904	<i>Danville, Ky.</i>
Taylor, Earl MacNair	<i>Scranton, Pa.</i>
Taylor, Helen, A.B. (N. Y. City Norm. Coll.), 1903	<i>New York City</i>
Taylor, Jasper C.	<i>Scranton, Pa.</i>
Thompson, Anna Ford	<i>Plainfield, N. J.</i>
Tilden, George Alfred	<i>Pittsfield, Mass.</i>
Toan, Lewis Austin	<i>Perry</i>
Tong, Yau Hang	<i>Canton, China</i>
Towner, Lillian Bartow	<i>Albany</i>
Tracy, Morris	<i>Penn Yan</i>
Trafton, Gilbert Haven, Ph.B. (Wesleyan Univ.), 1898, M.S. (same), 1901	<i>Portland, Me.</i>

Traphagen, Martin Hough	<i>Northampton, Mass.</i>
Treman, Emmett Taber	<i>Ithaca</i>
Treman, Robert Elias,	<i>Ithaca</i>
Trott, John Winslow,	<i>Niagara Falls</i>
Tsai, Kuo Tsao,	<i>Tientsin, China</i>
Turner, George M.,	<i>Buffalo</i>
Turner, Mrs. George M.,	<i>Buffalo</i>
Tuttle, Mary Gardner,	<i>New York City</i>
Tyson, Oscar Stager,	<i>Chester, Pa.</i>
Uhrbrock, Richard Henry, Ph.B. (Ill. Wesleyan), 1898,	<i>Baltimore, Md.</i>
Underwood, Harold Barnes,	<i>Jamestown</i>
Updegraff, Daniel Smith,	<i>Seattle, Wash.</i>
Utley, Mildred Jeane, A.B., 1904,	<i>Gloversville</i>
Valentine, Florence Ellett,	<i>Brooklyn</i>
Van Wert, Susan Evens, A.B., 1898,	<i>Jamestown</i>
Viets, Georgiana Bates,	<i>Montclair, N. J.</i>
Vivot, Edwardo Luis, A.B. (Nat. Coll. Argentine),	<i>Buenos Aires, Arg. Rep.</i>
Waite, Mary Violet, A.B., 1905,	<i>Hartford, Conn.</i>
Walbridge, Lester Bordem,	<i>Brooklyn</i>
Walker, William Wallace,	<i>Auburn</i>
Waller, Coleman B., Ph.D. (Vanderbilt Univ.), 1902,	<i>Marion, S. C.</i>
Waller, Elmer Briton, A.B. (Union College), 1882, A.M. (same), 1892,	<i>Maryville, Tenn.</i>
Waller, Emma Gilchrist,	<i>Maryville, Tenn.</i>
Ward, Marguerite Hargrave,	<i>Coney Island</i>
Webb, James Archer,	<i>Cleveland, O.</i>
Webster, Stanley Adams,	<i>Montclair, N. J.</i>
Weems, Clarence Norwood, A.B. (Galloway Coll.), 1899,	<i>Conway, Ark.</i>
Weems, Rupert Harlan,	<i>Conway, Ark.</i>
Wegman, Ernest Conrad,	<i>Ithaca</i>
Wegman, Leroy Arthur,	<i>Auburn</i>
Weiffenback, John,	<i>New York City</i>
Weiss, Benjamin Bertrand,	<i>Brooklyn</i>
Weld, Garfield Minot, A.B. (Middlebury Coll.), 1904,	<i>New Haven, Vt.</i>
Wellman, Will Edward,	<i>Jasper, Ind.</i>
West, Albert Elmer,	<i>Washington, D. C.</i>
Westgate, Mary Lauton, B.A. (Wesleyan Univ.), 1897,	<i>Ithaca</i>
Wetherill, John Larkin, C.E. (Pa. Mil. Coll.), 1905,	<i>Chester, Pa.</i>
White, Eleanor Cameron,	<i>Lexington, Va.</i>

White, Rice Warren,	<i>Charlottesville, Va.</i>
White, Ward Emerson,	<i>Parkersburg, W. Va.</i>
White, William Morse,	<i>Bergen</i>
Whitney, Francis Luther,	<i>Elmira</i>
Whitney, Marion Estelle,	<i>Malone</i>
Whitou, Sylvia Francis,	<i>Champaign, Ill.</i>
Whitson, Olive Louella, B.E. (West Chester Normal), 1902,	<i>Ithaca</i>
Wiggins, Inez Louise, A.B. (Smith Coll.), 1901,	<i>Warsaw</i>
Wilde, Lydia Mae,	<i>Cranesville</i>
Wilder, Edward Tucker,	<i>Elmhurst, Ill.</i>
Wilkius, George Raymond,	<i>Buffalo</i>
Wilkinson, Jessie Roberta,	<i>Germantown, Pa.</i>
Williams, Ethel M.,	<i>Ithaca</i>
Williams, Katherine Jaquette,	<i>Elmira</i>
Williams, Mary Esther,	<i>Cortland</i>
Wilmot, Mabel Esther,	<i>Brooklyn</i>
Wilson, John Henry, B.A. (St. Stephen's Coll.), 1896, M.A. (same), 1899, M.A. (St. Francis Xavier), 1898, M.A. (New York Univ.), 1898,	<i>Brooklyn</i>
Winslow, John,	<i>Ithaca</i>
Witbeck, Benjamin Franklin,	<i>Albany</i>
Wolcott, Kenneth Oliver,	<i>Batavia, Ill.</i>
Wolf, Luther Otterbein,	<i>Keithsburg, Ill.</i>
Wolsen, Anna Marie,	<i>Brooklyn</i>
Wood, Edith Magdalene,	<i>Passaic, N. J.</i>
Wood, Maryette,	<i>Carlisle, Pa.</i>
Wood, Walter Dougan,	<i>Richmond</i>
Worsham, Ernest Lee, B.S. (Univ. of Ga.), 1904,	<i>Athens, Ga.</i>
Wright, Richard Horatio,	<i>Baltimore, Md.</i>
Wright, Thomas Temple, B.A. (Richmond Coll.), 1904,	<i>Rutherglen, Va.</i>
Wyckoff, Norman Ross,	<i>Harrisburg, Pa.</i>
Yang, Ngan Chau,	<i>Kiangsu Province, China</i>
Ycasiano-Roxas, Francisco, B.A. (Ateneo de Manila), 1903,	<i>Bulacan, P. I.</i>
Yih, Koliang, A.B. (Climere Univ.), 1902,	<i>Fookien, China</i>
Yung, Sen Yan,	<i>Canton, China</i>
van Zandt, Fanny Brice,	<i>Middletown</i>

ASSOCIATE ALUMNI.

By the charter of the University the graduates are entitled to elect two of the Board of Trustees each year. At a meeting called for the purpose, and held on Wednesday, June 26, 1872, the day preceding the annual Commencement, representatives of all the classes that had graduated being present, the alumni formed an organization under the name of the Associate Alumni of Cornell University, declaring the object of the association to be to promote in every proper way the interests of the University and to foster among the graduates a sentiment of regard for each other and attachment to their Alma Mater. In 1903, the association became incorporated, under the general laws of the State of New York, by the name of the Associate Alumni of Cornell University, for the same purposes for which it was originally organized, the certificate of incorporation being dated May 19, 1903. At the annual meeting in June, 1903, a revision of the by-laws, embodying such changes as were made necessary by the incorporation of the association, was submitted by the directors and adopted by the association.

BY-LAWS OF THE ASSOCIATE ALUMNI OF CORNELL UNIVERSITY.

ADOPTED JUNE, 1903.

1. All graduates of this University, who in their diplomas are entitled electors of the University, are members of this association. All members of the Faculty of this University are honorary members of this association.

2. The officers of this association shall consist of (1) a president; (2) vice presidents to be elected as follows: one vice-president from the classes numbered from '69 to '74 inclusive, and one from each succeeding group of five classes, provided that when the last group shall number three classes it shall thereafter be entitled to a vice-president; (3) a corresponding secretary; (4) a recording secretary; (5) a treasurer and (6) five persons who, together with the president and treasurer shall constitute the directors of the association.

3. This association shall meet annually on the day preceding Commencement, at such hour as the Board of Directors shall determine.

4. Any proposition to alter or amend these By-Laws must be made at a regular meeting and have the assent of two thirds of the members present.

5. There shall be two standing committees : an auditing committee, and a canvassing board.

6. The auditing committee shall consist of three members, to be elected by the association at one ballot, the three members receiving the highest number of votes to be deemed and taken to be chosen.

7. The canvassing board shall consist of five members. Two shall be elected by a plurality vote at each annual meeting ; two shall be appointed by the Board of Directors, after the nominations of candidates for alumni trustees have been announced ; the fifth shall be appointed by these four.

8. The order of business at each regular meeting shall be as follows :

I. The secretary shall ascertain by roll call or otherwise the names of the members present.

II. Reading the minutes of the last meeting.

III. Report of the canvassing board ; declaration of the result of the ballot by the president ; action thereon by the association, if necessary.

IV. Appointment of committee for the nomination of officers and committees—such nominating committee to consist of one member from each group entitled to a vice-president.

V. Treasurer's report and report of auditing committee.

VI. Report of the Board of Directors.

VII. Reports of special committees.

VIII. Miscellaneous business.

IX. Alumni trustee report or reports.

X. Report of nominating committee and election of officers and committees.

XI. Adjournment.

9. It shall be the duty of the corresponding secretary to keep a list of the graduates and their post office addresses, to notify each member elected to an office or a committee of his election, and to send to each graduate a notification of the time of the meeting other than the regular annual meeting, and of other exercises to take place under the auspices of the association.

10. The duties of the recording secretary shall be to keep the record and report the proceedings of the association.

11. All officers and members of committees shall be elected by a plurality vote of those present at the meetings and voting.

12. At this meeting there shall be elected five directors, the terms of two of whom shall expire at the annual meeting in 1904, two in 1905 and one in 1906; and in the future the term of each director shall be three years.

13. All other officers of this association shall hold their office for one year from and after their election.

14. In the absence of the president a vice-president shall preside, and the right to the chair shall be according to the seniority of the class to which the vice-presidents present shall belong.

15. In all meetings of the association the members present shall constitute a quorum.

16. The annual dues of membership in the Associate Alumni shall be one dollar, payable to the treasurer at each annual meeting; but any alumnus who shall pay to the treasurer ten dollars at one time shall thereafter be exempt from the payment of annual dues. No printed document of the association shall be sent to any member who has not complied with the above regulation.

17. Each trustee representing the alumni shall make a written report to the association at the end of his term of office, and such report may be made either jointly or separately by the retiring trustees.

18. Such report or reports shall be printed by the association, but shall not be considered as an expression of the official opinion of the association.

19. There is established an alumni bureau for the promotion of the interests of graduates or other ex-students of the University in securing positions.

20. The alumni bureau shall be under the general oversight of the Board of Directors of the association and the special charge of the Registrar of the University.

At the annual meeting of the Associate Alumni in June, 1905, it was voted: "That a committee of seventeen graduates of Cornell University, other than the alumni trustees, be appointed at the Commencement meeting of the Associate Alumni each year, to be known as the Cornell Alumni General Committee, this committee to be constituted as follows: two alumnae, elected at large, five alumni, selected from alumni residing in the state of New York, and the remaining ten alumni from alumni residing elsewhere.

"The various local associations throughout the country shall send to the recording secretary of the Associate Alumni, at Ithaca, prior to the meeting in June, one nominee each, to be voted upon at the annual meeting, as a member of this Cornell General Alumni Com-

mittee, the voting, except as to the alumnae members, to be restricted to these nominees provided the associations make them; but in case of failure by the local associations to nominate for any one or more of the committee men, the associate alumni shall select from its own nominees."

By an amendment to the charter of the University, passed May 15, 1883, permitting members of the alumni, not present in person, to vote by written ballot at the annual election of trustees, the Treasurer of the University is required to keep "a registry of the signature and address of each alumnus." It is therefore important that each alumnus keep the Treasurer of the University informed of his full address (in cities, street and number), and notify him immediately of any change.

The following ordinance was adopted by the Board of Trustees, October 24, 1888: All graduates of the first degree, in any of the departments of Cornell University, and all persons who have been admitted to any degree higher than the first in said University shall be alumni of said University, and as such be entitled to vote for alumni trustees under and in pursuance of the provisions contained in Chapter 763 of the Laws of New York passed in 1867.

Officers for 1906-7.

President—Leland O. Howard, '77.

Vice Presidents—Garrett P. Serviss, '72; Augustus J. Loos, '77; Norton T. Horr, '82; Harris J. Ryan, '87; L. Carroll Root, '92; Robert J. Thorne, '97; William C. Geer, '02.

Corresponding Secretary—Henry H. Wing, '81.

Recording Secretary—Charles H. Hull, '86.

Treasurer—S. Edwin Banks, '95.

Directors—Leland O. Howard, '77; S. Edwin Banks, '95; Robert G. H. Speed, '71; George W. Harris, '73; Mynderse Van Cleef, '74; Jared T. Newman, '75; Ernest W. Huffcut, '84.

Auditing Committee—Robert H. Treman, '78; Eben T. Turner, '83; Charles D. Bostwick, '92.

Canvassing Board for Trustee Election—Charles L. Crandall, '72; Clark S. Northup, '93; remaining members to be appointed as directed in the By-Laws.

The Cornell General Alumni Committee for 1906-07 is composed as follows:

Isabel Howland, '81, Sherwood, N. Y.; Mary Rogers Miller, '96, New York, N. Y.; Herbert D. Schenck, '82, Brooklyn, N. Y.; Charles S. Jones, '84, Buffalo, N. Y.; William H. Smith '73, Ithaca, N. Y.; J. Herbert Agate, '03, Rochester, N. Y.; Frank O. Affeld, '97, New York, N. Y.; Junius T. Auerbach, '90, Boston, Mass.; Charles H. Blatchford, '95, Chicago, Ill.; Harry C. Davis, '90, Denver, Colo.; Samuel C. Root, '01, Detroit, Mich.; Hiram J. Messenger, '80, Hartford, Conn.; Charles L. Chandler, '01, Los Angeles, Cal.; Robert T. Mickle, '92, Philadelphia, Pa.; Edward L. Wilder, '02, Pittsburg, Pa.; Earnest S. Shepherd, '02, Washington, D. C.

Chairman—Herbert D. Schenck.

Secretary—Earnest S. Shepherd, 1330 F. Street, Washington, D. C.

Officers of Local Alumni Associations.

(As last reported.)

THE CORNELL CLUB OF SYRACUSE.

President—Frank H. Hiscock, '75.

Secretary—A. J. McMahon, '97.

NORTHWESTERN ASSOCIATION.

President—O. L. Taylor, '81.

Secretary—E. H. Crooker, '83, Minn. Loan and Trust Bldg.,
Minneapolis, Minn.

NEBRASKA ASSOCIATION.

President—A. C. Wakely, '78, Omaha, Neb.

Secretary—J. W. Battin, '90, Omaha, Neb.

NEW ENGLAND CORNELL CLUB.

President—C. H. Thurber, '86.

Secretary—L. E. Ware, '92, 108 Austin St., Worcester, Mass.

CORNELL UNIVERSITY CLUB OF NEW YORK CITY.

President—S. P. Thomas, '72, 49 William St., New York City.

Secretary—H. Hasbrouck, '90, 51 Nassau St., New York City.

NORTHEASTERN PENNSYLVANIA ASSOCIATION.

President—J. S. Pettebone, '93.

Secretary—C. E. Murray, '03, Wilkes-Barre, Pa.

THE CORNELL CLUB OF PHILADELPHIA.

President—Clarence Beebe, '73.

Secretary—E. B. Carter, '99, 236 Winona Ave., Germantown, Pa.

*ASSOCIATE ALUMNI.***DISTRICT OF COLUMBIA ASSOCIATION.**

President—D. E. Salmon, '72.

Secretary—L. C. Graton, '00, 1330 F St N. W., Washington, D. C.

CORNELL ALUMNI ASSOCIATION OF BUFFALO.

President—Dr. C. S. Jones, '84.

Secretary—J. L. Tiernon, Jr., '95.

ROCKY MOUNTAIN CORNELL ASSOCIATION.

President—H. C. Davis, '90.

Secretary—G. O. Winters, '02, 830 Cooper Bldg., Denver, Colo.

CHICAGO ASSOCIATION.

President—J. K. Cady, '76.

Secretary—J. R. Bensley, '00, 3933 Ellis Ave., Chicago, Ill.

PACIFIC NORTHWEST ASSOCIATION.

President—J. A. Rea, '69, Olympia, Wash.

Secretary—Frank D. Nash, '72, Tacoma, Wash.

EASTERN NEW YORK ASSOCIATION.

President—R. G. Scherer.

Secretary—R. J. LeBoeuf, '92, Municipal Gas Co. Bldg., Albany, N. Y.

ROCHESTER ASSOCIATION.

President—W. W. Kinsley, '01.

Secretary—H. A. Mock, '98, Rochester, N. Y.

SOUTHERN TIER ASSOCIATION.

President—George McCann, '86.

Secretary—Isaac H. Levy, '01, Elmira, N. Y.

CORNELL CLUB OF WESTERN PENNSYLVANIA.

President—Frank Thornberg, '78.

Secretary—Edward L. Wilder, '02.

CORNELL CLUB OF BINGHAMTON.

President—C. G. Wagner, '77.

Secretary—R. B. Sears, '03.

CORNELL CLUB OF CALIFORNIA.

President—D. S. Jordan, '72.

Secretary—C. F. Cory, '91, Berkeley, Calif.

CORNELL CLUB OF LONDON.

President—O. Shiras, '97.

Secretary—S. B. Fortenbaugh, '90, Underground Elect. Ry. Co.,
London.

JAMESTOWN ASSOCIATION.

President—C. H. Wiborg, '97.

Secretary—Albert S. Price, '01.

THE CORNELL WOMEN GRADUATES' ASSOCIATION.

President—Mrs. B. S. Cushman, '96.

Secretary—Miss Julia W. Mack, '01.

Meetings at Ithaca annually on afternoon of Alumni Day.

TOLEDO ALUMNI ASSOCIATION.

President—W. J. Sherman, '77.

Secretary—W. A. Clarke, 16th and Jefferson Sts., Toledo, O.

SEATTLE ALUMNI ASSOCIATION.

President—F. J. Barnard, '77.

Secretary—M. M. Odell, '97.

DETROIT ALUMNI ASSOCIATION.

President—E. E. Haskell, '79.

Secretary—S. C. Root, '01.

NIAGARA FALLS ALUMNI ASSOCIATION.

President—Eugene Cary, '78.

Secretary—F. L. Lovelace, '80, Niagara Falls, N. Y.

THE CORNELL CLUB OF ST. LOUIS.

President—W. B. Ittner, '87.

Secretary—K. E. White, '01.

THE CORNELL UNIVERSITY ASSOCIATION OF DELAWARE.

President—G. R. Thompson, '75, Wilmington, Del.

Secretary—A. D. Warner, Jr., '00, Wilmington, Del.

CORNELL ALUMNI ASSOCIATION OF THE PHILIPPINE ISLANDS.

President—A. G. Heppert, '93.

Secretary—Clara Donaldson, '01, Dept. of Education, Manila, P. I.

CORNELL ALUMNI ASSOCIATION OF IOWA.

President—Austen Burt, '00.

Secretary—H. B. Plumb, '02.

THE CORNELL CLUB OF MEXICO

President—

Secretary—J. G. Shirley, '03, 1919 Narango St., City of Mexico

Alumni Bureau.

The Alumni Association voted at its meeting in June, 1890, to establish in the University an Alumni Bureau, and at the annual meeting in June, 1903, incorporated in the By Laws of the Association the following provision; "There is established an Alumni Bureau for the promotion of the interests of graduates or other ex-students of the University in securing positions. The Alumni Bureau shall be under the general oversight of the Board of Directors of the Association and in the special charge of the Registrar of the University." In accordance with this resolution, a permanent Bureau has been constituted where names are registered with a record of the position desired and of the study and experience of those who wish situations. To render this organization in the highest degree efficient, it is desired that all interested should communicate as early in the year as possible to the Registrar of the University information of vacancies which may occur in public positions which graduates are prepared to fill. Former students can thus render a constant service to the University, and to successive classes as they graduate. A list of such situations is kept and is available for consultation by all students. Blank forms will be furnished on application to the Registrar.

Class Memorials.

(As reported.)

CLASS OF 1872 :—Seventy-two Elm Trees bordering President's Avenue and northern half of East Avenue.

CLASS OF 1873 :—Drinking Fountain in front of McGraw Hall.

CLASS OF 1878 :—The Class Pipe.

CLASS OF 1879 :—Bronze Tablet containing bust of Bayard Taylor in Sage Chapel.

CLASS OF 1883 :—Portrait of Professor William Dexter Wilson, D.D., LL.D., in the University Library.

CLASS OF 1884 :—Portrait of Professor Charles Chauncey Shackford, A.M., in the University Library.

- CLASS OF 1885 :—Statue of Augustus Caesar in the Museum of Casts.
- CLASS OF 1886 :—The '86 Memorial Prize in Declamation. *See University Register*, pp. 67 and 120.
- CLASS OF 1890 :—Cornell Boat House.
- CLASS OF 1891 :—The '91 Memorial Fund for Sick Students.
- CLASS OF 1892 :—The Witherbee Memorial Club House at Percy Field.
- CLASS OF 1893 :—The Interscholastic League Prizes in Athletics.
- CLASS OF 1894 :—The '94 Memorial Prize in Debate. *See University Register*, pp. 67 and 121.
- CLASS OF 1895 :—The Henley Shell.
- CLASS OF 1896 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1897 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1898 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1898 (College of Law) :—Carved oak seat in Boardman Hall.
- CLASS OF 1899 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1900 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1901 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1902 :—Gift toward the establishment of an Athletic Field.
- CLASS OF 1903 :—Gift toward the establishment of an Athletic Field.
- CLASS OF 1903 (College of Law) :—Portraits of Justice Rufus W. Peckham and Joseph H. Choate.
- CLASS OF 1904 :—Gift toward an Endowment Fund.
- CLASS OF 1904 (College of Law) :—Portraits of James C. Carter and Elihu Root.
- CLASS OF 1905 :—Gift toward the establishment of an Alumni Hall.
- CLASS OF 1905 (College of Law) :—Portraits of Abraham Lincoln and Thomas M. Cooley.
- CLASS OF 1906 :—Gift toward an Endowment Fund.
- CLASS OF 1906 (College of Law) :—Portrait of Justice Joseph W. Story.

THE CORNELL ASSOCIATION OF CLASS SECRETARIES.

OFFICERS FOR 1906-7.

President—WILLIAM FITCH ATKINSON, '95.

Vice-President—WALTER CRAIG KERR, '79.

Treasurer—CHARLES DIBBLE BOSTWICK, '92.

Secretary—WILLIAM JOHN NORTON, '02.

CONSTITUTION.

ADOPTED JUNE 20, 1905.

I. NAME.

The name shall be "The Cornell Association of Class Secretaries."

II. OFFICERS.

The officers of the Association shall be :

1. A President whose duties shall be those of presiding officer and who shall also be *ex-officio* member of the Executive Committee.
2. A Vice-President who shall, in the absence of the President, act as presiding officer.
3. A Treasurer who shall collect the annual dues and keep the accounts of the Association.
4. A Secretary who shall perform the usual duties of that office. He shall also be a member of the Executive Committee, and shall act as Chairman of that Committee.
5. Three members of the Executive Committee.

III. EXECUTIVE COMMITTEE.

The Executive Committee shall consist of the President and the Secretary, *ex-officio*, and three other members. The Secretary of this Association shall act as Chairman of this Committee. The Executive Committee shall be trusted with the general management of the Association. It shall have the power to appoint special committees from time to time, and act upon the reports submitted by such committees, and it shall be its duty to receive suggestions from members and take action upon them. It shall, if possible, take annual action looking toward the appointing of efficient Class Secretaries by the graduating classes of Cornell University.

IV. MEETINGS AND ELECTIONS.

There shall be annual business meetings held in New York City on some day in the month of February of each year, and there shall also be an annual meeting in Ithaca on some day in the month of June of each year, and at this meeting shall be held the annual election of officers and members of the Executive Committee.

V. MEMBERSHIP.

The Active Membership of this Association shall consist of the Class Secretaries of Cornell University, and one member from the Alumni of the Medical School in New York City.

There shall be an Honorary Membership of such men as may from time to time be elected at the regular meetings.

VI. DUES.

The Annual Dues for all members shall be Two Dollars (\$2.00) payable at the annual meeting in February in each year.

VII. AMENDMENTS.

Amendments may be made at any annual business meeting of the Association by a two-thirds vote of those present. Notice setting out the proposed amendment shall be sent at least ten days before such meeting addressed to each member of the Association.

CLASS SECRETARIES.

- 1869—Morris Lyon Buchwalter, Carew Bldg., Cincinnati, Ohio.
- 1870—Samuel Dumont Halliday, Ithaca, N. Y.
- 1871—Robert Goodloe Harper Speed, Ithaca, N. Y.
- 1872—Charles Lee Crandall, Ithaca, N. Y.
- 1873—Edwin Gillette, Ithaca, N. Y.
- 1874—John Henry Comstock, Ithaca, N. Y.
- 1875—Edward Leamington Nichols, Ithaca, N. Y.
- 1876—Eugene Frayer, 141 Broadway, New York City.
- 1877—Charles Baker Mandeville, Ithaca, N. Y.
- 1878—Robert Henry Treman, Ithaca, N. Y.
- 1879—Walter Craig Kerr, 10 Bridge St., New York City.
- 1880—William Albert Finch, Ithaca, N. Y.
- 1881—Henry Hiram Wing, Ithaca, N. Y.
- 1882—Norton Townsend Horr, 1513 Williamson Bldg., Cleveland, O.
- 1883—Franklin Matthews, New York *Sun*, New York City.
- 1884—Harry Pelouse de Forest, Hotel Somerset, 150 West 47th St., New York City.

- 1885—Robert James Eidlitz, 489 Fifth Avenue, New York City.
 1886—Algernon Sidney Norton, 256 Broadway, New York City.
 1887—Veranus Alva Moore, Ithaca, N. Y.
 1888—Willard Winfield Rowlee, Ithaca, N. Y.
 1889—Henry Neely Ogden, Ithaca, N. Y.
 1890—Charles James Miller, Newfane, N. Y.
 1891—Willard Henry Austen, Ithaca, N. Y.
 1892—Charles Dibble Bostwick, Ithaca, N. Y.
 1893—Clark Sutherland Northup, Ithaca, N. Y.
 1894—Elmer Ellsworth Bogart, Morris High School, New York City.
 1895—William Fitch Atkinson, 44 Court St., Brooklyn, N. Y.
 1896—George Solomon Tompkins, Box 343, Albany, N. Y.
 1897—Jervis Langdon, Elmira, N. Y.,
 1898—Jesse Fuller, Jr., 166 Montague St., Brooklyn, N. Y.
 1899—Royal Storrs Haynes, 393 West End Ave., New York City.
 1900—George Harper Young, 314 Hepburn St., Williamsport, Pa.
 1901—John Sedgwick Gay, Seneca Falls, N. Y.
 1902—William John Norton, 317 West 42nd St., New York City.
 1903—Porter Raymond Lee, 50 Gates Circle, Buffalo, N. Y.
 1904—Cecil Jarvis Swan, 66 West 35th St., New York City.
 1905—Harold Jay Richardson, Lowville, N. Y.
 1906—Charles Henry Tuck, Flackville, N. Y.
 Med. Coll.—William Joseph Jones, Jr., '99, 207 West 118th St., New York City.

HONORARY MEMBERS.

- David Fletcher Hoy, '91, Ithaca, N. Y.
 Charles Edward Treman, '89, Ithaca, N. Y.
 John Lawson Senior, '01, Ithaca, N. Y.

THIRTY-EIGHTH ANNUAL COMMENCEMENT.

June 21, 1906.

DEGREES CONFERRED.

FIRST DEGREES.

Bachelors of Arts.

Maximilian Claude Albrech,
Margaret May Allen,
Martha Baggs,
Sylvia Ernestine Ball,
Anna Violet Barbour,
Neal Dow Becker, LL.B.,
Mabelle Abbot Bessey,
George Gleason Bogert,
Elizabeth May Bolger,
John Gosh Bower, Jr.,
James Chester Bradley, A.B.,
Helen Maria Bradley,
Daniel Harvey Braymer,
Corry Levinthal Breger,
Alice Fargo Brown,
Blanche Buckbee,
Russell Burnett,
Henry Gordon Burnham,
Harry Eugene Carver,
Benson Brush Charles,
Jane Button Cheney,
Irving Otto Chormann,
John Powell Clark,
Kathleen Bell Clark,
Helen Coffin,
John Dix Coffin,
John Dempsey Collins,
Lucy Jane Collins,

Clara Garfield Cornell,
Florence M Cornell, A.B.,
Frank Byron Crandall,
Charlotte Holmes Crawford,
Alice Maud Crowell,
Helen Mae Dennett,
Charles Lefever Downs,
Violet Agnes Dubar,
Alice Blanche Du Breuil,
Jessie Ellen Dunbar,
Albert Cyrus Durand,
Mary Jones Fisher, A.B.,
Paul Folger,
William Pollok Fraser,
Edward Elway Free,
Fred John Furman,
Francis Edward Gallagher,
Selora Alice Gaskill,
Emma Louise George, Ped.B.,
Roswell Clifton Gibbs,
Jessie Lewis Gilchrist, M.P.,
Laura May Gildner,
Irvin Kline Giles,
Horace Wadsworth Gillett,
Hugh Lester Gillis,
Joseph Edwards Goodrich,
Henry Greenberg,
Antionette Greene,

Belle Hanigan,	Horace Sansbury Ogden,
Pierre Harpending,	Howard Peck,
Louise Parmalee Hastings,	Jessie Burnham Peirson,
Iva May Holmes,	Hannah Sharpless Pennell,
Henry Everett Holmes,	Frederic Hallock Peters,
William Hanna Hopple,	Abbie Findlay Potts,
Locy Howe,	Alice Louise Prince,
Sarah Maud De Valle Howland,	Walker Reid,
Carlton Perry Johnson,	John Lyon Rich,
Caroline Whallon Judd,	Lula May Root,
Anna Karaline,	Joseph Hanson Rose,
Edith Kerr,	George Hilliard Ross,
Harry Swayne King,	Florence Marion Schenck,
Nellie Adah Klock,	Herman Ferdinand Schnirel,
Ching Hsin Kuan,	Paul Arthur Schoellkopf,
Charles Frederick Landmesser,	Louis Livingston Seaman, LL.B.,
William Forrest Lee,	M.D.,
Henry Leighton,	Blanche Eggleston Seelye,
Elsa Esther Levy,	Mary Edward Shanly,
Lilly Zerline Levy,	Frederick Duane Sheffield,
Frank Edward Lichtenthaeler,	Stanton Cole Sherman,
Sophie Harriet Lyndon,	Charlotte Everest Shumway,
Cecil Watkins Mabee,	Alice Pendergast Simmons,
Lida McBride,	Arthur Rose Smiley,
Mary Gertrude McCormick,	Bessie Frances Speed,
Charles Everett McCoy,	Margaret Loomis Stecker,
Joseph Vance McKelvey, B.A.,	Elisabeth Alden Stoughton,
Helen Catherine McNamara,	Leon Cleveland Sunstein,
Martha Maider,	F Van Thompson,
Frank Alphonse Mantel,	Elizabeth Russell Topping,
Harry Wheeler Martin,	Charles Edward Tourison,
Emeline Moore,	Charles Henry Tuck,
Anna Haven Morgan,	George Follett Turner,
Curt Berthold Mueller,	Helen Willoughby Underwood,
David Curtis Munson,	Roger Sherman Vail,
Percy Murchie,	Eva Gertrude Vaughn, A.B.,
George William Nasmyth,	John Armor Veazey, A.B.,
Robert Preston Nichols,	Arthur Vonnegut,
Francis Raymond Nitchie,	Homer Andrew Watt,
Edwin Griswold Nourse,	Cassius Way, B.Agr.,
Nicholas Hartman Noyes,	Arthur Douglas Weller,
Fred Louis Nussbaum,	Nellie Frances Weller,

Portius Rollin Wheeler,
Francis Luther Whitney,
Abel Comstock Willcox,
Benjamin Oliver Williams,

Burr Fiske Williams,
John Jacob Wolfersperger,
Edson LeVerne Wood,
Jesse Erwin Wrench.

Bachelors of Laws.

Ransom Wallace Akin,
Curtis Franklin Alliaume,
Lawrence Arnold,
Richard Elmer Babcock,
Harry Clark Baldwin,
Warren Stanley Barlow,
Eugene John Barvian,
Robert Van Rensselaer Bassett,
Romeyn Berry, A.B.,
Harlan Gibson Bosler,
James Lloyd Braman,
Russell Henry Brennau,
Clyde Channing Brown,
John Kearney Cleary,
Roy Bingham Davis, A.B.,
Karl Soden Deitz,
James Kerwin Feely,
Abraham Wilfred Feinberg,
James Thomas Foody,
Dwight Eliot Foster,
Harry Charles Frey, A.B.,
Thomas Byron Gilchrist,
John Lawrence Gleason,
Morris Samuel Halliday,
Hampton Howell Halsey,
Harold Leslie Hart, A.B.,
Thomas Joseph Hassett,
Nelson Raymond Heater,
Laban Sheldon Jenks,
Henry Roger Jones, Jr.,
James Lewis Kelly,

Nicholas Edward Kernan, A.B.,
Melville Peter Lewis Kirchhofer,
Daniel Davold Kline,
Benjamin Kohn,
Caldwell Martin,
Isaac Francisco Martinez y Marti-
nez,
David Page Morehouse, Jr.,
Harry Lawrence Nuese,
Samuel Sherman Peer,
James White Persons,
Oley De Wayne Roats,
Ralph Kenyon Robertson, A.B.,
Fred Eugene Rosbrook,
Ida Belle Rosbrook,
Charles Price Rose,
Mark Rudich,
George Girard Schieffelin,
Robert Shunk Sloan,
Chester Allan Smith,
Harland Bryant Tibbetts, A.B.,
Stephen Ralph Tiffany,
James Alexander Trumbull,
Benjamin Coe Turner,
Luther Ashton Wait,
Arthur Brothers Weber,
Leo Aloysius Weter,
La Verne Arthur Wilder,
James Hewitt Wood,
George Edmund Wynkoop,
Charles John Yorkey.

Doctor of Medicine.

Francis Joseph Cahill, A.B.

Bachelors of the Science of Agriculture.

John Hall Barron,	Ora Lee, Jr.,
Wilfrid Gordon Brierley,	Luther Isaac Libby,
Horace Everett Brinckerhoff,	Percy Lang Lyford,
Christian Rudolph August Bües,	Charles William Mann,
Harry Freeman Button,	Robert Matheson,
Afrodisio Sampaio Coelho,	Emilio Ortiz de Zevallos,
David Alexander Adams Durward,	Fred Eldred Peck,
Morgan William Evans,	Harold Ellis Ross,
Lupercio Fagundes,	Charles Frederick Shaw,
Waldomiro Almada Fagundes,	Rob Roy Slocum,
Seymour Morton Herrick,	Edward Mansfield Swiggett,
Edward Newton Holton,	George Walter Tailby, Jr.,
Lindley Wilkeson Johnson,	João Tibiriçá,
	Harvey Leroy Westover.

Doctors of Veterinary Medicine.

Lee Sheldon Backus,	Alfred Joseph Maloney.
Charles Reuben Baldwin,	Albert Edmund Merry,
William Seymour Eggleston,	John Fred Miller,
Adelberto Almada Fagundes,	Walter Nelligan,
Franklin Luther Foster,	Chester Linwood Roadhouse,
Leigh Giltner,	Ernest Lee Simpson,
Ward Giltner,	William Burritt Smith,
Wallace Wood Herron,	Rosslyn John Stafford,
John Vernon Hills,	Eugene Joseph Sullivan,
John Arthur Johnson,	Walter Jennings Taylor,
Elbert Warfield Little,	Rex Whiting,
Thomas Alfred McCarthy,	John Gordon Wills, B.S.A.,
Ralph McGinnis,	Frank Henry Wright.

Forest Engineer.

Irving Tupper Worthley.

Bachelors of Architecture.

Marion Benjamin,	Reginald Edward Marsh,
Charles Evlynn Cutler, A.B.,	Henry Pliny Rogers, Jr.,
Harvey Starring Horton,	Wickham Taylor,
	Gordon Manfred Trautschold.

Civil Engineers.

Lesley Ashburner,
George Leslie Bilderbeck,
Clarence Edwin Boesch,
Percy Lewis Braunworth,
Grover Charles Brown,
Eugene Dickinson Burnell,
Robert Coltman, 3d,
Charles Ferguson Cook,
Ernest Anton Dahmen,
DeWitt Haydeu Daley,
Percy Gordon Douglas,
William James Durkan,
Ernest Adolph Duschak,
Alfred Joshua Edge,
Frank Edwin Elwood,
Edward Anthony Evans,
Lawrence Bradshaw Fay,
Arthur Virdin Foard,
Walter Granville Guss,
Max Haupt,
James Hervey Hutchison,
Bevan Jones,
Joel DeWitt Justin,
John James Klaber,
Robert Henry Knowlton,
Arthur Hirsh Kohn,

Edwin Weed Kramer,
Frank Elmaker Lawrence,
Orlando Hayward Linton,
Robert Archibald Lockerby,
Paul Leon Pierce, B.S
Harold Wislizenus Pitzman,
William Warwick Reynolds,
Le Ray Sidney Rickard,
Charles Siesel Rindsfoos,
Job Robert Rogers,
Henry Cecil Ruiz,
Harry William Rutherford,
Walter J Ryan, A. B.,
Henry Ryon,
Fred William Scheidenhelm, A.B.,
Nathan Schein,
Herman Fred Scholtz, B.C.E. ,
Ralph Febrey Shreve,
Henry Edmond Smith,
Arch Miller Snow,
John Stearns,
Joseph Frank Storz,
George Gardner Underhill,
Seth William Webb,
Ray Benedict West, B.S.,
Rollin Wood.

Mechanical Engineers.

Morris Landa Abrahams, B.S. in
M.E.,
James Montgomery Acklin,
Craig Adair,
William Daniel Allen,
Howard Lewis Aller,
Frank Gibbs Anderson,
Henry Atwater,
Rae Edwin Babson,
Herman Douglass Baggerly,
Willis Henry Ballance, Jr.,
Robert Charles Barton,

Harry H Bates,
Laurence Laverne Beebe,
Briau Chandler Bellows,
Charles James Billwiller, Jr.,
William Smart Bishop,
Irvin Blakeslee,
George Ripley Bliss, B.A.,
Carl Winter Boegehold,
Walter Bohrer,
August Bostroem, Jr., B.S.,
Karl Beckwith Britton,
William Henry Browne, Jr.,

534 *THIRTY-EIGHTH ANNUAL COMMENCEMENT.*

Floyd Collins Bruudage,
Walter William Burns,
Edward Winslow Champion,
Allan Harry Candee,
George Carpenter,
George Briggs Carpenter,
John Randolph Cautley,
Lysander D Childs,
Fred Percy Cleveland,
Emmet Cockrill,
Lamar Sheffield Collier, M.E.,
Jay Floyd Comstock,
Bruce Hall Corman,
Sam Nesbit Craig,
James Ray Craighead, B.A., M.A.,
George Stanley Crosler,
Charles Norman Cross,
Manuel Victorino Cuervo,
Harry Leroy Curtis,
Edwin Stair Curtiss,
Prentice Cushing,
Clifford Torrey Darby,
Alfred Miltenberger Darlow,
Irvin Williams Day,
Ralph Burnett Day,
Rodney Dean Day, B.A.,
Homer Crow Deffenbaugh,
Samuel James Dennis,
John Warner Desbecker,
Charles McClellion DeVed,
Thomas Augustus Dewey, B.S.,
John Alonzo Dickerman, Jr.,
Harold Lukens Doolittle,
William Allen Drake, B.S.,
Thomas Lyteland Dunn,
George Arthur Eagan,
Filip Law Emerson,
Edward Fussel Entwisle,
Gordon Maynard Evans, B.S.,
Walter Hubert Evans,
Edward Hall Faile,
Newton Cowan Failor,

William Fendrich, Jr., B.S.,
George Francis Fenno, B.S.,
Bernard Edward Fernow, Jr., A.B.,
James Powell Fisher,
Hugh Fitzhugh,
Burton Percival Fleming, B.S.,
Edward Thaddeus Foote,
John Edmonds Forgy,
Orrington Cyrenius Foster,
Leo Max Frank,
Lucius B Fuller,
Carl August Gaensslen,
Victor Raymond Gage,
William Henry Gallagher, Jr.,
Joseph Edwin Garabrant,
Ray Stewart Gehr, Ph.B.,
Walter Scott Giele,
Fred Otto Leopold Giesecke,
Thomas Croxton Gordon,
John Howard Gould,
Max Greenberg, A.B.,
Robert Gregg, B.S. in M.E.,
Edward Jesse Gregson, B.A.,
Holland Berkeley Hackett,
Harry Richmond Halloran,
Carlos Dempster Hart,
Frank Edward Haskell,
Donald Symington Hays,
Herbert Hechheimer,
John Carlisle Hemingway,
Everett House Hendrickson,
Harry Conrad Herpel,
Benjamin Musser Herr,
John Marshall Hewitt,
Max Smith Higgins,
Bertram Augustus Hildebrant,
William Edward Hogan,
Joseph Franklin Dix Hoge,
Edwin Hohner,
Harry Bell Hollenbeck,
Howard Abbott Holmes,
John Keene Hoppin,

Clarence Otis Howland,
Charles Gordon Jewell,
Elisha Martin Johnson,
George Tewksbury Johnson,
Harvey Fletcher Johnson,
Nathan Clarke Johnson,
James Markham Ambler Johnston,
 B.S., M.E.,
Arthur Locke Jones,
Ernest Wilbur Jones,
Ira Owen Jones,
Isaac Seeley Jones,
John Lucien Jones,
William Kahl,
James Gifford Kellogg,
Edward Douglas Kilburn,
Price Witter Kinney,
Joseph Kissick, Jr.,
Herbert Allen Kling,
Haroutine Kouyoumdjian,
Ralph William Krass, B.S.,
Walter Manning Ladd,
Clarence Meyer Langfeld,
George Lawson,
Charles Avery Lee, Jr.,
Walter Conrad Lefens,
Henry Charles Ernest Louis, A.B.,
Grover Lucker,
Laurence King Lynn,
Eric Walter McDougall,
John McGlone, A.B.,
George Walter McIver, B.S.,
Charles Watson McKay,
Edward Scofield MacKinlay, Jr.,
Joseph Nicholas Magna,
William Willett Manville,
Britton Albert Margerum,
Wilmer Dallam Masterson,
Hubert Willard Matthews, B.S.,
Allan Maughan,
Scott Thadeus Meissner,
Alfred Witherman Mellowes,
Lyman Middleditch,
Frederick Miller,
Walter R Mitchell, M.E.,
Dudley Montgomery,
William Conant Morgan, B.S.,
John Frederic Mowat, A.B.,
Ralph Munden,
James Eugene Neary,
George William Neilson,
Robert Cook Newcomb,
Clayton Worthington Nichols, Jr.,
George Robinson Norton,
Raymond Engelhart Ostby,
Henry Ellsworth Paine,
Lucius Lamar Patterson, A.B.,
 A.M.,
William Fearn Patton, Jr., A.B.,
Charles Gilbert Peterson,
Joseph Bond Philips,
William Edward Pierce,
Sylvester Cosgrave Preston,
William Tudor Price,
Joseph Henry Ramsey,
Erich Carl Rassbach,
William Asher Reece,
Charles Garonno Renold,
Martin Luther Richter, Jr., B.S.
 in C.E.,
Charles Maderia Rick,
Grover Cleveland Roat,
Charles Albert Robinson, Jr., A.B.,
William Alexander Robinson,
George Washington Roddewig,
Allan M Rossman, A.B.,
Harry Shepard Rowland,
Horace Price Sailor,
Robert Walker Salisbury,
Henry Wilson Saulsbury, A.B.,
Henry Jackson Scales, B.S. in E.E.,
 B.S. in M.E.,
Albert Herman Schaaf,
Robert Polk Schoenijahn,

Samuel Robert Schwartz, A.B.,	Antenor Valladares,
Ira Boyce Simonton, B.S.,	Leonard Green Van Nostrand,
Montgomery Sleeth,	Walton Van Winkle,
Chester Arthur Slocum,	Effingham Buckley Wagner,
Edwin Kennedy Smith,	Christopher James Walbran, Jr.,
Harry George Smith,	William Lewis Wallace, Jr.,
Mark Elmer Smith,	Arthur Soper Wardwell,
Warner Garfield Suider,	Warner Merriwether Watkins,
Floyd Christian Snyder,	B.S.,
Leo Harter Snyder,	Edwin Morris Richard Weiner,
Arthur Starr,	Leon Cowles Welch,
Edward Albert Steele,	Merton Rone Wheeler,
Harold Gross Stern,	James Harold Whitehead,
William Clifford Stevens,	Paul A Wien,
Wilhelm Carl Summer, A.B.,	Ray Douglas Willets,
Spencer Jay Teller,	Albert Blake Williams,
Herbert Asher Temple,	John Kennedy Williamson,
Royal David Thomas,	John Crosier Wilson,
Charles Lewis Thompson,	Harold Jacob Wise,
Ray Timmerman,	Louis Robert Wolheim, B.S.,
John William Todd,	Frank Travers Wood, B.S.,
Henry Adelbert Travers,	LeRoy Woodland,
Gabriel Tudela,	Samuel Hamilton Woods,
Ralph Coit Turner,	Otto Wortmann, B.S.,
Stephen James Tydeman,	William Henry Yates.

ADVANCED DEGREES.

Masters of Arts.

Caroline Louise Allen, A.B. : The Development of some Species of Hypholoma and Psilocybe.

George Henry Brown, B.L. : French Literature during the Revolution.

Edith Delano Dexter, A.B. : To what Extent and within what Limits does Virgil make Prepositional Phrases depend upon Nouns and Pronouns?

Emily Abigail Evans, A.B. : The Brain of Sharks and Rays.

Jennie Wilhelmina Sophie Felldin, A.B. : The Use of the Ablative of Separation with and without Prepositions in Connection with Compounds.

- Jobelle Holcombe, B.A. : The Chorus in the English Drama to 1640.
Frederick Hartzler Kreckler, A.B. : The Eyes of Dactylopius.
Mattie Alexander Martin, A.B. : The Postulate of Experience as Interpretation : Kant.
Jesse Randolph Pawling, A.B. : A Study of the Physiological and Histological Changes taking place in Muscle after Injury to its Motor Nerve.
Effie Alberta Read, A.B. : The Olfactory End-organs and their Connections.
Ralph Cuthbert Snowdon, A.B. : The Electrolytic Deposition of Metals.
Mabel Harriet Walbridge, A.B. : The Hall Effect of Tellurium.
Frances Gertrude Wick, A.B. : A Spectrophotometric Study of the absorbing Power and the Fluorescence of Resorufin.

Masters of Science in Agriculture.

- Indu Bhushan DeMajumdar, A.B. : Some Fields for Improvement in the Agriculture of India as suggested by American Methods.
William Franklin Fletcher, B.S.A. : An Artificial Classification of the Best Known Varieties of Apples now Grown in America.
Laura Gano, Ph.B., B.S. : The True Clovers : A Study of Certain Species and Varieties of the Genus *Trifolium*.
William Harrison Homer, B.S. : The Influence of Shade on the Growth of Plants.
James Christian Hogenson, B.S. : The Influence of Certain Mineral Substances on the Flowers of Plants.
John Eaton Howitt, B.S.A. : The Effect of Etherization in the Forcing of Shrubs and Herbaceous Plants.
Claude Isaac Lewis, B.S. : The Effect of Etherization in the Forcing of Bulbs.
James Malcolm Swaine, B.S. in Agr. : The Scolytidae of Ithaca.
Tien Chih Tan, B.S. : Some Chemical Effects of Liming on Dunkirk Clay Soil Seeded with Alfalfa.
Albert Davis Taylor, B.S. : A Monograph of the Propagation of Conifers, with a general Conspectus of the Propagation of Ornamental Trees and Shrubs.
Paul J White, A.B., A.M. : Some Factors Affecting the Germination and Growth of Wheat Seedlings.

Master of Science in Architecture.

- Charles Sherman Cobb, B.S. in Arch. (No Thesis required.)

Master of Civil Engineering.

William Franklin Martin, B.S., C.E. : The Flow of Water over Weirs as affected by the Width of Channel of Approach.

Masters of Mechanical Engineering.

Charles Eli Burgoon, M.E. : The Specific Heat of Superheated Steam.
Harry Hamilton Cochrane, B.S. : The Design of High Tension Transformer.

George Whitmore Rice, M.E. : Current Practice in Automobile Engine Design.

John Wheeler, M.E. : Pitot Tubes for Measuring the Velocity of Air.

Doctors of Philosophy.

Joseph Quincy Adams, Jr., A.B., A.M. : Studies in the Elizabethan and Jacobean Drama : Sources and Authorship.

Cornelius Betten, B.A., M.A. : The Wing Venation of Trichoptera.

Theodore Frelinghuysen Collier, A.B., A.M. : The Miracles of St. Francis Xavier.

Elmer Clifford Colpitts, A.B. : On the Twisted Quintic Curves.

Edward Godfrey Cox, A.B., A.M. : The Pronominal Forms of the Cursor Mundi.

Albert Davis, A.B., A.M. : Nature Poetry in English Literature of the Eighteenth Century.

Clarence Owen Harris, A.B. : The Life and Works of Archilochus on the Basis of the Original Sources.

✓ Samuel Perkins Hayes, A.B., B.D., M.A. : A Study of the Affective Qualities.

Thomas J Headlee, A.B., A.M. : Phylogeny of the Butterflies as shown by their Wing Venation.

Martin Joshua Iorns, B.C.E. in B.S. : Influence of Acetylene Light on Plant Growth.

Helen Isham, A.B. : A Contribution to the Chemistry of Hydronitric Acid.

Daniel Chauncey Knowlton, A.B. : Masaniello and the Rising of 1647-48 in Naples.

Grace Andrus de Laguna, A.B. : The Relation of the Mechanical Theory to Rationalism ; with Especial Reference to the Systems of Descartes, Spinoza, and Leibniz.

Lynn Boal Mitchell, B.A., A.M. : The Moods with Quod and Quia Clauses in Early and Classical Latin.

Albert Ten Eyck Olmstead, A.B., A.M. : Western Asia in the Time of Sargon of Assyria, 722-705 B. C.

Margaret Otis, A.B. : The Place and Influence of Stesichorus, based upon a Consideration of the Original Sources.

✓ George Holland Sabine, A.B. : The Beginnings of English Associationism

Charles Herschel Sisam, A.B., A.M. : Ruled Surfaces of Order Seven having a Rectilinear Directrix.

George Pendleton Watkins, A.B. : The Economic Causes of Large Fortunes in the United States.

CERTIFICATES AND PRIZES.

The following were awarded by the Faculties during the Academic year 1905-1906 :

Certificates for Proficiency in Military Science :

Otto Irving Chormann,	Charles Frederick Landmesser
Edward Elway Free,	Charles Henry Tuck,
Horace Andrew Watt.	

The Sibley Prizes in Mechanic Arts :

<i>First Prize</i>	John Crosier Wilson
<i>Second Prize</i>	James Ray Craighead, M.A.
<i>Third Prize</i>	Louis Jacob Gersoni
<i>Fourth Prize</i>	George Castleman Estill, A.B.
<i>Fifth Prize</i>	John Carlos Ballard

The H. K. White Prizes in Veterinary Science :

<i>First Prize</i>	William Seymour Eggleston
<i>Second Prize</i>	Ward Giltner

The Woodford Prize in Oratory Charles Henry Tuck

The Eighty-Six Memorial Prize in Declamation :

Francis Lammerts Durk

The Ninety-Four Memorial Prize in Debate :

George William Roesch

The Guilford Essay Prize : Carrie Zoe Hartman

The Barnes Shakespeare Prize : Harold Newcomb Hillebrand

The German Prize : Karen Elsie Monrad

The Fuertes Medals :

Erwin Ernest Haslam, C.E.,	Charles Ferguson Cook
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The Sands Medals in Architecture

Charles Sherman Cobb,	William Weatherly Hannon
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Blanchard Mitchell Mackintosh,	Henry Pliny Roger, Jr.,
Wickham Taylor.	

The Brown Memorial Medals in Architecture :

Henry Pliny Rogers, Jr.,	Wickham Taylor
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The John Metcalfe Polk Memorial Prizes:

First Prize Frank Perry Goodwin
Second Prize Charles George Koehler, Jr., A.B.
Third Prize Jacob Kissel

The Whiting Prizes in Otolology

First Prize Frank Perry Goodwin
Second Prize Walter Austen McLaren

DOCTORS OF MEDICINE.

[Conferred June 13, 1906, at the Eighth Annual Commencement of the Medical College in New York City.]

Henry Aronson,
 Michael Halpern Barsky,
 Charlotte Blum,
 Charles Herbert Boxmeyer, A.B.,
 Aaron Brown,
 Isabel Caldwell, A.B.,
 Archibald Eastwood Chace, A.B.,
 Edgar Gordon Cuddeback, A.B.,
 Nina A Dennis, A.B.,
 Barney Joachim Dryfuss, B.S
 M.D.,
 Bernard Hyle Eliasberg,
 Irving Harold Engel,
 Isidor Feldman,
 Edward Louis Friedman,
 Abraham Leon Garbat,
 Harry Newport Golding,
 Frank Perry Goodwin,
 Leo Halpin,
 John Patrick Hanley,
 Samuel Hollander,
 August George Horstman,
 Milton John Johnson,
 Frank Kaufhold,
 Thomas Joseph Kearns, B.A.,
 Jacob Kissel,
 Charles George Koehler, Jr., A.B.,
 Samuel Levin,
 William Lintz,

Walter Austin McLaren,
 John Alphonsus McNeVins,
 Edward Bond Mackey,
 Arthur Harold Martin, A.B.,
 Clarence Paul Oberndorf, A.B.,
 Charles Rockwell Payne, A.B.,
 Louis Joseph Placek,
 Ernest Marsh Poate,
 Adelbert J Price,
 Hyman Leon Ratnoff,
 Anna Elizabeth Ray, A.B.; A.M.,
 James Erwin Reed, Jr
 Frank Howard Richardson, A. B.,
 Mary Huntting Robinson,
 Ralph Robinson,
 Joseph Rothkowitz,
 Max Jacob Russianoff,
 Leo Francis Schiff,
 Mabel Scott,
 Warren George Smith,
 Abraham Sophian,
 William Henry Specht, D.D.S.,
 Benjamin Startz,
 Toyohiko Campell Takami,
 Samuel Tietze,
 Thomas Grant Tousey,
 Ernest Marsters Vaughan,
 William Isidore Wallach,
 Henry Hopson Wilcox,

Floyd Stone Winslow.

FELLOWS AND SCHOLARS.

UNIVERSITY FELLOWS

The Cornell Fellowship,

Mary Aloysia Molloy, Ph. B., A. M. (Ohio State Univ.), *English*

The McGraw Fellowship,

Civil Engineering

The Sage Fellowship,

Frank Curry Mathers, A. B., A. M. (Indiana Univ.), *Chemistry*

The Schuyler Fellowship, †

George Daniel Shafer, A. B. (Indiana Univ.), A. M. (Stanford Univ.), *Entomology*

The Sibley Fellowship,

William Lewis Wallace, Jr., M. E., *Mechanical Engineering*

The Goldwin Smith Fellowship,

John Moore Reade, B. S. A. (Univ. of Toronto) *Botany*

The President White Fellowship,

Reuben Edson Nyswander, Jr., A. B., A. M. (Indiana Univ.), *Physics*

The Erastus Brooks Fellowship,

William Massey Carruth, A. B., *Mathematics*

Reginald Edward Marsh, B. Arch., *Architecture*

Frank James Short, (Univ. of Wisc.), *Mechanical Engineering*

Ernest George Atkin, *Romance Languages*

Raymond Watson Jones, A. B., *Germanic Languages*

John Pogue Stewart, A. B. (Univ. of Illinois), M. S. in Agr. (Cornell Univ.), *Agriculture*

PRESIDENT WHITE FELLOWS IN HISTORY AND POLITICAL SCIENCE.

Louise Fargo Brown, A. B.

Burdette Gibson Lewis, A. B. (Univ. of Nebraska).

FELLOWS IN POLITICAL ECONOMY.

Oliver Cary Lockhart, A. B., A. M. (Univ. of Indiana).

Emanuel A Goldenweiser, A. B. (Columbia Univ.), A. M. (Cornell Univ.).

FELLOWS IN LATIN AND GREEK.

Anne Browning Butler, A.B.

William Dodge Gray, A.B. (Univ. of Ark.), A.M. (Cornell Univ.).

FELLOW IN AMERICAN HISTORY.

Helen Louise Young, A.B.

SUSAN LINN SAGE FELLOWS IN PHILOSOPHY.

Mattie Alexander Martin, A.B., A.M.

Frank Davis Mitchell, A.B.

Elsie Murray, A.B.

FELLOW IN ARCHITECTURE.

Herbert Parkhurst Atherton, B.Arch.

HONORARY FELLOWS.

James Allen Nelson, Ph.B. (Kenyon Coll.), Ph.D. (Univ. of Penn.),
Entomology

Charles Edward Lewis, A.B. (Indiana Univ.), A.M. (same), Ph.D.
(Cornell Univ.), *Botany*

GRADUATE SCHOLARS IN THE SCHOOL OF PHILOSOPHY

Frank Byron Crandall, A.B.

Gus Watts Cunningham, M.A. (Furman).

Arthur Upham Pope, A.B., A.M. (Brown Univ.).

Mary Winifred Sprague, A.B.

Margaret Kirkpatrick Strong B.A. (Toronto Univ.).

Mary Cheves West, B.S. (Columbia Univ.).

UNIVERSITY GRADUATE SCHOLARS.

Frances Gertrude Wick, A.B., A.M., *Physics*

Arthur William Fisher, Ph.B., A.M., *English*

George M Sharrard, A.B., A.M. (Univ. of Kansas), *Greek and Latin*

John Lyon Rich, A.B., *Geology, Physical Geography*

Myrta Eleanor Hunn, A.B., *Comparative Philology and Archaeology*

Albert Lloyd Barrows, B.S. (Pomona Coll.), *Histology*

Civil Engineering

Carl George Schluederberg, M.E.,	<i>Chemistry</i>
Hans H Dalaker, B.A. (Univ. of Minn.),	<i>Mathematics</i>
Carl Conrad Eckhardt, Ph.B. (Ohio State Univ.), A.M. (Univ. of Michigan),	<i>History</i>

 UNIVERSITY UNDERGRADUATE SCHOLARSHIPS.

CLASS OF 1909.

THE CORNELL SCHOLARSHIPS,

Russell Vincent Banta, *Course in Civil Engineering*
Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.
Mattie Charlotte Moffett, *Course in Arts*
Middletown High School—Wm. A. Wilson, A.B., Principal.

THE H. B. LORD SCHOLARSHIPS,

Frederick Adolph Rice, *Course in Arts*
Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.
Edwin Charles Mayer, *Course in Arts*
Erasmus Hall High School—Walter Gunnison, Ph.D., Principal.

THE MCGRAW SCHOLARSHIPS,

William Alphonsus Shea, *Course in Arts*
Brockport Normal School—C. T. McFarlane, Principal.
David Tollins, *Course in Law*
Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

THE SAGE SCHOLARSHIPS,

Anna Belle Geuung, *Course in Arts*
Ithaca High School—F. D. Boynton, D.Pd., Principal.
Alice Wells Benham, *Course in Arts*
Cortland Normal School—F. J. Cheney, Ph.D., Principal.

THE SIBLEY SCHOLARSHIPS,

George Gordon Dobson, *Course in Mechanical Engineering*
Passaic High School—A. D. Arnold, Principal.
Tom Bruce Hyde, *Course in Mechanical Engineering*
Ithaca High School—F. D. Boynton, D.Pd., Principal.

THE PRESIDENT WHITE SCHOLARSHIPS,

Everett Magnon York, *Course in Arts*
Flushing High School—John Holley Clark, A.M., Principal.
Helen Frances Dwyer, *Course in Arts*
Hartford High School, Conn.—E. H. Smiley, Principal.

THE HORACE GREELEY SCHOLARSHIPS,

Freda Kiso, *Course in Arts*
Eastern District High School, Brooklyn—Wm. S. Vlymen, Principal.
Loring DeLacy Jones, *Course in Arts*
Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

THE JOHN STANTON GOULD SCHOLARSHIPS,

Emil Adler, *Course in Mechanical Engineering*

Masten Park High School, Buffalo—F. S. Fosdick, M.A., Principal.

Peter Thomas Vanderwaart, *Course in Mechanical Engineering*

Norwich Free Academy—H. A. Tirrell, Principal.

THE STEWART L. WOODFORD SCHOLARSHIPS,

Fritz Fernow, *Course in Arts*

Ithaca High School—F. D. Boynton, D.Pd., Principal.

Charles Chadowitz, *Course in Arts*

Boy's High School, Brooklyn—John Mickleborough, Ph.D., Principal.

 CLASS OF 1910.

THE CORNELL SCHOLARSHIPS,

Hymen Max Barr, *Course in Arts*

Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

James Cyril O'Brien, *Course in Arts*

East High School, Rochester—Albert H. Wilcox, A.B., A.M., Principal.

THE H. B. LORD SCHOLARSHIPS,

Marion Hawthorne Merriss, *Course in Arts*

Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

Louis George Bushlowitz, *Course in Arts*

DeWitt Clinton High School—J. T. Buchanan, Ph.D., Principal.

THE MCGRAW SCHOLARSHIPS,

Walter Raymond Meier, *Course in Architecture*

Detroit Central High School—David Mackenzie, A.M., Principal.

Ignace Levinson, *Course in Arts*

Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

THE SAGE SCHOLARSHIPS,

Maud Miriam Sheldon, *Course in Arts*

Ithaca High School—F. D. Boynton, D.Pd., Principal.

Jeanette Amalie Stern, *Course in Arts*

Masten Park High School, Buffalo—Frank S. Fosdick, M.A., Principal.

THE SIBLEY SCHOLARSHIPS,

Charles Philips Gross, *Course in Mechanical Engineering*

Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

Lynn Crandall, *Course in Civil Engineering*

Ithaca High School—F. D. Boynton, D.Pd., Principal.

THE PRESIDENT WHITE SCHOLARSHIP,

Isabel Shepard, *Course in Arts*

Honeoye Falls High School—W. G. Clark, A.B., Principal.

THE HORACE GREELEY SCHOLARSHIP,

Robert Stedman Strack, *Course in Arts*
Owego Free Academy—H. L. Russell, A.B., Principal.

THE JOHN STANTON GOULD SCHOLARSHIP,

David Truxton Wilber, *Course in Arts*
Binghamton High School—E. R. Whitney, A.B., M.S., Principal.

THE STEWART L. WOODFORD SCHOLARSHIP,

Wallace Everett Caldwell, *Course in Arts*
Boys' High School, Brooklyn—John Mickleborough, Ph.D., Principal.

ASSOCIATE ALUMNAE SCHOLAR

Pearl Donnan, *Course in Arts*

FRANK WILLIAM PADGHAM SCHOLAR

Richard Evett Bishop, *Course in Mechanical Engineering*

BOARDMAN SENIOR LAW PRIZE

Francis Lammerts Durk, *Course in Law*

CATALOGUE OF STUDENTS.

GRADUATES.

**In absentia.*

***Not in residence 1906-07.*

†Not Candidates for Degrees.

- Albert, Calvin Dodge, M.E., 1902, *Ithaca*
Mechanical and Civil Engineering. *M.M.E.*
[Mechanical Engineering, Hydraulics.]
- Apgar, Clara Selkreg, A.B., 1905, *Ithaca*
Latin, English. *A.M.*
- Atherton, Herbert Parkhurst, B.Arch., 1903, *Holyoke, Mass.*
Architecture. *M.S. in Arch.*
[Advanced Design, Landscape Design.]
- ***Atkin, Ernest George, A.B., 1904, *Paris, France*
Romance Languages. *Ph.D.*
[Traveling Fellow in Romance Languages.]
- †*Backus, Lee Seldon, D.V.M., 1906, *Derby*
Veterinary Medicine.
[Clinical Diagnostics, Advanced Bacteriology.]
- Bailey, Elmer James, Ph.B. (Univ. of Rochester), 1894, *Ph.M.*
(same), 1897, A.M. (Hamilton Coll.), 1905, *Ithaca*
English, History and Political Science. *Ph.D.*
[English and American Literature, American History, English Philology].
- Baldwin, Wesley Manning, *Brooklyn*
Anatomy, Histology and Embryology. *A.M.*
- Barclay, Margaret Ethel, A.B. (Adelphi Coll.), 1906, *Brooklyn*
Botany, Physiology. *A.M.*
- ***Barlow, John, B.S. (Middlebury Coll.), 1895, A.M., (Brown Univ.),
1896, *Kingston, R. I.*
Entomology. *Ph.D.*
[The Psocidæ of North America, The Giant Fibers of Palæmonetes,
General Systematic Entomology.]
- Barrows, Albert Lloyd, B.S. (Pomona College), 1906, *Nordhoff, Cal.*
Histology and Embryology, Entomology, Economic Vertebrate
Zoology, *Ph.D.*

- Barton, Alvin Lester, A.B. (Univ. of Chicago.), 1900, *Chicago, Ill.*
 History and Political Science, Romance Language, Physical
 Geography. *Ph.D.*
 [English History, Romance Language, Geography.]
- †Beckman, August Christopher, B.S. (Purdue Univ.), 1904,
Hammond, Ind.
 Civil Engineering.
 [Bridge Engineering, Advanced Mechanics.]
- Black, John Alexander, A.B. (Univ. of Chicago), 1903, *Lima, O.*
 Chemistry. *Ph.D.*
 [Organic Chemistry, Physiological Chemistry, Analytical Chemistry.]
- Blews, Richard Rutherford, A.B. (Greenville Coll.), 1904, *Brooklyn*
 History and Political Science, Greek, Latin. *Ph.D.*
 [Ancient History, Greek, Latin.]
- Broughton, Leslie Nathan, A.B. (Union Univ.), 1900, *Ithaca*
 English. *A. M.*
- Brown, Mortimer Jay, B.Sc. (Univ. of Nebraska), 1905,
Tecumseh, Nebraska
 Chemistry, Geology, *Ph.D.*
 [Inorganic Chemistry, Physical Chemistry, Economic Geology.]
- Burnham, Henry Gordon, A.B., 1906, *Cobleskill*
 Chemistry. *Ph.D.*
 [Organic Chemistry, Physical Chemistry, Analytical Chemistry.]
- Burns, Eleanor Irene, A.B., 1904 *Bristol, Pa.*
 Physics. *A.M.*
 [Experimental Physics, Theoretical Physics.]
- Burr, Frank Arthur, M.E. (Brown Univ.), 1905, *Seekonk, Mass.*
 Mechanical Engineering. *M.M.E.*
 [Advanced Marine Engineering, Naval Architecture.]
- Butler, Anne Browning, A.B., 1902, *Indianapolis, Ind.*
 Greek, Latin, Comparative Philology. *Ph.D.*
- Butler, Bert S, A.B., 1905, *Wyoming*
 Geology, Physical Geography. *A.M.*
 [Mineralogy and Petrography, Physiography.]
- **Brown, Louise Fargo, A.B., 1903, *Buffalo*
 History, Physical Geography. *Ph.D.*
 [Modern European and Mediæval History, Physical Geography.]
- Carruth, William Massey, A.B., 1901, *Cleveland, O.*
 Mathematics, Physics. *Ph.D.*
 [Pure Mathematics, Applied Mathematics, Physics.]
- Cautley, John Randolph, M.E., 1906, *Ithaca*
 Mechanical Engineering. *M.M.E.*
 [Power Engineering, Experimental Engineering.]

- Chakravarty, Jatindra Nath, A. B. (Calcutta), 1902, *Calcutta, India*
Agriculture. *M.S. in Agr.*
[Agronomy, Dairy Industry.]
- Charles, Benson Brush, A.B., 1906, *Salamanca*
Semitic Languages, Comparative Philology. *A.M.*
- Chorman, Otto Irving, A.B., 1906, *Niagara Falls*
Chemistry, Geology. *A.M.*
[Analytical Chemistry, Economic Geology.]
- †Clapp, Laurence Bowman, A.B., 1904, *Ithaca*
Architecture.
- Clark, Charles Frederick, B.S. (Univ. of Vt.), 1897, *Glover, Vt.*
Agriculture, Botany. *M.S. in Agr.*
[Agronomy, Plant Physiology.]
- **Cochran, Jerome, C.E. (A. & M. Coll. of Texas), 1904, B.S. in
C.E. (same), 1905, *Houston, Texas*
Civil Engineering. *M.C.E.*
[Structural Engineering, Sanitary Engineering.]
- Coffin, Joseph Herschel, B.S. (Penn. Coll.), 1902, A.M., (same), 1904,
Oskaloosa, Iowa
Philosophy. *Ph.D.*
[Psychology, Modern Philosophy, Ethics.]
- Coil, Nathan Watson, A.B. (Wabash Coll.), 1906, *Laotto, Ind.*
Botany, Entomology. *Ph.D.*
[Mycology, Systematic Botany, Entomology.]
- Coit, John Eliot, B.Agr. (A. and M. Coll. of N. C.), 1903, M.S. in Agr.
(Cornell), 1905, *Ithaca*
Agriculture, Botany. *Ph.D.*
[Horticulture, Systematic Botany.]
- Cox, Herbert Randolph, B.S.A., 1905, *Canton, O.*
Horticulture. *M.S. in Agr.*
[The Oriental Pear and its Hybrids in America, Pomology in Ohio.]
- Craig, Clyde Firman, A.B. (Univ. of Mich.), 1904, *Des Moines, Iowa*
Mathematics, Physics. *Ph.D.*
[Pure Mathematics, Applied Mathematics, Physics.]
- Crandall, Frank Byron, A.B., 1906, *Wellsville*
Philosophy. *A.M.*
[Logic and Metaphysics, Ethics.]
- †Crawford, Willard John, Jr., *Cleveland, O.*
History and Political Science, English.
[American History, Russian History, English.]

- Crittenden, Eugene Casson, A.B., 1905, *Oswayo, Pa.*
 Physics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Advanced Optics.]
- Cunningham, Gus Watts, A.M., (Furman Univ.), 1902, *Birmingham, Ala.*
 Philosophy, English. *Ph.D.*
 [Logic and Metaphysics, Ethics English.]
- Cutler, Hugh Dysart, A.B., 1902, *New Brunswick, Canada*
 History and Political Science, Philosophy. *Ph.D.*
 [Politics, Economics, Philosophy.]
- Dalaker, Hans H, A.B. (Univ. of Minnesota), 1902, *Minneapolis, Minn.*
 Mathematics, Civil Engineering, Physics. *Ph.D.*
 [Mathematics, Mechanics, Physics.]
- Darling, Joshua Ferris, *Buffalo*
 Chemistry, Physics. *A.M.*
 [Physical Chemistry, Physics.]
- Datta, Dwijadas, B.S. (Calcutta), 1903, *Silchar, Dist. Cachar, India*
 Horticulture, Dairy Bacteriology. *M.S. in Agr.*
- Delbridge, Thomas G, A.B. (Union Coll.), 1903, *Ithaca*
 Chemistry. *Ph.D.*
 [Organic Chemistry, Analytical Chemistry, Physiological Chemistry.]
- De Majumdar, Indu Bhushan, A.B (Calcutta Univ.), 1902, M.S. in
 Agr. (Cornell Univ.), 1906, *East Bengal, India*
 Agriculture. *Ph.D.*
 [Rural Economy, Agronomy, Horticulture.]
- Dennison, Boyd Coe, M.E., 1904, *Binghamton*
 Mechanical Engineering. *M.M.E.*
 [Experimental Engineering, Electrical Machinery.]
- Dodds, Samuel Renwick, E.E. (Western Univ. of Pa.), 1903, *Beaver Falls, Pa.*
 Mechanical Engineering, Physics. *M.M.E.*
 [Electrical Engineering, Electro-Physics.]
- *Dodge, Lawrence Green, A.B. (Harvard Univ.), 1904, B.S.A. (Cor-
 nell Univ.), 1905, *Wenham, Mass.*
 Agriculture. *M.S. in Agr.*
 [Agronomy, Animal Husbandry.]
- Dorsey, Herbert Grove, B.S. (Denison Univ.), 1897, M.S. (same),
 1898, *Granville, O.*
 Physics, Mathematics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Mathematics.]

- **Douglas, Gertrude Elizabeth, A.B. (Smith Coll.), 1904, *Gardner, Mass.*
 Botany. *A.M.*
 [Physiology, Histology.]
- Dunbar, Jessie Ellen, A.B., 1906, *Ithaca*
 German Literature, Romance Languages. *A.M.*
 [German, French.]
- Dutt, Hira Laul, A.B. (Calcutta), 1902, *Calcutta, India*
 Agriculture, Entomology. *M.S. in Agr.*
 [Agronomy, Entomology.]
- Eckhardt, Carl Conrad, Ph.B. (Ohio State Univ.), 1902, A.M.
 (Michigan), 1904, *Toledo, O.*
 History and Political Science. *Ph.D.*
 [Modern European and Medieval Hist., Political Science.]
- Edgerton, Claude Wilbur, B.S. (Univ. of Nebraska), 1903, *Woodbine, Iowa*
 Botany. *Ph.D.*
 [Mycology, Physiology, Systematic Botany.]
- †Edmand, Alpha Caroline, A.B. (Univ. of Mich.), 1901, *Pella, Iowa*
 English, History and Political Science.
 [English, English History.]
- Edminster, Frank Custer, A.B., 1902, *Brooklyn*
 Mathematics. *A.M.*
 [Pure Mathematics, Applied Mathematics.]
- Erwin, James Arad, *Chicago, Ill.*
 Experimental Engineering. *M.M.E.*
 [Elective and Hydraulic Experimental Engineering.]
- Evans, Morgan William, B.S.A., 1906, *Le Raysville, Pa.*
 Agronomy, Rural Economy. *M.S. in Agr.*
- Fisher, Arthur William, Ph.B., 1898, A.M., 1899, *Pultneyville*
 English, German. *Ph.D.*
 [English Literature, English Philology, German Philology.]
- Fisher, Willard James, A.B. (Amherst), 1892, *Woods Hole, Mass.*
 Physics. *Ph.D.*
 [Experimental, Theoretical, and Mathematical Physics.]
- Fletcher, Philena Belle, B.S.A., 1904, *Bainbridge*
 Entomology, Botany. *Ph.D.*
 [Entomology, Plant Histology, Mycology.]
- Forsyth, Chester H, A.B. (Butler Coll.), 1906, *Trafalgar, Ind.*
 Mathematics, Physics, Astronomy. *Ph.D.*
- Frank, Joseph Julius, A.B. (Columbia Univ.), 1905, *New York City*
 Chemistry, Physics. *A.M.*

- **Fraser, Samuel** (Cheshire Agr. and Hort. Coll., Eng.), 1898,
M.S. in Agr. (Cornell Univ.), 1905, *Geneseo*
Agriculture. *Ph.D.*
[Timothy (*Phleum pratense*), The Improvement of Timothy
by Selection (*Phleum pratense*), The Draft of Tillage Im-
plements.]
- Fraser, William Pollok, A.B.**, 1906, *New Glasgow, Canada*
Botany, Zoology. *A.M.*
[Mycology, Vertebrate Zoology.]
- Framer, William Alley, A.B.**, 1903, *Ithaca*
History and Political Science. *Ph.D.*
[Medieval History, Modern European Hist., Political Science.]
- **Free, Edward Elway, A.B.**, 1906, *DuBois, Pa.*
Chemistry, Geology. *A.M.*
[Physical Chemistry, Mineralogy.]
- Freedlander, Abraham Abbey, A.B.**, 1905, *Buffalo*
History and Political Science. *Ph.D.*
[Modern European History, American History, Politics.]
- Gaehr, Paul Frederick, A.B.**, 1902, *A.M.*, 1905, *Ithaca*
Physics, Mathematics. *Ph.D.*
[Experimental Physics, Theoretical Physics, Mathematics.]
- Gage, Otis Amsden, Ph.B.** (Univ. of Rochester), 1899, *Bellona*
Physics. *Ph.D.*
[Experimental, Theoretical, and Mathematical Physics.]
- Garrett, Mitchell Bennett, A.B.** (Howard Coll.), 1900, *A.M.*, (same)
1902, *Lineville, Alabama*
History and Political Science. *Ph.D.*
[Modern European History, Medieval History, Political Science.]
- Gavett, George Irving, B.S. (C.E.)** (Univ. of Mich.), 1893, *Ithaca*
Mathematics, Civil Engineering. *A.M.*
- Gayden, Octavia Perkins, A.B.** (Sophie Newcomb Coll.), 1901, *Gurley, La.*
Latin, Ancient History. *A.M.*
- Geissler, Ludwig Reinhold, B.L.** (Univ. of Texas), 1905, *Ithaca*
Philosophy. *Ph.D.*
[Psychology, Logic and Metaphysics, Ethics.]
- George, Sidney Gonzales, C.E.**, 1905, *Fredonia*
Civil Engineering. *M.C.E.*
[Mining Engineering, Advanced Mechanics.]
- Ghosh, Apurba Chandra, A.B.** (Calcutta Univ.), 1901, *Bengal, India*
Horticulture, Agronomy. *M.S. in Agr.*

- Gibbs, Elbert Allan, B.S. (Univ. of Cal.), 1905, *Ithaca*
Civil Engineering. *M.C.E.*
[Civil Engineering, Bridge Eng'ng, Advanced Mechanics.]
- Gibbs, Roswell Clifton, A.B., 1906, *Ithaca*
Physics, Mathematics. *A.M.*
- Giesecke, Albert Anthony, B.S. in E. (Univ. of Pa.), 1904, *Philadelphia, Pa.*
History and Political Science. *Ph.D.*
[Political Science, American History, Economics.]
- Gillett, Horace Wadsworth, A.B., 1906, *Penn Yan*
Chemistry. *A.M.*
[Physical Chemistry, Organic Chemistry.]
- Goldenweiser, Emanuel A, A B. (Columbia Univ.), 1903, A.M. (Cor-
nell), 1905, *Kiew, Russia*
History and Political Science. *Ph.D.*
[Economics, Politics, American History.]
- Gordon, Arthur, A.B., 1904, *Caledonia*
Romance Languages. *Ph.D.*
[French Language, French Literature, Spanish Literature.]
- Graves, Alice Amelia, A.B. (Lake Forest Coll.), 1904, *Plainfield, Ill.*
Entomology, Vertebrate Zoology. *A.M.*
- Gray, William Dodge, A.B. (Univ. of Arkansas), 1900, A.M. (Cor-
nell), 1903, *Little Rock, Ark.*
Latin, Greek, Ancient History. *Ph.D.*
[Latin, Greek, Greek and Roman History.]
- Greene, Antoinette, A.B., 1906, *Ithaca*
English, German Literature. *A.M.*
[English, German.]
- †Guggenheim, Bernard, Chemical Eng. (Zurich), 1899, *Ph.D.*
(Geneva), 1900, *Ithaca*
Chemistry.
[Honorary Fellow in Chemistry.]
- Hartman, Fanny Taylor, B.S. in Agr. (Missouri State Univ.), 1906, *Fort Wayne, Ind.*
Entomology, Botany. *M.S. in Agr.*
- †Hau, George William, B.P. (Ohio Northern Univ.), 1899, A.M.
(same), 1906, *Schweich, Rheinp, Germany*
Science and Art of Education, History and Political Science.
[Science and Art of Education, Political Science, Ancient History.]
- Hawley, Lee Fred., A.B., 1903, A.M., 1905, *East Randolph*
Chemistry, Geology. *Ph.D.*
[Inorganic Chemistry, Mineralogy, Physical Chemistry.]

- Hayhurst, Paul, A.B. (Missouri Univ.), 1904, *Dunkirk*
 General Entomology, Economic Ent., Vertebrate Zoology. *Ph.D.*
- **Herrick, Glenn Washington, B.S.A., 1896, *Agricultural Coll., Miss.*
 Entomology, Invertebrate Zoology. *A.M.*
- Hickman, Emily, A.B., 1901, *Buffalo*
 History and Political Science. *Ph.D.*
 [American History, Modern European History, Political Science]
- *Hochbaum, Hans Weller, B.S.A., 1905, *Greeley, Colo.*
 Agriculture. *M.S. in Agr.*
 [Landscape Gardening, Horticulture.]
- Hodge, Percy, A.B. (Western Reserve Univ.), 1892, B.S. (Case School
 of Applied Science), 1894, *Hudson, O.*
 Physics, Mathematics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Mathematics.]
- Hogan, William Edward, M.E., 1906, *Bridgeport, Conn.*
 Mechanical and Civil Engineering. *M.M.E.*
 [Electrical Engineering, Hydraulics.]
- Housser, George Elliott, A.B. (McGill Univ.), 1906,
Portage la Prairie, Manitoba, Canada
 History and Political Science, English. *A.M.*
 [Politics, English.]
- Hunn, Myrta Eleanor, A.B., 1899, A.M., 1900, *Batavia*
 Greek and Classical Archaeology, Latin. *Ph.D.*
- **Jarvis, Chester Deacon, B.S.A. (Toronto Univ.), 1899,
Montreal, Canada
 - Agriculture, Entomology. *Ph.D.*
 [Olericulture, Pomology, Entomology.]
- Jarvis, Tennyson Delbert, B.S.A. (Ont. Agr. Coll.), 1900,
Montreal, Que., Canada
 Entomology, Vertebrate Zoology. *M.S. in Agr.*
- *Jeffers, Henry William, B.S.A., 1897, *Plainsboro, N. J.*
 Agriculture. *M.S. in Agr.*
 [Dairy Industry, Animal Husbandry.]
- Jenks, Clayton Louis, A.B. (Hamilton Coll.), 1906, *Waterville*
 Chemistry, Physics. *A.M.*
 [Physical Chemistry, Physics.]
- **Johnson, Thomas Carskadon, B.S. in Agr. (W. Va. Univ.), 1896,
 A.M., (same), 1900, *Morgantown, W. Va.*
 Agriculture, Entomology, *Ph.D.*
 [Horticulture, Entomology, Landscape Gardening.]

- Jones, Eugene Kinckle, B.A. (Va. Union Univ.), 1906, *Richmond, Va.*
 History and Political Science. *A.M.*
 [Sociology, Economics.]
- Jones, Raymond Watson, A.B., 1905, *Albany*
 Germanic Languages, Romance Languages. *Ph.D.*
 [German Literature, German Philology, Old French.]
- **Kauffman, Calvin Henry, A.B. (Harvard), 1896, *Lebanon, Pa.*
 Botany, Chemistry. *Ph.D.*
 [Plant Physiology, Mycology, Organic Chemistry.]
- Kern, Robert Russ, A.B. (Univ. of Missouri), 1905, *Kansas City, Mo.*
 History and Political Science, Philosophy. *Ph.D.*
 [Economics, Statistics, Ethics]
- Kinman, Charles F, B.S. (Kansas Agr. Coll.), 1904, *Clay Center, Kan.*
 Agriculture, Entomology, *M.S. in Agr.*
 [Horticulture, Entomology.]
- Kouyoumdjian, Haroutium M.E., 1906, *Bagdad, Asiatic Turkey*
 Mechanical Engineering. *M.M.E.*
 [Wireless Telegraphy, Insulating Materials.]
- *Kunze, Edward J, B.S. (Cooper Union), 1899, M.E. (Cornell University), 1901, *New York City*
 Mechanical Engineering. *M.M.E.*
 [Mechanical Engineering, Machine Design, Thermodynamics.]
- Kyser, Kathryn Belle, *Canastota*
 Geology, Physical Geography. *A.M.*
- Lawrence, William Hurford, B.S. (South Dakota Agr.) 1899, A.B. (State College of Wash.), 1902, M.S. (same), 1902, *Pullman, Wash.*
 Botany. *Ph.D.*
 [Mycology, Taxonomy of the Pteridophytes, Bacterial Diseases of Plants.]
- Leighton, Henry, A.B., 1906, *Canandaigua*
 Geology. *A.M.*
 [Economic Geology, Petrography.]
- Lewis, Burdette Gibson, A.B. (Univ. of Nebraska), 1904, *Omaha, Neb.*
 History and Political Science. *Ph.D.*
 [Economics and Politics, Economics and Finance, Modern European History.]
- †Lewis, Charles Edward, A.B. (Indiana Univ.), 1902, A.M. (same), 1903, Ph.D. (Cornell Univ.), 1905, *Rensselaer, Ind.*
 Botany.
 [Honorary Fellow in Botany.]

- Lockhart, Oliver Cary, A.B. (Indiana Univ.) 1903, A.M. (same),
 1905, *Albany, Ind.*
 History and Political Science. *Ph.D.*
 [Economics, Politics, American History.]
- Lord, Alice Frost, A.B. (Bates Coll.), 1899, *Lewiston, Maine*
 Political Science. *A.M.*
 [Political and Social Science, Economics.]
- Lovell, Mark Lloyd, M.E. (Univ. of N. Dakota), 1906,
Grand Forks, N. D.
 Mechanical Engineering. *M.M.E.*
 [Internal Combustion Motors, Engineering Research.]
- Lundell, Gustave Ernst Fredrick, A.B., 1903, *Poughkeepsie*
 Chemistry. *A.M.*
 [Inorganic Chemistry, Sanitary Chemistry.]
- †Lynn, Edgar Allan, A.B. (Princeton), 1904, *New York City*
 Law.
 [Sales, Insurance]
- **Magnusson, John Peter, B.A. (Gustav Adolphus Coll.), 1898,
 M.A. (Univ. of Minn.), 1902, *St. Paul, Minn.*
 Chemistry, Physics. *Ph.D.*
 [Physical Chemistry, Inorganic Chemistry, Physics.]
- McBride, Lida, A.B., 1906, *Ludlow, Kentucky*
 Latin, English. *A.M.*
- McCarthy, Ellen S, *Cortland*
 Chemistry, Physics. *Ph.D.*
 [Inorganic Chemistry, Physical Chemistry, Physics.]
- McDowell, Louise Sherwood, A.B. (Wellesley Coll.), 1898, *Rome*
 Physics. *A.M.*
 [Experimental Physics, Theoretical Physics.]
- McKelvey, Joseph Vance, A.B., 1906, *New Wilmington, Pa.*
 Mathematics, Physics. *Ph.D.*
 [Pure Mathematics, Applied Mathematics, Physics.]
- †Mantel, Frank Alphonse, A.B., 1906, *Auburn*
 Chemistry.
- Marsh, Reginald Edward, B.S. in Arch., 1906, *Glens Falls*
 Architecture. *M.S. in Arch.*
 [Design, Life Class.]
- ✓ Martin, Mattie Alexander, A.B., 1902, A.M., 1906, *Dublin, Va.*
 Philosophy, History and Political Science. *Ph.D.*
 [Logic and Metaphysics, Ethics, Medieval History.]

- Mathers, Frank Curry, A.B. (Indiana Univ.), 1903, A.M. (same),
1905, *Bloomington, Ind.*
Chemistry. *Ph.D.*
[Inorganic Chemistry, Physical Chemistry, Electro Chemistry.]
- Matheson, Robert, B.S.A., 1906, *West River, N. S., Canada*
Entomology. *M.S. in Agr.*
[Morphology of Insects, Economic Entomology.]
- Mathews, Robert Maurice, A.B. (Butler College), 1906,
Indianapolis, Ind.
Mathematics, Philosophy, History. *Ph.D.*
- Miller, Gladys, A.B., 1904, *Ithaca*
History and Political Science. *A.M.*
[American History, Political Science.]
- †Miller, John Fred, D.V.M., 1906, *Warsaw*
Surgery, Pathology.
- ✓ Mitchell, Frank Davis, A.B., 1904, *Ithaca*
Philosophy. *Ph.D.*
[Logic and Metaphysics, Ethics, Psychology.]
- Mitra, Hariproad, H.A.S. (Agr. Coll. of Bengal), 1905,
Jajpur, (Cattack), India
Agriculture. *M.S. in Agr.*
[Agronomy, Horticulture.]
- **Moffett, Edna Virginia, A.B. (Vassar), 1897, A.M. (Cornell Univ.),
1901, *Richmond, Va.*
History and Political Science. *Ph.D.*
[Medieval History, Political Science, American History.]
- Molby, Fred A, A.B. (Baker Univ.), 1904, *Baldwin, Kan.*
Physics, Mathematics. *Ph.D.*
[Experimental Physics, Theoretical Physics, Mathematics.]
- Molloy, Mary Aloysia, Ph.B. (Ohio State Univ.), 1903, A.M. (same),
1905, *Sandusky, Ohio*
English, History and Political Science. *Ph.D.*
[English Philology, English Literature, English History.]
- Morgan, James Oscar, B.Agr. (N. C. A. and M. Coll.), 1905,
Horse Shoe, N. C.
Agriculture. *M.S. in Agr.*
[Agronomy.]
- Morgan, Ora Sherman, A.B. (Univ. of Ill.), 1905, *Hampshire, Ill.*
Agriculture, Entomology. *M.S. in Agr.*
[Nature Study, Entomology.]

- **Morris, Richard, B.S. (Rutgers), 1899, M.S. (same), 1902,
New Brunswick, N. J.
 Mathematics, Physics. *Ph.D.*
 [Pure Mathematics, Applied Mathematics, Theoretical Physics.]
- Murray, Chester, Ph.B., 1899, *Tottenville*
 Romance Languages, Comparative Philology, Germanic Languages.
Ph.D.
 [Romance Languages, Comparative Philology, German.]
- Murray, Elsie, A.B., 1904, *Athens, Pa.*
 Philosophy, Physiology. *Ph.D.*
 [Psychology, History of Philosophy, Physiology.]
- Nasmyth, George William, A.B., 1906, *Ithaca*
 Physics. *A.M.*
 [Experimental Physics, Theoretical Physics.]
- †Nelson, James Allen, Ph.B. (Kenyon Coll.), 1898., Ph.D. (Univ. of
 Penn.), 1903, *Ithaca*
 Entomology.
 [Honorary Fellow in Entomology.]
- Nyswander, Reuben Edson, Jr., A.B. (Indiana Univ.), 1901, A.M.
 (same), 1904, *Napoleon, Ohio*
 Physics, Mathematics. *Ph.D.*
 [Physics, Theoretical Physics, Mathematics.]
- Olive, Alfred Henderson, A.B. (Wake Forest Coll.), 1905, A.M. (same),
 1906, *Thomasville, N. C.*
 Chemistry. *Ph.D.*
 [Inorganic Chemistry, Organic Chemistry, Physical Chemistry.]
- Ornstein, Martha, A.B. (Barnard Coll.), 1899, A.M. (Columbia), 1900,
New York City
 Physics, Mathematics. *Ph.D.*
 [Physics, Theoretical Physics, Mathematics.]
- Patch, Edith Marion, B.S. (Univ. of Minn.), 1901, *Orono, Me.*
 Entomology and General Invertebrate Zoology. *Ph.D.*
 [Insect Morphology, Insect Ecology.]
- Peck, Fred Eldred, B.S.A., 1906, *Wolfville, N. S., Canada.*
 Agriculture. *M.S. in Agr.*
 [Study of Species of Bacteria in Milk, Nature Study.]
- Peebles, James Clinton, B.S. in Elec. Eng. (Armour Inst.) 1904,
Naperville, Ill.
 Mechanical Engineering, Physics. *M.M.E.*
 [Electrical Engineering, Physics.]

- Peek, Frederic Albert, *Orchard Park*
 Philosophy, English. *A.M.*
 [Ethics, English Literature.]
- Peirce, Bertha Caroline, A.B. (Swarthmore Coll.), 1906, *Coatèsville, Pa.*
 Latin, Greek. *A.M.*
- Pierce, Clarence Albert, B.S. (Wesleyan Univ.), 1902, M.S. (same),
 1904, *Roxbury, Conn.*
 Physics. *Ph.D.*
 [Experimental, Theoretical, and Mathematical Physics.]
- Poindexter, Charles Cardoza, B.S. in Agr. (Ohio State Univ.), 1903,
Parkersburg, W. Va.
 Agriculture. *M.S. in Agr.*
 [Agronomy, Nature Study.]
- †Pollak, Julian Albert, *Cincinnati, O.*
 Chemistry, English.
- Pope, Arthur Upham, A.B. (Brown Univ.), 1904, A.M. (same), 1906,
Newburyport, Mass.
 Philosophy. *Ph.D.*
 [Logic and Metaphysics, Ethics, Psychology.]
- Pyle, William Henry, A.B. (Indiana Univ.), 1898, *Vandalia, Ill.*
 Philosophy, Science and Art of Education. *Ph.D.*
 [Psychology, Philosophy, Art and Science of Education.]
- Rankin, George Atwater, *Ithaca*
 Chemistry. *A.M.*
 [Physical Chemistry, Analytical Chemistry.]
- Ray, Burton Justice, A.B. (Wake Forest Coll.), 1904, *Raleigh, N. C.*
 Chemistry. *Ph.D.*
 [Organic Chemistry, Physical Chemistry, Physiological Chemistry.]
- Read, Effie Alberta, A.B., 1903, A.M., 1906, *Haverhill, Mass.*
 Histology and Embryology, Entomology, Systematic Botany. *Ph.D.*
- Reade, John Moore, B.S.A. (Toronto), 1900, *Toronto, Canada*
 Botany, Entomology. *Ph.D.*
 [Mycology, Taxonomy of Angiosperms, Entomology.]
- Reddick, Donald, A.B. (Wabash Coll.), 1905, *Noblesville, Ind.*
 Botany, Entomology. *Ph.D.*
 [Mycology, Plant Physiology, Entomology.]
- Redfield, Harry Westfall, B.S., 1900, *Brooklyn*
 Chemistry, Geology. *Ph.D.*
 [Sanitary Chemistry, Inorganic Chemistry, Economic Geology.]

- †Rettger, Ernest William, A.B. (Indiana Univ.), 1893, Ph.D. (Clark Univ), 1898, *Bloomington, Ind.*
 Civil Engineering.
 [Bridge Engineering, Advanced Mechanics and Hydraulics, Descriptive Geometry.]
- Rich, John Lyon, A.B., 1906, *Hobart*
 Geology, Physical Geography. *Ph.D.*
 [Stratigraphic Geology, Physiography, Mineralogy.]
- Richtmyer, Floyd Karker, A.B., 1904, *Ithaca*
 Physics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Advanced Heat.]
- Riegel, Ross Milton, C.E., 1904, *Harrisburg, Pa.*
 Civil Engineering, Mechanical Engineering, *M.C.E.*
 [Applied Mechanics, Experimental Engineering.]
- Robertson, George Cooke, A.B., 1905, *Buffalo*
 Chemistry, Agriculture. *A.M.*
 [Sanitary Chemistry, Dairy Industry.]
- Rodgers, Ralph Chapman, M.E., 1905, *Binghamton*
 Physics. *A.M.*
 [Physics, Experimental Physics.]
- Roe, Ralph Burt, *Ithaca*
 Chemistry. *A.M.*
 [Physical Chemistry, Organic Chemistry.]
- Roesch, George William, *Brooklyn*
 Philosophy, History. *A.M.*
- †Rosemon, Ethel, A.B. (Barnard Coll), 1907, *Brooklyn*
 Psychology.
- Ross, Harold Ellis, B.S.A., 1906, *Smithboro*
 Agriculture. *Ph.D.*
 [Dairy Bacteria, Dairy Industry, Rural Economy.]
- †Sailor, Robert Warren, *Chicago, Ill.*
 Psychology.
- Sawdon, Will M, B.S. in M.E., (Purdue Univ.), 1898, *Aurora, Ind.*
 Mechanical Engineering. *M.M.E.*
 [Mechanical Engineering, Steam Engineering.]
- **Sayward, Mary Edith, A.B. (Smith), 1894, *Springvale, Me.*
 Entomology. *A.M.*
 [Morphology of Insects, Systematic Entomology.]
- Schluederberg, Carl George, M.E., 1902, *Pittsburg, Pa.*
 Chemistry, Physics. *Ph.D.*
 [Physical Chemistry, Physics, Inorganic Chemistry.]

- Seaton, Sara, A.B. (Wellesley Coll.), 1896, *Cleveland, Ohio*
 Botany. *A.M.*
 [Morphology and Embryology, Mycology.]
- Shafer, George Daniel, A.B. (Univ. of Indiana), 1900, A.M. (Leland
 Stanford), 1906, *Muncie, Ind.*
 Entomology, Physiology. *Ph.D.*
 [Insect Morphology, Systematic Entomology, Physiology.]
- **Shanks, Lewis Edgar Piaget, Ph.B., 1899, *Madison, Wis.*
 Romance Languages, Latin. *Ph.D.*
 [French, Italian, Latin (medieval).]
- Sharpe, Francis Robert, A.B. (Cambridge Univ.), 1892, *Ithaca*
 Mathematics. *Ph.D.*
 [Applied Mathematics, General Theory of Curves, Calculus
 of Variations.]
- Sharrard, George M, A.B. (Univ. of Kansas), 1901, A.M. (same), 1902,
Atchison, Kan.
 Latin, Greek, History and Political Science. *Ph.D.*
 [Latin, Greek, Ancient History.]
- Shetterly, Fred Floyd, A.B. (Univ. of Indiana), 1906, *Lapel, Ind.*
 Chemistry. *A.M.*
 [Inorganic Chemistry, Physical Chemistry.]
- *Shields, Norwood Rarason, B.S.A., 1904, *Camden, N. J.*
 Agriculture. *M.S. in Agr.*
 [Animal Husbandry, Horticulture.]
- Short, Frank James, B.S. in Mech. Eng. (Univ. of Wis.), 1897,
Grove City, Pa.
 Mechanical Engineering. *M.M.E.*
 [Experimental Engineering, Electrical Engineering.]
- Sil, Surendra Nath, A.B. (Calcutta Univ.), 1902, *Calcutta, India*
 Agriculture, Botany. *M.S. in Agr.*
 [Agronomy, Mycology.]
- Simpson, Dwight Swain, *Powers, Minn.*
 Mechanical Engineering. *M.M.E.*
 [Naval Architecture, Marine Engineering.]
- Smith, Huron H, B.S. (De Pauw Univ.) 1905, *Winchester, Ind.*
 Botany, Medicine. *Ph.D.*
 [Plant Histology, Mycology, Pharmacology.]
- Snowdon, Ralph Cuthbert, A.B., 1904, A.M., 1906, *Ithaca*
 Chemistry, Physics. *Ph.D.*
 [Physical Chemistry, Inorganic Chemistry, Physics.]

- Somerville, Albert Alexander, B S. (De Pauw Univ.), 1905,
Milroy, Ind.
 Physics. *Ph.D.*
 [Applied Physics, Theoretical Physics, Applied Electricity.]
- **Spencer, George Lawton, M.E. (Brown Univ.), 1904.
Providence, R. I.
 Mechanical Engineering. *M.M.E.*
 [Naval Architecture, Marine Engineering.]
- ✓ Sprague, Mary Winifred, A.B., 1904, *New Berlin*
 Philosophy, History and Political Science. *Ph.D.*
 [Logic and Metaphysics, Ethics, European History.]
- Stempel, Waldemar Matthæus, A.B. (Univ. of Ind.) 1905,
Ft. Madison, Iowa
 Physics, Mathematics. *Ph.D.*
 [Physics, Theoretical Physics, Mathematics.]
- Stewart, Alton LeRoy, M.E. in E.E. (Ohio State Univ.), 1904,
Findlay, Ohio
 Mechanical Engineering. *M.M.E.*
 [Electrical Engineering, Elec. Experimental Eng.]
- Stewart, John Pogue, A.B. (Univ. of Ill.), 1902, *Biggsville, Ill.*
 Agriculture. *Ph.D.*
 [Horticulture, Plant Diseases, Winter condition of Certain Trees.]
- Stone, Albert Winfield, M.E., 1904, *Ithaca*
 Mechanical Engineering. *M.M.E.*
 [Experimental Engineering, Electrical Engineering, Machine Design.]
- Stone, Isabelle, A.B. (Wellesley Coll.), 1905, A.M. (Cornell Univ.),
 1906, *Needham, Mass.*
 Greek, Latin, Comparative Philology. *Ph.D.*
- Storrs, Frederick William, B.S. (St. Lawrence Univ.), 1900, M.S.
 (same), 1901, *Ithaca*
 Chemistry, Physics. *Ph.D.*
 [Inorganic Chemistry, Physics, Organic Chemistry.]
- Stoughton, Elizabeth Alden, A.B., 1906, *Hartford, Conn.*
 German, French. *A.M.*
- ✓ Strong, Margaret Kirkpatrick, A.B. (Univ. of Toronto), 1905,
Hamilton, Ontario, Canada
 Philosophy. *A.M.*
 [Logic and Metaphysics, Ethics.]
- Sturgis, Cony, A.B. (Bowdoin Coll.), 1899, *Ithaca*
 Romance Language. *A.M.*

- Swaine, James Malcolm, B.S.A., 1905, M.S. in Agr., 1906,
Truro, Nova Scotia, Canada
 Economic Entomology, Vert. Zoology, Agri. Botany. *Ph.D.*
- †Tanikawa, Toshiyoshi, B.S.A. (Imperial Univ. of Tokyo), 1904,
Tokyo, Japan
 Agriculture.
 [Horticulture, Botany (Plant Diseases), Economic Entomology.]
- Taylor, Albert Davis, B.S. (Mass. Agri. Coll.), 1905, M.S. in Agr.,
 (Cornell), 1906, *Westford, Mass.*
 Agriculture. *Ph.D.*
 [Rural Art, Horticulture.]
- Thomas, Melvern Francis, B.S. in M.E. (Texas A. & M. Coll.), 1901,
Clay, Texas
 Mechanical Engineering. *M.M.E.*
 [Heating and Ventilating, Internal Combustion Motors.]
- Thoroughgood, Robert William, C.E. (Lehigh Univ.), 1902,
Georgetown, Del.
 Civil Engineering. *M.C.E.*
 [Sanitary Engineering, Mining Engineering, Foundations.]
- *Tibiriça, João, B.S.A., 1906, *S. Paulo, Brazil*
 Agriculture, Entomology. *M.S. in Agr.*
 [Agronomy, Entomology.]
- Tower, Charles Homer, B.S. (Wor. Poly. Inst.), 1905, *Dalton, Mass.*
 Mechanical Engineering, Chemistry. *M.M.E.*
 [Electrical Engineering, Electro-Chemistry.]
- Tugman, Orin, A.B. (Indiana Univ.), 1903, A.M. (same), 1906, *Ithaca*
 Physics *Ph.D.*
 [Experimental, Theoretical, and Mathematical Physics.]
- Turrentine, John William, Ph.B. (Univ. of N. C.), 1901, M.S. (same),
 1902, *Burlington, N. C.*
 Chemistry. *Ph.D.*
 [Inorganic Chemistry, Physical Chemistry, Analytical Chemistry.]
- Van Benschoten, Anna Lavinia, B.S. (Cornell), 1894, M.S. (Univ. of
 Chicago), 1900, *Binghamton*
 Mathematics, Mathematical Physics, Astronomy. *Ph.D.*
- **Van Hook, James M., A.B. (Univ. of Ind.), 1899, A. M. (same), 1900,
Wooster, Ohio
 Botany. *Ph.D.*
 [Mycology, Comp. Morphology and Embryology, Physiology.]
- Van Wert, Susan Evens, A.B., 1898, *New-York City*
 Greek, Latin. *A.M.*
 [Greek Language and Literature, Roman Archaeology.]

- Van Winkle, Walton, M.E., 1906, *Ithaca*
 Civil Engineering, Chemistry, Veterinary. *Ph.D.*
 [Sanitary Engineering, Sanitary Chemistry, Bacteriology.]
- Veazey, John Armor, A.B. (Westminster Coll.), 1902, A.B. (Cornell
 Univ.), 1906, *New Wilmington, Pa.*
 Physics, Mathematics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Mathematics.]
- Waggoner, Chauncey William, B.S. in E.E. (Ohio Univ.), 1904, A.M.
 1905, *Sugar Grove, Ohio*
 Physics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Electricity and
 Magnetism.]
- **Walbridge, Mabel Harriet, A.B. (McGill Univ.), 1897, A.M. (Cor-
 nell Univ.), 1906, *Aurora*
 Physics, Mathematics. *Ph.D.*
 [Experimental Physics, Theoretical Physics, Mathematics.]
- Walker, Charles Leopold, C.E., 1904, *North Evans*
 Civil Engineering. *M.C.E.*
 [Sanitary Engineering, Hydraulic Engineering.]
- Wallace, William Lewis, Jr., M.E., 1906, *Orange, N. J.*
 Mechanical Engineering. *M.M.E.*
 [Naval Architecture, Marine Engineering.]
- Watt, Homer Andrew, A.B., 1906, *Wilkes-Barre, Pa.*
 English, German, History and Political Science. *Ph.D.*
 [English, German Literature, English History.]
- ✓ Waugh, Robert Benjamin, A.B. (Hobart Coll.), 1902, *Phelps*
 Philosophy. *Ph.D.*
 [Metaphysics and Logic, Ethics, Greek Philosophy.]
- Weir, Douglas, B.S.A. (Toronto Univ.), 1906, *Montreal, Canada*
 Entomology, Botany. *M.S. in Agr.*
 [Entomology, Mycology.]
- West, Mary Cheves, B.S. (Teacher's Coll.), 1902, *Farmville, Va.*
 Philosophy, Physiology. *Ph.D.*
 [Psychology, Philosophy, Physiology.]
- White, Gorrell Robert, A.B., 1905, *Auburn*
 Chemistry. *A.M.*
 [Physical Chemistry, Inorganic Chemistry.]
- White, Paul J, A.B. (Southwest Kansas Coll.), 1900, A.M. (Univ. of
 Oklahoma), 1901, M.S. in Agr. (Cornell Univ.), 1906, *Norman, Okla.*
 Agriculture. *Ph.D.*
 [Agronomy, Horticulture.]

- Whitney, Francis Luther, A. B., 1906, *Elmira*
Geology, Vertebrate Zoology. *A.M.*
- Wick, Frances Gertrude, A. B., 1905, A. M., 1906, *Butler, Pa.*
Physics. *Ph.D.*
[Experimental Physics, Theoretical Physics, Optics.]
- Wiggins, Inez Louise, A. B. (Smith Coll.), 1901, *Warsaw*
English, Romance Language. *A.M.*
[English Literature, French.]
- Wilkinson, John Anderson, B. S. (Ohio State Univ.), 1903, *Piqua, Ohio*
Chemistry, Geology. *Ph.D.*
[Analytical Chemistry, Physical Chemistry, Historical Paleontology.]
- Wilson, Charles Scoon, A. B., 1904, M. S. in Agr., 1905, *Hall's Corners*
Agriculture. *Ph.D.*
[Horticulture, Agronomy.]
- †Wilson, John Henry, A. B. (St. Stephen's Coll.), 1896, A. M. (same)
1899, A. M. (S. Francis Xavier), 1898, A. M. (N. Y. Univ.), 1898,
(Gen. Theol. Seminary), 1899, *Brooklyn*
Chemistry, Physics, Mechanical Engineering.
- Wold, Peter Irving, B. S. (Univ. of Oregon), 1901, E. E. (same), 1901, *Eugene, Oregon*
Physics. *Ph.D.*
[Experimental Physics, Theoretical Physics, Heat.]
- Wolheim, Louis Robert, B. S. (College City of New York), 1903, M. E.
(Cornell Univ.), 1906, *New York City*
Mathematics, Physics. *Ph.D.*
[Pure Mathematics, Theoretical Physics (Electricity and Magnetism),
Celestial Mechanics.]
- Worsham, Ernest Lee, B. S. (Univ. of Georgia), 1904, *Athens, Ga.*
Entomology, General Invertebrate Zoology. *A.M.*
- Wright, Albert Hazen, A. B., 1904, A. M., 1905, *Hilton*
Vertebrate Zoology, Comparative Anatomy, Entomology. *Ph.D.*
- Young, Helen Louise, A. B., 1900, *East Palmyra*
History and Political Science. *Ph.D.*
[American History, Modern European History, Political Science.]

Graduate Students in Undergraduate Courses.

Ahbe, Frederic, E.M. (Lafayette), 1896, M.S. (same), 1899,	<i>Sp. M.E.</i>
Aitken, John Winfield, Jr., C.E. (Penn Mill. Coll.), 1904,	<i>M.E.</i>
Aldeu, Fred Nagley, B.L. (Ohio Wesleyan), 1905,	<i>M.E.</i>
Aleman, Fernando, B.A. (National Agr. Coll.), 1898,	<i>B.S.A.</i>
Allen, Lawrence Russell, B.S. (Ohio Normal Univ.), 1903,	<i>C.E.</i>
Almirall, Leon Vincent, Ph.B. (Holy Cross Coll.), 1906,	<i>LL.B.</i>
Altamirano, Manuel, C.E. (Univ. of Santiago), 1904,	<i>M.E.</i>
Ames, Harry Lee, A.B. (Randolph-Mason Coll.), 1901,	<i>M.E.</i>
Ausfeld, Walter Adolph, B.S. (Spring Hill Coll.), 1905,	<i>B. Arch.</i>
Bailey, Hervey S, A.B. (Westminster Coll.), 1903,	<i>M.E.</i>
Balcke, Walter Henry, A. B. (Ill. Coll.), 1904,	<i>M.E.</i>
Baldwin, Charles Summers, Ph.B. (Grove City Coll.), 1906,	<i>M.E.</i>
Baltasar, Apolinario, B.S. (Manila), 1903,	<i>C.E.</i>
Bates, Ellis Abram, A.B., 1905,	<i>LL.B.</i>
Bates, Grace Margaret, A.B. (New York City Normal), 1901,	<i>A.B.</i>
Bautista, Mariano, B.A. (Ateneo de Manila), 1902,	<i>B. Arch.</i>
Beebe, Silas Palmer, B.S. (Harvard), 1900, Ph.D. (Yale), 1904,	<i>M.D.</i>
Beyer, Fleck Wesley, B.S. (Cornell Coll.), 1903,	<i>LL.B.</i>
Bibbins, Florence Estelle, Pd.B. (N. Y. State Normal), 1901,	<i>A.B.</i>
Billings, John Dixon, B.S. (Colgate Univ.), 1904,	<i>A.B.</i>
Biram, James Harrington, B.S. (Amherst), 1904,	<i>M.D.</i>
Bishop, Ernest Simons, A.B. (Brown Univ.), 1899,	<i>M.D.</i>
Blaylock, John Charles, B C E. (Univ. of Ark.), 1903,	<i>C.E.</i>
Bogert, George Gleason, A.B., 1906,	<i>LL.B.</i>
Boshme, Gustav Frederick, B.S. (Coll. of City of N. Y.), 1906,	<i>M.D.</i>
Booth, Samuel William, B.A. (Hampden-Sidney), 1906,	<i>M.E.</i>
Braymer, Daniel Harvey, A.B., 1905,	<i>M.E.</i>
Brewrink, John Edward, Ph.B. (North Western Univ.), 1902,	<i>M.E.</i>
Brittingham, Juan Gongalez, B.S. (Christian Bros' Coll.), 1906,	<i>M.E.</i>
Brown, Clifford Werner, B.S. (Univ. of Oregon), 1906,	<i>M.E.</i>
Brown, Earl, Ph.B. (Iowa State Univ.), 1905,	<i>A.B.</i>
Brown, Stanley Doty, A.B., 1905,	<i>LL.B.</i>
Burnham, Enoch Lewis, A.B. (Harvard), 1904,	<i>C.E.</i>
Burr, William Fairfield, A.B. (Harvard Univ.), 1905,	<i>Sp. B.S.A.</i>
Butts, Mary Byrissa, B.A. (Grove City Coll.), 1902,	<i>A.B.</i>
Canaga, Gordon Byron, B.A. (Scio Coll.), 1902,	<i>C.E.</i>
Carroll, William Gilbert, B.L. (Baylor Univ.), 1903,	<i>M.E.</i>
Carver, Harry Eugene, A.B., 1906,	<i>LL.B.</i>
Chappel, Halbert William, A.B. (Stanford), LL.B. (same), 1903,	<i>A.M.</i>
(same), 1906,	<i>M.D.</i>
Chryssides, Stavros Stephen, A.B. (Robert Coll.), 1904,	<i>M.E.</i>

Clark, Ellen Stout, B.P (West Chester Nor.), 1903,	<i>A.B.</i>
Clurman, Morris Joseph, A.B., 1905,	<i>M.D.</i>
Coffman, John Daniel, A.B. (Phila. High School), 1900,	<i>A.B.</i>
Collins, John Dempsey, A.B., 1906,	<i>LL.B.</i>
Cornell, Florence M, A.B., 1906,	<i>LL.B.</i>
Craig, Clement Ellis, B.S. (Va. Poly. Inst.), 1904,	<i>Sp. B.S.A.</i>
Craig, Ira Lynn, M. Di. (Iowa Normal), 1905,	<i>M.E.</i>
Craig, Samuel Daley, A.B. (Hampden Sidney Coll.), 1904,	<i>B.Arch</i>
Crawford, Mary Merritt, A.B., 1904,	<i>M.D.</i>
Davidson, James Holroyd, C.E. (Penn. Mil. Coll.), 1905,	<i>M.E.</i>
Davis, Charles Roy, A.B. (Ouachita Coll.), 1904,	<i>M.D.</i>
Dearstyne, Florence Evelyn, B.S., 1885,	<i>Sp. B.S.A.</i>
Dodson, Martha Ethel, B.E. (Bloomsburg State Nor.), 1903,	<i>A.B.</i>
Dodson, Richard Stearns, B.S. (Va. Mil. Inst.), 1906,	<i>C.E.</i>
Donahue, William James Aloysius, A.B. (St. Peter's Coll.), 1904,	<i>M.D.</i>
Dragoshinoff, Dragoshin George, A.B. (Robert Coll.), 1904,	<i>B.S.A.</i>
Dubois, John, B.A. (Presbyterian Coll. of S. C.), 1905,	<i>C.E.</i>
Durand, Albert Cyrus, A.B., 1906,	<i>M.D.</i>
Eastland, Seaborn, Jr., B.S. (A. and M. of Miss.), 1906,	<i>M.E.</i>
Enaje, Francisco Delgado, S.M. (Ateneo de Manila), 1906,	<i>C.E.</i>
Ernsberger, Millard Clayton, A.B. (Univ. of Rochester), 1888,	<i>M.E.</i>
Ernst, Peter H, M.D. (New York Univ.), 1886,	<i>Sp. M.D.</i>
Estill, George Castleman, A.B. (Kentucky Univ.), 1902,	<i>M.E.</i>
Fairlamb, Gertrude May, M.E. (West Chester Normal), 1898,	<i>A.B.</i>
Fanoni, Antonio, M D. (Univ. of Naples), 1893,	<i>Sp. M.D.</i>
Farrior, James William, B.E. (N. C. Agr. & Mech. Coll.) 1904,	<i>M.E.</i>
Feinberg, Abraham Wilfred, LL.B., 1906,	<i>A.B.</i>
Felknor, James Minnis, A. B. (Maryville, Coll.), 1905,	<i>C.E.</i>
Fleming, William Henry Irwin, B.S. in Arch. (George Washington), 1906,	<i>B.Arch.</i>
Follmer, Clinton Lee, B.A. (Dickinson Seminary), 1906,	<i>M.E.</i>
Foster, Shirley Watson, B.Agr. (A. and M. of N. C.), 1906,	<i>Sp. B.S.A.</i>
Fraser, Nora Blanding, A.B. (Mary Baldwin Sem.), 1901,	<i>A.B.</i>
Frey, Mildred Carolyn, B.E. (Millersville, Pa., Normal), 1906,	<i>A.B.</i>
Freyre, Leopoldo Estanislao, A.B. (Univ. of Havana), 1903,	<i>C.E.</i>
Fry, Jacob Yeakle Dietz, B.S. (Cent. H. S. of Phila.), 1906,	<i>M.E.</i>
Gaby, Robert Edward, B.A. (Toronto Univ.), 1903,	<i>M.D.</i>
Galadjikian, Alexander Sarkis, A.B. (Robert Coll.), 1904,	<i>M.E.</i>
Garrow, Theodore Alexander, B.S. (Ore. Agr. Coll.), 1905,	<i>M.E.</i>
Gaston, Edwards Pablo, A.B. (Univ. of Havana), 1900,	<i>M.E.</i>
Gelser, George Merrill, A.B. (Yale), 1904,	<i>M.D.</i>

Ginorio, Francisco Ricardo, A.B. (Inst. de Puerto Rico), 1899,	<i>M.E.</i>
Gleason, John Lawrence, LL.B., 1906,	<i>A.B.</i>
Gomez, José Antonio, Ph.B. (Vicente Rocafuerte Coll.), 1904,	<i>C.E.</i>
Goodwin, Frank Perry, M.D., 1906,	<i>A.B.</i>
Graves, Gaylord Willis, A.B., 1905,	<i>M.D.</i>
Graves, Lemuel Eugene, A.B. (Shaw Univ.), 1905,	<i>B.S.A.</i>
Graves, Marvin Lee, M.D. (Bellevue), 1891,	<i>Sp. M.D.</i>
Graydon, Sterling, B.E. (A. & M. of N. Carolina), 1905,	<i>Sp. M.E.</i>
Haight, Austin Dunham, B.S. (Trinity Coll.), 1906,	<i>Sp. B.S.A.</i>
Haim, Leon, Agrl. Engr. (Erole Nat. Coll., France), 1904,	<i>Sp. B.S.A.</i>
Haines, Charles Alvin, A.B. (Muhlenberg Coll.), 1904.	<i>M.E.</i>
Hamblet, Mary Lucia, A.B. (Wellesley), 1898,	<i>M.D.</i>
Hartnett, Michael Arnold, B.S. (So. Car. Mil. Acad.), 1904,	<i>M.E.</i>
Hascall, Theodore Conrad, Ph.B. (Brown Univ.), 1905.	<i>M.D.</i>
Hatfield, Hazel May, A.B., 1905,	<i>M.D.</i>
Hayden, Frank Strong, B.A. (Amherst Coll.), 1905,	<i>B.S.A.</i>
Hedges, Charles Cleveland, B.S. (Ky. State Coll.), 1906,	<i>A.B.</i>
Herrington, Samuel Edgar, B.S. (A. and M. of Miss.), 1904,	<i>M.E.</i>
Hocson, Felix, B.A. (Manila), 1902,	<i>Sp. B.S.A.</i>
Hodgson, Walter Blanchard, M.E. (Georgia Tech.), 1905,	<i>M.E.</i>
Horn, Stanley Granger, A.B., 1905,	<i>M.D.</i>
Hortenstein, Raleigh, B.S. in C.E. (Va. Poly. Inst.), 1906,	<i>Sp. C.E.</i>
Hutchins, Gordon, A.B. (Harvard), 1902,	<i>Sp. B.S.A.</i>
Irvine, Pierpont Edward, A.B. (Kenyon Coll.), 1904,	<i>M.E.</i>
Jackson, George Percy, B.S. (Va. Poly. Inst.), 1906,	<i>M.E.</i>
Japhet, William Ernst, B.S. (A. and M. of Texas), 1904,	<i>C.E.</i>
Jenne, Eldred Llewellyn, A.B. (Washington State), 1906,	<i>A.B.</i>
Johnson, Howard White, B.S. (Northwestern Univ.), 1904,	<i>M.E.</i>
Jones, Eugene Kinckle, B.A. (Va. Union Univ.), 1906,	<i>C.E.</i>
Joshi, Lemuel Lucas, B.Sc. (Univ. of Bombay), 1902,	<i>M.D.</i>
Kellie, Kenneth Harrison Allan, M.A., M.B. (Cambridge Univ.), 1904,	<i>Sp. M.D.</i>
Kelly, Andrew Park, B.S. (St. John Coll.), 1906,	<i>M.E.</i>
King, Alfred Faris, B.S. (Princeton), 1905,	<i>M.E.</i>
Kronberg, Sol, A.B. (Coll. City of N. Y.), 1903,	<i>C.E.</i>
Laird, Ira Marie, A.B., 1904,	<i>M.D.</i>
Landmesser, Charles Frederick, A.B., 1906,	<i>LL.B.</i>
Lennox, Luther Willis, E.M. (Colo. School of Mines) 1905,	<i>M.E.</i>
Lewis, Dudley Leland, B.S. (A. and M. of Miss.), 1906,	<i>C.E.</i>
Loeber, Maud, A.B. (Newcomb Coll.), 1903, A.M., (Tulane Univ.), 1905,	<i>M.D.</i>
Luke, Harry Cliff, Ph.G. (Univ. of Buffalo), 1897,	<i>M.D.</i>

Lutz, Charles, Jr., Ph.G. (N. Y. Coll. of Pharm.), 1906,	<i>M.D.</i>
McCallie, Edward Lee, B.S. (Davidson Coll.), 1906,	<i>C.E.</i>
McCombs, Carl Esselstyn, A.B. (Union Coll.), 1904,	<i>M.D.</i>
Machen, Thomas Gresham, A.B. (Johns Hopkins), 1906,	<i>M.E.</i>
McKay, Florence Lucinda, A.B., 1905,	<i>M.D.</i>
Magnus, Edward, Ph.B. (Yale), 1906,	<i>M.E.</i>
Malefski, Bernard, B.E. (Coll. of City of New York), 1906,	<i>C.E.</i>
Maloney, Edgar William, B.A. (St. Lawrence Univ.), 1905,	<i>C.E.</i>
Mann, Charles Maitland, A.B., 1904,	<i>M.D.</i>
Mann, Matthew Derbyshire, Jr., Ph.B. (Yale), 1906,	<i>C.E.</i>
Mannocir, James Earle, B.A. (Spring Hill Coll.), 1904,	<i>M.E.</i>
Mansfield, Edward Raymond, B.S. (Univ. of Me.), 1899,	<i>M.D.</i>
Margolis, Louis, B.A. (Coll. of City of New York), 1906,	<i>C.E.</i>
Marriott, Williams McKim, B.S. (Univ. of N. C.), 1904,	<i>M.D.</i>
Marshall, Margaret Evelyn, B.Pd. (Albany Normal Coll.), 1902,	<i>A.B.</i>
Mason, William Henry, B.Sc. (Sydney Univ.), 1905,	<i>M.E.</i>
Matty, Frank Joseph, C.E. (Penna. Mil. Coll.), 1905,	<i>M.E.</i>
Miller, Mary Ruth Fisher, B.S. (Susquehanna Univ.), 1906,	<i>A.B.</i>
Mitchell, James Reid, Jr., A.B., 1905,	<i>M.D.</i>
Molina, Ernesto, B.S. (Univ. of Lima), 1905,	<i>D.V.M.</i>
Monroe, James, B.A. (Haverford Coll.), 1906,	<i>M.E.</i>
Moore, Merrill Bruce, B.S. (Ore. Agr. Coll.), 1905,	<i>M.E.</i>
Moorman, Silas Mercer, A.B. (Georgetown Coll.), 1898,	<i>M.D.</i>
Morrow, Homer Nichols, A.B. (S.W. Presbyterian Univ.), 1904,	<i>M.E.</i>
Mortimer, Charles Ward, B.S. (Miss. Coll.), 1902,	<i>M.E.</i>
Neal, Josephine Bicknell, A.B. (Bates Coll.), 1901,	<i>M.D.</i>
Nelbach, George Joseph, A.B., 1905,	<i>LL.B.</i>
Newcomb, Robert Scott, B.S. (Univ. of Ga.), 1905,	<i>M.E.</i>
Nivin, Charles Franklin, B.Agr. (A. & M. of N. C.), 1906,	<i>Sp. B.S.A.</i>
Nivin, Lola Alexander, B.Agr. (A. & M. of N. C.), 1906,	<i>Sp. B.S.A.</i>
Olds, Thomas Hartman, B.S. (A. and M. Coll. of Texas), 1902,	<i>C.E.</i>
Oliver, Clifford Rylander, A.B. (Univ. of Ga.), 1904,	<i>M.E.</i>
O'Neill, Charles Leo, A.B. (Seton Hall Coll.), 1904,	<i>M.D.</i>
Orcutt, Daniel Paul, B.S. (Denison Univ.), 1906,	<i>M.E.</i>
Parker, Esther Emily, A.B., 1905,	<i>M.D.</i>
Pawling, Jesse Randolph, A.B., 1905,	<i>M.D.</i>
Payne, Edward Duggan, C.E. (Princeton Univ.), 1905,	<i>M.E.</i>
Pease, George Norman, A.B., 1904,	<i>M.D.</i>
Perry, Leslie Donald, A.B., 1905,	<i>M.E.</i>
Petit, Charles Wesley, B.S. (Univ. of California), 1903,	<i>Sp. C.E.</i>
Phelan, James, A.B. (Princeton Univ.), 1905,	<i>M.E.</i>
Pierson, Farrand Baker, A.B. (Princeton Univ.), 1897,	<i>Sp. M.D.</i>

- Place, Benoni Austin, A.B. (Ohio Univ.), 1904, A.M. (same), 1905,
M.D.
- Ponce de Leon, Felipe, A.B. (Habana Inst.), 1900, C.E.
- Price, Luther Emmett, B.S. (Millsap Coll.), 1906, Ph.B. (same), 1906,
M.E.
- Pulsifer, Nathan, A.B. (Bates Coll.), 1899, M.D.
- Pulver, Grace Coe, M.D. (Hering Med. Coll.), 1894, Sp. M.D.
- Quisumbing, Enilio, B.A. (Manila), 1900, C.E.
- Reed, Lucy Carleton, A.B., 1904, M.D.
- Reid, Walker, A.B., 1906, LL.B.
- Remy, Jorge Felix E.M. (Escuela de Ingenieros, Peru), 1904, C.E.
- Robinson, Daisy Michaud Orleman, M.S. (Columbian), 1890, M.D.
(same), 1895, Sp. M.D.
- Roudebush, Roy Everett, A.B. (Indiana Univ.), 1903, M.E.
- Rulison, Elbert Theodore, Jr., B.S. (Union Coll.), 1904, M.D.
- Sackman, Gilbert Roy, B.S. (Coll. City of New York), 1905, M.E.
- Sampaio, Vincente de Almeida, B.S. (Mackenzie Coll.), 1903, M.E.
- Sancho, Francisco Saturnino, B.A. (Univ. of Havana), 1900, C.E.
- Santee, Harold Elmore, A.B., 1904, M.D.
- Schmid, Robert Major, B.S. (Coll. City of New York), 1902, M.E.
- Schulz, Julius George, A.B. (New York Univ.), 1902, M.D.
- Schutz, Harry Herman, B.S. (New Mex. Coll. of Agr.), 1905, B.S.A.
- Schwallie, Albert Eugene, Ph.G. (N. Y. Coll. of Pharm.), 1901, M.D.
- Schwartz, Jessie David, B.S. (Coll. City of New York), 1906, M.D.
- Schwartz, Leo Samson, Ph.G. (New York Coll. of Pharm.), 1901, M.D.
- Sellaro, Vincenzo, M.D. (Univ. of Naples), 1895, Sp. M.D.
- Stancell, William Wiley, M.D. (Univ. Coll. Richmond, Va.), 1906,
Sp. M.D.
- Stantou, Robert, Ing. Agron. (Inst. Agromo., France), 1906, A.B.
- Stewart, Arthur Lawrence, B.A., (Univ. of Rochester), 1905, M.E.
- Straus, Joseph Henry, B.Arch., 1905, Sp. C.E.
- Sutton, Leslie Allen, M.D. (New York Univ.), 1899, Sp. M.D.
- Tanikawa, Toshiyoshi, B.S.A. (Imperial Univ. of Tokyo), 1904,
Sp. B.S.A.
- Tappan, Frank Girard, A.B. (Washington and Jeff.), 1904, M.E.
- Tarkington, George William, B.S. (Central Univ.), 1904, Sp. C.E.
- Thorndike, Richard King, A.B. (Harvard), 1902, Sp. B.S.A.
- Thro, William Crooks, B.S.A., 1900, A.M., 1901, M.D.
- Turner, William Joel, B.A. (Wash. & Lee Univ.), 1903, C.E.
- Walker, Hiram Holcomb, Ph.B. (Yale Univ.), 1906, C.E.
- Walker, William Joseph, A.B. (Coll. City of New York), 1904, M.D.
- Wallower, Edgar Zollinger, C.E. (Princeton), 1905, M.E.

- Walsh, Thomas J, M.D. (Univ. of Buffalo), 1902, *Sp. M.D.*
 Way, Cassius, B. Agr. (Conn. Agr. Coll.), 1899, A.B. (Cornell Univ.),
 1906, *D.V.M.*
 Weber, Florenz Pauline, M.E. (Clarion Normal), 1895, *A.B.*
 Weber, Salo Nordemann, A.B. (Coll. City of New York), 1904, *M.D.*
 Welch, Howard, A.B. (Univ. of Mo.), 1903, B.S.A. (same), 1906, *D.V.M.*
 Welch, Stewart Henry, A.B. (Southern Univ.), 1902, *M.D.*
 Welles, Edward Murray, A.B., 1905, *M.D.*
 Westgate, Mary Lauton, B.A. (Wesleyan Univ.), 1897, *B.Arch.*
 Wetherill, John Larkin, C.E. (Pa. Mil. Coll.), 1905, *M.E.*
 Whitson, Olive Luella, B.E. (Westchester, Pa., Normal), 1902, *A.B.*
 Wilson, David, A.B., 1905, *M.D.*
 Winans, James Albert, A.B. (Hamilton), 1897, A.M. (same), 1900, *LL.B.*
 Wing, Lucius Arthur, B.Sc. (Ohio State Univ.), 1903, *M.D.*
 Wise, Frank Lounsbury, B.A. (Coll. City of New York), 1904, *M.E.*
 Wonderly, George Arthur, Ph.B. (Dickinson Coll.), 1905, *M.E.*
 Wood, Edward Ainsley, C.E. (Univ. of the South), 1905, *C.E.*
 Wood, James Hewitt, LL.B., 1906, *A.B.*
 Woolsey, Chester Howard, B. S. (Univ. of Calif.), 1895, *M.D.*
 (same), 1901, *Sp. M.D.*
 Wright, Thomas Temple, B.A. (Richmond Coll.), 1904, *C.E.*
 Ycasiano-Roxas, Francisco, B.A. (Ateneo de Manila), 1903, *M.E.*
 Yih, Koliang, A.B. (Chinese Univ.), 1902, *B.S.A.*

UNDERGRADUATES.

The figures 1, 2, 3, 4, directly preceding the course indicate Freshman, Sophomore, Junior, and Senior years, respectively, in the four year courses. In the three year course in Law, 1, Jr., and Sr. indicate first year, Junior, and Senior, respectively. In the three year course in Veterinary Medicine, 1, 2, and 3 indicate first, second and third year, respectively. Special Students are not classified by years.

The figures 1, 2, 3, 4, 5, etc., directly following the name indicate the number of terms which the student has registered in the course stated. Whereas registration in medicine in New York City is for entire year, one year's registration is assumed to be for two terms.

Abarca, Henry, (4)	<i>San Juan, Porto Rico,</i> 2 Mech. Eng.
Abbey, Samuel Hamill, (4)	<i>Smithtown Branch,</i> 2 Mech. Eng.
Abbott, Lewis Washburn, (2)	<i>Blasdell,</i> 1 Civil Eng.
Abel, Edna May, (4)	<i>Trumansburg,</i> 2 Arts
Ackerman, Golden Alice, (6)	<i>Fayetteville,</i> 3 Arts
Adams, Francis Salisbury, (8)	<i>Durwood, Minn.,</i> 4 Mech. Eng.
Adams, Frank Avery, (2)	<i>Coxsackie,</i> 2 Arts
Adams, Henry Jewett, (2)	<i>Willink,</i> 1 Mech. Eng.
Adams, Lester Vernon, (2)	<i>Warren, Mass.,</i> 1 Arts
Adams, Percy Hart, (4)	<i>Greenport,</i> 2 Arts
Adendorff, John, (8)	<i>Transvaal, So. Africa,</i> 4 Mech. Eng.
Adler, Arthur John, (2)	<i>Buffalo,</i> 1 Law
Adler, Emil, (4)	<i>Buffalo,</i> 2 Mech. Eng.
Adler, George Herman, (6)	<i>New York City,</i> 3 Arts
Adler, Samuel, (2)	<i>Brooklyn,</i> 1 Arts
Agan, William Byron, (1)	<i>Troy,</i> 1 Medicine
Agcaoili, Francisco, (6)	<i>Ylocos Norte, P. I.,</i> 4 Arts
Agcaoili, Romarico, (6)	<i>Ylocos, P. I.,</i> 3 Civil Eng.
Aguilar, John Edwards, (6)	<i>Santiago, Cuba,</i> 3 Civil Eng.
Aguirre, Jose Urbano, (2)	<i>Santa Fe, Arg. Rep.,</i> 1 Mech. Eng.
Ahbe, Frederic, E.M., M.S., (2)	<i>Athens, Pa.,</i> Sp. Mech. Eng.
Ahrens, Richard Conrad, (1)	<i>Honolulu, H. T.,</i> 1 Mech. Eng.
Aitken, John Winfield, Jr., C.E., (6)	<i>New York City,</i> 4 Mech. Eng.
Alcott, Arthur David, (8)	<i>Troy,</i> 4 Mech. Eng.
Alden, Fred Nagley, B.L., (2)	<i>Delaware, Ohio,</i> 1 Mech. Eng.
Alderman, William Horace, (6)	<i>Albion,</i> 3 Agriculture
Aleman, Fernando, B.A., (6)	<i>Buenos Ayres, Arg. Rep.,</i> 4 Agr.
Alexander, Henry Walker, (6)	<i>Montgomery, Ala.,</i> 3 Civil Eng.

Allaben, Charles Moore, (4)	<i>Margaretville,</i>	2 Medicine
Allen, Anna, (2)	<i>Buffalo,</i>	2 Arts
Allen, Arthur Augustus, (6)	<i>Buffalo,</i>	4 Arts
Allen, Catharine Moore, (2)	<i>Buffalo,</i>	1 Arts
Allen, Charles Clinch, (2)	<i>Galveston, Texas,</i>	Sp. Mech. Eng.
Allen, Charles Lellan, (2)	<i>Ithaca,</i>	1 Mech. Eng.
Allen, George Adams, (1)	<i>Staunton, Va.,</i>	Sp. Agriculture
Allen, Henry Lummis, (2)	<i>Vicksburg, Miss.,</i>	1 Mech. Eng.
Allen, Lawrence Russel, B.S. of C.E. (2)	<i>Ithaca,</i>	2 Civil Eng.
Allen, Mary Lillian, (4)	<i>Ithaca,</i>	2 Arts
Allen, Stanley Woodruff, (2)	<i>Cincinnati, O.,</i>	1 Mech. Eng.
Allen, Thomas Robert, (1)	<i>Ithaca,</i>	1 Law
Almeida, Manuel Buarque, (4)	<i>Rio de Janeiro, Brazil,</i>	2 Civ. Eng.
Almgren, Ebba Elizabeth, (10)	<i>Stockholm, Sweden,</i>	4 Med. (N.Y.C.)
Almirall, Leon Vincent, Ph.B., (2)	<i>Brooklyn,</i>	1 Law
Almy, M Carl, (2)	<i>Hornell,</i>	1 Law
Altamirano, Manuel, C.E., (6)	<i>New York City,</i>	3 Mech. Eng.
Altemose, Earl Stanley, (6)	<i>Scranton, Pa.,</i>	4 Mech. Eng.
Ambler, Letitia, (3)	<i>Philadelphia, Pa.,</i>	2 Arts
Ames, Harry Lee, A.B., (7)	<i>Painter, Va.,</i>	4 Mech. Eng.
Amsler, Arthur Carl, (2)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Anderson, Arthur William, (1)	<i>Auburn,</i>	Sp. Arts
Anderson, Elizabeth Anne, (4)	<i>Philadelphia, Pa.,</i>	3 Arts
Anderson, Eroy Henry, (6)	<i>Hilton,</i>	3 Agriculture
Anderson, Jane Elizabeth, (4)	<i>Wilkinsburg, Pa.,</i>	2 Arts
Anderson, John David, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Anderson, Ross Peter, (6)	<i>Savannah,</i>	3 Arts
Anderson, Victor William, (6)	<i>New York City,</i>	2 Med. (N.Y.C.)
Andrews, Benjamin Clark, (3)	<i>Kortright,</i>	1 Medicine
Andrews, Clarence Raplee, (6)	<i>Penn Yan,</i>	3 Mech. Eng.
Andrews, George Greenwood, (3)	<i>Washington, D. C.,</i>	2 Civil Eng.
Andrews, Hewitt Roger, (6)	<i>Athens, Pa.,</i>	1 Mech. Eng.
Andrews, Joseph Church, (3)	<i>New Britain, Conn.,</i>	1 Arts
Andrews, Thomas Harvey Skinner, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Ankele, Moritz Albert, (2)	<i>Newark, O.,</i>	1 Mech. Eng.
Anthony, Clarence Douglas, (4)	<i>New York City,</i>	1 Civil Eng.
Appel, Harris Arkush, (6)	<i>Denver, Colo.,</i>	3 Civil Eng.
Appel, Willard Sands, (6)	<i>New York City,</i>	3 Mech. Eng.
Argetsinger, James Cameron, (6)	<i>Burdett,</i>	Sr. Law
Argue, Albert Jay, (2)	<i>Buffalo,</i>	1 Law
Arms, John Heyl Raser, (1)	<i>Roselle, N. J.,</i>	1 Arts
Armsrong, John Edwin, (4)	<i>Peoria, Ill.,</i>	3 Civil Eng.

Armstrong, Marion, (8)	<i>Pittsburg, Pa.,</i>	4 Arts
Armstrong, Merwin, (2)	<i>Fayetteville,</i>	1 Civil Eng.
Armstrong, Perry Miller, (4)	<i>Rome,</i>	Jr. Law
Armstrong, Thomas Andrew, (8)	<i>Hamilton, Ont., Can.,</i>	4 Civil Eng.
Armstrong, Walter James, (5)	<i>Fail Hill, Md.,</i>	2 Mech. Eng.
Arnold, Carter Alston, (4)	<i>Elberton, Ga.,</i>	3 Civil Eng.
Arnold, Edward August, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Arnold, Harrison Brummell, (2)	<i>New York City,</i>	Sp. Med. (N.Y.C.)
Arnold, Percy Linden, (8)	<i>Bergen,</i>	4 Mech. Eng.
Arnold, Turner Schuette, (5)	<i>Clarion, Pa.,</i>	2 Mech. Eng.
Arnold, William Henry, Jr., (4)	<i>Clyde,</i>	Sp. Agriculture
Aronovici, Louis Solomon, (4)	<i>Ithaca,</i>	Sp. Agriculture
Arthur, Grace Ethel, (2)	<i>Plattsburg,</i>	1 Arts
Atwater, Louise Harriette, (4)	<i>Clearview,</i>	2 Arts
Atwood, Edwin Havens, (2)	<i>Beaver, Pa.,</i>	1 Mech. Eng.
Atwood, Millard Van Marter, (2)	<i>Groton,</i>	1 Arts
Augenblick, Harry Archie, (2)	<i>Newark, N. J.,</i>	1 Civil Eng.
Ausfeld, Walter Adolph, B.S., (2)	<i>Montgomery, Ala.,</i>	1 Arch.
Austin, Herbert Sidney, (8)	<i>Poughkeepsie,</i>	4 Civil Eng.
Avery, Christine Schermerhorn, (4)	<i>West Taghkanic,</i>	2 Arts
Avery, Earl William, (6)	<i>Ilion,</i>	3 Agriculture
Avery, Frederick, (4)	<i>Rochester,</i>	2 Mech. Eng.
Avery, James, (2)	<i>Aurora,</i>	1 Agriculture
Axtell, Clayton Morgan, (4)	<i>Barboursville,</i>	2 Medicine
Ayer, Carrie Louisa, (2)	<i>Angola,</i>	Sp. Agriculture
Ayer, Lynn Francis, (8)	<i>Angola,</i>	3 Agriculture
Ayles, Gilbert Parrish, (2)	<i>Mount Vernon,</i>	1 Law
Babcock, Hiram Howard, (6)	<i>Auburn,</i>	Sr. Law
Babcock, Langdon, (1)	<i>Rochester,</i>	2 Arts
Baber, Charlotte, (5)	<i>New Rochelle,</i>	3 Arts
Bachman, Charles Franklin, (6)	<i>Wilkes-Barre, Pa.,</i>	3 Mech. Eng.
Backus, William Alden, (2)	<i>Glencarly, Va.,</i>	1 Mech. Eng.
Baer, Clarence Eugene, (6)	<i>New Castle, Pa.,</i>	3 Arts
Baer, Ella Laura, (6)	<i>East Orange, N. J.,</i>	3 Arts
Bagg, Egbert, Jr., (9)	<i>Utica,</i>	4 Arch.
Baggs, Ralph Leonard, (2)	<i>New York City,</i>	1 Mech. Eng.
Bailey, Hervey S, A.B. (4)	<i>Xenia, O.,</i>	3 Mech. Eng.
Bailliere, Marion Valentine, (6)	<i>Ellicott City, Md.,</i>	4 Mech. Eng.
Baird, Warner Green, (6)	<i>Chicago, Ill.,</i>	3 Mech. Eng.
Baker, Augustus Lynn Landon, (6)	<i>Ledgewood, N. J.,</i>	1 Med. (N.Y.C.)
Baker, Clarence Mulford, (6)	<i>LaMoure, N. D.,</i>	3 Civil Eng.
Baker, Cleon Val, (2)	<i>Ulysses, Pa.,</i>	1 Agriculture

Baker, Charles Schenck, (4)	<i>Elmira,</i>	2 Mech. Eng.
Baker, Davis, (4)	<i>North Granville,</i>	2 Medicine
Baker, Ethel Howard, (2)	<i>Winterport, Me.,</i>	1 Arts
Baker, Ernest Leroy, (4)	<i>Belfast,</i>	2 Agriculture
Baker, George Farnsworth, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Baker, Horace Patton, (4)	<i>Philadelphia, Pa.,</i>	1 Mech. Eng.
Baker, James Elmer, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Baker, James Harvey, (8)	<i>Philadelphia, Pa.,</i>	1 Mech. Eng.
Baker, Louis Munson, (6)	<i>Oneonta,</i>	Sr. Law
Baker, Ross Lee, (8)	<i>Greenwood,</i>	4 Mech. Eng.
Baker, Thomas Wallace, (6)	<i>Portland, Ore.,</i>	3 Mech. Eng.
Baker, Valentie Collamer, (4)	<i>Ballston Spa.,</i>	2 Medicine
Balcke, Walter Henry, A.B., (6)	<i>Quincy, Ill.,</i>	4 Mech. Eng.
Baldwin, Charles Crittenton, (2)	<i>New York City,</i>	1 Civil Eng.
Baldwin, Charles Summers, Ph.B., (1)	<i>Summerville, Pa.,</i>	2 Mech. Eng.
Baldwin, Dane Lewis, (4)	<i>Groton,</i>	2 Arts
Baldwin, Edna Cameron, (6)	<i>Ithaca,</i>	3 Arts
Baldwin, Francis William, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Baldwin, Josiah Morris, (3)	<i>Montgomery, Ala.,</i>	1 Mech. Eng.
Baldwin, Mabel Cornelia, (8)	<i>Fort Erie, Ont., Canada,</i>	4 Arts
Baldwin, Roger Allan, (4)	<i>Burlington, Ia.,</i>	3 Arts
Baldwin, Thomas Abbott, (6)	<i>Baltimore, Md.,</i>	3 Architecture
Baldwin, Wesley Manning, (6)	<i>Brooklyn,</i>	4 Arts
Ballard, John Carlos, (8)	<i>West Falls Church, Va.,</i>	4 Mech. Eng.
Ballard, William Cyrus, Jr., (2)	<i>Baltimore, Md.,</i>	1 Mech. Eng.
Ballou, Clarence Maturin, (8)	<i>North Adams, Mass.,</i>	4 Mech. Eng.
Ballou, Edward John, (4)	<i>Gardenville,</i>	2 Medicine
Baltasar, Apolinario, B.S., (6)	<i>Manila, P. I.,</i>	3 Civil Eng.
Bamberger, Clarence Greenwald, (6)	<i>Salt Lake City, Utah,</i>	3 Mech. Eng.
Barcel, Paul August, (4)	<i>New York City,</i>	2 Mech. Eng.
Bandler, Lawrence Robert, (2)	<i>Owego,</i>	1 Arts
Banta, Russell Vincent, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Bantel, Raymond Joseph Francis Xavier Aloysius, (6)	<i>Rochester,</i>	3 Arts
Barash, David Harry, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Barber, Dean Moulder, (4)	<i>Skaneateles,</i>	Sp. Agriculture
Barclay, Wilbur Edward, (4)	<i>Aurora, Ill.,</i>	2 Mech. Eng.
Barker, Charles Rex, (4)	<i>Pittsburg, Pa.,</i>	Sp. Agriculture
Barker, Elmer Eugene, (2)	<i>Crown Point,</i>	1 Arts
Barkhorn, Henry Charles, (8)	<i>Newark, N. J.,</i>	4 Med. (N.Y.C.)
Barlow, Cone, (4)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Barnes, Harold Fairchild, (4)	<i>New York City,</i>	2 Medicine
Barnes, Sarah Louise, (4)	<i>Stockbridge, Mass.,</i>	2 Arts

Barnum, Thomas William, (2)	<i>Housatonic, Mass.,</i>	1 Civil Eng.
Barnes, Charles Leslie, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Barns, Amos Augustus, (1)	<i>Washington Mills,</i>	Sp. Agr.
Barr, Hymen Max, (2)	<i>Brooklyn,</i>	1 Arts
Barrie, Erwin Stein, (2)	<i>Canton, Ohio,</i>	1 Agriculture
Barrows, Lee Earl, (8)	<i>Olean,</i>	Sp. Mech. Eng.
Barry, James Henry, Jr., (2)	<i>Ithaca,</i>	1 Mech. Eng.
Bartholomay, Herman, (8)	<i>Rochester,</i>	4 Mech. Eng.
Bartholomew, Walter Lee, (4)	<i>Cortland,</i>	2 Mech. Eng.
Barton, Frank Leslie, (1)	<i>Union,</i>	1 Mech. Eng.
Barton, William Hill, (6)	<i>Ash Grove, Mo.,</i>	2 Mech. Eng.
Barzaghi, Arthur Jerome, (4)	<i>New York City,</i>	1 Civil Eng.
Bassett, Donald Lewis, (4)	<i>Carbondale, Pa.,</i>	1 Civil Eng.
Bassett, Wilmer Wilson, (6)	<i>Interlaken,</i>	Sp. Agriculture
Bateman, James Garfield, (6)	<i>Mt. Carmel, Pa.,</i>	4 Mech. Eng.
Bates, Ellis Abram, A.B., (2)	<i>Ithaca,</i>	Jr. Law
Bates, Ella Louise, (1)	<i>Los Angeles, Cal.,</i>	1 Medicine
Bates, Grace Margaret, A.B., (2)	<i>Ithaca,</i>	3 Arts
Batley, Fay Hemming, (4)	<i>Buffalo,</i>	2 Civil Eng.
Batt, Irenus Augustus, (2)	<i>North Tonawanda,</i>	1 Mech. Eng.
Battle, Joel Allan, Jr., (6)	<i>Chicago, Ill.,</i>	Sp. Mech. Eng.
Baum, Robert Stanton, (3)	<i>Chicago, Ill.,</i>	2 Mech. Eng.
Baumhofer, Clyde Franklin, (4)	<i>Niagara Falls,</i>	2 Arts
Bautista, Mariano, B.A., (4)	<i>Manila, P. I.,</i>	1 Architecture
Baxter, Allan Hayden, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Baxter, Hubert Eugene, (2)	<i>Tonawanda,</i>	1 Architecture
Baxter, Roland Gillie, (6)	<i>Tonawanda,</i>	Jr. Law
Bayer, Edward Irving, (4)	<i>Toledo, O.,</i>	Sp. Agriculture
Beadle, Lynn Constant, (6)	<i>Oxford,</i>	3 Mech. Eng.
Beam, John Vanderbeck, (4)	<i>Nyack,</i>	1 Mech. Eng.
Beaman, Charles Leicester, (6)	<i>Ithaca,</i>	3 Mech. Eng.
Bean, Albert Charles, (2)	<i>Pulaski,</i>	1 Arts
Beck, Walter W, (4)	<i>Columbiana, O.,</i>	Jr. Law
Becker, Caroline Frederica, (4)	<i>Baltimore, Md.,</i>	2 Arts
Becker, Otto Eduard, (8)	<i>Buffalo,</i>	4 Arts
Beckmann, Harry Theodore, (4)	<i>Toledo, O.,</i>	2 Mech. Eng.
Beckwith, William, (3)	<i>Providence, R. I.,</i>	2 Mech. Eng.
Beddow, Thomas Eckley, (4)	<i>Nanticoke, Pa.,</i>	Sp. Mech. Eng.
Beder, Morris, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Beebe, Silas Palmer, B.S., Ph.D., (4)	<i>Flushing,</i>	2 Med. (N.Y.C.)
Beeson, Emily May, (4)	<i>Nat. Soldiers' Home, Va.,</i>	3 Arts
Beggs, David Wendell, (1)	<i>Columbus, O.,</i>	1 Law

Beifeld, Ernest Lessing, (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Bell, Albert Mortimer, (6)	<i>Glen Head,</i>	3 Med. (N.Y.C.)
Bell, Cecil Kenneth, (4)	<i>Ithaca,</i>	1 Architecture
Bell, John Benson, (2)	<i>Ceres,</i>	1 Veterinary
Bell, Mary Amelia, (3)	<i>Eureka, Calif.,</i>	2 Arts
Bell, Ralph, (2)	<i>Ceres,</i>	1 Veterinary
Bemis, Harry Albert, (3)	<i>Charlemont, Mass.,</i>	1 Law
Benbow, James R., (2)	<i>Clayville,</i>	1 Mech. Eng.
Bender, Oswald Lewis, (7)	<i>Martinsburg, W. Va.,</i>	3 Mech. Eng.
Bendheim, Berthold Herbert, (8)	<i>Houston, Texas,</i>	4 Mech. Eng.
Benedict, Julius Thompson, (6)	<i>Chicago, Ill.,</i>	4 Arts
Benham, Alice Welles, (4)	<i>McLean,</i>	2 Arts
Benjamin, Jack Ansel, (4)	<i>Chicago, Ill.,</i>	2 Mech. Eng.
Bennett, Cornelius Morris, (3)	<i>Ovid,</i>	Sp. Agriculture
Bennett, Henry Howard, (2)	<i>Fort Huron, Mich.,</i>	1 Arts
Bennett, Lawrence Gale, (4)	<i>Ithaca,</i>	2 Arts
Bennett, Mabel Lillian, (4)	<i>Brooklyn Manor,</i>	2 Arts
Bennett, Walter Didama, (2)	<i>Ovid,</i>	1 Veterinary
Benny, James Edwin, (5)	<i>Bayonne, N. J.,</i>	Sr. Law
Benson, Arthur Wight, (2)	<i>Troy,</i>	1 Arts
Benson, George Fred, (4)	<i>Syracuse,</i>	2 Mech. Eng.
Benson, Luther Joseph, (2)	<i>Dover Plains,</i>	1 Veterinary
Bentley, Edith Naomi, (2)	<i>Ithaca,</i>	2 Arts
Bentley, Fred Russell, (2)	<i>Warner,</i>	1 Arts
Bentley, William Kimball, (6)	<i>Pulaski,</i>	Sr. Law
Bergen, Robert Robinson, (6)	<i>Ithaca,</i>	3 Arts
Bergen, Ruth Christine Lovell, (4)	<i>Ithaca,</i>	2 Arts
Berger, Edward, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Berger, Marion, (2)	<i>Brooklyn,</i>	1 Arts
Bergmann, Louis, (2)	<i>Brooklyn,</i>	1 Law
Berkeley, Landon Robinson, (8)	<i>Locust Dale, Va.,</i>	4 Mech. Eng.
Berkowitz, Samuel Simpson, (8)	<i>Brooklyn,</i>	4 Arts
Bernardi, Walter Adam, (4)	<i>Pittsburg, Pa.,</i>	2 Architecture
Bernstein, Morris Jerome, (5)	<i>Brooklyn,</i>	Jr. Law
Best, Ralph Emerson, (6)	<i>Pittsburg, Pa.,</i>	3 Mech. Eng.
Betts, Benjamin Harrison, (8, 2)	<i>Tonawanda,</i>	4 Arts, 1 Medicine
Bevin, Sydney, (6)	<i>New York City,</i>	3 Mech. Eng.
Bevin, Victor DeLamater, (2)	<i>New York City,</i>	1 Mech. Eng.
Beyea, Benjamin Dorrance, (2)	<i>West Pittston, Pa.,</i>	1 Arts
Beyer, Fleck Wesley, B.S., (1)	<i>Cedar Rapids, Ia.,</i>	1 Law
Bibbins, Florence Estelle, Pd.B., (2)	<i>Port Leyden,</i>	2 Arts
Bicudo, Octavio, (2)	<i>Syracuse,</i>	1 Agriculture

Biddle, Anna Eleanora, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Biele, Frederick John, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Bierma, Arthur Graham, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Bigelow, Artwell Hugh, (4)	<i>Waterloo,</i>	2 Mech. Eng.
Bigelow, Oromel Harry, (6)	<i>Palmyra, Wis.,</i>	4 Mech. Eng.
vanBijlevelt, Joannes, Samuel, (5)	<i>The Hague, Holland,</i>	4 Mech. Eng.
Billings, John Dixon, B.S., (2)	<i>Syracuse,</i>	4 Arts
Bills, George Dudley, Jr., (6)	<i>Oak Park, Ill.,</i>	3 Arts
Bingham, Albert James, (3)	<i>Sherburne,</i>	Sp. Agriculture
Biram, James Harrington, B.S., (2)	<i>Provincetown, Mass.,</i>	1 Med. (N.Y.C.)
Birdsall, Winslow, (4)	<i>Croton Lake,</i>	2 Med. (N.Y.C.)
Birkhahn, Jacques, (4)	<i>New York City,</i>	3 Civil Eng.
Birner, Isidor Leon, (2)	<i>Brooklyn,</i>	Sp. Arts
Bishop, Ernest Simons, A.B., (6)	<i>Providence, R. I.,</i>	3 Med. (N.Y.C.)
Bishop, Richard Evett, (4)	<i>Syracuse,</i>	2 Mech. Eng.
Black, Elmer Julis, (2)	<i>Ithaca,</i>	1 Law
Black, Roy Turnbull, (4)	<i>Brooklyn,</i>	2 Arts
Blade, Bessie May, (4)	<i>Hornell,</i>	2 Arts
Blaine, Carlton Allen, (4)	<i>Lyons,</i>	2 Mech. Eng.
Blair, George Walter, (2)	<i>Davenport, Ia.,</i>	1 Mech. Eng.
Blair, John Millard, (1)	<i>Lebanon,</i>	2 Agriculture
Blake, Alfred DeGroot, (8)	<i>Stapleton,</i>	4 Mech. Eng.
Blake, Charles Glenville, (2)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Blake, Harold D., (4)	<i>Naples,</i>	2 Mech. Eng.
Blake, Helen Elizabeth, (6)	<i>North Adams, Mass.,</i>	3 Arts
Blakeley, William Jones, (2)	<i>Roseburg, Ore.,</i>	1 Arts
Blanchard, Rollo Kimbali, (2)	<i>Montpelier, Vt.,</i>	1 Mech. Eng.
Blaylock, John Charles, B.C.E., (2)	<i>Chicago, Ill.,</i>	4 Civil Eng.
Blickman, Saul, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Bliss, Henry Worthington, (4)	<i>Indianapolis, Ind.,</i>	2 Mech. Eng.
Blitzstein, Mary Marcus, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Block, Alexander, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Blodgett, Forest Milo, (2)	<i>Fredonia,</i>	1 Agriculture
Blomberg, Charles Hjalmar, (1)	<i>Brooklyn,</i>	Sp. Agriculture
Blostein, Fred, (1)	<i>Elmira,</i>	1 Medicine
Blum, Samuel George, (4)	<i>Brooklyn,</i>	2 Med. (N.Y.C.)
Blunt, Albert Church, Jr., (8)	<i>Fort Terry,</i>	4 Mech. Eng.
Blunt, Stanhope Eccleston, (4)	<i>Fort Terry,</i>	2 Mech. Eng.
Boardman, Albert Jay, (6)	<i>Philadelphia, Pa.,</i>	3 Mech. Eng.
Bobb, Ralph Daniel, (4)	<i>Roaring Spring, Pa.,</i>	1 Mech. Eng.
Boegehold, Edwin Swart, (6)	<i>Mt. Vernon,</i>	3 Mech. Eng.

Boehler, Charles Ferdinand, (4)	<i>Camden,</i>	Sp. Agriculture
Boehme, Gustav Frederick, Jr., B.S., (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Boeker, Leopold, (6)	<i>Richmond Hill,</i>	3 Mech. Eng.
Bogardus, Thomas Lowe, (4)	<i>Mt. Vernon, O.,</i>	Jr. Law
Bogart, Robert Dickson, (2)	<i>Little Rock, 'Ark.,</i>	3 Civil Eng.
Bogert, George Gleason, A.B., (2)	<i>Ithaca,</i>	Jr. Law
Bogert, Lotta Jean, (2)	<i>Ithaca,</i>	1 Arts
Bogert, Louis Ritzema, (2)	<i>Binghamton,</i>	1 Architecture
Bohan, Francis James, (5)	<i>'Auburn,</i>	3 Arts
Bohlen, August Carl, (4)	<i>Indianapolis, Ind.,</i>	2 Architecture
Boies, Orlow William, (2)	<i>Buffalo,</i>	1 Arts
Bolgiano, Joseph Ralph, (2)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Bolona, Felipe Augusto, (2)	<i>Guayaquil, Ecuador,</i>	1 Mech. Eng.
Bolze, Rudolph August, (2)	<i>Pleasantville,</i>	1 Mech. Eng.
Boos, Hans Christian, (2)	<i>New York City,</i>	1 Mech. Eng.
Booth, Elmir James, (6)	<i>Reed City, Mich.,</i>	3 Mech. Eng.
Booth, Raymond, (2)	<i>New York City,</i>	1 Civil Eng.
Booth, Samuel William, Jr., B.A., (2)	<i>Petersburg, Va.,</i>	1 Mech. Eng.
Borden, Rolden Lee, (2)	<i>New York City,</i>	1 Mech. Eng.
Boring, Edwin Garrigues, (6)	<i>Philadelphia, Pa.,</i>	3 Mech. Eng.
Bossinger, Harry Clyde, (2)	<i>Huntington, W. Va.,</i>	1 Mech. Eng.
Bouck, Ida Julia, (4)	<i>Schoharie,</i>	2 Arts
Bousfield, Harold Walgrove, (6)	<i>Brooklyn,</i>	3 Architecture
Bower, Frank Albert, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Bower, Jacob, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Bowes, Joseph, Jr., (4)	<i>Baltimore, Md.,</i>	4 Mech. Eng.
Bowman, Lawrence Frederick, (2)	<i>Duluth, Minn.,</i>	2 Civil Eng.
Bowman, Ralph McLane, (5)	<i>Washington, D.C.,</i>	1 Civil Eng.
Bowman, Sadie Agatha, (6)	<i>Norwich, Conn.,</i>	3 Arts
Bown, Bruner Gardner, (2)	<i>Fairport,</i>	Sp. Agriculture
Boyajohn, Haig Milton, (6)	<i>New York City,</i>	3 Civil Eng.
Boyce, Benjamin Knowlton, (8)	<i>Salamanca,</i>	4 Mech. Eng.
Boyle, Louis Franklin, (2)	<i>Murray, Utah,</i>	1 Agriculture
Boyle, Thomas Frank, (4)	<i>Montour Falls,</i>	Jr. Law
Boynton, William Hutchens, (4)	<i>Melrose, Calif.,</i>	2 Veterinary
Bradley, Charles Holmes, (3)	<i>Jersey City, N. J.,</i>	Sp Agriculture
Bradley, Charles Leininger, (5)	<i>Cleveland, O.,</i>	2 Arts
Bradley, Elmer Percy, (6)	<i>Pemaquid, Me.,</i>	3 Mech. Eng.
Bradley, John Ruskin, (8)	<i>Brooklyn,</i>	4 Med. (N.Y.C.)
Bradley, Lee R., (6)	<i>Interlaken,</i>	3 Mech. Eng.
Bradley, Margaret, (4)	<i>Newark,</i>	2 Arts
Brady, Josephine, (4)	<i>Philadelphia, Pa.,</i>	2 Arts

Bragaw, Richard, (2)	<i>Jamaica,</i>	2 Mech. Eng.
Bragg, Everett Eugene, (2)	<i>Evanston, Ill.,</i>	4 Arts
Brahmer, Leland Frank, (6)	<i>Lowville,</i>	1 Mech. Eng.
Brainard, Harold Affleck, (8)	<i>Westfield, N. J.,</i>	4 Civil Eng.
Brandow, Emory Elmer, (8)	<i>Catskill,</i>	2 Civil Eng.
Brandt, Frederic Theodore, (2)	<i>Cincinnati, O.,</i>	1 Mech. Eng.
Brandt, Otto, Jr., (6)	<i>Newark, N. J.,</i>	3 Arts
Brauner, Henry Arthur, (4)	<i>Ithaca,</i>	2 Architecture
Brannon, Frank Small, (6)	<i>Owensboro, Ky.,</i>	3 Mech. Eng.
Braymer, Daniel Harvey, A.B., (2)	<i>Granville,</i>	3 Mech. Eng.
Breen, Maurice Francis, (3)	<i>Ithaca,</i>	1 Veterinary
Breglia, John Eugene, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Breitman, Charles, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Brendler, Charles, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Brew, James D, (2)	<i>Bergen,</i>	Sp. Agriculture
Brewer, Ethel Angeline, (4)	<i>Cooperstown,</i>	3 Arts
Brewer, Florence Eunice, (4)	<i>Cooperstown,</i>	3 Arts
Brewrink, John Edward, Ph.B., (8)	<i>Pullman, Wash.,</i>	4 Mech. Eng.
Brewster, Leo Allie, (8)	<i>Wolcott,</i>	4 Arts
Brias Roxas, Antonio, (2)	<i>Manila, P. I.,</i>	3 Civil Eng.
Briggs, Thomas Roland, (4)	<i>Flushing,</i>	2 Arts
Brigham, John Chester, (6)	<i>Ossining,</i>	3 Civil Eng.
Brinton, Charles Chester, (4)	<i>Butte, Mont.,</i>	1 Mech. Eng.
Britten, Edwin Franklin, Jr., (8)	<i>Jersey City, N. J.,</i>	4 Mech. Eng.
Brittingham, Juan Gongalez, B.S., (2)	<i>Durango, Mex.,</i>	1 Mech. Eng.
Britton, Josephine, (8)	<i>Camden, N. J.,</i>	4 Arts
Brockway, Leon McMurray, (6)	<i>Wolcott,</i>	3 Civil Eng.
Brockway, Robert Douglass, (2)	<i>South Byron,</i>	1 Agriculture
Broquet, Fernando Jose, (3)	<i>Ithaca,</i>	2 Mech. Eng.
Bromley, John Hallock, (6)	<i>Plattsburg,</i>	3 Mech. Eng.
Bronk, Marcellus, (2)	<i>Amsterdam,</i>	1 Arts
Bronson, Carlos Emerson, (2)	<i>Hornell,</i>	1 Mech. Eng.
Bronson, Howard Franklin, (2)	<i>Hornell,</i>	1 Civil Eng.
Brookman, Horace Dwight, (4)	<i>Wellsville, O.,</i>	2 Mech. Eng.
Brooks, Edwin Warner, (2)	<i>Denver, Colo.,</i>	1 Civil Eng.
Brooks, John Prentice, (2)	<i>Elyria, O.,</i>	1 Mech. Eng.
Brower, Bert, (6)	<i>Palatine Bridge,</i>	3 Arts
Brower, Milton Willard, (2)	<i>Spencerport,</i>	1 Civil Eng.
Brown, Albert Carlisle, (2)	<i>Williston, Vt.,</i>	Sp. Mech. Eng.
Brown, Bernice Lucy, (4)	<i>Port Chester,</i>	2 Arts
Brown, Charles Seamaus, (4)	<i>Syracuse,</i>	2 Mech. Eng.
Brown, Cleo Wesley, (6)	<i>Painted Post,</i>	3 Civil Eng.

Brown, Clifford Werner, B.S., (2)	<i>Salem, Ore.,</i>	4 Mech. Eng.
Brown, Earl, Ph.B., (1)	<i>Emmetsburg, Ia.,</i>	4 Arts
Brown, Edmond Swain, (6)	<i>Winsted, Conn.,</i>	4 Arts
Brown, Franklin Jay, (1)	<i>Fort Wayne, Ind.,</i>	1 Mech. Eng.
Brown, Franklin Reed, (6)	<i>Buffalo,</i>	Jr. Law
Brown, George Nelson, (6)	<i>Ogdensburg,</i>	3 Mech. Eng.
Brown, George Tod, (3)	<i>New York City,</i>	1 Mech. Eng.
Brown, Herbert Dunham, (2)	<i>Ardsley,</i>	1 Mech. Eng.
Brown, Harold William, (6)	<i>Jersey City, N. J.,</i>	3 Med. (N.Y.C.)
Brown, Harry Philip, (4)	<i>Herkimer,</i>	2 Arts
Brown, Lloyd Heman, (2)	<i>Morrison, Ill.,</i>	1 Law
Brown, Louis Isaac, (2)	<i>Jackson, O.,</i>	1 Arts
Brown, Melville Gilfillan, (3)	<i>Brooklyn,</i>	1 Mech. Eng.
Brown, Oscar Edward, Jr., (2)	<i>Buffalo,</i>	1 Agriculture
Brown, Stanley Doty, A.B., (4)	<i>New York City,</i>	Jr. Law
Bruce, Harry Alexander, (9)	<i>Evanston, Ill.,</i>	4 Mech. Eng.
Bruce, Oliver Standard, Jr., (6)	<i>Buffalo,</i>	3 Mech. Eng.
Brundage, Walter Hammond, (2)	<i>Pleasantville,</i>	1 Medicine
Bruyn, Elizabeth Armitage, (2)	<i>Brooklyn,</i>	1 Medicine
Bryant, Frank Alva Mitchell, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Bryde, Walter Stanley, (4)	<i>New York City,</i>	2 Mech. Eng.
Buchanan, Ira, (2)	<i>Ludlowville,</i>	1 Veterinary
Buchanan, James Dewar, (4)	<i>Youngstown, O.,</i>	1 Mech. Eng.
Buchanan, Paul Rutherford, (2)	<i>Honey Brook, Pa.,</i>	1 Mech. Eng.
Buchwalter, Morris Lyon, Jr., (4)	<i>Cincinnati, O.,</i>	1 Arts
Buck, Frank Williams, (4)	<i>Ithaca,</i>	2 Mech. Eng.
Budd, Percy Hiram, (6)	<i>Pleasant Valley,</i>	3 Civil Eng.
Buell, Llewellyn, (2)	<i>Syracuse,</i>	1 Arts
Buhlert, Frank Adolf, (4)	<i>Boston, Mass.,</i>	Sp. Agriculture
Bull, Harry Gifford, (6)	<i>Keeseville,</i>	3 Arts
Bullen, Stearns Samuel, (4)	<i>Asable Forks,</i>	2 Arts
Bullis, Charles Gardner, (4)	<i>Olean,</i>	Jr. Law
Bullis, Harold Edmund, (4)	<i>Oswego,</i>	3 Mech. Eng.
Bullis, Seth Madison, (6)	<i>Olean,</i>	3 Mech. Eng.
Bullock, Edward Lippincott, Jr., (2)	<i>Audenreid, Pa.,</i>	1 Architecture
Burd, Harry Grover, (4)	<i>Trenton, N. J.,</i>	2 Mech. Eng.
Burger, Charles Raymond, (2)	<i>Ithaca,</i>	1 Law
Burgess, Charles Wesley, (1)	<i>Denver, Colo.,</i>	2 Civil Eng.
Burke, Ella Teresa, (2)	<i>Olean,</i>	1 Arts
Burke, Frank Paul, (2)	<i>Clinton,</i>	1 Civil Eng.
Burkhart, John Conner, (6)	<i>Portland, Ore.,</i>	3 Mech. Eng.
Burlingame, Geoffrey Gorton, (8)	<i>Syracuse,</i>	4 Agriculture

Burnham, Enoch Lewis, A.B., (6)	<i>Philadelphia, Pa.,</i>	4 Civil Eng.
Burnham, Trumbull Griswold, (8)	<i>Willimantic, Conn.,</i>	4 Mech. Eng.
Burns, Charles, (6)	<i>Brooklyn,</i>	1 Mech. Eng.
Burns, Joseph McLarn, (2)	<i>Ithaca,</i>	1 Mech. Eng.
Burns, John Robert, (8)	<i>Ithaca,</i>	3 Veterinary
Burns, Robert, (8)	<i>Brooklyn,</i>	Sr. Law
Burns, Sara Frances, (2)	<i>Bristol, Pa.,</i>	1 Arts
Burr, Georgia Lois, (2)	<i>Valois,</i>	1 Arts
Burr, Henry Frank, (6)	<i>Oakdale,</i>	1 Mech. Eng.
Burr, William Fairfield, A.B., (2)	<i>New York City,</i>	Sp. Agriculture
Burritt, Maurice Chase, (5)	<i>Hilton,</i>	3 Agriculture
Burrows, Earle Nelson, (8)	<i>Deposit,</i>	4 Civil Eng.
Burtch, Harold Havens, (2)	<i>Jamestown,</i>	1 Mech. Eng.
Burt, George James, (2)	<i>Ithaca,</i>	Sp. Agriculture
Burwell, William Turnbull, Jr., (6)	<i>Ithaca,</i>	3 Mech. Eng.
Bush, John Locke, (5)	<i>Kennedy,</i>	3 Civil Eng.
Bushlowitz, Louis George, (2)	<i>New York City,</i>	1 Arts
Bushnell, Frank Harpham, (4)	<i>Watervliet,</i>	2 Arts
Bushnell, Theodore Kingsley, (4)	<i>Denver, Colo.,</i>	4 Arts
Buttery, Howard Routledge, (2)	<i>Westfield,</i>	1 Law
Butts, Mary Byrissa, B A., (4)	<i>Mansfield, Pa.,</i>	4 Arts
Cabassa, Hermann, (2)	<i>New York City,</i>	1 Civil Eng.
Cadogan, Lucy Sweetland, (4)	<i>Hornell,</i>	2 Arts
Cagwin, Clara Joslyn, (3)	<i>Denver, Colo.,</i>	4 Arts
Caldwell, Mary Foster, (6)	<i>Brooklyn,</i>	3 Arts
Caldwell, Robert Keene, (2)	<i>Cincinnati, O.,</i>	2 Arts
Caldwell, Wallace Everett, (2)	<i>Brooklyn,</i>	1 Arts
Calkins, Albert Smith, (6)	<i>Palmyra, Wis.,</i>	4 Mech. Eng.
Callahan, John Francis, (3)	<i>Cortland,</i>	Jr. Law
Callahan, Leo Francis, (4)	<i>Chicago, Ill.,</i>	Jr. Law
Callis, Henry Arthur, (3)	<i>Binghamton,</i>	2 Arts
Cameron, James Richardson, (4)	<i>Manor, Pa.,</i>	2 Mech. Eng.
Cameron, Robert Daniel, (3)	<i>Morrisville,</i>	1 Civil Eng.
Cameron, William Edward, (6)	<i>Ithaca,</i>	Sr. Law
de Camp, Horace Silliman, (4)	<i>New York City,</i>	2 Civil Eng.
Campbell, Donald Argyll, (6)	<i>Brooklyn,</i>	3 Arts
Campbell, Mary Theresa, (6)	<i>Edmeston,</i>	3 Arts
Campion, Edward Stephen, (2)	<i>Utica,</i>	1 Law
Canaga, Gordon Byron, B.A., (8)	<i>Scio, O.,</i>	4 Civil Eng.
Cananza, Jose Joaquim, (2)	<i>New York City,</i>	1 Arts
Canfield, George Howard, (2)	<i>Bridgeport, Conn.,</i>	1 Civil Eng.
Canfield, Robert Withington, (2)	<i>Corning,</i>	1 Mech. Eng.

Cannon, Clayton Pearson, (2)	<i>Baltimore, Md.,</i>	1 Civil Eng.
Caplan, Isidor, (4)	<i>Brooklyn,</i>	2 Med. (N.Y.C.)
Capron, William Cargill, (4)	<i>Ithaca,</i>	Sp. Mech. Eng.
Carey, Herbert Wood, (4)	<i>Cleveland, O.,</i>	3 Mech. Eng.
Carl, Gustave Herman, (2)	<i>Baltimore, Md.,</i>	2 Civil Eng.
Carley, Ralph Felix, (4)	<i>Quincy, Ill.,</i>	4 Mech. Eng.
Carlson, Clarence Dean, (6)	<i>Owego,</i>	3 Mech. Eng.
Carmer, John Chester, (2)	<i>Lyons,</i>	1 Medicine
Carnes, Frederick, (6)	<i>Wilmington, Del.,</i>	3 Mech. Eng.
Carney, John James, (6)	<i>Antwerp,</i>	3 Arts
Carney, Joseph William, (2)	<i>Ilion,</i>	1 Arts
Carpenter, Charles Azariah, (2)	<i>Brooklyn,</i>	2 Mech. Eng.
Carpenter, Charles Ketchum, (8)	<i>Ithaca,</i>	4 Mech. Eng.
Carpenter, Syney Bleecker, (8)	<i>New Brunswick, N. J.,</i>	4 Mech. Eng.
Carpenter, Walter Samuel, (2)	<i>Wilkes-Barre, Pa.,</i>	1 Mech. Eng.
Carroll, Charles Antoninus, (2)	<i>New York City,</i>	1 Arts
Carroll, William Gilbert, B.L., (4)	<i>Beaumont, Texas,</i>	4 Mech. Eng.
Carson, Charles Bancroft, (4)	<i>Rochester,</i>	2 Mech. Eng.
Carver, Harry Eugene, A.B., (8)	<i>Skaneateles,</i>	4 Mech. Eng.
Case, Edward Whitney, (1)	<i>Buffalo,</i>	1 Arts
Case, Leonard Newton, (4)	<i>Norwich, Conn.,</i>	2 Veterinary
Case, Lloyd Everett, (4)	<i>Norwich, Conn.,</i>	2 Veterinary
Case, Marion Isaiah, (1)	<i>Canandaigua,</i>	Sp. Agr.
Casper, William Lee, (8)	<i>Brooklyn,</i>	3 Mech. Eng.
Castillo, Antonio, (2)	<i>Cienfuegos, Cuba,</i>	2 Civil Eng.
Catlin, Welles Goodspeed, (2)	<i>Flemingville,</i>	1 Mech. Eng.
Caulkins, Charles Bosworth, (2)	<i>Amenia,</i>	1 Arts
Centurio, Manuel Anastasio, (2)	<i>Habana, Cuba,</i>	1 Civil Eng.
Chace, Kipp Ingersoll, (1)	<i>East Orange, N. J.,</i>	1 Law
Chace, Ralph Tompkins, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Chadowitz, Charles, (2)	<i>Brooklyn,</i>	2 Arts
Chadwick, Albert Angel, (8)	<i>Port Jervis,</i>	4 Architecture
Chamberlain, Robert Franklin, (6)	<i>Newark Valley,</i>	3 Mech. Eng.
Chambers, Paul Brosius, (2)	<i>Philadelphia, Pa.,</i>	1 Mech. Eng.
Chandler, George Walter, (4)	<i>Vineland, N. J.,</i>	Jr. Law
Chandler, Willard Porter, Jr., (2)	<i>Wilmington, Dela.,</i>	1 Mech. Eng.
Chapin, Archer Louis, (6)	<i>Thompsonville, Conn.,</i>	3 Arts
Chapin, Lester Grover, (6)	<i>Brooklyn,</i>	3 Architecture
Chapman, Elsie May, (4)	<i>Philadelphia, Pa.,</i>	2 Arts
Chapman, Frank Carey, (8)	<i>Ogdensburg,</i>	4 Mech. Eng.
Chapman, George Merwin, Jr., (3)	<i>Waterbury, Conn.,</i>	1 Civil Eng.
Chapman, Louis Ballantine, (8)	<i>Hartford, Conn.,</i>	3 Med. (N.Y.C.)

Chappel, Halbert William, A.B., LL.B., A.M., (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Chase, Charles Henry, Jr., (2)	<i>Rochester,</i>	Sp. Agr.
Chase, Cladd Hopkins, (6)	<i>Holcomb,</i>	3 Mech. Eng.
Chase, Clement Edwards, (2)	<i>Omaha, Nebr.,</i>	1 Civil Eng.
Chase, George Rowley, (6)	<i>Warsaw,</i>	3 Veterinary
Chase, Herbert, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Chase, Lyle Glentworth, (6)	<i>King Ferry,</i>	1 Mech. Eng.
Chatfield, Clarence Edward, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Chen, Tao-Yuan, (2)	<i>Shanghai, China,</i>	1 Mech. Eng.
Childs, Clinton Stibbs, (2)	<i>St. Louis, Mo.,</i>	4 Arts
Childs, Hamilton Eugene, (2)	<i>Syracuse,</i>	1 Law
Chipman, Ruth Ellen, (2)	<i>Ithaca,</i>	1 Arts
Christensen, Rudolph, Jr., (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Christman, Milton Valentine, (4)	<i>Williamsport, Pa.,</i>	1 Civil Eng.
Christy, Grace, (8)	<i>Ford City, Pa.,</i>	4 Arts
Christy, Mary Agnes, (6)	<i>Ford City, Pa.,</i>	3 Arts
Chryssides, Stavros Stephen, A.B., (4)	<i>Constantinople, Turkey,</i>	2 Mech. Eng.
Chu, Pao Feng, (2)	<i>Shanghai, China,</i>	2 Mech. Eng.
Church, Frederic Cross, (4)	<i>Kingston, Pa.,</i>	2 Arts
Church, Leon Seth, (4)	<i>Yates,</i>	Jr. Law
Churchill, Eleanor Elizabeth, (6)	<i>Buffalo,</i>	3 Arts
Cisneros, Anibal, (4)	<i>New York City,</i>	3 Mech. Eng.
Claffin, Leou Ralph, (2)	<i>Herkimer,</i>	1 Mech. Eng.
Claffin, Wilbur Adelbert, (2)	<i>Cambridge, Mass.,</i>	1 Mech. Eng.
Clapp, Raymond Furbush, (2)	<i>Toledo, O.,</i>	1 Mech. Eng.
Clapp, Reuel Frederick, Jr., (2)	<i>Albany,</i>	1 Mech. Eng.
Clark, Alice Laura, (6)	<i>Chester, Conn.,</i>	3 Arts
Clark, Charles, (3)	<i>Nichols,</i>	2 Civil Eng.
Clark, Charles Henry, (2)	<i>Cortland,</i>	1 Law
Clark, Clifford, (6)	<i>Belfast,</i>	3 Mech. Eng.
Clark, Edward Hermans, (4)	<i>Cortland,</i>	1 Mech. Eng.
Clark, Ethan Macpherson, (3)	<i>Wellsville,</i>	2 Architecture
Clark, Ellen Stout, B.P., (8)	<i>Easton, Pa.,</i>	4 Arts
Clark, Harry DeWitt, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Clark, James A, Jr., (4)	<i>Waverly,</i>	Jr. Law
Clark, John Arvine, (2)	<i>Sidney,</i>	1 Mech. Eng.
Clark, Joseph Stanley, (4)	<i>Cornwall Landing,</i>	Sp. Agriculture
Clark, Robert William, (4)	<i>Prospect, Conn.,</i>	2 Civil Eng.
Clark, Walter Hathaway, (6)	<i>New Berlin,</i>	Sp. Agriculture
Clark, William Lowellyn, (6)	<i>Ithaca,</i>	3 Veterinary

Clark, Wilson Delano, (6)	<i>Newark, N. J.,</i>	3 Arts
Clark, William Van Alan, (4)	<i>Lakewood, N. J.,</i>	2 Mech. Eng.
Clarke, Alexander Harris, (4)	<i>New York City,</i>	3 Arts
Clarke, Elizabeth, (2)	<i>Frankford, Phila., Pa.,</i>	2 Arts
Clarke, Van Allen Shields, (5)	<i>Washington, D. C.,</i>	3 Mech. Eng.
Clay, Terry Pitkin, (2)	<i>Cleveland, O.,</i>	1 Mech. Eng.
Cleaver, Fred Everett, (6)	<i>Odessa,</i>	3 Veterinary
Cleeves, Edward Warren, (6)	<i>Meadowbrook,</i>	4 Agriculture
Clement, Edith Marianne, (2)	<i>Albany,</i>	1 Arts
de Clerq, Clarence Fred, (9)	<i>Lebanon,</i>	4 Civil Eng.
Cleveland, Lou Baker, (8)	<i>Watertown,</i>	4 Civil Eng.
Clift, William Brooks, (2)	<i>Chattanooga, Tenn.,</i>	1 Civil Eng.
Cliuton, Charles DeWitt, (2)	<i>Greene,</i>	1 Law
Clock, Fred Adam, (4)	<i>Clockville,</i>	1 Mech. Eng.
Cloyes, Raymond Thomas, (2)	<i>Utica,</i>	1 Mech. Eng.
Clurman, Morris Joseph, A.B., (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Cobb, Ernest Barnard, (3)	<i>Ithaca,</i>	2 Arts
Cobb, Richard Henry, (4)	<i>Cleveland, O.,</i>	2 Arts
Cochran, Robert Lee, (2)	<i>Braddock, Pa.,</i>	Sp. Mech. Eng.
Cochran, Samuel Adams, (6)	<i>Little Rock, Ark.,</i>	3 Mech. Eng.
Cochrane, James George, (2)	<i>Ripley,</i>	Sp. Agriculture
Coe, Ralph Brewster, (10)	<i>Oxford,</i>	4 Civil Eng.
Coe, Robert Lewis, (6)	<i>Waterbury, Conn.,</i>	2 Arts
Coffin, Ernest Linwood, (6)	<i>Ashland, Me.,</i>	2 Med. (N.Y.C.)
Coffin, Harry Randolph, (4)	<i>Athens,</i>	3 Mech. Eng.
Coffman, John Daniel, A.B., (4)	<i>Ithaca,</i>	2 Arts
Cogswell, Walter Kingman, (6)	<i>Etna,</i>	3 Veterinary
Cohen, Harry, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Cohen, Henry Julius, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Cohen, Morton, (8)	<i>Brooklyn,</i>	3 Mech. Eng.
Cohen, Samuel, (4)	<i>Brooklyn,</i>	1 Civil Eng.
Cohn, Mark, (8)	<i>New York City,</i>	3 Med. (N.Y.C.)
Cohn, Maurice Mendel, (2)	<i>New York City,</i>	1 Law
Cohn, Milton Horwitz, (1)	<i>Orange, N. J.,</i>	1 Arts
Coit, Robert Howland, (8)	<i>Grand Rapids, Mich.,</i>	4 Architecture
Colby, Dorothy, (2)	<i>St. Louis, Mo.,</i>	1 Arts
Colcord, Walter Rich, (2)	<i>Brooklyn,</i>	2 Civil Eng.
Colgate, George Marc, (2)	<i>Batavia,</i>	1 Mech. Eng.
Collin, Henry Beaumont, (8)	<i>Penn Yan,</i>	4 Arts
Collin, Karl Wilhelm, (3)	<i>Ithaca,</i>	1 Civil Eng.
Collins, John Dempsey, A.B., (4)	<i>Ithaca,</i>	Jr. Law
Collins, Marion, (2)	<i>Amsterdam,</i>	1 Arts

Coloney, Leslie Houghton, (4)	<i>Theresa,</i>	Sp. Law
Colpitts, James Vandever, (4)	<i>Mount Pleasant, Dela.,</i>	2 Mech. Eng.
Colvin, George Reuben, (2)	<i>North Bennington, Vt.,</i>	1 Law
Comins, Harold Northend, (2)	<i>Wakefield, Mass.,</i>	1 Mech. Eng.
Comstock, Cora Pearl, (6)	<i>Gage,</i>	3 Arts
Condon, John Jr., (6)	<i>Philadelphia, Pa.,</i>	2 Civil Eng.
Conen, John Joseph, Jr., (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Conger, George Perrigo, (8)	<i>Owego,</i>	4 Arts
Conger, Hiram Grant, (4)	<i>Newark, N. J.,</i>	2 Civil Eng.
Conger, Laurence Jerome, Jr., (8)	<i>Groton,</i>	4 Civil Eng.
Conklin, Alfred Wilkinson, (2)	<i>Marquette, Mich.,</i>	1 Arts
Conley, James, (2)	<i>Ithaca,</i>	1 Civil Eng.
Conover, Garret Winfield, (2)	<i>Englishtown, N. J.,</i>	Sp. Agriculture
Conover, Hugh Bedle, (6)	<i>Atlantic Highlands, N. J.,</i>	4 Mech. Eng.
Contessa, Lawrence, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Conway, Herbert Haggas, (2)	<i>Lansdowne, Pa.,</i>	1 Civil Eng.
Cook, Charles Reed, (6)	<i>Jefferson City, Mo.,</i>	4 Mech. Eng.
Cook, Edward Tiffin, Jr., (2)	<i>Chillicothe, O.,</i>	1 Arts
Cook, Fayette Andrus, (6)	<i>Ithaca,</i>	3 Mech. Eng.
Cook, Florence Margaret, (5)	<i>New York City,</i>	Sp. Agr.
Cook, George Tandy, (6)	<i>Canton, O.,</i>	3 Agriculture
Cook, Lee Briggs, (4)	<i>Chautauqua,</i>	1 Agriculture
Cook, Robert Reed, (2)	<i>Potterville, Pa.,</i>	Sp. Agriculture
Cook, Stanley Ward, (2)	<i>Holyoke, Mass.,</i>	1 Mech. Eng.
Cook, William Alexander, (2)	<i>Brooklyn,</i>	Sp. Agriculture
Cooley, James Allen, (6)	<i>Canandaigua,</i>	3 Med. (N.Y.C.)
Coons, Perry Townsend, (4)	<i>Montclair, N. J.,</i>	2 Mech. Eng.
Cooper, Gordon Dare, (6)	<i>Auburn,</i>	4 Agriculture
Cooper, Laura Turner, (2)	<i>Dayton, O.,</i>	1 Arts
Cooper, Robert John, (6)	<i>Aurora, Ill.,</i>	1 Mech. Eng.
Cooper, Wilfred, (2)	<i>Bedford, Pa.,</i>	1 Civil Eng.
Coors, Adolph, Jr., (6)	<i>Golden, Colo.,</i>	4 Arts
Coors, Grover, (2)	<i>Golden, Colo.,</i>	1 Agriculture
Copeland, Walter Gordon, (2)	<i>Glencoe, Ill.,</i>	1 Mech. Eng.
Corbeire, Levan Smull, (3)	<i>New York City,</i>	1 Civil Eng.
Corcuera, Ignacio L, (2)	<i>New Guadalajara, Mex.,</i>	1 Civil Eng.
Corman, Percy Hall, (4)	<i>Tonawanda,</i>	2 Agriculture
Cornell, Charles Walter, Jr., (6)	<i>Elgin, Ill.,</i>	2 Mech. Eng.
Cornell, Florence M, A.B., (2)	<i>New York City,</i>	1 Law
Cornell, Rodman Munn, (4)	<i>New York City,</i>	2 Mech. Eng.
Cornell, William Bouck, (8)	<i>Ithaca,</i>	4 Mech. Eng.
Cornwall, Perry Hamlin, (1)	<i>Portland, Conn.,</i>	1 Law

Corvalon, Patricio, (4)	<i>Salta, Arg. Rep.,</i>	2 Agriculture
Corwin, Charles Dudley, (6)	<i>Cortland,</i>	3 Mech. Eng.
Corwin, Daniel Chauncey, (6)	<i>Riverhead,</i>	1 Civil Eng.
Corwin, Willis James, (2)	<i>Altmar,</i>	Sp. Agriculture
Cosgrove, James Joseph, (3)	<i>Braddock, Pa.,</i>	2 Arts
Cosgrove, Samuel Allison, (8)	<i>Jersey City, N. J.,</i>	4 Med. (N. Y. C.)
Cosgrove, Thomas, Jr., (5)	<i>Braddock, Pa.,</i>	2 Civil Eng
Costello, James Harry, (9)	<i>Elmira,</i>	3 Mech. Eng.
Coston, Pitt E, (8)	<i>Greenwood,</i>	4 Arts
Cothran, John Cleveland, (6)	<i>Lockport,</i>	3 Arts
Cottle, Arthur Preston, (6)	<i>Worcester, Mass.,</i>	1 Mech. Eng.
Coughlin, James Martin, Jr., (6)	<i>Wilkes-Barre, Pa.,</i>	3 Mech. Eng.
Coulson, Robert Earl, (4)	<i>Buffalo,</i>	2 Arts
Courtright, Frank, (8)	<i>Aurora, Ill.,</i>	4 Arts
Covert, Earl Bluun, (7)	<i>Watervliet,</i>	Sr. Law
Cowgill, Harry Leonard, (2)	<i>Topeka, Kan.,</i>	4 Arts
Cox, Christopher Paul, (6)	<i>Washington, D. C.,</i>	3 Mech. Eng.
Cox, James William, Jr., (4)	<i>Albany,</i>	2 Mech. Eng.
Coyle, Dickson Kearns, (4)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Craig, Clement Ellis, B.S (1)	<i>Otwell, Ind.,</i>	Sp. Agriculture
Craig, Ira Lynn, M. Di., (4)	<i>Ames, Ia.,</i>	3 Mech. Eng.
Craig, Samuel Daley, A.B., (4)	<i>Craigsville, Va.,</i>	2 Architecture
Crandall, Lynn, (2)	<i>Ithaca,</i>	1 Civil Eng.
Crane, Donald Frazer, (2)	<i>Brooklyn,</i>	1 Architecture
Cranston, Harry Rose, (2)	<i>Stephentown,</i>	Sp. Agriculture
Craver, Arthur William, (8)	<i>Ithaca,</i>	2 Arts
Crawford, Caroline Cecilia, (2)	<i>Nyack,</i>	1 Arts
Crawford, Gilbert Holmes, (2)	<i>Nyack,</i>	1 Mech. Eng.
Crawford, James Dale, (6)	<i>Pittsburg, Pa.,</i>	3 Mech. Eng.
Crawford, Mary Merritt, A.B., (8)	<i>Nyack,</i>	4 Med. (N. Y. C.)
Crawford, Willard John, Jr., (6)	<i>Cleveland O.,</i>	4 Arts
Craze, George Henry, (2)	<i>Elmira,</i>	1 Mech. Eng.
Crew, Alfred, Jr., (4)	<i>Paterson, N J.,</i>	3 Arts
Critchlow, Howard Thompson, (2)	<i>Prospect, Pa.,</i>	1 Civil Eng.
Crocheron, Bertram Hanford, (2)	<i>Brooklyn,</i>	1 Agriculture
Crofts, Edgar Reginald, (2)	<i>Hanover, Conn.,</i>	1 Civil Eng.
Crosby, Edwin Stansilan, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Cross, Lewis Josephus, (4)	<i>Eagle Bridge,</i>	2 Arts
Cross, Ray Edward, (2)	<i>Niobe,</i>	Sp. Agriculture
Crossman, Donald McKay, (2)	<i>Huntington,</i>	1 Civil Eng.
Crowell, Chas. Edward, Jr., (2)	<i>Atlantic Highlands, N. J.,</i>	1 Civ. Eng.
Crowley, Daniel, (4)	<i>Ithaca,</i>	Jr. Law

Crown, Harry Abraham, (2)	<i>Brooklyn,</i>	1 Arts
Crudden, Matthew James, (2)	<i>New York City,</i>	Sp. Med. (N.Y.C.)
Crumrine, Ralph Milton, (2)	<i>Akron, O.,</i>	2 Arts
Cudahy, Michael Francis, (1)	<i>Milwaukee, Wis.,</i>	2 Arts
Cudebec, Albert Bennett, (6)	<i>Ithaca,</i>	3 Civil Eng.
Cullen, Charles Raymond, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Culliford, Frank, (2)	<i>Brooklyn,</i>	Sp. Agriculture
Cummin, Hart, (4)	<i>Dayton, O.,</i>	2 Civil Eng.
Cumpston, Edward Henry, Jr., (4)	<i>Washington, D. C.,</i>	2 Mech. Eng.
Cunningham, Edward, (1)	<i>Lyon Falls,</i>	1 Law
Cunningham, Roy Howard, (4)	<i>Johnstown, Pa.,</i>	3 Mech. Eng.
Cunningham, Thomas Percival, (4)	<i>Greenport,</i>	2 Mech. Eng.
Curley, William Henry, (4)	<i>Pittsfield, Mass.,</i>	2 Med. (N.Y.C.)
Curry, Henry Milo, (4)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Curry, Rowland Ashby, (8)	<i>Wooster, O.,</i>	4 Architecture
Curtis, Clarence Sylvester, (4)	<i>Northampton, Mass.,</i>	1 Arts
Curtis, Florence Abbott, (6)	<i>Port Chester,</i>	3 Arts
Curtis, Harold Bartlett, (7)	<i>New Castle, Pa.,</i>	4 Arts
Curtis, Margaret, (4)	<i>New Castle, Pa.,</i>	2 Arts
Curtiss, Charles Benjamin, Jr., (4)	<i>Bay City, Mich.,</i>	2 Mech. Eng.
Custer, Lewis Bayard, (8)	<i>Glenolden, Pa.,</i>	4 Civil Eng.
Cutter, Donald Starr, (2)	<i>Newfield,</i>	1 Law
Cutter, Robert Delamere, (6)	<i>Bethlehem, Pa.,</i>	3 Mech. Eng.
Daley, George Irving, (2)	<i>Schenectady,</i>	1 Arts
Daley, Francis Paul, (4)	<i>West New Brighton,</i>	2 Arts
Daley, Joseph, (4)	<i>Kingston,</i>	2 Arts
Damon, Frederick Henry, (6)	<i>Rochester,</i>	3 Mech. Eng.
Danforth, Arthur Louis, (2)	<i>Lake Placid,</i>	1 Veterinary
Daniells, Morton Earl, (4)	<i>Perry,</i>	Sp. Agriculture
Danis, Benjamin George, (4)	<i>Dalton, Mass.,</i>	2 Civil Eng.
Dann, Alexander William, (8)	<i>Downsville,</i>	4 Civil Eng.
Darby, Robert Neil Gordon, (6)	<i>Fort Plains,</i>	3 Veterinary
Darling, Nelson Jarvie, (8)	<i>Schenectady,</i>	4 Mech. Eng.
Darrin, David, (2)	<i>Long Island City,</i>	1 Mech. Eng.
Darrow, Henry Dennison, Jr., (8)	<i>Kingston,</i>	4 Civil Eng.
Darrow, Warren Edwin, (8)	<i>Patchogue,</i>	4 Civil Eng.
Daudt, Ralph Bruere, (5)	<i>Toledo, O.,</i>	4 Arts
Daugherty, Garrard, (2)	<i>Paris, Ky.,</i>	3 Agriculture
Daumont, Louis Burhaus, (4)	<i>Jersey City, N. J.,</i>	2 Mech. Eng.
Davey, Randall Vernon, (2)	<i>East Orange, N. J.,</i>	1 Architecture
David, Lester Jesse, (8)	<i>Rochester,</i>	4 Arts
Davidson, Benjamin, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)

Davidson, James Edgar, (6)	<i>Hillburn,</i>	3 Arts
Davidson, James Holroyd, C.E., (2)	<i>Denver, Colo.,</i>	3 Mech. Eng.
Davie, Leon Clifton, (6)	<i>Belmont,</i>	3 Veterinary
Davies, Edward Livingston, (8)	<i>New York City,</i>	4 Mech. Eng.
Davis, Charles Roy, A.B., (6)	<i>Pine Bluff, Ark.,</i>	3 Med. (N.Y.C.)
Davis, Cortland Woodbury, (8)	<i>Mexico,</i>	4 Mech. Eng.
Davis, Ethel Louisa, (5)	<i>Buffalo,</i>	2 Arts
Davis, Henry Emerson, (4)	<i>Utica,</i>	2 Mech. Eng.
Davis, Ireland, (5)	<i>Washington, D. C.,</i>	3 Architecture
Davis, Joseph, (6)	<i>Le Raysville, Pa.,</i>	3 Agriculture
Davis, John Williams, (2)	<i>Petersburg, Va.,</i>	1 Mech. Eng.
Davis, Mae Alice, (2)	<i>Ithaca,</i>	1 Arts
Davis, Max Warburton, (6)	<i>Torrington, Conn.,</i>	3 Mech. Eng.
Davis, Meyer (6)	<i>New York City,</i>	3 Civil Eng.
Davis, Robert Menees, (8)	<i>Naalehu, Hawii,</i>	4 Civil Eng.
Dawson, Charles Summer, (4)	<i>Wenonah, N. J.,</i>	2 Mech. Eng.
Dawson, George Alexander, (4)	<i>Watertown,</i>	2 Arts
Dawson, Horace Lathrop, (8)	<i>Evanston, Ill.,</i>	4 Mech. Eng.
Day, George Edward, (4)	<i>Bayonne, N. J.,</i>	2 Mech. Eng.
Day, Henry Ralph, (4)	<i>Canandaigua,</i>	Sp. Agriculture
Day, Warren Ellis, (2)	<i>Moro Prov., P. I.,</i>	1 Civil Eng.
Dayton, Ralph Huntting, (2)	<i>East Hampton,</i>	Sp. Agriculture
Dean, Clarence W. (4)	<i>Holland,</i>	2 Mech. Eng.
Dean, Elvira Dudley, (8, 2)	<i>Ithaca,</i>	4 Arts, 1 Medicine
Dean, Jennie Archer, (7)	<i>Ithaca,</i>	4 Arts
Deane, Frank Putnam, (2)	<i>Fredonia,</i>	1 Civil Eng.
Dearstyne, Florence Evelyn, B.S., (2)	<i>Sandy Hill,</i>	Sp. Agriculture
De Bard, Davis Meade, (6)	<i>McMinnville, Tenn.,</i>	3 Mech. Eng.
Decker, Asbury Clinton, (6)	<i>Prince Bay,</i>	3 Civil Eng.
Decker, Glennard Cecil, (4)	<i>Prince Bay,</i>	3 Mech. Eng.
Decker, Lyall, (2)	<i>Minneapolis, Minn.,</i>	2 Mech. Eng.
Decker, Marguerite, (2)	<i>Millerton,</i>	1 Arts
Deering, Edward Malon, (2)	<i>Yonkers,</i>	1 Civil Eng.
De Garmo, Robert Max, (6)	<i>Ithaca,</i>	1 Civil Eng.
De Golyer, Calvin Scott, (2)	<i>Mayfield,</i>	1 Civil Eng.
De Laney, Wesley LaMont, (8)	<i>Sayre, Pa.,</i>	4 Mech. Eng.
Delcasse, Georges, (6)	<i>Buenos Aires, Arg. Rep.,</i>	3 Agriculture
Delehanty, John Bradley, (2)	<i>New Brighton,</i>	1 Architecture
DeLong, Berton Henry, (2)	<i>McGraw,</i>	2 Arts
Demary, Jackson, (5)	<i>Charlestown, N. H.,</i>	Sp. Agr.
Dempsey, George Roger, (4)	<i>Millerton,</i>	2 Medicine
Deniton, Anna Mae, (3)	<i>New York City,</i>	2 Arts

Dennett, William Alexander, (8)	<i>Kittery, Me.,</i>	4 Mech. Eng.
Denniston, Frank, (4)	<i>New York City,</i>	2 Medicine
Denniston, Jesse Hempstead, (4)	<i>Cornwall,</i>	2 Civil Eng.
Denton, William, (6)	<i>Port Jervis,</i>	3 Med. (N.Y.C.)
Depew, Walter G, (2)	<i>Canandaigua,</i>	Sp. Agriculture
Desbecker, Harold Clarence, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Deshon, John James, (7)	<i>Chenandega, Nicaragua, C. A.,</i>	1 Agri.
Desjardins, Leo Andrew, (2)	<i>Denver, Colo.,</i>	Sp. Architecture
Desmond, Thomas Henry, (2)	<i>W. Wrentham, Mass.,</i>	3 Agri.
Deuel, Ray Eugene, (2)	<i>Chittenango,</i>	1 Agriculture
Deutsch, Karlmau, (1)	<i>New York City,</i>	1 Civil Eng.
Devitt, Christopher Leo, (2)	<i>Hoboken, N. J.,</i>	1 Agriculture
Dewar, Robert Critchlow, (4)	<i>East Orange, N. J.,</i>	2 Civil Eng.
DeWitt, Briuton Brown, (2)	<i>Ithaca,</i>	1 Mech. Eng.
DeWitt, Harry Alonzo, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
De Wolf, Harold, (6)	<i>Bristol, R. I.,</i>	3 Med. (N. Y. C.)
Dexter, Bayard Putnam, (4)	<i>Orange, Mass.,</i>	2 Mech. Eng.
Dexter, Robert Lee, (2)	<i>Athol, Mass.,</i>	1 Mech. Eng.
Dey, Donald Mitchell, (2)	<i>Syracuse,</i>	1 Agriculture
Diamant, Albert, (4)	<i>Westchester,</i>	2 Civil Eng.
Dibrell, Louis Nelson, (8)	<i>Danville, Va.,</i>	3 Mech. Eng.
Dickens, Wayland, (4)	<i>Alpine,</i>	1 Civil Eng.
Dickiusion, Ezra Ross, (1)	<i>Sandy Hill,</i>	1 Veterinary
Dickinson, Joseph Alexander, (2)	<i>New York City,</i>	1 Civil Eng.
Dickson, Charles Chester Byron, (6)	<i>New Orleans, La.,</i>	3 Mech. Eng.
Dieckmann, Annetta Marie, (4)	<i>Buffalo,</i>	2 Arts
Diefendorf, Charles Wilson, (8)	<i>Troy,</i>	4 Civil Eng.
Diehl, Clifford Samuel, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Diment, Ellwood, (4)	<i>Oswego,</i>	2 Mech. Eng.
Dobbs, Helen Adelle, (2)	<i>Ithaca,</i>	1 Arts
Dobson, George Gordon, (4)	<i>Passaic, N. J.,</i>	2 Mech. Eng.
Dodge, John Henry, (2)	<i>Little Rock, Ark.,</i>	1 Mech. Eng.
Dods, John Palliser, (4)	<i>Fredonia,</i>	1 Mech. Eng.
Dodson, Martha Ethel, B.E., (8)	<i>Berwick, Pa.,</i>	4 Arts
Dodson, Richard Stearns, B.S., (2)	<i>Norfolk, Va.,</i>	3 Civil Eng.
van der Does de Bye, Arnound Jacob Joris, (5)	<i>The Hague, Holland,</i>	4 Mech. Eng.
Doetsch, William Jacob, (4)	<i>Gardenville,</i>	Jr. Law
Doig, John Robert, (6)	<i>Greenwich,</i>	3 Mech. Eug.
Dominick, Mabel Ancy, (2)	<i>Fulton,</i>	2 Arts
Douahue, William James Aloysius, A.B., (6)	<i>Newark, N. J.,</i>	2 Med. (N.Y.C.)

Donaldson, Alexander Grosvenor, (8)	<i>Detroit, Mich.,</i>	4 Arch.
Donaldson, Roderick Douglas, (6)	<i>New York City,</i>	1 Mech. Eng.
Donnan, Elizabeth Pearl, (8)	<i>Cygnets, O.,</i>	4 Arts
Donnell, Murray Cushing, (1)	<i>Houlton, Me.,</i>	3 Arts
Donnellan, George Patrick, (2)	<i>Brockport,</i>	Sp. Arts
Donnellan, Mary Veronica, (7)	<i>Binghamton,</i>	4 Arts
Donnelly, Catherine Jessica, (6)	<i>Philadelphia, Pa.,</i>	4 Arts
Donoghue, James Patrick Kiernan, (4)	<i>Rochester,</i>	2 Medicine
Donovan, James Clement, (2)	<i>Goshen,</i>	1 Med. (N.Y.C.)
Donovan, John Henry, (4)	<i>Joliet, Ill.,</i>	2 Civil Eng.
Dooley, John James, (4)	<i>Penn Yan,</i>	2 Veterinary
Doolittle, Glen J., (2)	<i>Wolcott,</i>	1 Med. (N.Y.C.)
Doris, Abraham Louis, (2)	<i>Brooklyn,</i>	1 Arts
Doron, William Hyde, (2)	<i>Champaign, Ill.,</i>	2 Mech. Eng.
Dorrance, John Knapp, (2)	<i>Houston, Tex.,</i>	1 Mech. Eng.
Doster, John, (1)	<i>Topeka, Kan.,</i>	3 Civil Eng.
Doughty, Annie Wilson, (4)	<i>Portland, Me.,</i>	Sp. Arts
Douglas, James Robinson, (4)	<i>Westfield,</i>	Jr. Law
Douglass, Herbert McNair, (8)	<i>Clyde,</i>	4 Mech. Eng.
Douglass, Leland Sidney, (2)	<i>Cleveland, O.,</i>	1 Mech. Eng.
Doux, Jules Goodwin, (4)	<i>Utica,</i>	2 Arts
Dowdle, Edward, (4)	<i>Oswego,</i>	2 Medicine
Downes, Henry Hackett, (6)	<i>Denton, Md.,</i>	3 Mech. Eng.
Downs, Leon Hamilton, (4)	<i>Monticello,</i>	2 Mech. Eng.
Drager, Walter Louis, (2)	<i>Berkeley, Calif.,</i>	2 Civil Eng.
Dragoshinoff, Dragoshin George, A.B., (6)	<i>Hirevo, Serliero, Bulgaria,</i>	4 Agriculture
Drake, Archibald Edward, (8)	<i>Buffalo,</i>	4 Civil Eng.
Drake, Howard Babcock, (2)	<i>Friendship,</i>	1 Arts
Drennen, Everett, (6)	<i>Martins Ferry, O.,</i>	4 Civil Eng.
Drew, John Bragg, (8)	<i>Ithaca,</i>	2 Veterinary
Driscoll, Frances Mary, (1)	<i>Ithaca,</i>	1 Arts
Droge, Harry William, (6)	<i>Brooklyn,</i>	Sr. Law
Drolshagen, Frank Fredinand, (4)	<i>Milwaukee, Wis.,</i>	Sp. Arch.
Drury, Alexander Getchell, (8)	<i>Cincinnati, O.,</i>	4 Mech. Eng.
DuBois, Arthur Wood, (8)	<i>Hallstead, Pa.,</i>	4 Arts
DuBois, Henry Pastor, (10)	<i>Hallstead, Pa.,</i>	4 Mech. Eng.
DuBois, Leo Charles, (6)	<i>Newburgh,</i>	3 Med. (N.Y.C.)
DuBois, Phebe Lott, (6)	<i>Holmdel, N. J.,</i>	3 Med. (N.Y.C.)
Dubuis, John, B.A., (4)	<i>Clinton, S. C.,</i>	2 Civil Eng.
Dudley, Guilford Swathel, (2)	<i>New Dorp,</i>	1 Arts
Duffy, Charles Lester, (6)	<i>New York City,</i>	3 Arts

Dugan, William John, (8)	<i>Pueblo, Colo.,</i>	4 Arts
Duke, Louis, (8)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Dukes, Gordon Bennett, (2)	<i>Brooklyn,</i>	1 Arts
Dulaney, Stanley Joe, (6)	<i>Paris, Texas,</i>	3 Mech. Eng.
Dunning, Polly Hicks, (6)	<i>Webster,</i>	3 Arts
Durand, Albert Cyrus, A.B., (2)	<i>Oberlin, O.,</i>	2 Medicine
Durk, Francis Lammerts, (6)	<i>Niagara Falls,</i>	Sr. Law
Durkan, John Ambrose, (2)	<i>Watertown,</i>	1 Arts
Durkan, Thomas Glenn, (6)	<i>Watertown,</i>	4 Arts
Duryea, Howard, (8)	<i>Craigsville.</i>	4 Mech. Eng.
Dutney, George Valentine, (2)	<i>Allegheny, Pa.,</i>	1 Mech. Eng.
Dwight, Francis Bartow, (4)	<i>Lake Forest, Ill.,</i>	2 Mech. Eng.
Dwyer, Helen Frances, (4)	<i>Hartford, Conn.,</i>	2 Arts
Dyer, Walter Cheney, (8)	<i>Chicago, Ill.,</i>	4 Mech. Eng.
Dyniewicz, Matthew January, (2)	<i>Chicago, Ill.,</i>	Sp. Law
Eagan, Mary Helen, (4)	<i>Schenectady,</i>	2 Arts
Earle, Edwin, Jr., (6)	<i>Detroit, Mich.,</i>	3 Agriculture
Eastland, Seaborn, Jr., B.S., (1)	<i>Meridan, Miss.,</i>	1 Mech. Eng.
Eastman, D K, (6)	<i>Woodsville, N. H.,</i>	3 Veterinary
Easton, Otho Karl, (2)	<i>Ticonderoga,</i>	1 Arts
Eaton, Fred Clair, (4)	<i>Scranton, Pa.,</i>	2 Mech. Eng.
Eaton, John Morton, (2)	<i>Beaver, Pa.,</i>	1 Arts
Eaton, Katherine, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Ebberts, Andrew Howard, (4)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Ebeling, Frederic Oliver, (4)	<i>Evanston, Ill.,</i>	2 Mech. Eng.
Ebersole, Newman, (2)	<i>Cincinnati, O.,</i>	1 Arts
Eckel, Edward Jacob, (8)	<i>Syracuse,</i>	4 Med. (N.Y.C.)
Eckert, Samuel Baltz, (6)	<i>Devon, Pa.,</i>	3 Mech. Eng.
Edgar, Minnie, (2)	<i>Wilmington, Del.,</i>	1 Arts
Edlund, Roscoe Claudius, (4)	<i>Brooklyn,</i>	2 Arts
Edmonds, Alfred Benjamin, (4)	<i>Glen Cove,</i>	2 Veterinary
Edwards, Elmer, (5)	<i>Forest Home,</i>	1 Civil Eng.
Edwards, Kenneth Scott, (1)	<i>Ludlow, Ky.,</i>	1 Mech. Eng.
Eells, Dan Parmelee, (6)	<i>Cleveland, O.,</i>	4 Arts
Egbert, James Byron, (8)	<i>Rosebank,</i>	4 Civil Eng.
Eggleston, Cary, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Ehrlich, Simon David, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Eichel, Henry, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Eitel, Edmund Henry, (8)	<i>Indianapolis, Ind.,</i>	4 Mech. Eng.
Eldredge, Elmer Ellsworth, (4)	<i>Sharon Springs,</i>	Sp. Agriculture
Eldredge, Ralph Waldo, (7)	<i>Sharon Springs,</i>	4 Arts
Ellenbogen, Sidney Arthur, (6)	<i>Paterson, N. J.,</i>	3 Mech. Eng.

Ellerd, Harvey George, (1)	<i>Sioux City, Ia.,</i>	1 Law
Ellsworth, Goodwin Davis, Jr., (5)	<i>Washington, D. C.,</i>	1 Civil Eng.
Elser, Maxmilian, Jr., (2)	<i>Fort Worth, Tex.,</i>	1 Arts
Elwood, James Lawrence, (9)	<i>Rochester,</i>	2 Mech. Eng.
Elwood, Lewis Jasper, (5)	<i>Fort Plain,</i>	Sp. Agriculture
Elwood, Philip Homer, Jr., (2)	<i>Fort Plain,</i>	1 Agriculture
Elwood, Walter, (6)	<i>Amsterdam,</i>	3 Arts
Embury, David Augustus, (6)	<i>Morrisville,</i>	3 Arts
Emerson, Earl Arthur, (4)	<i>Cincinnati, O.,</i>	2 Mech. Eng.
Enaje, Francisco Delgado, S.M., (1)	<i>Cristobal Colon, P. I.,</i>	1 Civil Eng.
Engel, Arthur William, (4)	<i>Lyons,</i>	2 Civil Eng.
Engel, Joseph, (8)	<i>Newport, R. I.,</i>	4 Med. (N. Y. C.)
Engle, Clarence Frederick, (6)	<i>Montclair, N. J.,</i>	3 Mech. Eng.
English, Clarence Arthur, (4)	<i>Los Angeles, Calif.,</i>	1 Law
Eno, Charles Rudd, (6)	<i>Pine Plains,</i>	3 Veterinary
Epstein, Jacob Julius, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Ernsberger, Millard Clayton, A.B., (2)	<i>Ithaca,</i>	3 Mech. Eng.
Ernst, Peter H, M.D., (1)	<i>New York City,</i>	Sp. Med. (N.Y.C.)
Erway, Ellen Grace, (4)	<i>Trumansburg,</i>	2 Arts
Erwin, James Arad, (4)	<i>Chicago, Ill.,</i>	4 Mech. Eng.
Esmond, Nathan, (6)	<i>Valley Falls,</i>	3 Mech. Eng.
Espindola, Dario, (2)	<i>La Plata, Arg. Rep.,</i>	1 Mech. Eng.
Essex, Harry, (8)	<i>Buffalo,</i>	3 Arts
Estill, George Castleman, A.B., (8)	<i>Lexington, Ky.,</i>	4 Mech. Eng.
Estrada, Sabastian, (2)	<i>Cardenas, Cuba,</i>	1 Civil Eng.
Eustis, Truman William, Jr., (4)	<i>Hinsdale, Ill.,</i>	2 Mech. Eng.
Evans, Alice Catherine, (4)	<i>Le Raysville, Pa.,</i>	Sp. Agriculture
Evans, Leigh Rodenbough, (5)	<i>Easton, Pa.,</i>	4 Mech. Eng.
Evans, Louis Humphreys, (6)	<i>Granville,</i>	2 Civil Eng.
Evans, Walter Griffith, (4)	<i>Rome,</i>	1 Arts
Face, Edward Gill, (2)	<i>Norfolk, Va.,</i>	1 Architecture
Failing, Brayton Earl, (8)	<i>Sherburne,</i>	4 Med. (N. Y. C.)
Fairbanks, Frank Latta, (4)	<i>Ithaca,</i>	1 Mech. Eng.
Fairlamb, Gertrude May, M.E., (6)	<i>Media, Pa.,</i>	1 Arts
Fanoni, Antonio, M.D., (2)	<i>New York City</i>	Sp. Med. (N.Y.C.)
Farkas, Morris, (6)	<i>New York City,</i>	3 Med. (N. Y. C.)
Farley, Otis Lord, (2)	<i>Newton, Mass.,</i>	1 Mech. Eng.
Farnell, Frederic, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Farnham, Lynn T, (2)	<i>Sterling Valley,</i>	1 Civil Eng.
Farr, Newton Camp, (4)	<i>Chicago, Ill.,</i>	2 Civil Eng.
Farrior, James William, B.E., (6)	<i>Kenansville, N. C.,</i>	4 Mech. Eng.

Fassett, Truman Edmund, (4)	<i>Elmira,</i>	2 Arts
Faucher, Cyril Adolphus, (4)	<i>Rochester,</i>	2 Civil Eng.
Faustman, William Frederick, (4)	<i>Auburn,</i>	4 Civil Eng.
Fay, Edward Miller, (4)	<i>Malone,</i>	2 Mech. Eng.
Fehr, Louis White, (8)	<i>Rochester,</i>	4 Arts
Feinberg, Abraham Wilfred, LL.B., (1)	<i>Lake Placid,</i>	1 Arts
Feldstein, Bernard, (4)	<i>New York City,</i>	2 Med. (N. Y. C.)
Feldman, George Joseph, (6)	<i>Buffalo,</i>	3 Arts
Felknor, James Minnis, A.B., (4)	<i>Morristown, Tenn.,</i>	2 Civil Eng.
Fellman, Morris, (4)	<i>New York City,</i>	2 Civil Eng.
Fenger, Frederick Abildgaard, (10)	<i>Winnetka, Ill.,</i>	4 Mech. Eng.
Fennelly, Joseph Francis, (4)	<i>Brooklyn,</i>	1 Mech. Eng.
Ferguson, John Alfred, (8)	<i>New York City,</i>	4 Mech. Eng.
Ferguson, Llewellyn Ray, (3)	<i>Buffalo,</i>	3 Arts
Fernow, Fritz, (4)	<i>Ithaca,</i>	2 Arts
Ferris, Herbert Rushmore, (2)	<i>Westfield, N. J.,</i>	1 Mech. Eng.
Ferris, Ralph, (8)	<i>Ithaca,</i>	4 Civil Eng.
Fielden, Anna, (2)	<i>Beverly, Mass.,</i>	1 Arts
Fielding, William Edgar, (4)	<i>So. Orange, N. J.,</i>	2 Civil Eng.
Figles, Harold Edward, (6)	<i>Ithaca,</i>	3 Mech. Eng.
Filkins, Barent Latham, (8)	<i>Buffalo,</i>	4 Mech. Eng.
Finch, Burtis J, (8)	<i>Conklin,</i>	4 Civil Eng.
Finch, Ellis Jerome, (2)	<i>New York City,</i>	2 Mech. Eng.
Findley, Roger Sherman, (4)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Finkelstein, Max Jacob, (6)	<i>Elmira,</i>	Sr. Law
Finnegan, Christopher Robert, (2)	<i>Buffalo,</i>	1 Veterinary
Fischer, Ernst Julius Carl, (2)	<i>Hazleton, Pa.,</i>	1 Mech. Eng.
Fischer, Nemo Mellville, (2)	<i>East Orange, N. J.,</i>	1 Civil Eng.
Fish, Clyde Francis, (2)	<i>Jamestown,</i>	Sp. Agriculture
Fish, Elosia Belle, (2)	<i>Ludlowville,</i>	1 Arts
Fish, J Arthur, (4)	<i>Ithaca,</i>	2 Mech. Eng.
Fish, Margaret Maud, (2)	<i>Hall's Corners,</i>	Sp. Agriculture
Fisher, Alvan Newell, (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Fisher, Clarence Frazier, (4)	<i>Davenport,</i>	2 Civil Eng.
Fisher, George Farnsworth, (4)	<i>Chicago, Ill.,</i>	2 Civil Eng.
Fisk, Marion Walter, (8)	<i>Portland, Ore.,</i>	3 Mech. Eng.
Fisk, Walter Warner, (2)	<i>Oswego Center,</i>	1 Agriculture
Fitch, Charles Walton, (2)	<i>Washington, D. C.,</i>	1 Civil Eng.
Fitch, Earl W. (2)	<i>Springville,</i>	1 Veterinary
Fitch, Francis Ellery, (6)	<i>Elmira,</i>	3 Mech. Eng.
Fitz, Arthur Van Arsdale, (2)	<i>Peconic,</i>	1 Mech. Eng.
Fitzgerald, John Morris, (4)	<i>Fillmore,</i>	1 Civil Eng.

Fitzpatrick, Marion Aurelia, (8)	<i>Albany,</i>	4 Arts
Fitzpatrick, Sarah Hungerford, (2)	<i>Albany,</i>	1 Arts
Flagg, Paluel Joseph, (4)	<i>Yonkers,</i>	2 Med. (N. Y. C.)
Fleming, William Henry Irwin, B.S. in Arch., (2)	<i>Washington, D. C.,</i>	3 Arch.
Fletcher, William Gould, (2)	<i>Paterson, N. J.,</i>	1 Mech. Eng.
Flickinger, Walter Eugene, (6)	<i>Erie, Pa.,</i>	3 Mech. Eng.
Flinn, Rufus Hill, (4)	<i>Camden, N. J.,</i>	2 Mech. Eng.
Flint, Stanley Howard, (6)	<i>Wilkinsburg, Pa.,</i>	2 Civil Eng.
Flocken, Fred, Jr., (2)	<i>Chicago, Ill.,</i>	1 Agriculture
Flood, Henry, Jr., (4)	<i>Elmira,</i>	2 Mech. Eng.
Floyd, Bertram Poor, (2)	<i>Manchester, Mass.,</i>	1 Architecture
Flynn, Edward James, (5)	<i>Johnstown,</i>	2 Arts
Fogarty, Anna Winifred, (6)	<i>Wateroliet,</i>	3 Arts
Folger, Roy Cooke, (4)	<i>Cape Vincent,</i>	2 Mech. Eng.
Follmer, Clinton Lee, B A., (2)	<i>Williamsport, Pa.,</i>	1 Mech. Eng.
Forbes, Henry Hooker, (2)	<i>Westboro, Mass.,</i>	1 Civil Eng.
Forbes, William Henry, (9)	<i>Philadelphia, Pa.,</i>	4 Mech. Eng.
Ford, Edward Hyndman, (8)	<i>Marshwood, Pa.,</i>	4 Mech. Eng.
Ford, Edgar Kay, (2)	<i>Bellwood, Pa.,</i>	1 Mech. Eng.
Ford, Everett Leander, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Ford, Robert Graham, (8)	<i>Bellewood, Pa.,</i>	4 Civil Eng.
Forrest, Gertrude Edith, (2)	<i>Madison, N. J.,</i>	2 Medicine
Foster, Frank Grove, (4)	<i>New Britain, Conn.,</i>	2 Civil Eng.
Foster, Harry Purrington, (6)	<i>Dalton, Mass.,</i>	3 Mech. Eng.
Foster, Shirley Watson, B.Agr., (2)	<i>Nance, N. C.,</i>	Sp. Agriculture
Foster, Steven Pineo, (2)	<i>Dalton, Mass.,</i>	1 Mech. Eng.
Foster, William Silliman, (4)	<i>Water Mill,</i>	2 Arts
Fowler, Elihu Washburne, (2)	<i>Washington, D. C.,</i>	1 Civil Eng.
Fowler, Fred DuMont, (8)	<i>Ithaca,</i>	4 Mech. Eng.
Fowler, Philip Deily, (2)	<i>Philadelphia, Pa.,</i>	1 Mech. Eng.
Fowler, Ray Forman, (4)	<i>Rochester,</i>	Jr. Law
Fowler, Royale Hamilton, (8)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Fowler, William Dillon, (6)	<i>Salt Lake City, Utah,</i>	3 Mech. Eng.
Fowler, William Franklin, (4)	<i>Lynbrook,</i>	Jr Law
Fox, Harry Davenport, (6)	<i>Penn Yan,</i>	3 Mech. Eng.
Fox, Norman J, (2)	<i>LaPorte, Ind.,</i>	1 Arts
Fox, Robert Lee, (4)	<i>Batavia,</i>	2 Civil Eng.
Fox, Seth William, Jr., (8)	<i>Brooklyn,</i>	3 Mech. Eng.
Frank, Jerome Adrian, (3)	<i>New York City,</i>	3 Arts
Frank, Louis James, (2)	<i>Brooklyn,</i>	1 Med. (N. Y. C.)
Frank, Morris, (4)	<i>Elizabeth, N. J.,</i>	2 Med. (N.Y.C.)

Frankenheimer, Harold S, (4)	<i>New York City,</i>	2 Arts
Franklin, Albert Vergil, (6)	<i>Ithaca,</i>	3 Arts
Fraser, Edwin Archibald, (2)	<i>Rochester,</i>	1 Civil Eng.
Fraser, Nora Blandiug, A.B., (4)	<i>Staunton, Va.,</i>	4 Arts
Frear, Henry North, (5)	<i>Buffalo,</i>	3 Arts
Fredericks, John Eden, (4)	<i>Houston, Texas,</i>	1 Mech. Eng.
Frederickson, Augustus M, (6)	<i>Cornwall-on-Hudson,</i>	Jr. Law
Freeman, Henry Brewster, (3)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Freeman, Herbert Stanley, (2)	<i>Rochester,</i>	1 Mech. Eng.
Freer, Arthur Thomas, (6)	<i>Gilbertsville,</i>	Sr. Law
French, Charles Martin, (4)	<i>Housatonic, Mass.,</i>	2 Mech. Eng.
French, Lorena Josephine, (2)	<i>Albany,</i>	1 Arts
French, Vida Rachel, (4)	<i>Buffalo,</i>	4 Agriculture
Freudenheim, Elias, (4)	<i>Elmira,</i>	2 Arts
Frey, Mildred Carolyn, B.E., (2)	<i>Allentown, Pa.,</i>	1 Arts
Freyre, Leopoldo Estanislao, A.B., (4)	<i>Habana, Cuba,</i>	1 Civil Eng.
Fried, Isador, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Fried, Jake, (8)	<i>Vicksburg, Miss.,</i>	4 Mech. Eng.
Friedman, Eugene, (2)	<i>New York City,</i>	1 Agriculture
Friedrich, John Emil, (8)	<i>Mount Vernon,</i>	4 Mech. Eng.
Friend, Robert Elias, (6)	<i>Milwaukee, Wis.,</i>	3 Mech. Eng.
Fries, Waldemar Hans, (2)	<i>Buffalo,</i>	1 Arts
Friese, Edwin, (2)	<i>Baltimore, Md.,</i>	2 Civil Eng.
Frink, Walter E, (6)	<i>DeRuyter,</i>	3 Veterinary
Frisbie, Grandison Norton, (5)	<i>Middleburgh,</i>	Jr. Law
Fritz, Emanuel, (4)	<i>Kenwood Park, Ind.,</i>	3 Mech. Eng.
Frizzell, Rex Russell, (6)	<i>Great Falls, Mont.,</i>	3 Arts
Frosch, Albert Ernest, (4)	<i>Pittsburg, Pa.,</i>	2 Civil Eng.
Frost, Arthur Lawrence, (4)	<i>Muskegon, Mich.,</i>	2 Mech. Eng.
Frost, Howard Brett, (6)	<i>Dairyland,</i>	2 Agriculture
Frost, James Nathan, (6)	<i>Buffalo,</i>	3 Veterinary
Frost, Vincent James, (2)	<i>Lakemont,</i>	1 Agriculture
Fry, Jacob Yeakle Dietz, B.S., (2)	<i>Philadelphia, Pa.,</i>	1 Mech. Eng.
Fuertes, Mary Katharine, (2)	<i>Ithaca,</i>	Sp. Agriculture
Fujioka, Keisuke, (2)	<i>Tokyo, Japan,</i>	1 Mech. Eng.
Fukami, Kushichi, (3)	<i>Fukuoka, Japan,</i>	1 Architecture
Fuller, Warren Lansing, (2)	<i>Scranton, Pa.,</i>	1 Mech. Eng.
Fullerton, David Humphrey, (2)	<i>Ringoes, N. J.,</i>	2 Agriculture
Fulton, Creed Walsh, (4)	<i>Washington, D. C.,</i>	2 Mech. Eng.
Fung, Hing Kwai, (6)	<i>Canton, China,</i>	3 Agriculture
Gable, Ward Llewellyn, (4)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Gaby, Robert Edward, B.A., (6)	<i>Toronto, Canada,</i>	3 Med. (N. Y. C.)

Gache, Cæsar Thomas, (3)	<i>Buenos Aires, Agr. Rep.,</i>	2 Mech. Eng.
Gaffney, Raymond James, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Gage, Henry Phelps, (4)	<i>Ithaca,</i>	3 Arts
Galadjikian, Alexander Sarkis, A.B., (6)	<i>Constantinople, Turkey,</i>	3 Mech. Eng.
Gallagher, John Sill, (6)	<i>Saginaw, Mich.,</i>	2 Arts
Gallagher, Joseph, (7)	<i>Myers,</i>	4 Civil Eng.
Gallagher, William Michael, (6)	<i>Cleveland,</i>	Sr. Law
Gallego, Alejandro, (4)	<i>Santiago, Arg. Rep.,</i>	2 Mech. Eng.
Gameros, Enrique, (2)	<i>Chihuahua, Mexico,</i>	1 Agriculture
Gano, Richard Chilton, (2)	<i>Dallas, Texas,</i>	1 Arts
Garabrant, Willard Waldron, (4)	<i>Ralston, N. J.,</i>	2 Mech. Eng.
Gardner, Fred Eugene, (2)	<i>Rochelle, Ill.,</i>	1 Law
Gardner, Robert Eli, (9)	<i>Gulfport, Miss.,</i>	3 Arts
Garretson, Paul Oliver, (6)	<i>Buffalo,</i>	3 Arts
Garrigan, Louis George, (5)	<i>Newark, N. J.,</i>	2 Arts
Garrow, Theodore Alexander, B.S., (3)	<i>Corvallis, Ore.,</i>	4 Mech. Eng.
Gaston, Edwards Pablo, A.B., (6)	<i>Habana, Cuba,</i>	4 Mech. Eng.
Gates, Grandon Dumars, (4)	<i>Helena, Mont.,</i>	2 Mech. Eng.
Gates, Lewis Harold, (6)	<i>St. Paul, Minn.,</i>	3 Mech. Eng.
Gauntlett, John McGraw, (7)	<i>Ithaca,</i>	1 Arts
Gavett, Leonard Whitney, (6)	<i>Plainfield, N. J.,</i>	3 Mech. Eng.
Gayden, Margaret Kirby, (2)	<i>Gurley P. O., Ala.,</i>	1 Arts
Gehring, Victor Marshall, (8)	<i>Portland, Me.,</i>	4 Arts
Geis, Richard Anthony, (4)	<i>New York City,</i>	Jr. Law
Gelser, George Merrill, A.B., (6)	<i>Beaver Falls,</i>	4 Med. (N. Y. C.)
Genung, Anna Belle, (4)	<i>Ithaca,</i>	2 Arts
Gerard, Joseph Edwin, (2)	<i>Patchogue,</i>	1 Architecture
Gerhardt, Reginald Bernard, (4)	<i>Lebanon, Pa.,</i>	4 Mech. Eng.
Germond, Russell Clarke, (4)	<i>New Britain, Conn.,</i>	2 Mech. Eng.
Gersoni, Louis Jacob, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Getchell, Charles Kenneth, (1)	<i>New Hartford,</i>	1 Mech. Eng.
Gewertz, Maurice, (2)	<i>Brooklyn,</i>	1 Medicine
Gibb, Walton, (4)	<i>Philadelphia, Pa.,</i>	2 Civil Eng.
Gibbs, Jesse Lynn, (2)	<i>Hornell,</i>	1 Civil Eng.
Gibson, Edwin Fred, (2)	<i>Norwich,</i>	1 Medicine
Gibson, Edwin Thomas, (6)	<i>Brooklyn,</i>	Sr. Law
Gilbert, Allan H, (4)	<i>Rushford,</i>	2 Arts
Gilbert, Boyd Duane, (2)	<i>Rodman,</i>	1 Agriculture
Gilbert, Grace Russell, (8)	<i>Brooklyn,</i>	4 Arts
Gilbert, Huntley Harris, (8)	<i>Chicago, Ill.,</i>	4 Mech. Eng.
Gilbert, Walter Levi, (6)	<i>Durham,</i>	3 Veterinary

Gilcreast, Roger Spencer, (2)	<i>Hazelton, Pa.,</i>	1 Mech. Eng.
Gilcreast, Webster Farnham, (8)	<i>Hazelton, Pa.,</i>	4 Mech. Eng.
Gildner, Harry Holmes, (8)	<i>Newport News, Va.,</i>	4 Mech. Eng.
Giles, Isabel, (3)	<i>New York City,</i>	Jr. Law
Gilkey, Royal, (6)	<i>Watertown, Mass.,</i>	3 Agriculture
Gill, Harry Percival, (4)	<i>New York City,</i>	2 Veterinary
Gillespie, George Maitland, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Gillespie, James Edward, (4)	<i>Ausable Forks,</i>	2 Arts
Gillet, Langdon, (3)	<i>New York City,</i>	1 Mech. Eng.
Gillette, Arthur Taylor, (6)	<i>Cuba,</i>	3 Med. (N.Y.C.)
Gillette, Harold, (4)	<i>Syracuse,</i>	1 Civil Eng.
Gillette, William DeWitt, (7)	<i>Mt. Vernon,</i>	3 Mech. Eng.
Gilman, Andrew Logan, (4)	<i>Groveland Sta.,</i>	2 Arts
Gilmore, Alvin Leroy, (6)	<i>Ithaca,</i>	1 Civil Eng.
Gilmore, Charles Thomas, (4)	<i>Jersey City, N. J.,</i>	1 Mech. Eng.
Gilyard, Arthur Thomas, (6)	<i>Seymour, Conn.,</i>	3 Veterinary
Ginorio, Francisco Ricardo, A.B., (8)	<i>Arecibo, Porto Rico,</i>	4 Mech. Eng.
Ginsburg, Benjamin, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Girvan, Stanley Fowler, (1)	<i>Little Falls,</i>	1 Mech. Eng.
von Glahn, John Christopher, (2)	<i>Brooklyn,</i>	1 Arts
Gleason, George Scott, (4)	<i>Glens Falls,</i>	2 Arts
Gleason, John Lawrence, LL.B., (2)	<i>Union Springs,</i>	1 Arts
Gleason, James Patrick, (2)	<i>Lyons,</i>	1 Medicine
Glennie, Robert Douglas, (6)	<i>Sanborn,</i>	3 Mech. Eng.
Glidden, Jay Osborne, (2)	<i>Niobe,</i>	Sp. Agriculture
Gluck, Harry James, (1)	<i>Brooklyn,</i>	1 Arts
Glugoski, Arthur, (5)	<i>New York City,</i>	2 Mech. Eng.
Godfrey, William Truitt, (8)	<i>City Island,</i>	4 Med. (N. Y. C.)
Godoy, Juan Carlos, (2)	<i>Buenos Aires, Arg. Rep.,</i>	Sp. Agricul.
Godoy, Raul, (4)	<i>Buenos Aires, Arg. Rep.,</i>	2 Civil Eng.
Goepel, Frederick Narcis, (8)	<i>New York City,</i>	4 Civil Eng.
Goetter, Edward Baldwin, (9)	<i>New York City,</i>	4 Architecture
Goetz, Werner William, (4)	<i>Milwaukee, Wis.,</i>	2 Arts
Goldberg, Albert Samuel, (6)	<i>Brooklyn,</i>	Sr. Law
Goldberg, Isaac, (8)	<i>Brooklyn,</i>	2 Med. (N. Y. C.)
Goldberg, Monroe Saul, (2)	<i>New York City,</i>	1 Mech. Eng.
Goldberger, Louis, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Goldhaar, John, (4)	<i>New York City,</i>	4 Agriculture
Goldsmith, Walter Mayer, (4)	<i>New York City,</i>	2 Arts
Goldsmith, William Mosler, (4)	<i>Cincinnati, O.,</i>	1 Mech. Eng.
Goldstein, Isaac Montifor, (8)	<i>Milford, Ill.,</i>	4 Mech. Eng.

Goldstein, William, (4)	<i>Brooklyn,</i>	2 Med. (N. Y. C.)
Gomez, José Antonio, Ph.B., (4)	<i>Guayaquil, Ecuador,</i>	2 Civil Eng.
Gomez-Rojas, Roberto, (2)	<i>New York City,</i>	1 Arts
Goodier, Chester Jennings, (8)	<i>Atlanta, Ga.,</i>	4 Mech. Eng.
Goodrich, John Fish, (3)	<i>Keokuk, Ia.,</i>	1 Agriculture
Goodrich, Leroy Rosengren, (6)	<i>Buffalo,</i>	3 Arts
Goodspeed, Charles Barnett, (6)	<i>Columbus, O.,</i>	3 Mech. Eng.
Goodwillie, David Herrick, (6)	<i>Oak Park, Ill.,</i>	3 Mech. Eng.
Goodwillie, Edward Easson, (2)	<i>Oak Park, Ill.,</i>	1 Architecture
Goodwin, Frank Perry, M.D., (1)	<i>Jamestown,</i>	4 Arts
Goodwin, Melvin Biggs, (6)	<i>Ithaca,</i>	3 Arts
Goodwin, Philip James, (6)	<i>Kingston, Pa.,</i>	3 Mech. Eng.
Gootenberg, David, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Gormley, George Hugh, (2)	<i>Belfast,</i>	1 Veterinary
Gottesman, Sidney Maxim, (4)	<i>Brooklyn,</i>	Jr. Law
Gottlieb, Harry, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Gottschalk, Lionel John, (4)	<i>New Orleans, La.,</i>	3 Mech. Eng.
Gouinlock, Jane, (6)	<i>Warsaw,</i>	3 Arts
Gould, Carl Alvord, (8)	<i>Muskegon, Mich.,</i>	4 Civil Eng.
Gould, Clarence Allen, (6)	<i>Seneca Falls,</i>	4 Mech. Eng.
Gould, David James, Jr., (2)	<i>New Brighton,</i>	1 Mech. Eng.
Gould, Lewis Arthur, (6)	<i>Interlaken,</i>	3 Med. (N.Y.C.)
Gowans, Ethel Bell, (4)	<i>New York City,</i>	Sp. Agriculture
Gracy, Leonard Rider, (6)	<i>Jamaica,</i>	3 Agriculture
Graham, John Cooper, (4)	<i>Brookton,</i>	2 Medicine
Graham, John Hersey, (8)	<i>Woodruff, Pa.,</i>	4 Architecture
Graham, Leland Little, (3)	<i>Pittsburg, Pa.,</i>	1 Civil Eng.
Graham, Margaret, (2)	<i>New York City,</i>	3 Arts
Graham, Samuel Herbert, (2)	<i>Cortland,</i>	1 Arts
Grant, Clinton Jefferson, (2)	<i>Mansfield Center, Conn.,</i>	3 Agri.
Grant, Floyd Marshall, (6)	<i>Brasher Falls,</i>	Sr. Law
Grant, Frank Lincoln, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Grant, James Denison, (4)	<i>Eaton, Colo.,</i>	2 Mech. Eng.
Graves, Gaylord Willis, A.B., (6)	<i>Binghamton,</i>	2 Med. (N.Y.C.)
Graves, Lemuel Eugene, A.B., (2)	<i>W. Raleigh, N. C.,</i>	1 Agriculture
Graves, Marion Lee, M.D., (2)	<i>Galveston, Texas,</i>	Sp. Med. (N.Y.C.)
Graves, Ralph Ireson, (6)	<i>Amesbury, Mass.,</i>	4 Mech. Eng.
Graves, William Herbert, (1)	<i>Amesbury, Mass.,</i>	Sp. Agriculture
Gray, Donald Stuart, (2)	<i>Grosse Pointe Farms, Mich.,</i>	1 Arts
Gray, Frederick Ramsey, (2)	<i>Greene,</i>	1 Mech. Eng.
Graydon, Sterling, B.E., (2)	<i>Greewood, S. C.,</i>	Sp. Mech. Eng.
Green, J Birchard, (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.

Greene, Albert Dygert, (4)	<i>Fort Plain,</i>	2 Medicine
Greene, Mabelle Chamberlain, (4)	<i>Morris,</i>	2 Arts
Greenman, Charles Dwight, (6)	<i>Norwich, Conn.,</i>	1 Agriculture
Greer, Edward Russell, (4)	<i>Minneapolis, Minn.,</i>	3 Mech. Eng.
Gregory, Charles Truman, (2)	<i>Ithaca,</i>	1 Agriculture
Gregory, Maxwell Delos, (2)	<i>Unadilla,</i>	1 Law
Grelle, Frederick William, (1)	<i>South Orange, N. J.,</i>	1 Mech. Eng.
Gresham, Frank Spencer, (10)	<i>Galveston, Tex.,</i>	3 Civil Eng.
Griffin, Bertha, (4)	<i>Philadelphia, Pa.,</i>	2 Arts
Griffin, Bessie May, (8)	<i>Binghamton,</i>	4 Arts
Griffin, Charles Alfred, Jr., (4)	<i>Utica,</i>	2 Arts
Griffin, Edward Galvin, (2)	<i>Watertown,</i>	1 Arts
Griffin, Lawrence, (2)	<i>Philadelphia, Pa.,</i>	1 Civil Eng.
Griffis, Stanton, (2)	<i>Ithaca,</i>	1 Arts
Griffiths, George Washington, (2)	<i>Haddon Heights, N. J.,</i>	1 Mech. Eng.
Gridley, Sidney Dias, (6)	<i>Elmira,</i>	3 Mech. Eng.
Gridley, William Granison, (4)	<i>Elmira,</i>	2 Civil Eng.
Grimley, John Goodwin Joseph, (8)	<i>New York City,</i>	2 Med. (N. Y. C.)
Griswold, Edna Dorothy, (4)	<i>Mayville,</i>	1 Architecture
Griswold, Horace, (7)	<i>Binghamton,</i>	3 Civil Eng.
Gross, Charles Philip, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Grossman, Jacob, (4)	<i>New York City,</i>	1 Med. (N. Y. C.)
Grubel, Jacob Lewis, (2)	<i>New York City,</i>	1 Law
Grubb, Howard Burlingham, (6)	<i>South Croydon, England,</i>	3 Agr.
Grubb, Norman Henry, (6)	<i>South Croydon, England,</i>	3 Agr.
Gruner, William Philip, (8)	<i>St. Louis, Mo.,</i>	4 Mech. Eng.
Guenther, Victor John, (8)	<i>Buffalo,</i>	4 Mech. Eng.
Gunnison, Marion, (7)	<i>Erie, Pa.,</i>	4 Agriculture
de Guzman, Clara Llagas, (2)	<i>Bataan, P. I.,</i>	1 Agriculture
Gwinn, Charles Sumner, (8)	<i>West Shokan,</i>	4 Arts
Gwyn, Elsie Lindsay, (2)	<i>Springdale, N. C.,</i>	1 Arts
Haas, Clara Alice, (2)	<i>Buffalo,</i>	Sp. Arts
Haas, Celia Frances, (6)	<i>Depauville,</i>	3 Arts
Hack, Earl Reside, (6)	<i>Baltimore, Md.,</i>	3 Mech. Eng.
Hadley, Clarence George, (8)	<i>Mumford,</i>	4 Mech. Eng.
Hagen, Charles William, (2)	<i>Sparrowbush,</i>	1 Law
Haggart, Philip Woodward, (4)	<i>Ambridge, Pa.,</i>	2 Civil Eng.
Hahl, Edward Augustus, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Haight, Austin Dunham, B.S., (2)	<i>Brooklyn,</i>	Sp. Agriculture
Haight, George Steiner, (6)	<i>Matteawan,</i>	3 Civil Eng.
Haight, Helena Harriet, (6)	<i>Watkins,</i>	3 Arts

Haight, Manlus Claude, (3)	Waterloo,	Sp. Agriculture
Haim, Leon, Agrl. Eng., (1)	Montpellier, France,	Sp. Agr.
Haines, Charles Alviu, A.B., (6)	Slatington, Pa.,	3 Mech. Eng.
Hale, Henry, Jr., (4)	Orange, N. J.,	1 Mech. Eng.
Hall, Arthur George, (4)	Verona,	2 Veterinary
Hall, Bruce Lester, (2)	Mt. Vision,	1 Civil Eng.
Hall, Clyde Melviu, (2)	Perrysburg,	Sp. Agriculture
Hall, Edwin Sawyer, (4)	East Dixfield, Me.,	Jr. Law
Hall, Gilbert Phelps, (3)	Brooklyn,	2 Architecture
Hall, Harold Louis, (2)	Saratoga Springs,	1 Medicine
Hall, James Donald, (3)	Houston, Tex.,	2 Mech. Eng.
Hall, Samuel Payson, (2)	Ridley Park, Pa.,	1 Civil Eng.
Hallberg, Lawrence Gustave, 2d., (2)	Evanston, Ill.,	1 Architecture
Halley, Erskine Burt, (2)	Troy,	4 Arts
Hallock, Daniel Wells, (4)	Rocky Point,	2 Agriculture
Hallock, William Nowlen, (6)	Bath,	Sr. Law
Hallstead, Frank Nathaniel, Jr., (4)	Scranton, Pa.,	1 Mech. Eng.
Hallsted, Marguerite May, (2)	Cold Spring,	1 Arts
Halsey, Georgina Elizabeth, (2)	New York City,	1 Arts
Halsey, Willard Ballentine, (4)	Summit, N. J.,	Jr. Law
Halstead, John Preston, (6)	Rome,	3 Mech. Eng.
Ham, Edwin Daniels, (2)	Spokane, Wash.,	1 Mech. Eng.
Hamblet, Mary Lucia, B.A., (6)	Salem, Mass.,	3 Med. (N.Y.C.)
Hamilton, Alexander Morton, (4)	Schenectady,	2 Mech. Eng.
Hamilton, Ethel Sedden, (6)	Ben Aron, Pa.,	3 Arts
Hamlin, Charles Arthur, (2)	Buffalo,	1 Law
Hammar, Alfredo Gottlieb, (3)	Ryd, Smaland, Sweden,	4 Agriculture
Hammel, Victor Frank, (8)	Joliet, Ill.,	4 Civil Eng.
Hammond, Frances Belle, (8)	Belfast,	4 Arts
Hanagan, Thomas Patrick, (2)	Poughkeepsie,	1 Arts
Hanbidge, Frank Findlay, (2)	Ogdensburg,	1 Architecture
Hand, Clarence Joseph, (2)	Plainfield, N. J.,	Jr. Law
Handy, Robert Goudy, (2)	Bay City, Mich.,	1 Mech. Eng.
Haney, Albert Paul, (4)	Seneca Falls,	1 Civil Eng.
Hanford, John William, (4)	Stanford,	2 Mech. Eng.
Hanford, Robert Gilmore, (2)	Columbus, O.,	Sp. Agriculture
Hanke, Emil Otto Joseph, (2)	Cincinnati, O.,	1 Law
Hanson, George Charles, (6)	Bridgeport, Conn.,	3 Civil Eng.
Hanson, Herbert C., (2)	Dillon, Mont.,	2 Civil Eng.
Hapgood, William, (6)	Warren, O.,	3 Mech. Eng.
Harding, Harold Carl, (2)	Middletown,	1 Mech. Eng.
Harding, Harriet Squier, (1)	New York City,	Sp. Agriculture

Hargreaves, Robert, (4)	<i>Detroit, Mich.,</i>	2 Mech. Eng.
Harnden, Frank, (6)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Harries, William Edward, (6)	<i>Buffalo,</i>	3 Agriculture
Harrington, Arthur William, (4)	<i>Watertown,</i>	2 Civil Eng.
Harrington, Harry Nelson, (4)	<i>Delta,</i>	Jr. Law
Harris, George Burdette, (1)	<i>Brooklyn,</i>	Sp. Mech. Eng.
Harris, George Rodney, (4)	<i>Cohocton,</i>	2 Architecture
Harris, Herbert Goodman, (2)	<i>Bloomfield, N. J.,</i>	1 Mech. Eng.
Harris, James Armstrong, Jr., (4)	<i>Cleveland, O.,</i>	2 Mech. Eng.
Harris, Leon, (6)	<i>Brooklyn,</i>	3 Med. (N. Y. C.)
Harris, Richard Green, (4)	<i>Baltimore, Md.,</i>	4 Mech. Eng.
Harris, Samuel Thomas, (2)	<i>Ashtabula, O.,</i>	1 Mech. Eng.
Harris, Will, (2)	<i>Salt Lake City, Utah,</i>	1 Law
Harrison, Harry, (8)	<i>Passaic, N. J.,</i>	4 Mech. Eng.
Harrison, Howard Griswold, (8)	<i>Addison,</i>	4 Civil Eng.
Harrison, Raymond High, (2)	<i>Orange, N. J.,</i>	1 Mech. Eng.
Harrison, Ross Ray, (6)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Harrison, William Taylor, (8)	<i>Buffalo,</i>	4 Mech. Eng.
Harrisson, Gerardus, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Hart, Haynes Lloyd, (8)	<i>Auburn,</i>	4 Mech. Eng.
Hart, James Finlay, (2)	<i>New York City,</i>	1 Medicine
Hart, Wilbur Dyre, (2)	<i>Crown Point, Ind.,</i>	3 Mech. Eng.
Hartigan, Irving Cress, (6)	<i>Manila, P. I.,</i>	1 Mech. Eng.
Hartigan, William Edward, (6)	<i>Norwich,</i>	3 Med. (N. Y. C.)
Hartley, George Inness, (2)	<i>Montclair, N. J.,</i>	1 Agriculture
Hartman, Carrie Zoe, (4)	<i>Bozeman, Mont.,</i>	3 Arts
Hartman, Flora Madge, (4)	<i>Bozeman, Mont.,</i>	2 Arts
Hartnett, Michael Arnold, B.S., (4)	<i>Orangeburg, S. C.,</i>	4 Mech. Eng.
Hartung, Marion John, (6)	<i>Wyckoff, N. J.,</i>	3 Mech. Eng.
Hartwell, George Vail, (4)	<i>Saratoga Springs,</i>	2 Mech. Eng.
Hartzell, Donald Whiting, (6)	<i>Canton, O.,</i>	3 Mech. Eng.
Harvey, Bartram Ralph, (2)	<i>Ward, Pa.,</i>	Sp. Agriculture
Hascall, Theodore Conrad, Ph.B., (4)	<i>New York City,</i>	2 Med. (N. Y. C.)
Haskell, Clifton Roy, (6)	<i>Jersey City, N. J.,</i>	2 Mech. Eng.
Hassall, Thomas Reginald, (2)	<i>Bowie, Md.,</i>	Sp. Mech. Eng.
Hastings, Arthur Chapin, Jr., (2)	<i>Niagara Falls,</i>	1 Mech. Eng.
Hastings, Edwin Hamilton, Jr., (6)	<i>Homer,</i>	4 Arts
Hastings, Harold Merwin, (2)	<i>Homer,</i>	1 Arts
Hastings, Michael, (2)	<i>Ithaca,</i>	1 Veterinary
Hastings, Orlando Burr, (2)	<i>Niagara Falls,</i>	1 Mech. Eng.
Haswell, John Robert, (2)	<i>Ithaca,</i>	2 Civil Eng.

Hatfield, Hazel May, A.B., (8)	<i>Newark, N. J.,</i>	4 Med. (N. Y. C.)
Hathaway, Augustus Jeremiah, Jr., (2)	<i>North Tonawanda,</i>	1 Mech. Eng.
Hathaway, Henry Mona, (5)	<i>Seattle, Wash.,</i>	2 Civil Eng.
Hauck, Thomas Shyrock, (2)	<i>Baltimore, Md.,</i>	1 Civil Eng.
Haug, Frederick William, (6)	<i>New York City,</i>	3 Mech. Eng.
Haverbeck, Harrison Morton, (2)	<i>West Nyack,</i>	1 Law
Haxtun, Kenneth Goadby, (2)	<i>Kent, Conn.,</i>	1 Mech. Eng.
Hayden, Frank Strong, B.A., (2)	<i>Wyoming,</i>	3 Agriculture
Hayden, George Spalding, (2)	<i>Ishpeming, Mich.,</i>	2 Arts
Hayden, John Ellsey, (2)	<i>Ishpeming, Mich.,</i>	1 Arts
Hayden, Robert, (2)	<i>Sayre, Pa.,</i>	1 Civil Eng.
Hayes, Edwin Hawley, (2)	<i>Buffalo,</i>	1 Agriculture
Hayes, Herbert Edward, (4)	<i>Cohoes,</i>	2 Civil Eng.
Heal, Ethel H, (4)	<i>Batavia,</i>	2 Arts
Hedges, Charles Cleveland, B.S., (1)	<i>Walton, Ky.,</i>	4 Arts
Heermans, Minton Thomas, (2)	<i>Evanston, Ill.,</i>	1 Mech. Eng.
Heg, Ernest Clarke, (2)	<i>Elizabeth, N. J.,</i>	1 Mech. Eng.
Heilman, Fred Lee, (4)	<i>Greenville, Pa.,</i>	Jr. Law
Heine, Henry Anton, (8)	<i>Washington, D. C.,</i>	4 Mech. Eng.
Heller, William Benjamin, (6)	<i>New York City,</i>	3 Arts
Helmer, Harry White, (4)	<i>Chicago, Ill.,</i>	2 Architecture
Hemberger, John Fred, (4)	<i>Dayton, O.,</i>	2 Mech. Eng.
Hemingway, Gertrude Clapp, (8)	<i>Troy,</i>	4 Arts
Hemingway, Hughey Stewart, (4)	<i>Washington, D. C.,</i>	2 Mech. Eng.
Henderson, Mary Bulkley, (4)	<i>Port Chester,</i>	2 Arts
Henderson, Nellie Mae, (6)	<i>Norwich, Conn.,</i>	1 Arts
Henderson, Robert Moss, Jr., (6)	<i>Montgomery, Ala.,</i>	2 Mech. Eng.
Henderson, Thomas Richard, (8)	<i>Philadelphia, Pa.,</i>	4 Civil Eng.
Hennessy, Elizabeth Irene, (6)	<i>Binghamton,</i>	2 Arts
Henning, Carl Bryant, (4)	<i>Milwaukee, Wis.,</i>	2 Mech. Eng.
Henriksen, Martha Kaspara, (6)	<i>Brooklyn,</i>	3 Arts
Henry, Lewis, (4)	<i>Elmira,</i>	2 Arts
Henry, Lucas Smith, (4)	<i>Canandaigua,</i>	2 Arts
Henry, Roy Scott, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Hequembourg, Louis Albert, (1)	<i>Schenectady,</i>	1 Arts
Hequembourg, Louis Max, (5)	<i>Dunkirk,</i>	2 Civil Eng.
Herbold, Carl James, (2)	<i>Buffalo,</i>	1 Mech. Eng.
Heron, Kenneth Austin, (2)	<i>Washington, D. C.,</i>	3 Civil Eng.
Heroy, William Frederick, (1)	<i>Ithaca,</i>	Sp. Arts
Herr, Frederick John, (8)	<i>Brooklyn,</i>	4 Civil Eng.
Herriman, Victor Doraval, (6)	<i>Brooklyn,</i>	3 Mech. Eng.

Herrington, Samuel Edgar, B.Sc., (2)	<i>Engine, Miss.,</i>	3 Mech. Eng.
Hespelt, Ernest Herman, (2)	<i>Johnstown,</i>	1 Arts
Hess, Walter, (8)	<i>New York City,</i>	4 Med. (N. Y. C.)
Hettrick, Ernest Frederick, (2)	<i>Norfolk, Va.,</i>	1 Civil Eng.
Hewes, Earl Dayton, (2)	<i>Bergen,</i>	Sp. Agriculture
Hewitt, Carl Thompson, (6)	<i>Gouverneur,</i>	3 Mech. Eug.
Hewitt, George Frederick, Jr., (2)	<i>Montclair, N. J.,</i>	1 Mech. Eng.
Hewitt, James Prentice, (2)	<i>Lewiston,</i>	1 Law
Hewitt, Maude Graham, (4)	<i>Margaretville,</i>	2 Arts
Heymsfeld, Nicholas Alexander, (6)	<i>New York City,</i>	Sr. Law
Hickman, Frances, (6)	<i>Buffalo,</i>	3 Arts
Hicks, William Gorgus, (2)	<i>Mt. Vernon,</i>	1 Mech. Eng.
Hickstein, William Lux, (4)	<i>Auburn,</i>	3 Arts
Hiett, Ralph Waldo, (5)	<i>Toledo, O.,</i>	2 Mech. Eng.
Higgins, George Hendrick, (4)	<i>Cortland,</i>	2 Mech. Eng.
Higgins, Ralph Holbrook, (2)	<i>Newtonville, Mass.,</i>	1 Mech. Eng.
Highland, Caswell, (4)	<i>Niagara Falls,</i>	2 Mech. Eng.
Hilborn, William Harrison, (4)	<i>Jasper,</i>	2 Civil Eng.
Hildreth, Norman Evans, (4)	<i>Flushing,</i>	2 Civil Eng.
Hill, Benjamin Mason, (8)	<i>Petersburg, Va.,</i>	4 Mech. Eug.
Hill, Charles Herbert, (1)	<i>Chittenango,</i>	Sp. Agriculture
Hill, Lockwood, (4)	<i>St. Louis, Mo.,</i>	2 Mech. Eng.
Hillemeier, Arthur, (4)	<i>Mt. Vernon,</i>	2 Civil Eng.
Hillman, Sidney Maurice, (8)	<i>New York City,</i>	4 Mech. Eng.
Hills, Burton Arthur, (1)	<i>Hamilton,</i>	3 Mech. Eug.
Hills, Harry Clark, (5)	<i>Youngstown, O.,</i>	Jr. Law
Hilmer, Otto Ernst, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Hiltebrant, Oscar Raymond, (9)	<i>Kingston,</i>	4 Mech. Eng.
Hiltebrant, Stephen Delbert, (4)	<i>Rondout,</i>	2 Arts
Himmelstein, Urius, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Hinck, Frederick William, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Hine, Dora Frances, (8)	<i>Bay City, Mich.,</i>	4 Arts
Hirsch, Herman David, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Hirschfeld, David Bernhard, (4)	<i>New York City,</i>	1 Med. (N.Y.C.)
Hirsh, Pauline Eshner, (4)	<i>Philadelphia, Pa.,</i>	2 Arts
Hitchcock, Joseph Fithian, (8)	<i>Philadelphia, Pa.,</i>	4 Mech. Eng.
Hitchcock, Roger Wolcott, (2)	<i>New York City,</i>	1 Agriculture
Hitt, Laurance Wilbur, (4)	<i>Indianapolis, Ind.,</i>	1 Architecture
Hoag, Arthur Edmond, (6)	<i>Millerton,</i>	3 Med. (N. Y. C.)
Hobart, Earle Tisdale, (6)	<i>Brookline, Mass.,</i>	3 Mech. Eng.
Hobbs, Frederick Dudley, (1)	<i>Roselle Park, N. J.,</i>	1 Medicine
Hocker, Mervyn J, (6)	<i>Highspire, Pa.,</i>	3 Mech. Eng.

Hocson, Felix, B.A., (5)	<i>Manila, P. I.,</i>	Sp. Agriculture
Hodges, Norman Pond, (4)	<i>New York City,</i>	Jr. Law
Hodgson, Walter Blanchard, M.E., (2)	<i>'Athens, Ga.,</i>	4 Mech. Eng.
Hoening, Edward, (4)	<i>New York City,</i>	1 Med. (N.Y.C.)
Hoff, Matthew Johnson, (2)	<i>Tarrytown,</i>	1 Arts
Hoffman, Florentine Milton, (6)	<i>New Brunswick, N. J.,</i>	2 Med. (N.Y.C.)
Hoffman, Frederick Louis, (4)	<i>Lyons,</i>	2 Mech. Eng.
Hoffman, Sargent Glenn, (2)	<i>Germantown, Pa.,</i>	1 Mech. Eng.
Hoffmann, Richard, (8)	<i>New York City,</i>	3 Med. (N. Y. C.)
Hoffsten, Ruth Bertha, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Hofmann, John William, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Hogan, Joseph Vincent, (6)	<i>Watertown,</i>	3 Civil Eng.
Hoge, Philip Barlow, (6)	<i>Washington, D. C.,</i>	3 Civil Eng.
Holbert, Emma Alice, (6)	<i>Ellenville,</i>	3 Arts
Holbrook, Fay Stanley, (2)	<i>Troy,</i>	1 Civil Eng.
Holbrook, Roy Bullard, (2)	<i>Newton Center, Mass.,</i>	2 Civ. Eng.
Holdredge, Earle Barrett, (2)	<i>West Burlington,</i>	1 Civil Eng.
Hollenbeck, Brua Arnot, (6)	<i>Ithaca,</i>	3 Mech. Eng.
Hollenberger, Theodore James, (4)	<i>Chicago, Ill.,</i>	2 Mech. Eng.
Hollingshead, Robert Sullivan, (2)	<i>Baltimore, Md.,</i>	1 Mech. Eng.
Holloway, Arthur Power, (8)	<i>Montclair, N. J.,</i>	2 Civil Eng.
Holloway, Roger Tift, (6)	<i>Montclair, N. J.,</i>	3 Civil Eng.
Holmes, Charles Samuel, (2)	<i>Montclair, N. J.,</i>	1 Civil Eng.
Holmes, Webster Balkwill, (9)	<i>Cincinnati, O.,</i>	4 Mech. Eng.
Holmquist, Carl Godfrey,	<i>New York City,</i>	1 Civil Eng.
Holt, John Washburn, (6)	<i>Cleveland, O.,</i>	3 Mech. Eng.
Holton, Walter Bounell, (4)	<i>Montclair, N. J.,</i>	2 Medicine
Holzheimer, Gerald Lee, (6)	<i>Elmira,</i>	3 Mech. Eng.
Holzman, Jacob Charles, (2)	<i>New York City,</i>	1 Civil Eng.
Hook, Warren Howard, (6)	<i>Ithaca,</i>	3 Mech. Eng.
Hooker, John Palmer, (5)	<i>Watertown,</i>	2 Civil Eug.
Hooker, Katharine Jane, (6)	<i>Ithaca,</i>	4 Arts
Hooper, Franklyn Dana, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Hoose, Arthur Dow, (2)	<i>Duane,</i>	Sp. Agriculture
Hoover, Loring Revere, (2)	<i>Evanston, Ill.,</i>	1 Law
Hopkins, Cecil Blaine, (4)	<i>Watsonville, Calif.,</i>	4 Civil Eng.
Hopkins, Frank Stewart, (2)	<i>Poughkeepsie,</i>	1 Civil Eng.
Hopper, Elizabeth Gladys, (6)	<i>Ithaca,</i>	3 Arts
Hopper, Walter Everett, (6)	<i>Newark, N. J.,</i>	3 Arts
Hoppiu, Frederick Layton, (8)	<i>Ithaca,</i>	4 Mech. Eng.
Horn, John Brensley, (2)	<i>Wilkes-Barre, Pa.,</i>	Sp. Agriculture

Horn, Stanley Granger, A.B., (4)	<i>Brooklyn,</i>	2 Medicine
Hornthal, Samuel, (4)	<i>New York City,</i>	2 Mech. Eng.
Horowitz, Isidor, (2)	<i>New York City,</i>	1 Agriculture
Hortenstine, Raleigh, B.S. in C.E., (2)	<i>Abingdon, Va.,</i>	Sp. Civ. Eng.
Horton, Erwin Churchill, (2)	<i>Hamburg,</i>	1 Mech. Eng.
Horton, Harold Emery, (2)	<i>Montclair, N. J.,</i>	1 Architecture
Horton, Philip Zell, (3)	<i>Peoria, Ill.,</i>	1 Civil Eng.
Horton, Queenie Northrop, (4)	<i>Brewster,</i>	2 Arts
Horwitt, Solomon, (10)	<i>New York City,</i>	4 Med. (N. Y. C.)
Horwood, John Wesley, (8)	<i>Hoboken, N. J.,</i>	4 Arts
Hoschke, William Edward, (4)	<i>Brooklyn,</i>	3 Mech. Eng.
Hosie, John William, (1)	<i>East Aurora,</i>	1 Arts
Hotchkiss, Treat Bryant, (2)	<i>Waterbury, Conn.,</i>	Sp. Agriculture
Howard, Dudley Russell, (7)	<i>Ogdensburg,</i>	Sr. Law
Howard, Mayne S., (6)	<i>Franklinville,</i>	3 Arts
Howard, Nelson Webster, (9)	<i>Ogdensburg,</i>	4 Mech. Eng.
Howard, Otis Woolworth, (6)	<i>Omaha, Nebr.,</i>	3 Mech. Eng.
Howorth, Harold Folsom, (4)	<i>Amesbury, Mass.,</i>	1 Mech. Eng.
Howe, Henry Lawrence, (2)	<i>Canandaigua,</i>	1 Mech. Eng.
Howe, James McKechnie Lawrence (6)	<i>Canandaigua,</i>	3 Mech. Eng.
Howe, Marshall Mehaffey, (1)	<i>Buffalo,</i>	Sp. Agr.
Howe, Ralph Wilson, (6)	<i>South Salem,</i>	3 Mech. Eng.
Howell, Newton Delaine, (2)	<i>Ludlowville,</i>	1 Mech. Eng.
Howell, William James, (2)	<i>Corning,</i>	1 Mech. Eng.
Howell, William Leonard, (2)	<i>LeRoy,</i>	1 Medicine
Howes, Alfred Pettis, Jr., (8)	<i>Utica,</i>	4 Arts
Hoyt, Clarence Johu, (2)	<i>Cohocton,</i>	1 Veterinary
Hoyt, Frank Watson, (6)	<i>Peckville, Pa.,</i>	1 Mech. Eng.
Hoyt, Herbert Butler, (4)	<i>Wellsville,</i>	2 Civil Eng.
Hoyt, William Glenn, (4)	<i>East Onondaga,</i>	2 Civil Eng.
Huang, Chen-Sheng, (2)	<i>Canton, China,</i>	1 Civil Eng.
Hubbell, Charles Wesley, (4)	<i>Pittston, Pa.,</i>	4 Mech. Eng.
Huddleston, Erie Trevor, (2)	<i>Winchester, Ind.,</i>	1 Architecture
Hulquist, Raymond Guy, (3)	<i>Jamestown,</i>	Jr. Law
Humburch, Raymond Sage, (4)	<i>Rochester,</i>	2 Mech. Eng.
Humphrey, Charles Scranton, (6)	<i>West New Brighton,</i>	3 Arts
Humphrey, William Erwin, Jr., (4)	<i>Livonia,</i>	1 Arch.
Humphreys, Lydia Frances, (2)	<i>Ludlowville,</i>	1 Arts
Hunger, Edwin Andrew, (2)	<i>Burlington, Ia.,</i>	1 Mech. Eug.
Hunn, Chester Jermain, (6)	<i>Ithaca,</i>	3 Agriculture
Hunt, Everette Howard, (2)	<i>Hamburg,</i>	1 Law
Hunt, Guy Hildebraud, (6)	<i>Washington, D. C.,</i>	3 Civil Eng.

Hupe, Henry Lloyd, (4)	<i>Buechel, Ky.,</i>	1 Mech. Eng.
Hurlburt, Russell Blair, (2)	<i>Buffalo,</i>	1 Mech. Eng.
Hurley, John Patrick, (8)	<i>Dublin, Ireland,</i>	4 Civil Eng.
Hurley, John William, (2)	<i>Freeville,</i>	1 Civil Eng.
Hustace, Mabel Lee, (2)	<i>New London, Conn.,</i>	Sp. Arts
Husted, Clifford Mackay, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Hutchings, Eusebius Theodore, (4)	<i>Louisville, Ky.,</i>	2 Architecture
Hutchins, Carleton Brown, (6)	<i>Chicago, Ill.,</i>	Sr. Law
Hutchins, Gordon, A.B., (2)	<i>Concord, Mass.,</i>	Sp. Agriculture
Hutchinson, Alice, (2)	<i>Sewaren, N. J.,</i>	1 Arts
Hutchinson, Alfred Henry, (4)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Hutchinson, Raymond Arthur, (4)	<i>Waterliet,</i>	2 Arts
Hutton, Clyde Demarest, (9)	<i>Ridgewood, N. J.,</i>	4 Arts
Hyatt, Bradford, (7)	<i>Ithaca,</i>	3 Veterinary
Hyatt, Edward Kenneth, (4)	<i>Kirkwood, Mo.,</i>	2 Civil Eng.
Hyde, Roger Davies, (6)	<i>Ithaca,</i>	3 Veterinary
Hyde, Tom Bruce, (4)	<i>Ithaca,</i>	2 Mech. Eng.
Hydrofsky, Charles Israel, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Hynes, Francis Benedict, (2)	<i>Lyons Falls,</i>	1 Mech. Eng.
Illmer, Gustav Adolphus Marius, (4)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Imbrie, George Kennedy, (2)	<i>Englewood, N. J.,</i>	1 Arts
Ingall, Oswald Drew, (8)	<i>Montclair, N. J.,</i>	4 Arts
Ingersoll, Edwin Stanley, (4)	<i>Rochester,</i>	2 Arts
Ingram Harrison Arden, (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Irvine, Pierpont Edward, A.B., (6)	<i>Wellsburg, W. Va.,</i>	4 Mech. Eng.
Itskovitz, John Henry, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Ito, Ichiro, (1)	<i>Tokio, Japan,</i>	4 Mech. Eng.
Jablons, Benjamin, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Jackson, Eugene, (4)	<i>Brooklyn,</i>	2 Arts
Jackson, Edwin Ruthven, (4)	<i>Syracuse,</i>	2 Veterinary
Jackson, Eunice Willice, (4)	<i>Randolph,</i>	2 Arts
Jackson, George Percy, B.S., (2)	<i>Fentress, Va.,</i>	3 Mech. Eng.
Jackson, Leon Edgar, (2)	<i>Greene,</i>	1 Civil Eng.
Jackson, Seward Baker, (3)	<i>Arlington,</i>	Sp. Agriculture
Jackson, Thomas Marshall, (6)	<i>Kennett Square, Pa.,</i>	1 Mech. Eng.
Jacobowitz, Adolph, (4)	<i>New York City,</i>	2 Med. (N. Y. C.)
Jacobs, Frederick Henry, Jr., (4)	<i>Woodhaven,</i>	2 Med. (N.Y.C.)
Jacobs, Harold Halford, (2)	<i>Springfield, Mass.,</i>	1 Mech. Eng.
Jacoby, Freeman Steel, (2)	<i>Ithaca,</i>	1 Agriculture
Jacoby, Hurlbut Smith, (6)	<i>Ithaca,</i>	3 Arts
Jacoby, John Vincent, (8)	<i>Ithaca,</i>	2 Agriculture
Jahu, Gustave Adolph, Jr., (6)	<i>Brooklyn,</i>	2 Mech. Eng.

James, Arthur Evan, (2)	<i>Sayre, Pa.,</i>	1 Mech. Eng.
James, Harry Richman, (4)	<i>Chicago, Ill.,</i>	2 Arts
Jamieson, James Herbert, (4)	<i>Evanston, Ill.,</i>	2 Civil Eng.
Janes, Edward Allyn, (8)	<i>Plainfield, N. J.,</i>	4 Arts
Jansen, Edward Walter, (8)	<i>New York City,</i>	4 Mech. Eng.
Japhet, William Ernest, B.S., (2)	<i>Houston, Texas,</i>	2 Civil Eng.
Jarrett, Ethel Lacey, (6)	<i>Brooklyn,</i>	3 Arts
Jayne, Allen, (2)	<i>West Auburn, Pa.,</i>	1 Mech. Eng.
Jefferson, Carl Johon, (2)	<i>Middletown,</i>	1 Mech. Eng.
Jenkins, Edna Mary, (4)	<i>Walton,</i>	2 Agriculture
Jenkins, Minnie, (8)	<i>Walton,</i>	4 Agriculture
Jenkinson, Richard Dale, (7)	<i>Bellevue, Pa.,</i>	4 Civil Eng.
Jenks, Margaret, (2)	<i>Ithaca,</i>	3 Arts
Jenne, Eldred Llewellyn, A.B., (2)	<i>Pullman, Wash.,</i>	4 Arts
Jennings, Earl Andrews, (1)	<i>Cazenovia,</i>	1 Veterinary
Jesser, Edward Arthur, (6)	<i>Richmond Hill,</i>	3 Arts
Jessup, George Penney, (6)	<i>Quogue,</i>	3 Mech. Eng.
Jewell, Marion Disney, (6)	<i>Schenectady,</i>	3 Arts
Joachim, Laura, (4)	<i>Brooklyn,</i>	2 Arts
Joerger, William Pettus, (8)	<i>Brooklyn,</i>	4 Arts
Johnson, Chesley Heath, (8)	<i>Babylon,</i>	4 Mech. Eng.
Johnson, Edith Eugenie, (8)	<i>Palo Alto, Calif.,</i>	4 Med. (N. Y. C.)
Johnson, George Friedman, (8)	<i>Albany, ,</i>	4 Mech. Eng.
Johnson, Henry Langley, (8)	<i>Boston, Mass.,</i>	3 Arts
Johnson, Howard White, B.S., (6)	<i>Chicago, Ill.,</i>	4 Mech. Eng.
Johnson, John Thomas, Jr., (4)	<i>Akron, O.,</i>	2 Mech. Eng.
Johnson, Laura Katherine, (2)	<i>Auburn,</i>	1 Arts
Johnson, Lambert Dunning, (2)	<i>Jersey City, N. J.,</i>	1 Arts
Johnson, Louis Eugene, (2)	<i>Richfield Springs,</i>	1 Agriculture
Johnson, Marcus Rodney, (6)	<i>Erie, Pa.,</i>	3 Mech. Eng.
Johnson, Oliver Richard, (4)	<i>Jamestown,</i>	2 Architecture
Johnson, Orson Tracy, Jr., (6)	<i>Riverside, Calif.,</i>	3 Mech. Eng.
Johnson, Paul Beekman, (2)	<i>Easthampton, Mass.,</i>	1 Mech. Eng.
Johnson, Mrs. S Albert, (6)	<i>Mansfield, Pa.,</i>	4 Arts
Johnson, William Gustav, (2)	<i>Woodside,</i>	Jr. Law
Johnston, Charles Watkins, (7)	<i>Brooklyn,</i>	3 Mech. Eug.
Jones, Alfred Harrison, (7)	<i>Ithaca,</i>	4 Arts
Jones, Elliot Penrose, (2)	<i>West Chester, Pa.,</i>	3 Arts
Jones, Eugene Kinckle, B.A., (2)	<i>Richmond, Va.,</i>	1 Civil Eng.
Jones, Frank Henry, (4)	<i>Memphis, Tenn.,</i>	2 Mech. Eng.
Jones, Gordon Holmes, (2)	<i>New York City,</i>	1 Mech. Eng.
Jones, Grover Houghton, (3)	<i>Houston, Tex.,</i>	3 Mech. Eng.

Jones, Harold Hill, (2)	<i>Buffalo,</i>	1 Civil Eng.
Jones, Helen Gwenith, (2)	<i>Minersville, Pa.,</i>	3 Arts
Jones, Howard Stanley, (4)	<i>Buffalo,</i>	Jr. Law
Jones, Loring DeLacy, (4)	<i>Brooklyn,</i>	2 Arts
Jones, Malcolm Sleight, (2)	<i>New York City,</i>	1 Mech. Eng.
Jones, Mary Emma, (6)	<i>Rockaway, N. J.,</i>	4 Arts
Jones, Milton Pratt, (6)	<i>Deerfield,</i>	3 Agriculture
Jones, Reid, (4)	<i>St. Louis, Mo.,</i>	1 Mech. Eng.
Jones, Stanley Robert, (8)	<i>Ithaca,</i>	3 Civil Eng.
Joseph, David, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Joseph, John Arthur, (6)	<i>Wilkes-Barre, Pa.,</i>	3 Mech. Eng.
Josephy, Alvin, (6)	<i>New York City,</i>	3 Mech. Eng.
Joshi, Lemuel Lucas, B.Sc., (8)	<i>Grand Road P.O., Bombay, India,</i>	4 Med. (N. Y. C.)
Joslyn, Royal Cuthbert, (9)	<i>Jersey City Heights, N. J.,</i>	4 Civil Eng.
Judson, David Henry, (8)	<i>Oswego,</i>	4 Civil Eng.
Judson, Lyman Collins, (2)	<i>Los Angeles, Calif.,</i>	1 Mech. Eng.
Judson, Paul, (2)	<i>Lansing, Mich.,</i>	2 Agr.
June, Charles Darius, (2)	<i>Jersey City, N. J.,</i>	Sp. Med. (N.Y.C.)
Kahauowitz, Samuel, (8)	<i>Greensburg, Pa.,</i>	4 Mech. Eng.
Kahu, Albert Milton, (4)	<i>Cincinnati, O.,</i>	2 Mech. Eng.
Kahn, Max, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Kahn, Morris Hirsch, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Kalb, Lewis Powell, (2)	<i>Bellefontaine, O.,</i>	1 Mech. Eng.
Kalberg, August, (4)	<i>New Britain, Conn.,</i>	2 Civil Eng.
Kampf, Louis, (4)	<i>Norwich, Conn.,</i>	2 Civil Eng.
Kanouse, George Edward, (8)	<i>Hackettstown, N. J.,</i>	3 Med. (N. Y. C.)
Keeler, Coleman Clark, (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Keeler, Ralph Whittlesey, (3)	<i>Detroit, Mich.,</i>	1 Mech. Eng.
Keenan, James Nicholas Joseph, (2)	<i>Brooklyn,</i>	2 Civil Eng.
Keenan, Reta Elizabeth, (4)	<i>Philadelphia, Pa.,</i>	1 Arts
Keenholts, Winfield Scott, Jr., (4)	<i>Altamont,</i>	2 Arts
Keet, Ernest Ellsworth, (8)	<i>Saranac Lake,</i>	4 Med. (N.Y.C.)
Kehoe, Harry, (6)	<i>Oswego,</i>	3 Civil Eng.
Kehrhahn, Charles John, (4)	<i>San Juan, Porto Rico,</i>	2 Civil Eng.
Keil, Frank Courad, (8)	<i>New York City,</i>	4 Med. (N. Y. C.)
Keiser, Edwin Martin, Jr., (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Keith, Arthur Raymond, (6)	<i>Oakland, Calif.,</i>	3 Veterinary
Kelker, Thomas Mahon, (4)	<i>Harrisburg, Pa.,</i>	2 Architecture
Keller, George Meinhard, (4)	<i>Rochester,</i>	2 Mech. Eng.
Kelley, Charles Joseph, (4)	<i>Norwalk, Conn.,</i>	1 Law
Kelley, Frank Burnette, (2)	<i>Newark,</i>	1 Agriculture

Kelley, George Biddle, (4)	<i>Troy,</i>	4 Civil Eng.
Kellogg, George Davis, (8)	<i>Greenwood,</i>	4 Civil Eng.
Kellogg, Joseph Mitchell, (4)	<i>Emporia, Kansas,</i>	2 Architecture
Kelley, Andrew Park, B.S., (2)	<i>Baltimore, Md.,</i>	1 Mech. Eng.
Kellie, Kenneth Harrison Allan, M A., M.B (1)	<i>London, England,</i>	Sp, Med. (N.Y.C.)
Kelly, Edward De Verne, (4)	<i>Oriskany,</i>	2 Civil Eng.
Kelly, Edward Joseph, (2)	<i>Scranton, Pa.,</i>	1 Law
Kelly, John Francis, (9, 2)	<i>Scranton, Pa.,</i>	4 Arts, 1 Medicine
Kelsey, Dean Lewis, (6)	<i>No. Tonawanda,</i>	3 Arts
Kemp, Maurice, (8)	<i>Catasauqua, Pa.,</i>	4 Med. (N.Y.C.)
Kendrick, William Dixon, (8)	<i>Montgomery, Ala.,</i>	4 Mech. Eng.
Kennedy, Alexander, Jr., (8)	<i>Pittsfield, Mass.,</i>	4 Mech. Eng.
Kennedy, Charles Morehouse, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Kennedy, John Curtis, (8)	<i>Buffalo,</i>	4 Arts
Kennedy, Walter Critchlow, (8)	<i>New Brighton, Pa.,</i>	4 Mech. Eng
Kennedy, William Edward, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Kenney, John Stanley, (4)	<i>Newark, N. J.,</i>	2 Med. (N.Y.C.)
Kent, George Erviu, (2)	<i>Dayton, O.,</i>	1 Mech. Eng.
Kent, Henry Thomas, Jr., (6)	<i>Clifton Heights, Pa.,</i>	3 Arts
Kenyon, Benjamin, (6)	<i>Scipio,</i>	Sr. Law
Kenyon, Jaret Shotwell, (4)	<i>New York City,</i>	1 Mech. Eng.
Kephart, Cornelia Ferris, (2)	<i>Ithaca,</i>	1 Agriculture
Keppel, William Malcomson, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Kerr, Eleanor, (4)	<i>Dougan Hills,</i>	Sp. Architecture
Kessler, Armin George, (6)	<i>Oswego,</i>	2 Mech. Eng.
Ketcham, Lottie Moore, (2)	<i>Roslyn,</i>	1 Arts
Ketkar, Shridha Venkatesh, (2)	<i>Amradi, India,</i>	4 Arts
Kettenring, William Carl, (2)	<i>Defiance, O.,</i>	1 Arts
Key, Benjamin Franklin, (4)	<i>Wilmerding, Pa.,</i>	2 Mech. Eng.
Keys, Millard, (4)	<i>Holley,</i>	2 Arts
Kiehort, Frederick Charles, (1)	<i>Meadville, Pa.,</i>	1 Law
Kiehl, James Scott, (2)	<i>Minneapolis, Minn.,</i>	2 Mech. Eng.
Kiendl, Adolph Cornelius, (8)	<i>Brooklyn,</i>	4 Arts
Kiep, Henry Andrew, Jr., (2)	<i>Brooklyn,</i>	1 Civil Eng.
Kieselbach, Oswald, (5)	<i>Mendota, Ill.,</i>	Jr. Law
Kiliani, Richard Bayard Taylor, (2)	<i>New York City,</i>	1 Mech. Eng.
Kimball, Clarence, (8)	<i>Passaic, N J.,</i>	4 Arts
Kimball, Perley Webster, (2)	<i>Lowell, Mass.,</i>	Sp. Agriculture
Kimball, Victor Gage, (4)	<i>Fulton,</i>	2 Veterinary
King, Alfred Faris, B.S., (2)	<i>New York City,</i>	2 Mech. Eng.
King, Alvin Ward, (8)	<i>Washington, D. C.,</i>	4 Civil Eng.

King, Burt Morrow, (5)	<i>White Bear Lake, Minn.,</i>	Jr. Law
King, Florence Olive, (4)	<i>Unadilla,</i>	2 Arts
King, James Stevens, Jr., (2)	<i>Montclair, N. J.,</i>	1 Arts
King, Leon True, (4)	<i>Ilion,</i>	2 Civil Eng.
Kingsbury, Herbert Willard, (6)	<i>Scottsville,</i>	3 Arts
Kinne, Walter Earle, (2)	<i>Housatonic, Mass.,</i>	1 Mech. Eng.
Kinnear, Eugene Carner, (8)	<i>Washington, D. C.,</i>	4 Civil Eng.
Kinney, Grace Eleanor, (6)	<i>Snowdon,</i>	3 Arts
Kipp, Ralph, (6)	<i>Lexington,</i>	2 Med. (N.Y.C.)
Kirk, William Andrew Anderson, (8)	<i>Gouverneur,</i>	4 Arts
Kirkman, John, (2)	<i>Nashville, Tenn.,</i>	1 Mech. Eng.
Kiso, Freda, (4)	<i>Brooklyn,</i>	2 Arts
Kisselburgh, Inez Josephine, (2)	<i>Ghent,</i>	1 Arts
Klauber, Edward, (2)	<i>New York City,</i>	1 Arts
Kleniewska, Boza, (4)	<i>Opole, Lubelski, Russian Poland,</i>	3 Agr.
Klepposch, George Hugo Otto, (8)	<i>New York City,</i>	4 Mech. Eng.
Klinck, Fred Edgar, (2)	<i>Shortsville,</i>	1 Mech. Eng.
Knapp, Arthur, (8)	<i>Ardmore, Pa.,</i>	4 Mech. Eng.
Knapp, Frank Hiram, (2)	<i>West Seneca,</i>	1 Mech. Eng.
Knapp, Walter, (2)	<i>Ardmore, Pa.,</i>	1 Mech. Eng.
Knapp, Walter Carver, (4)	<i>Fabius,</i>	Sp. Agriculture
Kneale, Albert Russell, (2)	<i>Rochester,</i>	1 Arts
Kneeland, Herbert Durward, (2)	<i>Pittsburg, Pa.,</i>	1 Civil Eng.
Knemeyer, William Henry, (2)	<i>Brooklyn,</i>	1 Law
Knibloe, Laurence, (7)	<i>Buffalo,</i>	4 Arts
Knibloe, Richard, (2)	<i>Buffalo,</i>	1 Mech. Eng.
Knight, Ralph Floyd, (6)	<i>Machias,</i>	3 Veterinary
Knipping, John, (2)	<i>Brooklyn,</i>	1 Arts
Knowlton, Orin Henry, (6)	<i>Perrysburg,</i>	Sr. Law
Koeller, Clara Ottilia, (8)	<i>Hoboken, N. J.,</i>	4 Arts
Koenig, Fred, (2)	<i>Ithaca,</i>	1 Veterinary
Koerner, Walter Ernest, (2)	<i>Troy,</i>	1 Arts
Kohan, Joseph Henry, (8)	<i>Brooklyn,</i>	Sr. Law
Kohn, Louis, (2)	<i>Plymouth, Pa.,</i>	1 Med. (N.Y.C.)
Konstankewicz, Michael John, (2)	<i>Shamokin, Pa.,</i>	1 Mech. Eng.
Korowitz, Louis, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Kosminsky, Isaac Joseph, (8)	<i>Texarkana, Tex.,</i>	4 Mech. Eng.
Koster, John William, (2)	<i>Yonkers,</i>	1 Mech. Eng.
Kothe, George, (8)	<i>Indianapolis, Ind.,</i>	1 Mech. Eng.
Kraemer, Milton, (6)	<i>Baltimore, Md.,</i>	4 Mech. Eng.
Kraft, Alvin Charles, (4)	<i>Brooklyn,</i>	2 Arts
Kramer, Horace Walter, (4)	<i>Dayton, O.,</i>	1 Law

Krathwohl, Robert Emerson, (2)	<i>Buffalo,</i>	Sp. Agriculture
Krause, Ralph Ulysses, (2)	<i>Best, Pa.,</i>	2 Mech. Eng.
Krauter, Harold S, (10)	<i>Tobyhanna, Pa.,</i>	4 Mech. Eng.
Krellens ein, Irving Bernard, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Kresky, Henry, (8)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Kretz, Clarence Edgar, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Kretzschmar, Bertha, (4)	<i>Gloversville,</i>	2 Arts
Kretschmar, Magda, (4)	<i>Brooklyn,</i>	2 Arts
Kristal, Abraham Francis, (6)	<i>Newark, N. J.,</i>	3 Civil Eng.
Kronberg, Sol, A.B., (4)	<i>New York City,</i>	3 Civil Eng.
Kronenberg, Otto Fuchs, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Krugler, Wallace, (6)	<i>Jersey City, N. J.,</i>	3 Med. (N.Y.C.)
Kruse, Otto Von, (2)	<i>Buffalo,</i>	2 Civil Eng.
Kuehns, Romeo Benvenuto, (6)	<i>Milwaukee, Wis.,</i>	3 Mech. Eng.
Kurtz, Ford, (8)	<i>Stroudsburg, Pa.,</i>	4 Civil Eng.
Kuschke, Arthur Wyndham, (6)	<i>Plymouth, Pa.,</i>	3 Civil Eng.
Kuschke, John Lewellyn, (2)	<i>Plymouth, Pa.,</i>	2 Arts
Kush, Morris, (2)	<i>New York City,</i>	1 Arts
Kutschbach, Harold Newton, (2)	<i>Sherburne,</i>	1 Agriculture
Kyser, Kathryn Belle, (8)	<i>Canastota,</i>	4 Arts
La Breque, Henry Francis, (8)	<i>Holyoke, Mass.,</i>	4 Civil Eng.
Laird, Ida Marie, A.B., (9)	<i>Auburn,</i>	4 Med. (N.Y.C.)
Lajous, Adrian René, (2)	<i>Viesca, Coahuila, Mex.,</i>	1 Mech. Eng.
Lally, Clarence Vincent, (2)	<i>Pittsburg, Pa.,</i>	1 Mech. Eng.
Lally, Ralph Richard, (7)	<i>Pittsburg, Pa.,</i>	3 Mech. Eng.
Lamb, Harold Bransford, (2)	<i>Salt Lake City, Utah,</i>	1 Mech. Eng.
Lamberton, Albert Meredith, (6)	<i>Brooklyn,</i>	2 Mech. Eng.
Lampert, Milton Albert, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Lanahan, Howard Gordon, (2)	<i>Laurel, Md.,</i>	2 Civil Eng.
Lance, Ruth Mitchell, (4)	<i>Kingston, Pa.,</i>	2 Medicine
Lance, William Lyman, (6)	<i>Kingston, Pa.,</i>	3 Civil Eng.
Lande, Isaac, (8)	<i>Elmira,</i>	4 Arts
Lander, Ralph Clinton, (9)	<i>Naugatuck, Conn.,</i>	4 Arch.
Landes, Pauline Newell, (2)	<i>Curitzba, Brazil,</i>	1 Medicine
Landesman, Harry, (6)	<i>New York City,</i>	2 Med. (N.Y.C.)
Landis, Harry L, (6)	<i>Waynesboro, Pa.,</i>	3 Mech. Eng.
Landis, Mark Homer, (5)	<i>Waynesboro, Pa.,</i>	2 Mech. Eng.
Laudmesser, Charles Frederick, A.B., (2)	<i>Newark, N. J.,</i>	Jr. Law
Langrock, Edwin George, (4)	<i>New York City,</i>	2 Med.(N.Y.C.)
Lantry, Thomas Gabriel, (1)	<i>Helena,</i>	Sp. Law
Lapp, Grover William, (8)	<i>Rochester,</i>	4 Mech. Eng.
Laragh, Harry Joseph, (1)	<i>Yonkers,</i>	1 Law

Larkin, John Francis, (2)	<i>Kingston,</i>	1 Med. (N.Y.C.)
Larkin, Katherine Veronica, (5)	<i>Ithaca,</i>	3 Arts
Lasher, Herbert, (5)	<i>Griffin Corners,</i>	Sr. Law
Latimer, Homer H, (4)	<i>Wilmington, Del.,</i>	2 Mech. Eng.
Lattin, Benton, (8)	<i>Oneonta,</i>	4 Civil Eng.
Lattin, Berton, (8, 2)	<i>Oneonta,</i>	4 Arts, 1 Medicine
Launer, Clarence Allison, (1)	<i>Royersford, Pa.,</i>	1 Civil Eng.
Laurie, Thomas Forrest, (8)	<i>Auburn,</i>	4 Med.(N.Y.C.)
Law, Harry Comstock, (6)	<i>Collins,</i>	3 Civil Eng.
Lawrence, John Henry, 2d, (4)	<i>Albany,</i>	2 Mech. Eng.
Lay, Robert Phinny, (8)	<i>Franklin, Pa.,</i>	4 Mech. Eng.
Layhe, Francis Bernard, (7)	<i>Fort Plain,</i>	4 Arts
Lazo, Antonio, Jr., (8)	<i>Gautemala City, C. A.,</i>	4 Civil Eng.
Leatherman, Marian, (8)	<i>Pittsburgh, Pa.,</i>	4 Arts
Leavitt, Arthur Harter, (6)	<i>Akron, O.,</i>	2 Mech. Eng.
Lechler, Bruno Charles, (6)	<i>Brooklyn,</i>	3 Civil Eng.
Lechman, Helena, (4)	<i>Yonkers,</i>	2 Arts
Lee, Cazenove Gardner, Jr., (9)	<i>Washington, D.C.,</i>	4 Mech. Eng.
Lee, Maurice du Pout, (6)	<i>Washington, D.C.,</i>	3 Mech. Eng.
Lee, Myron A, (4)	<i>Auburn,</i>	2 Mech. Eng.
Leeds, Livingston Allaire, (4)	<i>Pelham Manor,</i>	2 Civil Eng.
Leeper, James Luther, Jr., (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Le Fevre, Cornelius Du Bois, (4)	<i>Highland,</i>	2 Mech. Eng.
Leffert, Harry James, (6)	<i>Paterson, N. J.,</i>	Jr. Law
Lefferts, Edwin Boughton, (8)	<i>Gloversville,</i>	4 Mech. Eng.
Leffler, Leo Julius, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Leggett, Edward Hancock, (2)	<i>Albany,</i>	1 Civil Eng.
Lehman, George Robert, (4)	<i>Cincinnati, O.,</i>	2 Mech. Eng.
Lehman, Harold Mayer, (2)	<i>New York City,</i>	1 Arts
Lehman, Max, (8)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Lehman, Myron Greeutree, (2)	<i>Buffalo,</i>	1 Mech. Eng.
Leland, Emmons William, (8)	<i>Ithaca,</i>	4 Agriculture
Lemler, Julius Aaron, (2)	<i>Greenville, Miss.,</i>	1 Mech. Eng.
Lemon, Burton Judson, (6)	<i>Bethel,</i>	3 Arts
Lennox, Luther Willis, E.M., (2)	<i>Colorado Spr., Colo.,</i>	3 Mech. Eng.
Leonard, David Thomas, (2)	<i>Delevan,</i>	Sp. Agriculture
Leonard, Edward Philip, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Leonard, Elizabeth, (2)	<i>Genoa,</i>	1 Agriculture
Leonard, John Lynn, (2)	<i>Spencer,</i>	1 Veterinary
Leonard, Ralph Emerson, (4)	<i>Elmira,</i>	2 Mech. Eng.
Leschen, William Frederick, (6)	<i>St. Louis, Mo.,</i>	3 Civil Eng.
Lesh, Karl Richard, (4)	<i>Washington, D. C.,</i>	Sp. Arts

Lester, Helen Marion, (4)	<i>Waverly,</i>	2 Arts
Levine, Abraham, (4)	<i>Elmira,</i>	2 Arts
Levine, Samuel, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Levinson, Ignace, (2)	<i>Brooklyn,</i>	1 Arts
Levitt, Charles Howard, (4)	<i>Brooklyn,</i>	Jr. Law
Levy, Gretchen Rich, (2)	<i>Williamsport, Pa.,</i>	1 Law
Levy, Marcel Samuel, (1)	<i>Chicago, Ill.,</i>	2 Mech Eng.
Levy, Saul, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Lewis, Charles Henry, (6)	<i>Ossining,</i>	3 Mech. Eng.
Lewis, Dudley Leland, B.S., (2)	<i>Terry, Miss.,</i>	3 Civil Eng.
Lewis, Emma Massey, (5)	<i>Ithaca,</i>	Sp. Agriculture
Lewis, George Francis, (6)	<i>Patchogue,</i>	Sr. Law
Lewis, George William, (6)	<i>Scranton, Pa.,</i>	1 Mech. Eng.
Lewis, Harold McLeod, (2)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Lewis, John Moore, (6)	<i>Elkhorn, W. Va.,</i>	3 Civil Eng.
Lewis, Ray Levi, (2)	<i>Panama,</i>	Sp. Agriculture
Lewis, Watson, (6)	<i>Ithaca,</i>	3 Veterinary
Lex, Charles Edwyn, Jr., (4)	<i>Philadelphia, Pa.,</i>	2 Mech. Eng.
Lichtenstein, Perry Maurice, (2)	<i>New York City,</i>	1 Med.(N.Y.C.)
Licurse, Frank Domenico, (4)	<i>Inwood,</i>	1 Arts
Liebling, Philip, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Liefeld, Walter Link, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Lindenbaum, Moses Harold, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Linder, Samuel, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Lindorff, Theodore Julius, (4)	<i>Flushing,</i>	3 Arts
Liudsay, Edward Francis, (2)	<i>Ithaca,</i>	1 Law
Lindsay, Malvina Elizabeth, (1)	<i>Cadiz, Ky.,</i>	Sp. Arts
Lindsay, Henry Douglas, (2)	<i>Milwaukee, Wis.,</i>	1 Mech. Eng.
Lindsay, Wallace Blume, (6)	<i>Amsterdam,</i>	3 Mech. Eng.
Lindsley, Adrian Van Sinderen, (4)	<i>Nashville, Tenn.,</i>	2 Mech. Eng.
Lines, William Harry, (4)	<i>Rochester,</i>	2 Mech. Eng.
Link, Elsie, (4)	<i>Philadelphia, Pa.,</i>	2 Arts
Linsley, Charles Wells, (8)	<i>Oswego,</i>	4 Civil Eng.
Lipe, Clifford Ehle, (2)	<i>Syracuse,</i>	1 Mech. Eng.
Lippincott, Roy Alstan, (4)	<i>Santa Barbara, Calif.,</i>	1 Architecture
Liphshitz, Mark, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Little, George Watson, (2)	<i>Ithaca,</i>	1 Veterinary
Lix-Klett, Ernesto, (7)	<i>Buenos Aires, Arg. Rep.,</i>	3 Mech. Eng.
Lloyd, Eugene MacDonald, (4)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Lloyd, John Thomas, (2)	<i>Cincinnati, O.,</i>	Sp. Arts
Lo, Chung Chên, (2)	<i>Foochow, China,</i>	1 Civil Eng.
Lockard, James Pierce, (4)	<i>Plymouth, Pa.,</i>	2 Mech. Eng.

Loeb, Lucien Samuel, (6)	<i>Montgomery, Ala.,</i>	3 Arts
Loeber, Maud, A.B., M.A., (2)	<i>New Orleans, La.,</i>	1 Medicine
Loegler, Frank Charles, (4)	<i>Buffalo,</i>	4 Arts
Loewe, Arthur Perseus, (4)	<i>Milwaukee, Wis.,</i>	Sp. Agr.
Lombard, José Oswald, (4)	<i>Central Hormiguero, Cuba,</i>	4 Mech. Eng.
Lombardo, Pedro, (4)	<i>Teziutlan, Puebla, Mexico,</i>	2 Civil Eng.
Long, Olive May, (6)	<i>Oswego,</i>	3 Arts
Longbothum, George Thornton, (9)	<i>Fort Salonga,</i>	4 Med. (N. Y. C.)
Loomis, Albert Osborn, (2)	<i>Newport News, Va.,</i>	1 Mech. Eng.
Lopez, Carlos, (6)	<i>Jaro, Iloilo, P. I.,</i>	2 Civil Eng.
Loudon, Anna Louisa, (8)	<i>Upper Troy,</i>	4 Arts
Lough, George Whitwell, (2)	<i>Hartwick,</i>	Sp. Agriculture
Loughran, Alexius Michael, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Loughran, Vincent Joseph, (2)	<i>Long Island City,</i>	1 Arts
Loughridge, Howard Reid, (4)	<i>Pittsburg, Pa.,</i>	2 Mech. Eng.
Lounsbury, Clarence, (6)	<i>Barton,</i>	3 Agriculture
Lounsbury, Lee Tucker, (2)	<i>Lounsbury,</i>	1 Medicine
Lounsbury, Stephen Mory, (2)	<i>Lounsbury,</i>	1 Law
Loux, Edith Taylor, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Love, Albert Joy, (5)	<i>Aurora, Ill.,</i>	1 Civil Eng.
Love, Grace, (2)	<i>Corey, Pa.,</i>	1 Architecture
Lovejoy, William Henry, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Loveland, Chester H, (2)	<i>Utica,</i>	1 Civil Eng.
Loveland, Daniel Arthur, (8)	<i>Windsor,</i>	4 Mech. Eng.
Lowry, Arthur Thompson, (8)	<i>Berwick, Pa.,</i>	4 Mech. Eng.
Lowthian, Walter Edward, (8)	<i>New York City,</i>	4 Med. (N. Y. C.)
Lozynski, Walter William, (2)	<i>Long Island City,</i>	1 Med. (N. Y. C.)
Lubin, Harry, (4)	<i>New York City,</i>	1 Agriculture
Lucker, Frederick Luther, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Lucker, Harry Adolph, (6)	<i>Brooklyn,</i>	Jr. Law
Luftig, Jacob, (2)	<i>New York City,</i>	1 Med. (N. Y. C.)
Luhman, Leland Howe, (2)	<i>Postville, Ia.,</i>	3 Mech. Eng.
Luke, Harry Cliff, Ph.G., (7)	<i>Salamanca,</i>	3 Med. (N. Y. C.)
Lum, Paul Bentley, (8)	<i>Washington, D. C.,</i>	4 Civil Eng.
Lundell, Nils Oscar, (2)	<i>Poughkeepsie,</i>	1 Medicine
Luttrell, James Nathaniel, (4)	<i>Falls Church, Va.,</i>	Jr. Law
Lutz, Charles, Jr., Ph.G., (2)	<i>New York City,</i>	1 Med. (N. Y. C.)
Lynch, George Michael, (6)	<i>Andover,</i>	3 Med. (N. Y. C.)
Lynch, John Andrew, (4)	<i>Buffalo,</i>	Jr. Law
Lyon, Harold Hine, (6)	<i>Ellenville,</i>	1 Architecture
Lyon, Moncure Nelson, (3)	<i>Mt. Wilson, P. O., Md.,</i>	1 Mech. Eng.
McArthur, Mildred Sherwood, (4)	<i>North Troy,</i>	2 Arts

McArthur, Warren, Jr., (7)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
McAuliffe, Anna Vera, (2)	<i>Ithaca,</i>	Sp. Agriculture
McBride, Leslie Bailry, (2)	<i>Harvard, Ill.,</i>	1 Mech. Eng.
McCabe, Mary Elizabeth, (8)	<i>Brooklyn,</i>	4 Arts
McCallie, Edward Lee, B.S., (2)	<i>Chattanooga, Tenn.,</i>	2 Civil Eng.
McCarthy, Charles Bernard, (3)	<i>Ithaca,</i>	1 Civil Eng.
McCarthy, Elmer Taylor, (2)	<i>Cortland,</i>	1 Mech. Eng.
McCarthy, Julia Frances, (4)	<i>Troy,</i>	1 Arts
McCartney, John, (2)	<i>Montgomery,</i>	1 Veterinary
McCaughey, Vaughan, (6)	<i>Greenville, O.,</i>	3 Agriculture
McCaully, William Henry, (5)	<i>Washington, D. C.,</i>	1 Civil Eng.
McChesney, Frank William, (4)	<i>Everett, Wash.,</i>	2 Mech. Eng.
McChristie, Minor Everette, (4)	<i>Camden, O.,</i>	1 Civil Eng.
McClave, Robert Brooks, (1)	<i>Scranton, Pa.,</i>	1 Mech. Eng.
McClelland, Elizabeth Barber, (2)	<i>Buffalo,</i>	Sp. Arts
McClelland, Frank Edwin, (2)	<i>Walton,</i>	1 Veterinary
McClintock, Allan Patton, (2)	<i>Mt. Vernon,</i>	1 Mech. Eng.
McCloskey, Alice Gertrude, (6)	<i>Saratoga Spa.,</i>	Sp. Arts
McCloskey, Elizabeth, (2)	<i>Schenectady,</i>	1 Arts
McCloskey, Ervin, (5)	<i>Hamburg,</i>	2 Agriculture
McCollum, Joseph Grant, (4)	<i>Youngstown,</i>	2 Mech. Eng.
McCombs, Carl Esselstyn, A.B., (4)	<i>Frankfort,</i>	2 Med. (N.Y.C.)
McConnell, Benjamin Stuart, (6)	<i>St. Joseph, Mich.,</i>	3 Mech. Eng.
McConnell, Harold Mead, (8)	<i>St. Joseph, Mich.,</i>	4 Mech. Eng.
McConnell, Robert Alexander, (2)	<i>Columbus, O.,</i>	1 Mech. Eng.
McCormick, Francis Joseph, (2)	<i>Ithaca,</i>	1 Medicine
McCormick, Frank Harrington, (2)	<i>Baltimore, Md.,</i>	1 Mech. Eng.
McCormick, Jay Gould, (4)	<i>Monongahela, Pa.,</i>	2 Civil Eng.
McCormick, Julia Wright, (4)	<i>Ithaca,</i>	2 Arts
McCoy, Myra Long, (4)	<i>No. Tonawanda,</i>	2 Arts
McCreary, Harry Deemer, (2)	<i>New Castle, Pa.,</i>	1 Mech. Eng.
McCullough, Randal John, (2)	<i>Chazy,</i>	1 Mech. Eng.
McCurdy, Alexander Dales, (8)	<i>Philadelphia, Pa.,</i>	4 Mech. Eng.
McCutcheon, James, 2d, (3)	<i>Pittsburg, Pa.,</i>	1 Civil Eng.
Macdonald, Harold Gould, (8)	<i>Austin, Manitoba, Canada,</i>	4 C. E.
McElroy, Frank Austin, (2)	<i>Columbus, O.,</i>	1 Law
McEveety, Charles, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
McFadden, Benjamin Curtis, (6)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
McFarlan, Edward, (6)	<i>Brooklyn,</i>	1 Mech. Eng.
McFarland, Helen Louise, (4)	<i>Harrisburg, Pa.,</i>	2 Arts
McGee, Walter Vaughan, (5)	<i>Plainfield, N. J.,</i>	Jr. Law
McGrath, John Francis, (6)	<i>Holyoke, Mass.,</i>	3 Med. (N.Y.C.)

Machen, Thomas Gresham, A.B., (2)	<i>Baltimore, Md.,</i>	1	Architecture
McHenry, John Joseph, (5)	<i>Granville,</i>		Sr. Law
McInerney, Thomas Joseph, (2)	<i>East Elmira,</i>		Sp. Agriculture
McIntire, Thomas Brown, (2)	<i>Pittsburg, Pa.,</i>	1	Mech. Eng.
McIntosh, Mary Lucinda, (8)	<i>Locke,</i>		4 Arts
McKay, Andrew William, (4)	<i>Ithaca,</i>		2 Agriculture
McKay, Florence Lucinda, A.B., (8)	<i>Webster,</i>	4	Med. (N. Y. C.)
McKay, Mildred Van Dusen, (2)	<i>Geneva,</i>		1 Agriculture
McKee, William John, (2)	<i>Etna, Pa.,</i>		2 Civil Eng.
Mackey, Clarence Herbert, (2)	<i>Lancaster,</i>		1 Medicine
Mackey, Floyd Sherman, (1)	<i>Gilboa,</i>		1 Mech. Eng.
Mackintosh, Blanchard Mitchell, (8)	<i>Halifax, N. S., Canada,</i>	4	Arch.
Mackintosh, Donald Chase, (8)	<i>Holyoke, Mass.,</i>	4	Mech. Eng.
Macklin, Oueda Leila, (2)	<i>St. Louis, Mo.,</i>		1 Arts
McKnew, Richard Taylor, (2)	<i>Washington, D. C.,</i>	1	Mech. Eng.
McKown, Howard Purcell, (4)	<i>Allegheny, Pa.,</i>		2 Civil Eng.
McKown, William Reid, (8)	<i>Pittsburgh, Pa.,</i>	4	Mech. Eng.
McLaren, William Lewis, (2)	<i>Ottawa, Ont., Canada,</i>		Sp. M.E.
McLeod, Donald Fraser, (5)	<i>Westville, N. S., Canada,</i>	4	Civil Eng.
McLeod, Norman McCallum, (8)	<i>Philadelphia, Pa.,</i>	4	Mech. Eng.
McLeod, Norwood, (2)	<i>Toronto, Canada,</i>		1 Mech. Eng.
McMaster, Cornelia Aurora, (2)	<i>Rochester,</i>		1 Arts
McMillan, Hugh Gurney, (8)	<i>East Aurora,</i>	4	Mech. Eng.
McMillan, Robert Dudley, (4)	<i>East Aurora,</i>		1 Mech. Eng.
McNamara, Mabel Anne, (1)	<i>Binghamton,</i>		1 Medicine
McNamara, Paul James, (5)	<i>Binghamton,</i>		Jr. Law
McNeill, Walter Harold, Jr., (4)	<i>Mt. Vernon,</i>	1	Med. (N.Y.C.)
McPherson, Kenneth Ward, (4)	<i>LeRoy,</i>		2 Civil Eng.
Macpherson, Leslie Mitchell, (6)	<i>Balranald, N. S. W., Australia,</i>	4	Mech. Eng.
MacRae, Tom, (7)	<i>New York City,</i>	4	Med. (N.Y.C.)
McSweeney, Jerome Augustine, (4)	<i>New York City,</i>	1	Med. (N.Y.C.)
McTammany, Frances Loretta, (2)	<i>Troy,</i>		1 Arts
McTighe, Leo James, (2)	<i>Binghamton,</i>		1 Mech. Eng.
McWhorter, Hugh Brooks, (8)	<i>Ithaca,</i>		3 Mech. Eng.
Macy, Frank Henry, (2)	<i>Hudson,</i>		1 Civil Eng.
Macy, George Earl, (8)	<i>Chicago, Ill.,</i>	4	Mech. Eng.
Madden, Bert Long, (4)	<i>Wilkes-Barre, Pa.,</i>	1	Mech. Eng.
Madigan, Francis William, (8)	<i>Centre Village,</i>	4	Civil Eng.
Magnus, Edward, Ph.B., (2)	<i>Chicago, Ill.,</i>	2	Mech. Eng.
Magoffin, Charles Frederick, (8)	<i>North Tonawanda,</i>	3	Mech. Eng.
Main, Eugene Adams, (8)	<i>Brooklyn,</i>	4	Mech Eug.

Major, Horace Fairchild, (4)	<i>Ithaca,</i>	2 Agriculture
Makino, Kengo, (1)	<i>Okayama, Japan,</i>	4 Mech. Eng.
Malby, Seth Grant, (4)	<i>Ogdensburg,</i>	2 Mech. Eng.
Maldiner, Frank John, (2)	<i>No. Tonawanda,</i>	1 Arts
Malefski, Bernard, B.E., (2)	<i>Brooklyn,</i>	3 Civil Eng.
Mallery, Lewis E, (6)	<i>Olean,</i>	3 Mech. Eng.
Mallett, Carlie Merritt, (4)	<i>Middletown,</i>	3 Arts
Mallison, Charles Henry, (8)	<i>Medina,</i>	4 Civil Eng.
Maloney, Edgar William, B.A., (4)	<i>Canton,</i>	3 Civil Eng.
Mambert, Stephen Babcock, (6)	<i>Kingston,</i>	2 Civil Eng.
Mann, Charles Maitland, A.B., (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Mann, David Farquhar, (8)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Mann, Florence Hall, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Mann, Matthew Derbyshire, Jr., Ph.B., (2)	<i>Buffalo,</i>	3 Civil Eng.
Mannocir, James Earle, B.A., (6)	<i>Memphis, Tenn.,</i>	3 Mech. Eng.
Manrow, Grosvenor Carlton, (4)	<i>Port Byron,</i>	Sp. Agriculture
Mansfield, Edward Raymond, B.S., (8)	<i>Orono, Me.,</i>	4 Med. (N.Y.C.)
Manulkin, George, (8)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Marca-Romero, Manuel Antonio, (4)	<i>Lima, Peru, S.A.</i>	4 Mech. Eng.
Marcellus, Roy Clark, (6)	<i>North Adams, Mass.,</i>	3 Mech. Eng.
Marcus, Clarence, (2)	<i>Cincinnati, O.,</i>	1 Mech. Eng.
Marcus, David, (2)	<i>Olean,</i>	1 Arts
Marcusson, William Henry, (2)	<i>Hoboken, N. J.,</i>	1 Agriculture
Margolis, Louis, B.A., (1)	<i>New York City,</i>	2 Civil Eng.
Marine, Samuel, (2)	<i>Rochester,</i>	1 Arts
Marino, Antonio Joseph, (2)	<i>Port Chester,</i>	1 Arts
Marks, Hyman Sanford, (8)	<i>Troy,</i>	4 Mech. Eng.
Marlow, Francis Smith, (2)	<i>Washington, D. C.,</i>	1 Architecture
Marquina, Raphael, (4)	<i>Lima, Peru, S. A.,</i>	2 Architecture
Marriott, William McKim, B.S., (2)	<i>New York City,</i>	1 Med. (N. Y. C.)
Marschark, Max, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Marsh, Edward Harvey, (4)	<i>Brooklyn,</i>	2 Med.(N.Y.C.)
Marshall, Charles William, (4)	<i>Pratts,</i>	2 Veterinary
Marshall, James Wallace, (6)	<i>Wilmerding, Pa.,</i>	3 Mech. Eng.
Marshall, Margaret Evelyn, B.Pd., (2)	<i>New York City,</i>	4 Arts
Marshall, William, (4)	<i>Yonkers,</i>	2 Mech. Eng.
Marsland, Walter Stanley, (6)	<i>Franklin,</i>	3 Arts
Marston, Sylvanus Boardman, (8)	<i>Pasadena, Calif.,</i>	4 Architecture
Martin, Arthur Chalmers, (8)	<i>Rockville Centre,</i>	4 Med. (N.Y.C.)
Martin, Arthur Stennett, (2)	<i>Elizabeth, N. J.,</i>	1 Mech. Eng.
Martin, John Gordon, (2)	<i>La Porte, Ind.,</i>	2 Arts
Martin, Jennie Melissa, (8)	<i>Binghamton,</i>	4 Arts

Martin, Joseph Sweet, (4)	<i>Binghamton,</i>	2 Arts
Martin, Mabel Agnes, (6)	<i>Binghamton,</i>	3 Arts
Martin, Paris, (6)	<i>Idaho Falls, Idaho,</i>	Sr. Law
Martin, Thomas, Jr., (6)	<i>Belleville, N. J.,</i>	3 Civil Eng.
Martinez, Christobal Antonio, (9)	<i>Hornos, Coahmla, Mexico,</i>	4 Civil Eng.
Mason, Arthur John, Jr., (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Mason, Harry Mills, Jr., (4)	<i>Baltimore, Md.,</i>	3 Mech. Eng.
Mason, Norman Clifford, (4)	<i>Highland Park, Ill.,</i>	2 Arts
Mason, William Henry, B.Sc., (4)	<i>Sydney, N. S. W., Australia,</i>	4 Mech. Eng.
Matchneer, William Wade, (2)	<i>Pittsburg, Pa.,</i>	1 Mech. Eng.
Mathers, George Aldrich, (2)	<i>Bennington, Vt.,</i>	1 Law
Matthai, Albert Dilworth, (2)	<i>Baltimore, Md.,</i>	1 Mech. Eng.
Matthews, Robertson, (8)	<i>Bolton, Ont., Can.,</i>	4 Mech. Eng.
Mattick, Walter Lester, (6)	<i>Buffalo,</i>	3 Arts
Matty, Frank Joseph, C.E., (4)	<i>Denver, Colo.,</i>	4 Mech. Eng.
Mauer, William John, (4)	<i>Buffalo,</i>	2 Civil Eng.
Maxwell, Donald Price, (8)	<i>Georgetown, Colo.,</i>	4 Civil Eng.
Maxwell, Wellwood Hugh, (2)	<i>Westfield, N. J.,</i>	1 Mech. Eng.
May, Charles Cuthbertson, (2)	<i>Sheridan, Wyo.,</i>	1 Mech. Eng.
Mayer, Edwin Charles, (4)	<i>Brooklyn,</i>	2 Arts
Maynard, Henry Warner, (6)	<i>Washington, D. C.,</i>	4 Civil Eng.
Mayo, Geoffrey Waiuman, (9)	<i>Smethport, Pa.,</i>	4 Civil Eng.
Mead, Theodore Fletcher, (6)	<i>Morrisville,</i>	2 Arts
Mears, Arthur Maxwell, (2)	<i>Portland, Ore.,</i>	2 Mech. Eng.
Meier, Walter Raymond, (2)	<i>Detroit, Mich.,</i>	1 Architecture
Meinell, John Bradford, (3)	<i>New York City,</i>	2 Mech. Eng.
Mekeel, Amy Grace, (2)	<i>Trumansburg,</i>	1 Arts
Mellen, Stanley Henry, (6)	<i>Catskill-on-Hudson,</i>	3 Arts
Mellor, Alfred Carlos, Jr., (3)	<i>New York City,</i>	1 Civil Eng.
Meltzer, Isidore Karnell, (2)	<i>New York City,</i>	1 Mech. Eng.
Melvin, Carroll Loomis, (13)	<i>Bradford, Pa.,</i>	2 Mech. Eng.
Mendalis, Morris, (6)	<i>Brooklyn,</i>	2 Med. (N. Y. C.)
Menges, Harry Philip, (2)	<i>Pittsburg, Pa.,</i>	1 Mech. Eng.
Mennen, William Gerhard, (6)	<i>Newark, N. J.,</i>	3 Mech. Eng.
Menough, Paul Simpson, (6)	<i>Wellsville, O.,</i>	4 Mech. Eng.
Merchant, Eustace Sheldon Dietz, (1)	<i>Hancock,</i>	1 Veterinary
Mercur, Charles Belin, (2)	<i>Pittston, Pa.,</i>	1 Architecture
Merkin, Abraham, (5)	<i>New York City,</i>	2 Civil Eng.
Merrick, Edgar Hamilton, (6)	<i>Gouverneur,</i>	3 Mech. Eng.
Merrihew, Leland Alric Houghton, (4)	<i>Plattsburg,</i>	2 Mech. Eng.

Merrill, Charles Carroll, (2)	<i>Sherburne,</i>	Sp. Agriculture
Merrill, Edward Francis, (4)	<i>New Rochelle,</i>	2 Mech. Eng.
Merriss, Marion Hawthorne, (2)	<i>Brooklyn,</i>	1 Arts
Merrow, Paulina, (6)	<i>Hartford, Conn.,</i>	2 Arts
Merry, Horatio Seymour, (4)	<i>Verona,</i>	Sp. Agriculture
Mertz, Edna Lenora, (6)	<i>Sedalia, Mo.,</i>	3 Arts
de Mesa, Hannibal, (2)	<i>New York City,</i>	1 Arts
Messing, Frank Wallace, (2)	<i>No. Tonawanda,</i>	1 Agriculture
Mettee, Carroll Russell, (5)	<i>Baltimore, Md ,</i>	3 Mech. Eng.
Metz, Edwin Humphrey, (2)	<i>Brockton, Mass.,</i>	1 Law
Metzger, Harold Nuhn, (8)	<i>Buffalo,</i>	4 Civil Eng.
Metzger, Park Lincoln, (2)	<i>Buffalo,</i>	1 Mech. Eng.
Meyer, Carl Frederick, (2)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Meyer, Henry Edward Berthold, (8)	<i>Brooklyn,</i>	4 Med. (N. Y. C.)
Meyer, William Max, (1)	<i>Buffalo,</i>	1 Mech. Eng.
Micheloni, Louis A, (2)	<i>Montevideo, Uruguay,</i>	2 Med. (N.Y.C.)
Michie, LeRoy Hewliugs, (4)	<i>Chicago, Ill.,</i>	1 Civil Eng.
Miles, Hamilton Vincent, (6)	<i>Baltimore, Md.,</i>	3 Civil Eng.
Miles, John James, (4)	<i>Penn Yan,</i>	2 Mech. Eng.
Milford, Leslie Russell, (4)	<i>Skaneateles,</i>	2 Arts
Millard, Samuel Brown, (2)	<i>Omaha, Nebr.,</i>	1 Arts
Miller, Charles J, (2)	<i>Groton,</i>	1 Veterinary
Miller, Daniel, (4)	<i>Reading, Pa.,</i>	3 Arts
Miller, Douglas Johnston, (2)	<i>Port Chester,</i>	1 Law
Miller, Emma Adams, (8)	<i>Shamokin, Pa.,</i>	4 Arts
Miller, George Harvey, (4)	<i>Buffalo,</i>	1 Agriculture
Miller, Henry Joseph, (8)	<i>Washington, D. C.,</i>	4 Mech. Eng.
Miller, Jay Arthur, (1)	<i>Dansville,</i>	Sp. Agriculture
Miller, Katherine De Coutres, (2)	<i>Sprakers,</i>	1 Arts
Miller, Mary Belle, (6)	<i>Homer,</i>	3 Arts
Miller, Mary Ruth Fisher, B.S., (1)	<i>Selins Grove, Pa.,</i>	4 Arts
Miller, Monroe Kanouse, (1)	<i>Spokane, Wash.,</i>	1 Arts
Miller, Sereno Glassell, (6)	<i>Freeport,</i>	3 Mech. Eng.
Miller, Thomas Leo, (2)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Mills, James Evan, (4)	<i>Waterloo,</i>	1 Mech. Eng.
Miltimore, Louise Salisbury, (4)	<i>Catskill,</i>	2 Arts
Miner, Justin Leslie, (2)	<i>Sheridan,</i>	1 Law
Minton, Ogden, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Mintz, Jay Jerome, (9)	<i>Ithaca,</i>	4 Mech. Eng.
Mitchell, Edwin Wells, (3)	<i>Cincinnati, O.,</i>	2 Agriculture
Mitchell, Francis, (2)	<i>New York City,</i>	1 Mech. Eng.
Mitchell, James Reid, Jr., A.B., (6)	<i>New York City,</i>	3 Med. (N.Y.C.)

Mitchell, Ray Verne, (6)	<i>Buffalo,</i>	Sr. Law
Mitchell, William Churchill, (2)	<i>Charlestown, W. Va.,</i>	1 Mech. Eng.
Mitler, Herbert Ernest, (6)	<i>New York City,</i>	3 Mech. Eng.
Mix, Mary Agnes, (1)	<i>Ithaca,</i>	Sp Agriculture
Mix, Rhoda Grace, (4)	<i>Chenango Forks,</i>	2 Arts
Mixsell, David Roy, (2)	<i>Jersey City, N. J.,</i>	1 Mech. Eng.
Moeller, Henry Louis, (8)	<i>Hoboken, N. J.,</i>	4 Civil Eng.
Moench, Gerhard Ludwig, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Moffat, Harold Wellington, (2)	<i>Orange, N. J.,</i>	1 Mech. Eng.
Moffett, Francis Chandler, (2)	<i>Middletown,</i>	1 Arts
Moffett, Mattie Charlotte, (4)	<i>Middletown,</i>	2 Arts
Moffett, Jefferson Grant, (2)	<i>Oakland, Calif.,</i>	1 Arts
Molina, Ernesto, B. S., (2)	<i>Puno, Peru,</i>	1 Veteriuary
Monrad, Karen Elise, (8)	<i>New York City,</i>	4 Arts
Monrad, Karl Johan, (6)	<i>New York City,</i>	4 Arts
Monroe, James, B. A., (2)	<i>Philadelphia, Pa.,</i>	2 Mech. Eng.
Monroe, Louis Gonzaga, (2)	<i>Columbus, Pa.,</i>	1 Law
Montague, Charles Eugene, (4)	<i>Syracuse,</i>	2 Mech. Eug.
Montillon, Eugene David, (8)	<i>Buffalo,</i>	3 Architecture
Moody, George Harold, (4)	<i>Canton, Pa.,</i>	Sp. Agriculture
Mooers, John Hooker, (6)	<i>Plattsburgh,</i>	Sr. Law
Moon, Charles Miller, (2)	<i>Ithaca,</i>	1 Law
Moore, Edna Florence, (3)	<i>Erie, Pa.,</i>	Sp. Arts
Moore, William Alexander, (4)	<i>New York City,</i>	2 Mech. Eng.
Moores, Merrill Bruce, B.S., (4)	<i>Salem, Ore.,</i>	4 Mech. Eng.
Moorman, Silas Mercer, A.B., (6)	<i>Georgetown, Ky.,</i>	3 Med. (N.Y.C.)
Moorman, William Glass, (6)	<i>Buffalo,</i>	3 Mech. Eug.
Morehouse, Walter Gould, (7)	<i>Briarcliffe Manor,</i>	3 Veterinary
Morgan, Frank Millett, (4)	<i>New York City,</i>	2 Arts
Morgan, John Hefrich, (2)	<i>Jersey City, N. J.,</i>	1 Mech. Eng.
Morgans, Howard K, (8)	<i>Nanticoke, Pa.,</i>	4 Civil Eng.
Morgenstern, Morris, (8)	<i>Pittsburg, Pa.,</i>	4 Mech. Eng.
Morgenstern, William Clarence, (4)	<i>Allegheny, Pa.,</i>	2 Mech. Eng.
Morrell, Robert Whiting, (4)	<i>Northport,</i>	2 Mech. Eng.
Morris, George Hall, Jr., (2)	<i>East Orange, N. J.,</i>	1 Mech. Eng.
Morris, James William, (2)	<i>North Olean,</i>	1 Law
Morris, William Harley, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Morrow, Franklyn Warman, (2)	<i>Allenhurst, N. J.,</i>	1 Civil Eng.
Morrow, Homer Nicholas, A.B., (3)	<i>Clarksville, Tenn.,</i>	1 Mech. Eng.
Morse, Albert Withers, (6)	<i>New York City,</i>	3 Mech. Eng.
Morse, Hazen H, (4)	<i>New Rochelle,</i>	3 Arts
Morse, William Joseph, (8)	<i>Lowville,</i>	4 Agriculture

Mortimer, Charles Ward, B.S., (6)	<i>Winona, Miss.,</i>	4 Mech. Eng.
Mosher, Edna, (4)	<i>Kempt Shore, N.S., Canada,</i>	3 Agriculture
Mosher, George, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Mosher, George Fred, (5)	<i>Kansas City, Mo.,</i>	4 Arts
Mosher, Guy Walter, (8)	<i>Cold Spring,</i>	4 Mech. Eng.
Mosler, Henry Gustav, (2)	<i>Cincinnati, O.,</i>	1 Mech. Eng.
de la Motte, James Francis, (4)	<i>New York City,</i>	1 Med. (N.Y.C.)
Mounce, Robert Sydney, (4)	<i>Hornell,</i>	2 Mech. Eng.
Mowe, Homer George, (2)	<i>Watertown,</i>	1 Arts
Muench, William Otto, Jr., (2)	<i>Philadelphia, Pa.,</i>	1 Civil Eng.
Mull, James Martin, (4)	<i>Jeanette, Pa.,</i>	2 Mech. Eng.
Muller, Henry Richard, (4)	<i>New York City,</i>	2 Arts
Mulligan, Charles Lawrence, (8)	<i>Brooklyn,</i>	4 Arts
Munro, LeRoy, (3)	<i>Elbridge,</i>	Sp Agriculture
Munchauer, Frederick Eugene, (8)	<i>Buffalo,</i>	4 Mech. Eng.
Munsell, Edith Josephine, (2)	<i>Utica,</i>	1 Arts
Murphy, Emery David, (2)	<i>Allegheny, Pa.,</i>	1 Mech. Eng.
Murphy, James Douglas, (5)	<i>Girard, Pa.,</i>	Sr. Law
Murphy, John Harold, (7)	<i>Detroit, Mich.,</i>	4 Arts
Murphy, Leo Francis, (4)	<i>Detroit, Mich.,</i>	2 Mech. Eng.
Murphy, Michael Constantine, (2)	<i>Bedford, Ind.,</i>	1 Law
Murphy, Theodore Rhodes, (2)	<i>St. Louis, Mo.,</i>	1 Mech. Eng.
Murray, Clare D, (8)	<i>DeRuyter,</i>	4 Civil Eng.
Murray, Genevieve Elizabeth, (4)	<i>Ithaca,</i>	2 Arts
Murray, Morrison Foster, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Murray, Nathaniel Allison, (4)	<i>Washington, D. C.,</i>	Sp. Agr.
Murray, Royal Hibbert, (2)	<i>Newark, N. J.,</i>	1 Mech. Eng.
Mussi, Angelo Peter, (6)	<i>Auburn,</i>	3 Civil Eng.
Myer, George Warren, (4)	<i>Ovid Centre,</i>	2 Agriculture
Myers, Harry William, (3)	<i>So. Livonia,</i>	Sp. Agriculture
Nadoolman, Max, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Natauson, Walter Edward, (4)	<i>Holyoke, Mass.,</i>	2 Civil Eng.
Neal, Josephine Bicknell, A.B., (2)	<i>Lewiston, Me.,</i>	1 Medicine
Neale, Harry Taylor, (4)	<i>Harrisburg, Pa.,</i>	1 Mech. Eng.
Nedham, Stanley Cromwell, (8)	<i>Perth Amboy, N. J.,</i>	1 Mech. Eng.
Nelbach, George Joseph, A.B., (4)	<i>Utica,</i>	Sr. Law
Nelson, Elbert James, (8)	<i>Delaware, O.,</i>	4 Civil Eng.
Nelson, Harry Merton, (6)	<i>East Ryegate, Vt.,</i>	3 Civil Eng.
Nelson, John Esdon, (2)	<i>East Ryegate, Vt.,</i>	1 Mech. Eng.
Neumann, Edward Gustave, (1)	<i>Bridgeport, Conn.,</i>	1 Law
Neustadt, Benjamin, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Newcomb, Robert Everett, (8)	<i>Holyoke, Mass.,</i>	4 Mech. Eng.

Newcomb, Robert Scott, B.S., (4)	<i>Savannah, Ga.,</i>	4 Mech. Eng.
Newkirk, Clement Roy, (8)	<i>Brooklyn,</i>	4 Architecture
Newman, Abraham Jacob, (4)	<i>Tarrytown,</i>	1 Med. (N.Y.C.)
Newman, Kenneth Conried, (2)	<i>New York City,</i>	1 Arts
Newman, Leander Allison, (6)	<i>Penn Yan,</i>	3 Med. (N.Y.C.)
Newman, William Seymour, (7)	<i>Ithaca,</i>	3 Veterinary
Newton, James Quigg, (6)	<i>Denver, Colo.,</i>	Sr. Law
Neyhart, Lulu Ina, (4)	<i>Auburn,</i>	2 Arts
Nichols, Edson Hoyt, (6)	<i>Camden, N. J.,</i>	2 Arts
Nichols, Franklin Pierce, (4)	<i>Dayton, O.,</i>	Sp. Architecture
Nichols, William Holmes, (7)	<i>Chicago, Ill.,</i>	4 Mech. Eng.
Nickerson, Ralph Richard, (9)	<i>Holyoke, Mass.,</i>	4 Mech. Eng.
Nightingale, Ida Ethelstone, (2)	<i>Brooklyn,</i>	1 Arts
Niles, William Nathaniel, (3)	<i>W. Oneonta,</i>	2 Civil Eng.
Nisenson, Abraham Oscar, (2)	<i>Newark, N. J.,</i>	1 Civil Eng.
Niven, Charles Franklin, B.Agr., (2)	<i>Morven, N. C.,</i>	Sp. Agr.
Niven, Lola Alexander, B.Agr., (2)	<i>Morven, N. C.,</i>	Sp. Agriculture
Nixon, Clara, (2)	<i>Ithaca,</i>	Sp. Agriculture
Nobis, Walter Scott, (6)	<i>New York City,</i>	4 Arts
Nobles, Jennie Bronson, (6)	<i>Swartwood,</i>	3 Arts
Nomura, Tomoji, (4)	<i>Tokushima, Awa, Japan,</i>	3 Arch.
Noouan, Nellie Agnes, (1)	<i>Schenevus,</i>	1 Arts
North, Harold Diodate, (8)	<i>Cleveland, O.,</i>	3 Mech. Eng.
Northrop, Mary Margaret, (4)	<i>Hannover, Germany,</i>	2 Arts
Northrup, Burton Earl, (2)	<i>Washington, Pa.,</i>	1 Mech. Eng.
Norton, Genevieve Elizabeth, (1)	<i>Olean,</i>	1 Arts
Noyes, Frederic Jansen, (2)	<i>Dansville,</i>	1 Mech. Eng.
Nugent, Harold Arthur, (8)	<i>Kingston, Pa.,</i>	3 Mech. Eng.
Nunez, Vasco Emilio, (2)	<i>Felts Mills,</i>	1 Arts
Oates, Frank Richardson, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Oberly, Robert Shimer, (6)	<i>Easton, Pa.,</i>	3 Mech. Eng.
O'Brien, James Cyril, (2)	<i>Rochester,</i>	1 Arts
O'Brien, John Joseph, (8)	<i>Buffalo,</i>	2 Mech. Eng.
O'Brien, Julia Theresa, (4)	<i>Utica,</i>	2 Arts
O'Brien, Paul, (6)	<i>Pittsburg, Pa.,</i>	3 Med. (N.Y.C.)
O'Brien, William James, (2)	<i>Kingston,</i>	1 Arts
Ochs, Alfred Long, (1)	<i>Allentown, Pa.,</i>	1 Arts
Odend'hal, Charles Joseph, (6)	<i>Baltimore, Md.,</i>	1 Mech. Eng.
Oderkirk, Charles Clayton, (6)	<i>Batavia,</i>	2 Veterinary
O'Donnell, James Peter, (2)	<i>Herkimer,</i>	1 Law
Ogata, Tatsudo, (2)	<i>Kumamoto Ken, Japan,</i>	2 Agr.
Ogier, George Rufus, (8)	<i>Baltimore, Md.,</i>	1 Civil Eng.

O'Hara, William Leo, (2)	<i>Binghamton,</i>	1 Law
Oldham, Morris Calvin, (2)	<i>Springfield, O.,</i>	1 Agriculture
Olds, Thomas Hartman, B.S., (4)	<i>Purcell, Ind. Terr.,</i>	1 Civil Eng.
Olitsky, Peter Kosciusko, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Oliver, Clifford Rylander, A.B., (6)	<i>Plains, Ga.,</i>	3 Mech. Eng.
Olney, Raymond, (2)	<i>Fairport,</i>	1 Mech. Eng.
Olsen, William Christian, (2)	<i>Canton, Miss.,</i>	Sp. Mech. Eng.
O'Neil, Fred Ernest, (4)	<i>Malone,</i>	3 Mech. Eng.
O'Neil, Harold Gilbert, (2)	<i>Malone,</i>	1 Law
O'Neill, Charles Leo, A.B., (6)	<i>Newark, N. J.,</i>	3 Med. (N.Y.C.)
Orahoad, George Hurlbut, (4)	<i>Denver, Colo.,</i>	2 Architecture
Orchard, Paul Bartlett, (2)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Orcutt, Daniel Paul, B.S., (4)	<i>Granville, O.,</i>	4 Mech. Eng.
O'Reilly, Francis Sheridan, (4)	<i>Utica,</i>	2 Civil Eng.
O'Rourke, Bernard John, (5)	<i>Syracuse,</i>	1 Civil Eng.
Orth, Rudolph Daniel, (4)	<i>Blauvelt,</i>	2 Med. (N.Y.C.)
Orvis, Warner Dayton, (10)	<i>New York City,</i>	4 Mech. Eng.
Osborn, Maud Anna, (2)	<i>Wellsville,</i>	1 Arts
Osborn, William Miller, (3)	<i>Hartford,</i>	Sp. Agriculture
Osborne, Edith May, (2)	<i>Oneida,</i>	1 Arts
Osburn, Clarence DeWitt, (3)	<i>Ithaca,</i>	2 Civil Eng.
Osmun, Leland Stanford, (4)	<i>Delaware, N. J.,</i>	Jr. Law
Osmun, Olin E, (2)	<i>Horseheads,</i>	1 Law
Ostos, José Antonio, (9)	<i>Ozuluama, Vera Cruz, Mexico,</i>	1 Mech. Eng.
Osyer, Martin, (2)	<i>New York City,</i>	1 Civil Eng.
Otero, Antonio Sebastian, (2)	<i>Ponce, Porto Rico,</i>	1 Civil Eng.
Ottaway, Lee Levant, (2)	<i>Sherman,</i>	1 Law
Otten, Henry Louis, (2)	<i>Jamaica,</i>	1 Arts
Ou, Ching Kó, (2)	<i>Canton, China,</i>	1 Arts
Ourand, William Ralph, (4)	<i>Washington, D. C.,</i>	2 Civil Eng.
Overbaugh, Ethel May, (6)	<i>Amsterdam,</i>	3 Arts
Owen, Arthur Stephen, (2)	<i>Monticello,</i>	1 Mech. Eng.
Owen, Charles Hundley, (6)	<i>Denniston, Va.,</i>	4 Mech. Eng.
Owen, Frank Gilchrist, (3)	<i>Eau Claire, Wis.,</i>	Jr. Law
Owens, Robert Stuart, (6)	<i>Brooklyn,</i>	3 Arts
Owens, Wallace Ladd, (4)	<i>Utica,</i>	2 Civil Eng.
Paaswell, George, (6)	<i>New York City,</i>	2 Civil Eng.
Pabst, Charles Frederick, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Paddock, Ormoud Howland, (8)	<i>Toledo, O.,</i>	4 Mech. Eng.
Page, Kenneth Andrew, (6)	<i>Athens, Pa.,</i>	3 Mech. Eng.
Page, Thomas Newton, (6)	<i>Norfolk, Va.,</i>	Sr. Law

Page, Wilson Kingman, (4)	<i>Olean,</i>	2 Mech. Eng.
Paige, Ruel Bertram, (1)	<i>Hamilton,</i>	Sp. Agriculture
Pagliery, Joseph Juaquin Cecilio, (4)	<i>New York City,</i>	3 Agriculture
Palley, David Maurice, (2)	<i>Brooklyn,</i>	1 Arts
Palmer, Everett Arthur, (5)	<i>El Dorado, Kan.,</i>	1 Mech. Eng.
Palmer, Everett Charles, (4)	<i>Hornell,</i>	2 Civil Eng.
Palmer, George Hollis, (8)	<i>Brooklyn,</i>	4 Med. (N.Y.C.)
Palmer, Henry Oliver, (8)	<i>Geneva,</i>	4 Mech Eng.
Palmer, T Raymond, (8)	<i>Ithaca,</i>	4 Civil Eng.
Pangborn, Robert Garrett, (4)	<i>Baltimore, Md.,</i>	3 Mech. Eng.
Parce, Donald Higbie, (4)	<i>Fairport,</i>	2 Mech. Eng.
Parker, Carl William, (6)	<i>Glens Falls,</i>	3 Arts
Parker, Esther Emily, A.B., (8)	<i>New York City,</i>	4 Med (N.Y.C.)
Parker, George Milford Calvin, (6)	<i>Moscow,</i>	Sr. Law
Parker, James Wentworth, (6)	<i>Louisville, Ky.,</i>	3 Mech. Eng.
Parker, John Robert, (6)	<i>Aqueduct,</i>	Sr. Law
Parmley, Harry Mark, (8)	<i>Mahanoy City, Pa.,</i>	4 Mech. Eng.
Parrish, Justin E, Jr., (4)	<i>Scranton, Pa.,</i>	2 Agriculture
Parsons, Harold Livingston, (2)	<i>Penn Yan,</i>	1 Mech. Eng.
Paskett, Winifred Llewellyn, (8)	<i>Palmyra,</i>	4 Arts
Paterson, Charles Judson, (8)	<i>Brockport,</i>	4 Civil Eng.
Patrick, Clarence John, (1)	<i>Malone,</i>	1 Medicine
Patten, Harry Allen, (8)	<i>Cheyenne, Wyo.,</i>	4 Civil Eng.
Patterson, Bertha Katharine, (2)	<i>Mansfield, O.,</i>	1 Arts
Patterson, Gus Harold, (1)	<i>Mansfield, O ,</i>	1 Law
Patterson, William Maxwell, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Patterson, Willson Howell, (4)	<i>Devon, Pa.,</i>	2 Arts
Paul, John Dawson, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Paulus, Roy, (6)	<i>New York City,</i>	3 Civil Eng.
Pavek, George Irving, (2)	<i>West Point,</i>	1 Civil Eng.
Pawling, Jesse Randolph, A.B., A.M., (4)	<i>Watertown,</i>	2 Medicine
Payne, Edward Duggan, C.E., (4)	<i>Athens, Pa.,</i>	4 Mech. Eng.
Peabody, Alonzo Orran, (2)	<i>Owego,</i>	1 Civil Eng.
Peake, Lawrence Jordan, (2)	<i>Peabrook,</i>	1 Arts
Pearce, Charles Darius, (4)	<i>Pawling,</i>	2 Veterinary
Pearce, Frederick Kingsley, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Pearson, William DeForest, (2)	<i>Waterloo,</i>	1 Arts
Pease, George Norman, A.B., (8)	<i>Portland, Ore.,</i>	4 Med. (N.Y.C.)
Pease, Harry Windsor, (4)	<i>Cortland,</i>	2 Mech. Eng.
Peaslee, Horace Whittier, (2)	<i>New York City,</i>	1 Architecture.
Peavey, Harris Booge, (8)	<i>New York City,</i>	4 Mech. Eng.
Peck, Franklin Howard, (2)	<i>East Bethany,</i>	Sp. Agriculture

Peck, Percival Starr, (6)	<i>Yonkers,</i>	3 Mech. Eng.
Peek, Frederic Albert, (6)	<i>Orchard Park,</i>	4 Arts
Peek, John, (2)	<i>East Aurora,</i>	1 Arts
Peet, Nelson Rusk, (2)	<i>Rochester,</i>	1 Agriculture
Peirce, Clarence Andrew, (2)	<i>Ithaca,</i>	4 Arts
Pennell, Amos Gartside, (5)	<i>Chester, Pa.,</i>	1 Arts
Penney, Harold Fanning, (2)	<i>Center Moriches,</i>	1 Mech. Eng.
Pennock, Theodore Eddy, (2)	<i>Syracuse,</i>	1 Mech. Eng.
Perky, Scott Henry, (8)	<i>Ithaca,</i>	4 Agriculture
Perrine, Henry Ivey, (8)	<i>Brooklyn,</i>	4 Arts
Perrine, Irving, (8)	<i>Wallkill,</i>	4 Arts
Perry, Leslie Donald, A.B., (4)	<i>Brookline, Mass.,</i>	4 Mech. Eng.
Pertsch, John George, Jr., (2)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Peters, Albert William, (2)	<i>Cincinnati, O.,</i>	1 Arts
Petersen, Ernest Louis, (2)	<i>Scranton, Pa.,</i>	1 Mech. Eng.
Peterson, Amos Gale, (4)	<i>Lodi,</i>	2 Mech. Eng.
Petigor, Isidor Edward, (2)	<i>New York City,</i>	1 Law
Petit, Charles Wesley, B.S., (3)	<i>Oxnard, Calif.,</i>	Sp. Civil Eng.
Petrie, Thomas Kydd, (2)	<i>No. Tonawanda,</i>	1 Mech. Eng.
Pew, Joseph Newton, Jr., (6)	<i>Pittsburg, Pa.,</i>	3 Mech. Eng.
Peyton, Gilbert Small, Jr., (3)	<i>Philadelphia, Pa.,</i>	1 Civil Eng.
Pfau, Mcbeth Bayard, (2)	<i>Hamilton, O.,</i>	1 Mech. Eng.
Phelan, James, A.B., (3)	<i>Washington, D. C.,</i>	2 Mech. Eng.
Phelan, Robert Early, (2)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Phelps, Harry Perry, (4)	<i>Oswego,</i>	2 Mech. Eng.
Phelps, Vincent, (2)	<i>Ossining,</i>	3 Agriculture
Philbrick, Frank Herbert, (8)	<i>Waterville, Me.,</i>	4 Mech. Eng.
Phillips, Everett Alfonso, (2)	<i>Rochester,</i>	1 Mech. Eng.
Phillips, Henry Ormsby, (8)	<i>Pasadena, Calif.,</i>	3 Mech. Eng.
Phillips, John Harry, (2)	<i>Theresa,</i>	Sp. Agriculture
Philp, Burt Kennedy, (2)	<i>Carnegie, Pa.,</i>	1 Civil Eng.
Pierce, George Curtis, (4)	<i>Chattanooga, Tenn.,</i>	2 Civil Eng.
Pierce, Harold Spalding, (6)	<i>Syracuse,</i>	3 Arts
Pierce, Homer Jay, (4)	<i>Rock Rapids, Ia.,</i>	4 Arts
Pierce, Howard Castner, (4)	<i>Worcester, Mass.,</i>	4 Agriculture
Pierson, Farrand Baker, A.B., (4)	<i>Brooklyn,</i>	2 Med. (N.Y.C.)
Pillsbury, Dennis Coburn, (2)	<i>Portland, Ore.,</i>	Sp. Arts
Pimper, Theodore Frederick, (2)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Pinckney, Harry Milton, (3)	<i>Arlington,</i>	Sp. Agriculture
Pinner, Seymour William, (6)	<i>New York City,</i>	3 Mech. Eng.
Pinyon, Josephine Virginia, (2)	<i>Washington, D. C.,</i>	1 Agriculture
Piollet, Thomas Wierman, (4)	<i>Wysox, Pa.,</i>	1 Civil Eng.

Piotrowska, Helena, (2)	<i>Buffalo,</i>	1 Arts
Pitkin, William, Jr., (4)	<i>Rochester,</i>	Sp. Agriculture
Place, Benono Austin, A. M., A. B., (2)	<i>Ithaca,</i>	1 Medicine
Plant, John David, (2)	<i>Glencarlyn, Va.,</i>	1 Arts
Platt, Roger Burchard, (6)	<i>Bath,</i>	3 Arts
Plumb, Maurice William, (4)	<i>Malone,</i>	1 Mech. Eng.
Polk, Leroy Vauderpool, (6)	<i>Poughkeepsie,</i>	2 Veterinary
Pollak, Julian Albert, (8)	<i>Cincinnati, O.,</i>	4 Arts
Polon, Albert, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Pomerauce, Solomon, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Pouce de Leon, Felipe, A. B., (4)	<i>Habana, Cuba,</i>	2 Civil Eng.
Pond, George Franklin, (2)	<i>Rochester,</i>	1 Mech. Eng.
Poud, James Burton, (2)	<i>Jersey City, N. J.,</i>	1 Civil Eng.
Pons, Francisco, (4)	<i>San Juan, P. R.,</i>	2 Civil Eng.
Pooley, Thomas Rickett, Jr., (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Pope, Clarence James, (1)	<i>East Orange, N. J.,</i>	1 Mech. Eng.
Popplewell, Laura Augusta, (8)	<i>Ithaca,</i>	4 Arts
Porter, Percy Waterman, (8)	<i>W Hartford, Conn.,</i>	4 Civil Eng.
Postel, Fritz Andrew, (6)	<i>Davenport, Ia.,</i>	3 Mech. Eng.
Potter, Carolyn Grace, (3)	<i>Ithaca,</i>	1 Arts
Potts, Henry Wilson, (1)	<i>Troy,</i>	1 Medicine
Powell, Milton Charles, (7)	<i>Canisteo,</i>	Sr. Law
Powers, Alexander Merrell, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Powers, Ray Rivington, (5)	<i>Atlanta, Ga.,</i>	4 Arts
Pratt, Avery Judson, (4)	<i>Springville,</i>	2 Civil Eng.
Pratt, David Shepard, (6)	<i>Towanda, Pa.,</i>	3 Arts
Pratt, James Gibbs, (5)	<i>Sherman,</i>	2 Arts
Pratt, Reginald, (4)	<i>Valley Falls,</i>	1 Mech. Eng.
Preston, Mary Reynolds, (4)	<i>Amenia,</i>	1 Arts
Preston, Neil DeForest, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Previn, Charles, (4)	<i>New York City,</i>	2 Arts
Preyer, Albert Paul, (6)	<i>Cincinnati, O.,</i>	2 Arts
Price, Dorr C, (4)	<i>Batavia,</i>	2 Arts
Price, Luther Emmett, B.S., Ph. B., (2)	<i>Carpenter, Miss.,</i>	2 M.E.
Price, Philip M, (8)	<i>Johnstown, Pa.,</i>	2 Mech. Eng.
Prince, Horace Free, (8)	<i>Bloomington, Ill.,</i>	3 Agriculture
Prince, Howard Love, (8)	<i>Byron,</i>	4 Med. (N.Y.C.)
Pritchett, Eliza Esther, (6)	<i>Walbrook, Md.,</i>	4 Arts
Proctor, Kate Pamela, (4)	<i>Rushford,</i>	2 Arts
Prophet, John Mayhew, Jr., (4)	<i>Mt. Morris,</i>	2 Arts
Prosser, Donald Wellington, (2)	<i>Olean,</i>	Sp. Mech. Eng.
Provost, Sara Davis, (4)	<i>Port Chester,</i>	2 Arts

Prucha, Joseph Vit, (6)	<i>Cleveland, O.,</i>	3 Veterinary
Prussing, Harry Frederick, (3)	<i>Chicago, Ill.,</i>	2 Mech. Eng.
Puga, Napoleon Victor, (2)	<i>Cajamarca, Peru,</i>	1 Agr.
Puls, Edwin, (1)	<i>Buffalo,</i>	Sp. Agriculture
Pulsifer, Nathan, A.B., (2)	<i>Auburn, Me.,</i>	1 Medicine
Pulver, Grace Coe, M.D., (2)	<i>Torrington, Conn.,</i>	Sp. Med. (N.Y.C.)
Putnam, Henry Sibley, (4)	<i>Chicago, Ill.,</i>	4 Arts
Putnam, Victor Haven, (2)	<i>Rye,</i>	Sp. Agriculture
Queen, Hallie Elvera, (6)	<i>Washington, D. C.,</i>	3 Agriculture
Quick, Ray Lewis, (5)	<i>Ithaca,</i>	2 Mech. Eng.
Quirin, Ethel Blanche, (4)	<i>Olean,</i>	2 Arts
Quisumbing, Emilio, B.A., (6)	<i>Washington, D. C.,</i>	3 Civil Eng.
Rabiuowitz, Harold Max, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Rabinowitz, Meyer Alfred, (8)	<i>Brooklyn,</i>	4 Med. (N.Y.C.)
Radley, Walter Leeworthy, (6)	<i>Albion,</i>	3 Mech. Eng.
Ralph, John Joseph, (5)	<i>Jamaica,</i>	2 Mech. Eng.
Ramage, William Colin Haig, (4)	<i>Mt. Carmel, Pa.,</i>	2 Civil Eng.
Ramey, Blaine Butler, (2)	<i>Washington, D. C.,</i>	1 Mech. Eng.
Rand, Elsie Fidelia, (8)	<i>Brooklyn,</i>	4 Arts
Rand, Edwin Waffe, (2)	<i>Winnetka, Ill.,</i>	1 Agriculture
Rand, Marie Gertrude, (6)	<i>Brooklyn,</i>	3 Arts
Rand, Walter Edwards, (5)	<i>Brooklyn,</i>	2 Veterinary
Randall, William Vincent, Jr., (2)	<i>Newburgh,</i>	1 Mech. Eng.
Ransom, Pearl Euphema, (4)	<i>Ithaca,</i>	2 Arts
Ransom, Walter Lee, (2)	<i>Perry, Okla.,</i>	1 Law
Rapelli, Oliver Luis Ricardo, (2)	<i>Tucuman, Arg. Rep.,</i>	1 Civil Eng.
Rapelli, Washington, (2)	<i>Tucuman, Arg. Rep.</i>	1 Civil Eng.
Rapley, William Batchelor, (6)	<i>Washington,</i>	3 Mech. Eng.
Rappaport, Barneth, (4)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Rathbun, Sherrill Slade, (4)	<i>Oneonta,</i>	2 Arts
Raymond, Allen Arthur, (2)	<i>Troy,</i>	1 Mech. Eng.
Raymond, Henry Jay, (2)	<i>Warren, O.,</i>	1 Mech. Eng.
Raynor, Francis Ketcham, (8)	<i>Sag Harbor,</i>	4 Arts
Rea, John Lowra, (7)	<i>Plattsburg.</i>	4 Arts
Read, Clarence Arthur, (2)	<i>Pittsfield, Mass.,</i>	1 Med. (N.Y.C.)
Redding, Charles Joseph Vincent, (6)	<i>Owego,</i>	3 Med. (N.Y.C.)
Redmond, John Lawrence, (2)	<i>Corpus Christi, Texas,</i>	1 Arts
Redmond, Nicholas Gregory, (8)	<i>Syracuse,</i>	4 Arts
Reed, Eleanor Victoria Homer, (6)	<i>Locust Point, N. J.,</i>	3 Arts
Reed, Harry Clifford, (4)	<i>Ithaca,</i>	2 Mech. Eng.
Reed, Harrison Pierce, (4)	<i>Milwaukee, Wis.,</i>	2 Mech. Eng.
Reed, Lucy Carleton, A.B., (6)	<i>Southbridge, Mass.,</i>	4 Med. (N.Y.C.)

Reed, Mildred, (4)	<i>Newark,</i>	2 Arts
Reeve, Harry Hunting, (4)	<i>Greenport,</i>	2 Arts
Rehr, Louis, (4)	<i>New York City,</i>	1 Mech. Eng.
Reiber, Harry Paul, (6)	<i>Pittsburg, Pa.,</i>	4 Mech. Eng.
Reiber, John Louis, (6)	<i>Pittsburg, Pa.,</i>	Jr. Law
Reid, Edgar Denise, (2)	<i>Tennent, N. J.,</i>	Sp. Agriculture
Reid, Eva Charlotte, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Reid, Hermon Camp, (6)	<i>Brookton,</i>	3 Mech. Eng.
Reid, Jessie Elvira, (1)	<i>Ithaca,</i>	1 Arts
Reid, John Joseph, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Reid, John Simpson, Jr., (4)	<i>Ithaca,</i>	2 Mech. Eng.
Reid, Walker, A.B., (2)	<i>Greenwich,</i>	Jr Law
Reid, Walter Lincoln, (3)	<i>Mt. Vernon,</i>	1 Mech. Eng.
Reidy, Margaret Mary, (6)	<i>Ithaca,</i>	Sp. Arts
Reidy, Thomas Joseph, (6)	<i>Ithaca,</i>	Sr. Law
Reighart, Horace Robert, (6)	<i>Johnstown, Pa.,</i>	3 Mech. Eng.
Reiley, Frederick Asbury, (2)	<i>Harrisburg, Pa.,</i>	1 Mech. Eng.
Reilly, Daniel Robert, (8)	<i>Cortland,</i>	4 Med. (N.Y.C.)
Reinhardt, Paul Louis, (1)	<i>Milwaukee, Wis.,</i>	1 Law
Reissman, Isidor Irving, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Reiter, Arthur Penuoyer, (4)	<i>East Orange, N. J.,</i>	2 Civil Eng.
Rekate, George Herman, (8)	<i>Lancaster,</i>	4 Civil Eng.
Remsen, Theodore Gerow, (6)	<i>New City,</i>	3 Mech. Eng.
Remy, Jorge Felix, E.M., (2)	<i>Lima, Peru,</i>	4 Civil Eng.
Reno, John Linford, (3)	<i>Swissvale, Pa.,</i>	1 Mech. Eng.
Renold, Amy Madeline, (2)	<i>Lancaster, England,</i>	1 Arts
Rentsch, William Daniel, (4)	<i>Allegheny, Pa.,</i>	Sp. Architecture
Renwick, Allyn King, (4)	<i>Ben Avon, Pa.,</i>	4 Arts
Requardt, Gustav Jaeger, (4)	<i>Baltimore, Md.,</i>	1 Civil Eng.
Reusswig, Albertus John, (2)	<i>Utica,</i>	1 Agriculture
Reynolds, Earl Charlton, (4)	<i>Brushton,</i>	2 Medicine
Rhame, Frank Phipps, (4)	<i>Wantagh,</i>	2 Mech. Eng.
Rhodes, Oscar Lynn, (6)	<i>Baltimore, Md.,</i>	3 Civil Eng.
Rice, Frederick Adolph, (4)	<i>Brooklyn,</i>	2 Arts
Rice, John Henry, (8)	<i>North Adams, Mass.,</i>	4 Civil Eng.
Rice, Laurence Joseph, Jr., (8)	<i>Elmira,</i>	3 Civil Eng.
Rice, Willis Ballance, (8)	<i>Peoria, Ill.,</i>	4 Mech. Eng.
Richards, Harry Ames, (6)	<i>Alexander,</i>	3 Arts
Richards, Helen Louise, (2)	<i>River Forest, Ill.,</i>	Sp. Agriculture
Richards, Mabel Edna, (8)	<i>Little Falls,</i>	4 Arts
Richardson, Lawrence, Jr., (2)	<i>Louisville, Ky.,</i>	1 Mech. Eng.
Richens, Lulie Belle, (2)	<i>Auburn,</i>	1 Medicine

Richmond, Vance Lawton, (2)	<i>Brooklyn,</i>	2 Arts
Ricketson, William Elbridge, (8)	<i>Plattsburg,</i>	4 Mech. Eng.
Ridenour, John Schell, (1)	<i>Bedford, Pa.,</i>	2 Arts
Rider, Hiel Gilbert, (4)	<i>Rochester,</i>	Jr. Law
Riegel, Carrie Naomi, (4)	<i>Harrisburg, Pa.,</i>	2 Arts
Riegger, Harold Eaton, (2)	<i>New York City,</i>	1 Arts
Riggs, Leland Wright, (2)	<i>N. Stockholm,</i>	1 Mech. Eng.
Riggs, Margaret Hollowell, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Riley, John Henry Traver, (4)	<i>Cohoes,</i>	2 Civil Eng.
Risley, Harry Brainard, (2)	<i>Thompsonville, Conn.,</i>	1 Veterinary
Riter, Levi Jeunings, (2)	<i>Salt Lake City, Utah,</i>	3 Mech. Eng.
Rittenhouse, Charles Edwin, (6)	<i>Washington, D. C.,</i>	3 Mech. Eng.
Rittenhouse, George Manning, Jr., (2)	<i>Plainfield, N. J.,</i>	1 Mech. Eng.
Ritter, Frederick William, (4)	<i>Woodside,</i>	2 Arts
Rivera, Anselmo, (2)	<i>San Jose, Costa Rico, C.A.,</i>	1 Veterinary
Robartes, Leigh, (4)	<i>Patchogue,</i>	2 Civil Eng.
Robbins, Harold Walbridge, (3)	<i>Winfield, Kan.,</i>	3 Mech. Eng.
Robbins, John Loring, (8)	<i>Great Barrington, Mass.,</i>	4 Mech. Eng.
Robbins, William Marion, (4)	<i>Mobile, Ala.,</i>	2 Mech. Eng.
Roberto, Romeo, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Roberts, Alfred Moss, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Roberts, Ashbel Sellew, (2)	<i>North Chili,</i>	1 Civil Eng.
Roberts, Floy, Howell, (6)	<i>Ithaca,</i>	3 Arts
Roberts, James Louis, (8)	<i>Hempstead,</i>	3 Agriculture
Roberts, Kenneth Lewis, (6)	<i>Malden, Mass.,</i>	2 Arts
Roberts, LeRoy Clinton, (7)	<i>Ordway, Colo.,</i>	4 Mech. Eng.
Robertson, Ransom Smith, (2)	<i>Ashville,</i>	1 Medicine
Robinson, Charles Amos, (2)	<i>New York City,</i>	1 Law
Robinson, Daisy Michaud Orleman, M.S., M.D., (2)	<i>New York City,</i>	Sp. Med. (N.Y.C.)
Robinson, Edward Weeks, (3)	<i>Ithaca,</i>	2 Arts
Robinson, George Edmund, (2)	<i>Amesbury, Mass.,</i>	1 Mech. Eng.
Robinson, Horace Brady, Jr., (3)	<i>Oil City, Pa.,</i>	2 Civil Eng.
Robison, Ethel, (2)	<i>Titusville, Pa.,</i>	1 Arts
Rocap, Charles Clarence, (8)	<i>Plainfield, N. J.,</i>	3 Mech. Eng.
Rockman, Jacob, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Rockwell, Archie Gordon, (3)	<i>Chicago, Ill.,</i>	1 Mech. Eng.
Rockwell, James Chapman, (10)	<i>Syracuse,</i>	2 Mech. Eng.
Rockwell, Theodore Griffith, (2)	<i>Chicago, Ill.,</i>	1 Arts
Rockwood, Harold Arthur, (3)	<i>Buffalo,</i>	2 Mech. Eng.
Rockwood, Harry Langdon, (2)	<i>Olean,</i>	3 Arts
Roeder, Arthur, (8)	<i>Orange, N. J.,</i>	2 Civil Eng.

Roehling, Herman, (2)	<i>Milwaukee, Wis.,</i>	1 Arts
Roesch, George William, (8)	<i>Brooklyn,</i>	4 Arts
Roessel, Louis Carl Herman, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Rogalsky, George Frederick, (7)	<i>Tonawanda,</i>	4 Arts
Rogers, Allan Baldwin, (3)	<i>Denver, Colo.,</i>	1 Mech. Eng.
Rogers, Clarence Ramsey, (8)	<i>Corry, Pa.,</i>	4 Mech. Eng.
Rogers, Dorothy, (2)	<i>Lovingston, Va.,</i>	2 Arts
Rogers, Elmer Ellsworth, (2)	<i>Catawba Island, O.,</i>	Sp. Agr.
Rogers, Herman Leon, (6)	<i>Stony Brook,</i>	3 Mech. Eng.
Rogers, Howard Maxwell, (8)	<i>Riverton, N. J.,</i>	4 Mech. Eng.
Rogess, John Clifford, (4)	<i>Ithaca,</i>	2 Civil Eng.
Rohn, John Philip, Jr., (6)	<i>Newark, N. J.,</i>	3 Med. (N.Y.C.)
Roig, Harold Joseph, (8)	<i>Poughkeepsie,</i>	4 Arts
Roland, Cornelius Ferdinand, (4)	<i>Reading, Pa.,</i>	2 Arts
Rollins, Mabel, (6)	<i>New York City,</i>	2 Arts
Rollo, Thomas Rice, (2)	<i>Chicago, Ill.,</i>	1 Civil Eng.
Rollow, Thomas Pearson, Jr., (6)	<i>Wynnewood, I. T.,</i>	1 Civil Eng.
Rolph, Samuel Smith, (4)	<i>Fredonia,</i>	2 Arts
Rolph, Thomas Willett, (8)	<i>Fredonia,</i>	4 Mech. Eng.
Ronshein, Joshua, (6)	<i>Brooklyn,</i>	4 Med. (N.Y.C.)
Rood, Vaughn Wesley, (6)	<i>Etna,</i>	3 Veterinary
Root, Edgar Francis, (2)	<i>Washington, D. C.,</i>	Sp. Mech. Eng.
Root, John Wellborn, (4)	<i>Chicago, Ill.,</i>	2 Architecture
Root, Louis Denman, (4)	<i>Syracuse,</i>	2 Mech. Eng.
Root, Ralph Rodney, (2)	<i>Jamestown,</i>	1 Agriculture
Rorty, Eva Winifred, (4)	<i>Middletown,</i>	2 Arts
Rose, Arthur Lawson, (2)	<i>Geneva,</i>	1 Mech. Eng.
Rose, Lester Simon, (2)	<i>Vicksburg, Miss.,</i>	1 Arts
Rose, Willis Miley, (2)	<i>Grand Rapids, Mich.,</i>	1 Architecture
Roseborough, Mary Lea, (2)	<i>Brownwood, Texas,</i>	Sp. Agr.
Rosenbaum, Bertram Smith, (4)	<i>Elmira,</i>	2 Arts
Rosenbaum, Leo Albert, (6)	<i>New York City,</i>	3 Arts
Rosevear, Morris Burt, (6)	<i>Wharton, N. J.,</i>	3 Mech. Eng.
Ross, Elwyn Garfield, (2)	<i>East Spokane, Wash.,</i>	Sp. Agr.
Rossire, Henry Lansing, (6)	<i>Yonkers,</i>	3 Mech. Eng.
Rossmann, Refine Latting, (2)	<i>Hudson,</i>	1 Agriculture
Rossmann, Richard, (8)	<i>Hudson,</i>	4 Arts
Rothschild, Leon Dobrin, (4)	<i>Ithaca,</i>	2 Arts
Roudebush, Roy Everett, A.B., (7)	<i>Warren, Ind.,</i>	4 Mech. Eng.
Rowe, Alice Ethel, (8)	<i>Hampton, Va.,</i>	4 Arts
Rowe, Anson Hewitt, (8)	<i>Clarksville,</i>	4 Agriculture
Rowe, Everett Whittemore, (2)	<i>Gloucester, Mass.,</i>	3 Arts

Rowe, Murle Laurens, (2)	<i>Corry, Pa.,</i>	1 Law
Rowe, Orvis Fletcher, (3)	<i>Jamestown,</i>	1 Mech. Eng.
Rowe, Roy, (3)	<i>Little Falls,</i>	1 Veterinary
Rowland, Theodore Sherwood, (8)	<i>Greenport,</i>	4 Arts
Rowland, William Samuel, (6)	<i>Washington, D. C.,</i>	4 Arts
Rozier, Jules Brady, Jr., (3)	<i>Memphis, Tenn.,</i>	2 Mech. Eng.
Rubin, Louis, (2)	<i>Paterson, N. J.,</i>	1 Med. (N.Y.C.)
Rubinow, Sidney Godfrey, (4)	<i>Newark, N. J.,</i>	2 Agriculture
Rubiuowitz, Alexander Hyman, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Rueck, Gustav Adolph, (8)	<i>South Byron,</i>	4 Med. (N.Y.C.)
Ruhlen, George, Jr., (8)	<i>Washington, D. C.,</i>	4 Mech. Eng.
Rulison, Elbert Theodore, Jr., B.S., (4)	<i>Schenectady,</i>	2 Med. (N.Y.C.)
Rnmsey, William Young, (2)	<i>Goshen,</i>	Sp. Agriculture
Russell, Robert Avery, (2)	<i>LaPorte, Ind.,</i>	Sp. Agriculture
Russell, Thomas Alexander, (8)	<i>McKeesport, Pa.,</i>	4 Architecture
Russell, Witmer, (2)	<i>New York City,</i>	1 Mech. Eng.
Ruszkiewicz, Alexander Eugene, (2)	<i>Buffalo,</i>	1 Law
Rutherford, James Hollis, (2)	<i>Norwood,</i>	Sp. Agriculture
Ryan, James Henry, (5)	<i>Monticello,</i>	2 Mech. Eng.
Ryan, Lawrence Marvin, (7)	<i>Syracuse,</i>	3 Mech. Eng.
Ryon, Edwin Leon, (4)	<i>Brooklyn,</i>	2 Arts
Sachs, Jacob, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Sackman, Gilbert Roy, B.S., (4)	<i>New York City,</i>	4 Mech. Eng.
Safro, Israel, (4)	<i>New York City,</i>	2 Agriculture
Saile, Martin Clare, (2)	<i>Batavia,</i>	Sp. Agriculture
Sailor, George Raymond, (9)	<i>Swissvale, Pa.,</i>	2 Mech. Eng.
Sailor, Robert Warren, (9)	<i>Chicago, Ill.,</i>	4 Arts
St. John, Harry Mark, (2)	<i>Canajoharie,</i>	1 Arts
St. Lawrence, William Patrick, (4)	<i>Paterson, N. J.,</i>	2 Med. (N.Y.C.)
Salisbury, Myron Davis, (8)	<i>Hamburg,</i>	4 Mech. Eng.
Salisbury, Walter Andrew, (2)	<i>Holley,</i>	Sp. Agriculture
Sallentine, Ida Marie, (1)	<i>Erie, Pa.,</i>	Sp. Agr.
Salton, Nellie Storie, (2)	<i>DeLancey,</i>	Sp. Agriculture
Sampaio, Roberto de Mesquita, (6)	<i>Sao Paulo, Brazil,</i>	2 Mech. Eng.
Sampaio, Vicente de Almeida, B.S., (5)	<i>Sao Paulo, Brazil,</i>	4 Mech. Eng.
Samuels, Florence, (2)	<i>Brooklyn,</i>	3 Arts
Samuels, Robert Eugene, (6)	<i>Brooklyn,</i>	3 Arts
Sancho, Francisco Saturnino, B.A., (2)	<i>Havana, Cuba,</i>	1 Civil Eng.
Sancho-Jimenez, Francisco, (1)	<i>Cartago, Costa Rico,</i>	1 Arts
Sanders, Daniel Henry, (6)	<i>Cortland,</i>	3 Civil Eng.
Sanford, Herbert Luther, (4)	<i>Ithaca,</i>	1 Agriculture

Sanger, Frank Moderno, Jr., (4)	<i>Norwalk, Conn.,</i>	1 Mech. Eng.
Santee, Harold Elmore, A.B., (6)	<i>Hornell,</i>	3 Med. (N.Y.C.)
Santillau, Julio Argentino, (2)	<i>New York City,</i>	1 Arts
Saqui, Frederick Manuel, (1)	<i>Papantla, Veracruz, Mexico,</i>	1 Mech. Eng.
Sarmiento, Arturo, (7)	<i>Buenos Aires, Arg. Rep.,</i>	4 Mech. Eng.
Saunders, Edmund Archer, (2)	<i>Richmond, Va.,</i>	3 Agriculture
Sauter, William Vitus, (2)	<i>Philadelphtha, Pa.,</i>	1 Mech. Eng.
Saxton, Wilbur Sayre, (8)	<i>Binghamton,</i>	2 Civil Eng.
Sayle, Walter Chester, (2)	<i>Cleveland, O.,</i>	1 Mech. Eng.
Sayles, Myron Edward, (6)	<i>Pittsfield, Mass.,</i>	3 Mech. Eng.
Schacht, Henry, (6)	<i>Brooklyn,</i>	3 Arts
Schaedle, Charles Andrew, (8)	<i>Pittsburg, Pa.,</i>	4 Mech. Eng.
Schaefer, Bertha Ada, (5)	<i>St. Louis, Mo.,</i>	1 Arts
Schaefer, Ernest Charles Augustus, (4)	<i>Liverpool,</i>	2 Mech. Eng.
Schaefer, Joseph Harvey, (8)	<i>Liverpool,</i>	4 Mech. Eng.
Schaefer, Rudolph Ferdinand, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Schaeffer, Walter Gustave, (2)	<i>Dayton, O.,</i>	1 Arts
Schaiberg, Alfred Miles, (2)	<i>Ithaca,</i>	1 Veterinary
Scharschu, Charles Alton, (2)	<i>Kingston,</i>	1 Mech. Eng.
Schellinger, Alfred Kirk, (4)	<i>DeRuyter,</i>	2 Mech. Eng.
Schenck, Paul Albert, (8)	<i>Denver, Colo.,</i>	4 Mech. Eng.
Schickel, Norbert Henry, (5)	<i>New York City,</i>	2 Mech. Eng.
Schilling, John Noyes, (4)	<i>Albany,</i>	Jr. Law
Schlegman, Saul, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Schlesinger, Edwin James, (3)	<i>New York City,</i>	2 Mech. Eng.
Schlobohm, Henry Ernest, (4)	<i>Yonkers,</i>	Jr. Law
Schmid, Robert Major, B.S., (4)	<i>New York City,</i>	4 Mech. Eng.
Schmidlapp, Carl Jacob, (4)	<i>Cincinnati, O.,</i>	3 Arts
Schmidt, George John, (8)	<i>Port Jervis,</i>	4 Mech. Eng.
Schmuck, Oliver LeRoy, (8)	<i>Hanover, Pa.,</i>	4 Mech. Eng.
Schnirel, Ida Emma, (2)	<i>Geneva,</i>	1 Arts
Schoff, Harold Kent, (7)	<i>Philadelphia, Pa.,</i>	2 Mech. Eng.
Schorr, Herman Emanuel, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Schultheis, Leopold, (7)	<i>Brooklyn,</i>	3 Mech. Eng.
Schultz, Andrew Schultz, (4)	<i>Boyertown, Pa.,</i>	1 Mech. Eng.
Schultz, John Peter, (2)	<i>Arlington, N. J.,</i>	1 Arts
Schultz, Max, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Schultz, Harry Herman, B.S., (4)	<i>El Paso, Texas,</i>	4 Agriculture
Schulz, Julius George, A.B., (1)	<i>New York City,</i>	1 Med. (N.Y.C.)
Schurman, Robert, (8)	<i>Ithaca,</i>	4 Arts
Schuyler, Hender Clarke, (2)	<i>Groves, Mo.,</i>	1 Mech. Eng.

Schwallie, Albert Eugene, Ph.G., (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Schwartz, Benjamin, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Schwartz, Jesse David, B.S., (2)	<i>Clifton,</i>	1 Med. (N.Y.C.)
Schwartz, Leo Samson, Ph.G., (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Schwartz, Louis Frederick, Jr., (4)	<i>New Rochelle,</i>	2 Arts
Schwarz, J Walter, (8)	<i>Rochester,</i>	4 Mech. Eng.
Schwarz, Ralph Carl, (4)	<i>Rochester,</i>	3 Mech. Eng.
Scott, Alvah Alison, (6)	<i>Hilo, Hawaii Terr.,</i>	3 Mech. Eng.
Scott, James Herbert, (6)	<i>Philadelphia, Pa.,</i>	3 Mech. Eng.
Scott, John Hull, (4)	<i>Pittsburg, Pa.,</i>	2 Arts
Scovill, Jennie Belle, (8)	<i>New Hartford,</i>	4 Arts
Scoville, Gad Parker, (2)	<i>Varysburg,</i>	1 Agriculture
Scudder, Charles Fleet, (2)	<i>Northport,</i>	1 Medicine
Seacord, Andrew Wilkin, (4)	<i>Burnside,</i>	2 Mech. Eng.
Sealy, Winifred Lilian, (3)	<i>Cedarhurst,</i>	1 Agriculture
Seaman, Benjamin White, (8)	<i>Rockville Centre,</i>	4 Med. (N.Y.C.)
Seaman, Daniel Henry, (6)	<i>Frankford, Pa.,</i>	3 Civil Eng.
Seaman, Elizabeth Allen, (8)	<i>Smithville South,</i>	4 Arts
Seaman, Henry Lewis, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Seaman, Howard Lobdell, (4)	<i>Wilmington, Del.,</i>	2 Mech. Eng.
Sears, John Gregory, Jr., (4)	<i>Owego,</i>	Jr. Law
Sechrist, Edith Rachel, (4)	<i>Berea, O.,</i>	4 Arts
See, Edward, (4)	<i>Hamilton, O.,</i>	2 Mech. Eng.
Seeley, Henry Arthur, (8)	<i>Bridgeport, Conn.,</i>	4 Civil Eng.
Seeley, Harold Kilbourne, (2)	<i>Housatonic, Mass.,</i>	1 Mech. Eng.
Seely, Hart Irving, (2)	<i>Spencer,</i>	1 Agriculture
Seelye, Edward Eggleston, (6)	<i>Ithaca,</i>	3 Civil Eng.
Seibert, Otto John, (6)	<i>Newark, N. J.,</i>	2 Med. (N.Y.C.)
Seifried, Charles Frank, (2)	<i>Denver, Colo.,</i>	1 Civil Eng.
Seiler, Samuel Sidney, (2)	<i>New Orleans, La.,</i>	1 Civil Eng.
Seipp, Clarence Thies, (6)	<i>Chicago, Ill.,</i>	2 Civil Eng.
Selden, Fanny Gardner, (2)	<i>Catskill,</i>	1 Arts
Selecter, Rachael, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Sellaro, Vincenzo, M.D., (1)	<i>New York City,</i>	Sp. Med (N.Y.C.)
Sellstrom, Elmer Waldemar, (8)	<i>Jamestown,</i>	4 Civil Eng.
Selover, Queen Fidelia, (6)	<i>Hornell,</i>	3 Arts
de Sena, Luis, (4)	<i>Santa Clara, Cuba,</i>	3 Civil Eng.
Senigaglia, Giacomo Abraham, (4)	<i>Nyack,</i>	2 Med. (N.Y.C.)
Serrell, John Jacob, (2)	<i>Plainfield, N. J.,</i>	1 Mech. Eng.
Severance, Hayward Merriam, (3)	<i>Buffalo,</i>	1 Arts
Sexton, Ralph Ernest, (1)	<i>Enid, Okla.,</i>	3 Civil Eng.
Seybolt, Robert Francis, (2)	<i>West New Brighton,</i>	1 Med. (N.Y.C.)

Seyfang, William George, (4)	<i>Buffalo,</i>	1 Mech. Eng.
Seymour, Edward Loomis Davenport, (4)	<i>New York City,</i>	2 Agriculture
Shae, Shao-ying Douglas, (2)	<i>Shanghai, China,</i>	1 Civil Eng.
Shannon, Frank Joseph, (2)	<i>Yonkers,</i>	1 Mech. Eng.
Shapero, Isadore, (8)	<i>Syracuse,</i>	4 Med. (N.Y.C.)
Sharp, Harry Lyman, (6)	<i>Buffalo,</i>	3 Mech. Eng.
Sharp, Vern Adolphus, (6)	<i>Forest Home,</i>	3 Veterinary
Shattuck, Byron Smith, (4)	<i>Ithaca,</i>	2 Veterinary
Shattuck, Sidney Winters, (4)	<i>Dundee,</i>	2 Arts
Shaw, Archibald Robert, (1)	<i>New York City,</i>	1 Mech. Eng.
Shaw, Charles Kish, (1)	<i>Chester, Pa.,</i>	1 Law
Shaw, Ethel Elizabeth, (2)	<i>Amherst, Mass.,</i>	3 Arts
Shea, William Alphonsus, (2)	<i>Brockport,</i>	1 Law
Shean, Thomas, (2)	<i>Hogansburg,</i>	1 Law
Shearer, George Keyworth, (2)	<i>York, Pa.,</i>	2 Arts
Sheffer, John Wesley, (8)	<i>Williamsport, Pa.,</i>	4 Mech. Eng.
Sheffield, Katie Jane, (6)	<i>Warsaw,</i>	3 Arts
Sheldon, Maud Miriam, (2)	<i>Ithaca,</i>	1 Arts
Sheldon, Pearl Gertrude, (6)	<i>Ithaca,</i>	3 Arts
Sheldon, Thomas, (6)	<i>Poughkeepsie,</i>	3 Veterinary
Sheldon, William Hills, (8)	<i>Auburn,</i>	4 Med. (N.Y.C.)
Shepard, Isabel, (2)	<i>Honeoye Falls,</i>	1 Arts
Shepard, John Berdan, (8)	<i>Buffalo,</i>	4 Agriculture
Shepard, Myron Sylvester, (8)	<i>Ithaca,</i>	4 Civil Eng.
Shepard, Roy John, (2)	<i>Batavia,</i>	1 Agriculture
Shepherd, Alfred Willard, (8)	<i>Glendale, O.,</i>	4 Mech. Eng.
Sheppard, Carl Rogers, (5)	<i>Quincy, Mass.,</i>	Jr. Law
Sheppard, Joel Fithian, 2d, (8)	<i>Quincy, Mass.,</i>	3 Mech. Eng.
Sherman, Frederick Elias, (8)	<i>Watkins,</i>	4 Civil Eng.
Shero, Alva Eugene, (2)	<i>Fredonia,</i>	1 Mech. Eng.
Sherrerd, William Russell, (2)	<i>Whitefield, N. H.,</i>	1 Med. (N.Y.C)
Sherwood, Nial, (6)	<i>Liberty,</i>	3 Civil Eng.
Shields, Louis Gerald, (2)	<i>New Rochelle,</i>	1 Arts
Shields, William Dickinson, (8)	<i>Edgeworth,</i>	4 Mech. Eng.
Shilotri, Prabhaker Sadashiva, (4)	<i>Bombay, India,</i>	3 Arts
Shilton, Edwin Booth, (1)	<i>Freedom, Pa.,</i>	Sp. Mech. Eng.
Shimel, Floyd W. (1)	<i>Theresa,</i>	Sp. Agriculture
Shires, Henry Herbert, (6)	<i>Troy,</i>	3 Mech. Eng.
Shoemaker, Seth Whitney, (6)	<i>New York City,</i>	3 Arts
Shook, Raymond Calvin, (6)	<i>Youngstown, O.,</i>	2 Mech. Eng.
Shookhoff, Charles, (2)	<i>Brooklyn,</i>	1 Medicine

Shope, Harry Stephenson, (6)	<i>Harrisburg, Pa.,</i>	1 Mech. Eng.
Short, Henry Morrison, (4)	<i>Geneva, Switzerland,</i>	2 Mech. Eng.
Short, Stanley, (7)	<i>Clifton Springs,</i>	1 Mech. Eng.
Shull, Fred Grover, (8)	<i>Hammondsport,</i>	4 Mech. Eng.
Shull, Huber, (2)	<i>Kingston,</i>	Sp. Agriculture
Shults, Altha Cemantha, (6)	<i>Freeville,</i>	3 Arts
Shults, Leo John, (4)	<i>Cohocton,</i>	2 Mech. Eng.
Shurts, William Lytle, (1)	<i>So. Lebanon, O.,</i>	3 Arts
Shuttleworth, Frederick James, (2)	<i>Fredonia,</i>	1 Civil Eng.
Sibley, Gerard Freeman, (2)	<i>Cuba,</i>	1 Law
Sibley, Joseph Crocker, Jr., (2)	<i>Franklin,</i>	1 Arts
Sibley, Samuel Dunham, (8)	<i>North Orwell, Pa.,</i>	4 Mech. Eng.
Sieling, Louis John, (8)	<i>Brooklyn,</i>	4 Civil Eng.
Sill, William Eaton, (4)	<i>Sodus,</i>	Sr. Law
Sill, William Miller, (10)	<i>Jamestown,</i>	4 Med. (N.Y.C.)
Silsbee, James Alfred, (6)	<i>Elmira,</i>	4 Civil Eng.
Silverman, Samuel, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Simonds, Omar Howard, (6)	<i>Duluth, Minn.,</i>	3 Mech. Eng.
Simpson, Homer Nelson, (4)	<i>Poughkeepsie,</i>	2 Arts
Simpson, Reuben Spencer, (5)	<i>Oswego,</i>	2 Medicine
Simpson, William C, (4)	<i>Elmira,</i>	1 Mech. Eng.
Sinclair, Arthur Wells, (4)	<i>Pasadena, Calif.,</i>	2 Mech. Eng.
Sinclair, Harold, (2)	<i>Orange, N. J.,</i>	1 Arts
Siramarkian, Vakan Epipan, (2)	<i>Geneva, Switzerland,</i>	1 Agri.
Skidelsky, Berenice Claire, (4)	<i>Philadelphia, Pa.,</i>	3 Arts
Skidmore, Louise Binney, (6)	<i>Philadelphia, Pa.,</i>	3 Arts
Skilton, Avery Wadsworth, (6)	<i>Rockville Centre,</i>	2 Med. (N.Y.C.)
Skinner, Alice Adeline, (6)	<i>Oswego,</i>	3 Arts
Skinner, Emma Frances, (6)	<i>Ithaca,</i>	3 Arts
Skinner, Luke L, (4)	<i>Norwich,</i>	1 Mech. Eng.
Slauson, Harold Whiting, (9)	<i>Middletown,</i>	4 Mech. Eng.
Slauson, Henry Lewis, Jr., (2)	<i>Port Jervis,</i>	1 Mech. Eng.
Slauson, Kinsley Wilcox, (7)	<i>Middletown,</i>	3 Arts
Sliter, Harold Male, (6)	<i>Elmira,</i>	3 Mech. Eng.
Sloan, Ben, (8)	<i>Greenville, S. C.,</i>	4 Mech. Eng.
Sloan, William Calmell, (4)	<i>Brooklyn,</i>	1 Civil Eng.
Sloat, John Allen, (6)	<i>Watertown,</i>	2 Civil Eng.
Slocum, Chester Colt, (8)	<i>Scottsville,</i>	4 Mech. Eng.
Slutsky, Nathan Israel, (8)	<i>Brooklyn,</i>	4 Med. (N.Y.C.)
Slutzker, Joseph, (6)	<i>Altoona, Pa.,</i>	3 Mech. Eng.
Sly, Frederic Sanford, (8)	<i>Fredonia,</i>	4 Mech. Eng.
Smallman, Lloyd Roycroft, (2)	<i>Wauseon, O.,</i>	1 Law

Smallman, Ralph Alcorn, (6)	<i>Wauseon, O.,</i>	3 Civil Eng.
Smiley, Bertha Emily, (6)	<i>Ithaca,</i>	3 Arts
Smith, Amos Bird, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Smith, Albert Newton, (4)	<i>Corning,</i>	2 Mech. Eng.
Smith, Catherine, (6)	<i>Rensselaer,</i>	3 Arts
Smith, Clyde Edwin, (5)	<i>Lodi,</i>	2 Veterinary
Smith, Charles Sumner, (4)	<i>Pittsfield, Mass.,</i>	1 Mech. Eng.
Smith, Claude Shepard Stebbins, (2)	<i>Rochester,</i>	1 Law
Smith, David Theodore, (6)	<i>Brooklyn,</i>	Jr. Law
Smith, Earl John, (3)	<i>Five Corners,</i>	2 Agriculture
Smith, Elizabeth Allen, (8)	<i>Flint, Mich.,</i>	4 Arts
Smith, Esmonde Bathgate, (4)	<i>Brooklyn,</i>	2 Med. (N.Y.C.)
Smith, Florence Givens, (6)	<i>Ithaca,</i>	3 Arts
Smith, Florence May, (8)	<i>Trumansburg,</i>	4 Arts
Smith, Frank Garrettson, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Smith, Fred Wadsworth, (6)	<i>Ilion,</i>	3 Mech. Eng.
Smith, Giles Milton, (6)	<i>Utica,</i>	3 Architecture
Smith, Harry Coleman, (8)	<i>Canisteo,</i>	4 Civil Eng.
Smith, Herbert Lacy, (3)	<i>Buffalo,</i>	1 Arts
Smith, John Beith, Jr., (2)	<i>Brooklyn,</i>	1 Arts
Smith, John Walter, (2)	<i>Baltimore, Md.,</i>	1 Architecture
Smith, Lawrence Ross, (6)	<i>Arcade,</i>	2 Civil Eng.
Smith, Lewis Raymond, (6)	<i>Greene,</i>	3 Arts
Smith, Malcolm Kinmouth, (2)	<i>Morristown, N. J.,</i>	1 Med. (N.Y.C.)
Smith, Maximilian Francis Theodore, (2)	<i>Portland, Ore.,</i>	1 Civil Eng.
Smith, Newton Osborn, (4)	<i>Plymouth, Pa.,</i>	2 Civil Eng.
Smith, Raymond Templeton, (2)	<i>Pittsburg, Pa.,</i>	1 Arts
Smith, Rufus Daniel, (8)	<i>Richmond Hill,</i>	4 Arts
Smith, Sidney Daniel, (2)	<i>Rodman,</i>	1 Medicine
Smith, Stanley Woodruff, (3)	<i>Toledo, O.,</i>	2 Civil Eng.
Smith, Victor Edward, (7)	<i>Bayonne, N. J.,</i>	3 Mech. Eng.
Smith, Walter, (4)	<i>Davenport, Ia.,</i>	2 Mech. Eng.
Smith, William Warren, (1)	<i>New York City,</i>	Sp. Agriculture
Smithers, Herbert, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Smithers, Sydney Commins, (2)	<i>Akron, O.,</i>	1 Mech. Eng.
Snider, Howard Lee, (6)	<i>Cleveland, O.,</i>	3 Arts
Snow, Edna Jane, (2)	<i>Ithaca,</i>	1 Arts
Snowdon, Florence, (6)	<i>Scranton, Pa.,</i>	Sp. Agriculture
Snyder, Alfred, (8)	<i>Philadelphia, Pa.,</i>	4 Mech. Eng.
Snyder, Harold Joseph, (4)	<i>Auburn,</i>	Jr. Law
Snyder, Otto von Schrader, (2)	<i>Wellesley Hills, Mass.,</i>	3 Mech. Eng.

Sobieralski, Alfred, (6)	<i>Brooklyn,</i>	3 Civil Eng.
Sohnen, Robert Mason, (4)	<i>Hamilton, O.,</i>	Jr. Law
Solomon, Meyer, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Somerville, John Snape, (8)	<i>Evanston, Ill.,</i>	4 Mech. Eng.
Sonn, Sidney Harold, (4)	<i>New York City,</i>	1 Law
Sonnenberg, Jerome, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Southworth, Claire Louise, (6)	<i>Holley,</i>	3 Arts
Spaide, Rolland Lee, (4)	<i>Hazleton, Pa.,</i>	3 Mech. Eng.
Spandau, Harry Monmouth, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Spanogle, Donald Bare, (8)	<i>Lewiston, Pa.,</i>	4 Mech. Eng.
Spaulding, Harry Vanness, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Spears, Eldridge Anson, (8)	<i>Northwood,</i>	4 Arts
Spelman, Harold James, (4)	<i>Rochester,</i>	2 Civil Eng.
Spelman, William Angell, (6)	<i>Champlain,</i>	3 Civil Eng.
Spencer, Alva Carlisle, (4)	<i>Fayetteville,</i>	Sp. Agriculture
Spencer, Oliver Chancy, (8)	<i>Seattle, Wash.,</i>	4 Mech. Eng.
Spencer, Robert Jones, (5)	<i>Brooklyn,</i>	3 Arts
Speyer, Elwin Gerald, (8)	<i>Buffalo,</i>	4 Civil Eng.
Spicer, Elmer Delancy, (2)	<i>Wellsville,</i>	1 Mech. Eng.
Spingarn, Herman, (6)	<i>Brooklyn,</i>	4 Arts
Spooner, Charles Stockman, (9)	<i>Middletown,</i>	4 Arts
Spragins, William Echols, (2)	<i>Huntsville, Ala.,</i>	3 Civil Eng.
Sprague, Frederick Burdette, (4)	<i>Ithaca,</i>	2 Agriculture
Sprigg, Carrollton Crawford, (8)	<i>Tompkinsville,</i>	4 Civil Eng.
Squire, Frederick Duane, (1)	<i>Stony Brook,</i>	Sp. Med. (N.Y.C.)
Squire, Walter Laurance, (2)	<i>Buffalo,</i>	1 Civil Eng.
Staley, Vinton Logan, (2)	<i>New York City,</i>	1 Arts
Stalfort, John Alfred, (2)	<i>Baltimore, Md.,</i>	1 Civil Eng.
Stancell, William Wiley, M.D., (2)	<i>Margarettsville, N. C.,</i>	Sp. Med. (N.Y.C.)
Standart, Robert Watson, Jr., (4)	<i>Detroit, Mich.,</i>	2 Arts
Standiford, Harry Ralph, (2)	<i>Washington, D. C.,</i>	1 Civil Eng.
Stanton, Grove Ansel, (8)	<i>Auburn,</i>	4 Civil Eng.
Stanton, Harold Oliver, (2)	<i>New York City,</i>	1 Mech. Eng.
Stanton, Robert, Ing. Agron., (2)	<i>Ithaca,</i>	4 Arts
Stanton, Robert Brewster, Jr., (4)	<i>Ithaca,</i>	2 Civil Eng.
Star, Harold, (2)	<i>Dallas, Texas,</i>	1 Architecture
Stark, Jesse B, (2)	<i>Brooklyn,</i>	1 Med. (N.Y.C.)
Starr, Albert Birdsey, (8)	<i>East Hampton, Conn.,</i>	4 Mech. Eng.
Stearns, Fred LeRoy, (2)	<i>Norwich, Conn.,</i>	1 Civil Eng.
Stearns, Helen Maria, (6)	<i>Norwich, Conn.,</i>	3 Arts
Steele, Gilbert Victor, (2)	<i>Flushing,</i>	1 Civil Eng.

Stehli, Edgar, (8)	<i>Montclair, N. J.,</i>	4 Arts
Steibel, Louis Robert, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Stein, Adelaide Estella, (6)	<i>Batavia,</i>	3 Arts
Stein, Charles Jacob, (4)	<i>Buffalo,</i>	2 Agriculture
Steinbugler, William Francis, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
von Steinwehr, Fred, (8)	<i>Cincinnati, O.,</i>	4 Arts
Stephens, Floyd C, (6)	<i>Clifton Springs,</i>	3 Mech. Eng.
Stephenson, Hermann, (8)	<i>Ithaca,</i>	4 Mech. Eng.
Stephenson, Roy Lindsay, (2)	<i>Ogdensburg,</i>	1 Veterinary
Stern, Bessie Cleveland, (4)	<i>Buffalo,</i>	2 Arts
Stern, Jeanette Amalie, (2)	<i>Buffalo,</i>	1 Arts
Stevens, Alexander Wilson, (6)	<i>New York City,</i>	4 Mech. Eng.
Stevens, Douglas Franklin, (4)	<i>Evanston, Ill.,</i>	4 Mech. Eng.
Stevens, Edward Almeron, (2)	<i>Cortland,</i>	1 Law
Stevens, John Hoyt, (6)	<i>Rome,</i>	3 Civil Eng.
Stevens, Theodore Mortimer, (3)	<i>Hazleton, Pa.,</i>	2 Architecture
Stevenson, James Allison, (2)	<i>Brooklyn,</i>	1 Arts
Stevenson, William Mills, (2)	<i>East Orange, N. J.,</i>	1 Mech. Eng.
Stewart, Arthur Lawrence, B.A., (2)	<i>Rochester,</i>	2 Mech. Eng.
Stewart, Donald, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Stewart, David Burchard, Jr., (2)	<i>Baltimore, Md.,</i>	2 Civil Eng.
Stewart, Homer Edgar, Jr., (7)	<i>Warren, O.,</i>	3 Mech. Eng.
Stewart, Margaret Miles, (6)	<i>Troy,</i>	3 Arts
Stewart, Sidney Vander Veer, (9)	<i>Morrisville,</i>	4 Mech. Eng.
Stewart, Walter Phelps, (8)	<i>Rochester,</i>	4 Civil Eng.
Stillman, Austin Frank, (10)	<i>Brooklyn,</i>	2 Mech. Eng.
Stillman, Edwin Arthur, (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Stilson, George Doremus, (6)	<i>Buffalo,</i>	3 Med. (N.Y.C.)
Stilwell, Marvin D, (2)	<i>Trumansburg,</i>	1 Law
Stimpson, Earl Bristol, (8)	<i>Walton,</i>	4 Architecture
Stockdale, Thomas Ringland, (8)	<i>Summit, Miss.,</i>	4 Civil Eng.
Stocker, Samuel Charles, (2)	<i>Burlington, Iowa,</i>	1 Mech. Eng.
Stoddart, David Ayars, (6)	<i>Wilkes-Barre, Pa.,</i>	3 Mech. Eng.
Stone, Don Olmstead, (4)	<i>Conneaut, O.,</i>	2 Civil Eng.
Stone, Helen Lovica, (8)	<i>Ithaca,</i>	4 Arts
Stone, Mary, (2)	<i>Ithaca,</i>	1 Arts
Stone, Margaret Atwell, (4)	<i>Ithaca,</i>	2 Arts
Stone, Ruth Ingalls, (2)	<i>Binghamton,</i>	1 Arts
Stone, Roy Lynne, (6)	<i>Potsdam,</i>	4 Mech. Eng.
Stone, Waterman, (2)	<i>Ithaca,</i>	Sp. Mech. Eng.
Storer, Lyell, (6)	<i>Morton,</i>	3 Mech. Eng.
Storey, Frank Burns, (2)	<i>Rochester,</i>	1 Civil Eng.

Storm, Walter Woolsey, (8)	<i>Wilmington, N. C.</i> , 3 Mech. Eng.
Stowell, William Stuart, (8)	<i>Elmira</i> , 4 Mech. Eng.
Strack, Henry De Land, (2)	<i>Owego</i> , 1 Arts
Strack, Robert Stedman, (2)	<i>Owego</i> , 1 Arts
Strahan, Ray Thomas, (6)	<i>Friendship</i> , Sr. Law
Strang, Emma Florence, (6)	<i>Waterloo</i> , 3 Arts
Straub, Herbert, (2)	<i>Long Island City</i> , 1 Med. (N.Y.C.)
Straus, Joseph Henry, Jr., B.Arch., (2)	<i>Baltimore, Md.</i> , Sp. C. E.
Strauss, Eugene, (2)	<i>New York City</i> , 1 Arts
Strauss, Spencer Goldsmith, (4)	<i>New York City</i> , 2 Arts
Straus, William Rayner, (2)	<i>Baltimore, Md.</i> , 1 Mech. Eng.
Streen, Morris, (4)	<i>Newark, N. J.</i> , 2 Med. (N.Y.C.)
Strickland, Leon Farnell, (2)	<i>Akron</i> , Sp. Agriculture
String, John Farson, (2)	<i>East Orange, N. J.</i> , 1 Architecture
Stronge, Lulu Ally, (4)	<i>Albany</i> , 2 Arts
Stryke, Anna Clegg, (5)	<i>Philadelphia, Pa.</i> , 3 Arts
Stuart, William Charles, Jr., (7)	<i>Irvington</i> , 2 Civil Eng.
Stull, Charles Rodman, (8)	<i>Ridley Park, Pa.</i> , 2 Mech. Eng.
Sturge, John Howard, (6)	<i>Rochester</i> , 2 Mech. Eng.
Sturges, Harold Alexander, (6)	<i>Saratoga Springs</i> , 3 Mech. Eng.
Sturgis, Blaine Fred, (6)	<i>Medina</i> , Sr. Law
Sturgis, William Bayard, (6)	<i>New York City</i> , 3 Mech. Eng.
Stutz, Harry George, (8)	<i>Albany</i> , Sr. Law
Sullivan, Alexander Cammau, (3)	<i>New York City</i> , 2 Mech. Eng.
Sullivan, Philip Aloysius, (2)	<i>Stockton</i> , 1 Law
Sun, Kia Loh Carlos, (6)	<i>Shanghai, China</i> , 2 Mech. Eng.
Sun, Taoyah Clarence, (4)	<i>Shanghai, China</i> , 2 Civil Eng.
Sun, Yu-Fong Louis, (4)	<i>Shanghai, China</i> , Sp. Mech. Eng.
Sunderville, Earl, (5)	<i>Newark</i> , 2 Veterinary
Sutherland, Edward Ross, (2)	<i>Church Road, Va.</i> , 2 Mech. Eng.
Sutherland, Leslie Thompson, (3)	<i>Yonkers</i> , 1 Arts
Sutton, Frederick A, (8)	<i>Hackettstown, N. J.</i> , 4 Med. (N.Y.C.)
Sutton, Henry Craig, (6)	<i>Haverford, Pa.</i> , 4 Mech. Eng.
Sutton, Leslie Allen, M.D., (2)	<i>Brewster</i> , Sp. Med. (N.Y.C.)
Sutton, Paul Benjamin, (2)	<i>Watertown</i> , 1 Civil Eng.
Sweeney, Clarence Sebastian, (5)	<i>Indianapolis, Ind.</i> , Jr. Law
Sweet, David W. (3)	<i>Fillmore</i> , 1 Arts
Swezey, Charles Miller, (4)	<i>Yaphank</i> , 2 Agriculture
Swezey, Sarah Ellis, (4)	<i>Jamaica</i> , 2 Medicine
Swick, Clarence Herbert, (8)	<i>Ransomville</i> , 4 Civil Eng.
Swift, John Philip, (2)	<i>Union</i> , 1 Arts
Swift, Pemberton Reno, (8)	<i>Ridgway, Pa.</i> , 4 Mech. Eng.

Swigert, William Edwin, (6)	<i>Carbondale, Pa.,</i>	4 Mech. Eng.
Swinnerton, Arthur Adin, (4)	<i>Rutland, Vt.,</i>	1 Mech. Eng.
Swinney, Robert Ethan, (6)	<i>DeRuyter,</i>	3 Civil Eng.
Symes, Wilbur Henry, (3)	<i>Ryegate, Vt.,</i>	2 Mech. Eng.
Symonds, George Roscoe Blaine, (2)	<i>Nutley, N. J.,</i>	2 Civil Eng.
Taft, Royal Melville, (4)	<i>Cornwall-on-Hudson,</i>	Sp. Agr.
Talcott, John Chamberlain, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Tallmadge, Florence Halsey, (2)	<i>West Groton,</i>	1 Arts
Tallman, Carl Cornwell, (7)	<i>Auburn,</i>	4 Architecture
Tam, Walter Way, (1)	<i>Canton, China,</i>	Sp. Arts
Tandy, Vertner Woodson, (4)	<i>Lexington, Ky.,</i>	Sp. Architecture
Tanikawa, Toshiyoshi, B.S.A., (1)	<i>Tokyo, Japan,</i>	Sp. Agriculture
Tappan, Frank Girard, A.B., (6)	<i>Circleville, O.,</i>	4 Mech. Eng.
Tappey, Howard Pomfrett, (8)	<i>Liberty,</i>	4 Mech. Eng.
Tarkington, George William, B.S., (1)	<i>Danville, Ky.,</i>	Sp Civil Eng.
Taubenhaus, Jacob, (2)	<i>Saffed, Palestine,</i>	3 Agriculture
Tausk, Alfred Alphonzo, (4)	<i>Brooklyn,</i>	2 Arts
Taussig, John Wright, (6)	<i>Kirkwood, Mo.,</i>	3 Civil Eng.
Taylor, Earl MacNair, (9)	<i>Scranton, Pa.,</i>	4 Arts
Taylor, George Herrick, (6)	<i>Amsterdam,</i>	3 Arts
Taylor, Hawley Otis, (4)	<i>Pasadena, Calif.,</i>	2 Arts
Taylor, Roy, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Taylor, William Gorton, (8)	<i>Middletown,</i>	4 Mech. Eng.
Taylor, William Winthrop, (8)	<i>Brooklyn,</i>	Sr. Law
Teall, Homer Combs, (2)	<i>Lysander,</i>	Sp. Agriculture
Tehan, Joseph James, (4)	<i>Auburn,</i>	2 Civil Eng.
Tempest, Richard Claude Douglas, (4)	<i>Perry,</i>	2 Civil Eng.
Tennant, Henry Fry, (4)	<i>Mayville,</i>	Jr. Law
Tennent, Henry Kirkpatrick, (1)	<i>Caledonia,</i>	1 Arts
Terhune, Elmer Stanley, (4)	<i>Newark, N. J.,</i>	2 Civil Eng.
Terrazas-Sujan, Juan Francisco, (6)	<i>Chihuahua, Mexico,</i>	3 Agr.
Terry, Alvah Lamar, (6)	<i>Louisville, Ky.,</i>	3 Mech. Eng.
Terwilliger, Florence Shipley, (6)	<i>Ellenville,</i>	3 Arts
Tewksbury, Baird Russell, (2)	<i>Cleveland, O.,</i>	1 Mech. Eng.
Thatcher, Alfred Haviland, (4)	<i>Swarthmore, Pa.,</i>	2 Arts
Thatcher, Romeyn Yatman, (2)	<i>Buffalo,</i>	2 Civil Eng.
Theall, Zaidee Isabelle, (6)	<i>Chelsea, Mass.,</i>	3 Arts
Thomas, Allen Job, (6)	<i>Ithaca,</i>	Sr. Law
Thomas, Belle, (8)	<i>New York City,</i>	4 Med. (N. Y. C.)
Thomas, Edwin Randolph, (6)	<i>Woonsocket, R. I.,</i>	3 Civil Eng.
Thomas, Felix, (2)	<i>Dayton, O.,</i>	1 Mech. Eng.
Thomas, Frances Evelyn, (2)	<i>New York City,</i>	1 Arts

Thomas Joseph Edge, (6)	<i>Darlington, Md.,</i>	3 Mech. Eng.
Thomas, Owen Alexander, (4)	<i>Oakmont, Pa.,</i>	4 Arts
Thompson, Elmer Ives, (2)	<i>Waterbury, Conn.,</i>	1 Law
Thompson, George Roger, (6)	<i>Glens Falls,</i>	3 Architecture
Thompson, Harry Ashton, (6)	<i>New York City,</i>	1 Civil Eng.
Thompson, Overton, (4)	<i>Nashville, Tenn.,</i>	1 Mech. Eng.
Thompson, Paul Wheeler, (2)	<i>Oxford,</i>	1 Mech. Eng.
Thompson, Ray Clayton, (4)	<i>Moweaqua, Ill.,</i>	2 Mech. Eng.
Thomson, Charles Goff, (6)	<i>Little Falls,</i>	3 Veterinary
Thomson, Edward Herrmann, (4)	<i>Delhi,</i>	2 Agriculture
Thorndike, Richard King, A.B., (1)	<i>Boston, Mass.,</i>	Sp. Agriculture
Thorne, Alma Rosa, (6)	<i>Leeds,</i>	4 Arts
Thorne, Henry Calder, (2)	<i>Ithaca,</i>	1 Arts
Thro, William Crooks, B.S.A., A.M., (8)	<i>New York City,</i>	4 Med (N.Y.C.)
Thurber, Carryl Nelson, (5)	<i>Jamaica,</i>	3 Arts
Thurston, Mather Francis, (6)	<i>Hamburg,</i>	2 Arts
Tierney, John Dennis, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Tiffany, Edward Lewis, (6)	<i>Norwich,</i>	3 Mech. Eng.
Tiffany, Herbert Orrin, (2)	<i>New Milford, Pa.,</i>	Sp. Agr.
Tifft, Robert Hull, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Tilden, George Alfred, (5)	<i>Pittsfield, Mass.,</i>	2 Mech. Eng.
Tillou, Harris Baker, (6)	<i>Elma Centre,</i>	3 Veterinary
Tillson, Charles Burritt, (8)	<i>Maple Grove,</i>	4 Agriculture
Tindall, Roscoe Cook, (4)	<i>Wilmington, Del.,</i>	2 Architecture
Tingley, Edward Harrington, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Tjomslund, Anna, (3)	<i>Søgne, via Christianssand, Norway,</i>	2 Arts
Toan, Carlos James, (2)	<i>Perry,</i>	1 Law
Toan, Lewis Austin, (4)	<i>Perry,</i>	3 Agriculture
Todd, Clarence Lionel, (8)	<i>Beaver, Pa.,</i>	4 Civil Eng.
Todd, Otis Howard, (6)	<i>Griffin Corners,</i>	3 Mech. Eng.
Todd, Walter Ledyard, (3)	<i>Rochester,</i>	2 Arts
Tolins, David, (4)	<i>Brooklyn,</i>	1 Law
Tomkins, William, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Tompkins, Grace, (1)	<i>Troy,</i>	1 Arts
Tompkins, George Ricks, (8)	<i>Buffalo,</i>	2 Mech. Eng.
Tompkins, Harold Doremus, (2)	<i>Jersey City, N. J.,</i>	1 Mech. Eng.
Tompkins, Harry K N, (2)	<i>LaSalle,</i>	1 Law
Tompkins, Ward Kellogg, (4)	<i>Ithaca,</i>	Jr. Law
Toms, Jay William, (4)	<i>Frederick, Md.,</i>	2 Civil Eng.
Toms, Raymond Ezra, (8)	<i>Frederick, Md.,</i>	4 Civil Eng.
Tong, Harry Irving, (4)	<i>Elmira,</i>	Sr. Law

Tong, Yau Hang, (6)	<i>Canton, China,</i>	4 Agriculture
Toolin, Eleanor Florence, (2)	<i>Dover, N. H.,</i>	2 Arts
Toor, Esther, (3)	<i>Rochester,</i>	1 Arts
Torrallas, Rafael Joaquin, (1)	<i>Havana, Cuba,</i>	3 Civil Eng.
Torrance, Charles Everett, (4)	<i>Northampton, Mass.,</i>	2 Mech. Eng.
Torrey, Ella Martha, (2)	<i>Gainesville,</i>	1 Arts
Town, Clarence Adelbert, (6)	<i>Syracuse,</i>	3 Veterinary
Towuley, John Campbell, (5)	<i>Ithaca,</i>	2 Mech. Eng.
Townsend, Clarence Ellsworth, (8)	<i>Painted Post,</i>	4 Mech. Eng.
Townseud, Frederick Barrett, (6)	<i>New York City,</i>	1 Mech. Eng.
Townsend, John Vincent, (2)	<i>Townsendville,</i>	1 Veterinary
Tracy, Morris, (4)	<i>Penn Yan,</i>	2 Mech. Eng.
Trainor, Owen Francis, (2)	<i>Worcester, Mass.,</i>	2 Agriculture
Tran, Irving, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Travis, Miller Amasa, (4)	<i>Canisteo,</i>	1 Agriculture
Treat, Sidney Wellington, (8)	<i>New York City,</i>	3 Mech. Eng.
Treeue, William Harold, (2)	<i>Newark, N. J.,</i>	1 Mech. Eng.
Treman, Emmett Taber, (5)	<i>Ithaca,</i>	2 Civil Eng.
Treman, Robert Elias, (4)	<i>Ithaca,</i>	2 Arts
Trenam, Erwin Wayne, (2)	<i>Salt Lake City, Utah,</i>	1 Mech. Eng.
Trimpi, Allan Littell, (2)	<i>East Orange, N. J.,</i>	1 Civil Eng.
Tripp, Harry Hollister, (6)	<i>Ithaca,</i>	3 Civil Eng.
Trorlicht, Oscar Albert, (8)	<i>Ithaca,</i>	2 Mech. Eng.
Trube, Herbert Lawrence, (6)	<i>Hastings-on-Hudson,</i>	3 Mech. Eng.
True, Mary Bowler, (4)	<i>Troy,</i>	2 Arts
Tsai, Kuo Tsao, (4)	<i>Tientsin, China,</i>	2 Mech. Eng.
Tucker, Edson Jay, (2)	<i>Buffalo,</i>	1 Arts
Tucker, Henry Hennigan, (4)	<i>Little Rock, Ark.,</i>	2 Arts
Tuerk, Frederick Samuel, (8)	<i>Fulton,</i>	4 Mech. Eng.
Tuller, Jesse, (4)	<i>Auburn,</i>	2 Civil Eng.
Turner, Edward Thomas, (2)	<i>Dayton, O.,</i>	Sp. Mech. Eng.
Turner, Joseph Benson, Jr., (4)	<i>New York City,</i>	2 Mech. Eng.
Turner, Robert Patterson, (6)	<i>St. Louis, Mo.,</i>	3 Mech. Eng.
Turner, Robert Tift, Jr., (6)	<i>Elmira,</i>	1 Mech. Eng.
Turner, William Joel, B.A., (7)	<i>Lexington, Va.,</i>	4 Civil Eng.
Tuthill, Harry Hull, (2)	<i>New Suffolk,</i>	Sp. Mech. Eng.
Tydeman, Arthur Frederick, (2)	<i>Bloomfield, N. J.,</i>	1 Mech. Eng.
Uchida, Yotaro, (1)	<i>Tokyo, Japan,</i>	Sp. Mech. Eng.
Uihlein, Herman Alfred, (6)	<i>Milwaukee, Wis.,</i>	3 Mech. Eng.
Ulbricht, Tomlinson Carlile, (2)	<i>New York City,</i>	2 Mech. Eng.
Ullman, Marvin Jacob, (2)	<i>Youngstown, O.,</i>	1 Arts
Ullmann, Ralph Williams, (6)	<i>Oak Park, Ill.,</i>	3 Mech. Eng.

Ullrich, Carl Oscar William, (6)	<i>Ozone Park,</i>	3 Civil Eng.
Umstad, Wilfred LeRoy, (10)	<i>Norristown, Pa.,</i>	4 Mech. Eng.
Unckles, Henry Weir, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Underwood, Harold Barnes, (8)	<i>Jamestown,</i>	4 Mech. Eng.
Underwood, Paul Halladay, (8)	<i>Ludlowville,</i>	4 Civil Eng.
Unger, George Frederick, (3)	<i>Buffalo,</i>	1 Civil Eng.
Unger, Max, (8)	<i>New York City,</i>	1 Med. (N.Y.C.)
Updegraff, Daniel Smith, (4)	<i>Seattle, Wash.,</i>	4 Mech. Eng.
Upton, Richard Carr, (2)	<i>Montrose, Pa.,</i>	1 Civil Eng.
Urquhart, Leonard Church, (4)	<i>Cleveland, O.,</i>	2 Civil Eng.
Urrutia, Fermin, (4)	<i>La Plata, Arg. Rep</i>	3 Mech. Eng.
Usher, John Bloomfield, (6)	<i>New York City,</i>	3 Mech. Eng.
Utter, Linda Louise, (2)	<i>Ithaca,</i>	1 Arts
Vail, Atlee Gerow, (4)	<i>Milton,</i>	1 Mech. Eng.
Vail, Stanley Aaron, (2)	<i>Alabama,</i>	1 Mech. Eng.
Van Auken, Charles Herbert, (2)	<i>Ithaca,</i>	Sp. Agriculture
Van Buren, William Ralph, (6)	<i>Fishkill-on-Hudson,</i>	3 Arts
Van Denburgh, Lizzie Edith, (3)	<i>Charlton,</i>	1 Arts
Vandever, Stephen Lott, (6)	<i>Brooklyn,</i>	3 Arts
Vandewaart, Peter Thomas, (4)	<i>Yantic, Conn.,</i>	2 Mech. Eng.
Vanderwater, Holmes, (4)	<i>Poughkeepsie,</i>	Sr. Law
Van Deusen, Margaret, (4)	<i>Ithaca,</i>	2 Arts
Van Devanter, Elliott, (6)	<i>Baltimore, Md.</i>	3 Civil Eng.
Van Devanter, Isaac Burhans, (2)	<i>Cheyenne, Wyo.,</i>	1 Arts
Van Dyne, Nina Kathryn, (2)	<i>New York City,</i>	1 Arts
Van Fleet, Herman H, (7)	<i>Denver, Colo.,</i>	4 Mech. Eng.
Van Houten, William Abram, (4)	<i>Seneca Falls,</i>	2 Mech. Eng.
Van Kirk, Peirson Monroe, (4)	<i>Ithaca,</i>	Jr. Law
Van Kleeck, Louis Ashley, (4)	<i>Ithaca,</i>	2 Medicine
Van Marter, James Howard, (3)	<i>Newfield,</i>	2 Medicine
Vannan, Paul Antrim, (7)	<i>Riverside, Pa.,</i>	3 Mech. Eng.
Vanneman, Arthur Vosbury, (4)	<i>Havre de Grace, Md.,</i>	2 Civil Eng.
Van Orman, Ray, (6)	<i>Ithaca,</i>	2 Veterinary
Van Ostrand, Arthur Olin, (5)	<i>Ithaca,</i>	2 Veterinary
Vaughan, Ralph, (8)	<i>Worcester, Mass.,</i>	4 Architecture
Varasour, James Francis, (2)	<i>Dalton, Mass.,</i>	1 Medicine
Veit, Kenneth, (1)	<i>New York City,</i>	1 Mech. Eng.
Veith, George John, (6)	<i>Paterson, N. J.,</i>	2 Med. (N.Y.C.)
Venable, Emma Cabell, (3)	<i>Hampden Sidney, Va.,</i>	Sp. Agr.
Vencill, Albert Leander, (8)	<i>Utica,</i>	4 Mech. Eng.
Verbeck, Guido Fridolin, (2)	<i>Manlius,</i>	1 Agriculture
Veve, Santiago, (5)	<i>Fajaido, P. R.,</i>	4 Civil Eng.

Vieweg, Frederic, Jr., (2)	<i>Upper Montclair, N. J.,</i>	1 Civil Eng.
Vincent, Charles Ray, (6)	<i>Odell, Ill.,</i>	3 Mech. Eng.
Vincent, Jefferson Davis, (2)	<i>Allegheny, Pa.,</i>	1 Mech. Eng.
Von Engeln, Oscar Deidrich, (6)	<i>Dayton, O.,</i>	3 Arts
Vosburgh, Claude Garfield, (6)	<i>Elmira Heights,</i>	2 Civil Eng.
Wager, Max Louis, (6)	<i>New York City,</i>	2 Med. (N.Y.C.)
Wagner, Harold John, (1)	<i>Gloversville,</i>	1 Law
Waight, Armistead Taylor, (4)	<i>Mt. Vernon, O.,</i>	1 Mech. Eng.
Wait, William Barker, (6)	<i>Watkins,</i>	3 Mech. Eng.
Walbridge, Lester Borden, (4)	<i>Brooklyn,</i>	2 Mech. Eng.
Walbridge, Rodney Olin, (2)	<i>Brooklyn,</i>	1 Mech. Eng.
Walden, Wilbur Maurice, (2)	<i>Newark, N. J.,</i>	1 Civil Eng.
Waldenberger, Emil Richard, (2)	<i>New York City,</i>	1 Agriculture
Walder, George Henry, (4)	<i>No. Tonawanda,</i>	2 Mech. Eng.
Waldie, Alma Tiedemann, (4)	<i>Germantown, Pa.,</i>	3 Arts
Waldie, Thomas Edward, (8)	<i>Brooklyn,</i>	4 Med. (N.Y.C.)
Waldvogel, Herbert Jones, (1)	<i>Little Falls,</i>	1 Medicine
Walker, Hiram Holcomb, Ph.B., (2)	<i>Detroit, Mich.,</i>	3 Civil Eng.
Walker, Jessie Crockett, (8)	<i>Brooklyn,</i>	4 Arts
Walker, Lester Vincent, (6)	<i>Babylon,</i>	3 Arts
Walker, Rennie Alfred, (2)	<i>Canton, O.,</i>	1 Civil Eng.
Walker, William Joseph, A.B., (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Wall, Robert Earle, (2)	<i>Buck Lodge, Md.,</i>	1 Mech. Eng.
Wallace, Burton Francis, (2)	<i>Canandaigua,</i>	Sp. Agriculture
Wallace, Errett, (3)	<i>West Gore, N. S., Can.,</i>	1 Agriculture
Wallace, Frank Rich, (2)	<i>Jackson, Mich.,</i>	1 Mech. Eng.
Wallace, James Garfield, (6)	<i>Batavia,</i>	3 Veterinary
Wallace, Joseph James, (2)	<i>Rome,</i>	1 Law
Wallace, William Stinson, (2)	<i>Pittsburg, Pa.,</i>	1 Mech. Eng.
Wallower, Edgar Zollinger, C.E., (4)	<i>Harrisburg, Pa.,</i>	4 Mech. Eng.
Walser, Arthur Cyrus, (2)	<i>New Brighton,</i>	1 Mech. Eng.
Walsh, Edmond John, (2)	<i>Nashville, Tenn.,</i>	1 Law
Walsh, Sara Catharine, (2)	<i>Buffalo,</i>	1 Arts
Walsh, Thomas J, M.D., (2)	<i>Buffalo,</i>	Sp. Med. (N.Y.C.)
Walter, Howland Ottman, (2)	<i>New York City,</i>	1 Civil Eng.
Walzer, Abraham, (6)	<i>Brooklyn,</i>	3 Med. (N.Y.C.)
Walzer, Isidor, (4)	<i>Brooklyn,</i>	2 Civil Eng.
Wang, Lingoh, (2)	<i>Peking, China,</i>	1 Civil Eng.
Wang, Pih, (2)	<i>Shanghai, China,</i>	2 Mech. Eng.
Wansboro, Helen Rose, (2)	<i>Albany,</i>	1 Arts
Ward, Duane McQueen, (3)	<i>Lockport,</i>	1 Law
Ward, Florence May, (4)	<i>Ithaca,</i>	2 Arts

Ward, Grace Landers, (8)	<i>Buckland, Mass.,</i>	4 Arts
Ward, William Earl, (2)	<i>Little Falls,</i>	Jr. Law
Wardwell, Harold Fletcher, (8)	<i>Rome,</i>	4 Architecture
Ware, John Sayers, (4)	<i>Stapleton,</i>	2 Med. (N.Y.C.)
Wareham, David Howard, (6)	<i>Omaha, Nebr.,</i>	Sr. Law
Waring, William Wallace, (8)	<i>Franklinville,</i>	4 Arts
Warner, Frederick Thorne, (2)	<i>Hackensack, N. J.,</i>	2 Mech. Eng.
Warner, Franklin Wray, (3)	<i>Holland,</i>	Sp. Arts
Warner, Iva Lena, (4)	<i>Salamanca,</i>	2 Arts
Warner, Loring Kling, (2)	<i>Marion, O.,</i>	2 Arts
Warner, Raymond Curtis, (6)	<i>Chicago, Ill.,</i>	4 Mech. Eng.
Warren, David Mack, (4)	<i>Chicago, Ill.,</i>	1 Agriculture
Waterbury, James Edwin, Jr., (2)	<i>Oriskany,</i>	1 Mech. Eng.
Watkins, Robert Eugene, (6)	<i>Ithaca,</i>	3 Veterinary
Watson, Carl Hawley, (4)	<i>East Orange, N. J.,</i>	2 Civil Eng.
Watson, Hubert Leigh, (2)	<i>Hackensack, N. J.,</i>	1 Mech. Eng.
Watson, Isabel Lillian, (2)	<i>Brooklyn,</i>	1 Arts
Watson, Marion Ross, (2)	<i>New Orleans, La.,</i>	1 Civil Eng.
Watson, William Harry, (6)	<i>Pittsburg, Pa.,</i>	Sp. Mech. Eng.
Watt, Harold Woodruff, (9)	<i>Wilkes-Barre, Pa.,</i>	4 Mech. Eng.
Way, Cassius, B.Agr., A.B., (2)	<i>Ithaca,</i>	1 Veterinary
Wearne, Raymond Groves, (4, 2)	<i>Binghamton,</i>	4 Arts, 1 Medicine
Weaver, Harrison Ray, (4)	<i>Utica,</i>	2 Arts
Weaver, Henry Earle, (6)	<i>Utica,</i>	3 Arts
Webb, James Archer, (4)	<i>Cleveland, O.,</i>	2 Mech. Eng.
Weber, Florenz Pauline, M.E., (6)	<i>Jamestown,</i>	4 Arts
Weber, Jacob Hirsch, (2)	<i>Odessa, Russia,</i>	Sp. Agriculture
Weber, Theodore George, (2)	<i>Bloomfield, N. J.,</i>	1 Mech. Eng.
Weber, Salo Nordemann, A.B., (6)	<i>New York City,</i>	2 Med. (N.Y.C.)
Webster, Blakely Royce, (8)	<i>Middletown,</i>	4 Med. (N.Y.C.)
Webster, George Pilsbury, (6)	<i>Lestershire,</i>	4 Mech. Eng.
Webster, Louis David, (6)	<i>Ilion,</i>	2 Mech. Eng.
Wechsler, Joseph, (8)	<i>New York City,</i>	4 Mech. Eng.
Weed, Randolph Woodruff, Jr., (4)	<i>Brooklyn,</i>	1 Mech. Eng.
Weed, Ruth Sarissa, (8)	<i>North Rose,</i>	4 Arts
Weedon, Wilfred Arthur, (8)	<i>Queensland, Australia,</i>	4 Mech. Eng.
Wegman, Ernest Conrad, (3)	<i>Ithaca,</i>	1 Mech. Eng.
Weil, Louis Adolph, (2)	<i>New Orleans, La.,</i>	1 Arts
Weiller, Charles Albert, (2)	<i>Baltimore, Md.,</i>	1 Civil Eng.
Weinstein, Henry, (8)	<i>New York City,</i>	4 Med. (N.Y.C.)
Weiss, Benjamin Bertrand, (2)	<i>Brooklyn,</i>	2 Civil Eng.
Weiss, Samuel, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)

Welch, Harold Franklin, (2)	<i>Westfield, N. J.,</i>	1 Mech. Eng.
Welch, Howard, A.B., B.S.A., (2)	<i>Columbia, Mo.,</i>	1 Veterinary
Welch, Stewart Henry, A.B., (8)	<i>Uniontown, Ala.,</i>	4 Med. (N.Y.C.)
Wellbery, Edward Montgomery, (8)	<i>Buffalo,</i>	4 Med. (N.Y.C.)
Weller, Byron McNeil, (6)	<i>Geneseo,</i>	3 Veterinary
Welles, Edward Murray, A.B., (4)	<i>Addison,</i>	4 Med. (N.Y.C.)
Wellhouse, Frederick James, (4)	<i>Topeka, Kan.,</i>	2 Mech. Eng.
Wellman, James Willard, (2)	<i>Ashville,</i>	Sp. Agriculture
Wells, Edward Hyde, Jr., (4)	<i>Utica,</i>	2 Civil Eng.
Wells, Jesse Woodhull, (4)	<i>Setauket,</i>	1 Civil Eng.
Wells, Wayne Bagnley, (8)	<i>Wellsville, O.,</i>	4 Mech. Eng.
Welsh, Thomas Whitney Benson, (6)	<i>Montclair, N. J.,</i>	3 Arts
Werner, Rudolph Charles, Jr., (6)	<i>Brooklyn,</i>	3 Mech. Eng.
Wesley, Charles Frederick, (4)	<i>Camden, N. J.,</i>	2 Mech. Eng.
Wessinger, Henry William, (2)	<i>Portland, Ore.,</i>	1 Mech. Eng.
Wesson, Douglas Bertram, (8)	<i>Springfield, Mass.,</i>	4 Mech. Eng.
West, Albert Elmer, (6)	<i>Washington, D. C.,</i>	3 Civil Eng.
West, Livingston Dimmick, (8)	<i>Buffalo,</i>	4 Mech. Eng.
West, Ralph McNaughton, (6)	<i>Peoria, Ill.,</i>	Sp. Mech. Eng.
Westgate, Mary Lauton, B.A., (4)	<i>Ithaca,</i>	Sp. Architecture
Wetherbee, Ashur Url, (6)	<i>Ithaca,</i>	4 Mech. Eng.
Wetherill, Frank Brentford, (2)	<i>Philadelphia, Pa.,</i>	Sp. Mech. Eng.
Wetherill, John Larkin, C.E., (3)	<i>Chester, Pa.,</i>	4 Mech. Eng.
Whedbee, Edgar, (2)	<i>Bonham, Texas,</i>	1 Civil Eng.
Wheeler, George Whiting, (8)	<i>Buffalo,</i>	4 Med. (N.Y.C.)
Wheeler, John Charles, (2)	<i>Bath,</i>	1 Law
Wheeler, Lloyd Anthony, (4)	<i>Hinsdale,</i>	2 Veterinary
Wheeler, Ralph Hicks, (4)	<i>Bloomfield,</i>	Sp. Agriculture
Wheeler, Wilber Richard, (2)	<i>Oak Park, Ill.,</i>	1 Mech. Eng.
Whinery, Andrew Joseph, (2)	<i>East Orange, N. J.,</i>	1 Arts
Whipple, John Blaine, (8)	<i>Ithaca,</i>	4 Civil Eng.
Whitaker, Egbert Earle, (1)	<i>Deposit,</i>	Sp. Agriculture
White, Charles Francis, (6)	<i>Brooklyn,</i>	Sr. Law
White, David Aloyisus, (2)	<i>Medina,</i>	1 Law
White, Hamilton Howard, (6)	<i>Syracuse,</i>	2 Arts
White, James Boies, (1)	<i>Greenwich,</i>	1 Veterinary
White, James Dugald, (2)	<i>New York City,</i>	1 Mech. Eng.
White, Mabel Adena, (4)	<i>Greenwich,</i>	2 Arts
White, Ralph Lyman, (2)	<i>Watertown,</i>	1 Civil Eng.
White, Rice Warren, (3)	<i>Charlottesville, Va.,</i>	2 Mech. Eng.
White, Robert Joseph, (6)	<i>Lockport,</i>	3 Med. (N.Y.C.)
White, Theodore, (2)	<i>St. Louis, Mo.,</i>	1 Arts

White, Ward Benjamin, (6)	<i>Preston Hollow,</i>	3 Arts
White, Ward Emerson, (6)	<i>Parkersburg, W Va.,</i>	3 Civil Eng.
White, William Bew, (3)	<i>Albany,</i>	Jr. Law
White, William Morse, (6)	<i>Bergen,</i>	3 Mech. Eng.
Whitehead, Frank Edward, (1)	<i>Morristown, N. J.,</i>	1 Medicine
Whitehead, Van Loan, Jr., (6)	<i>Buffalo,</i>	2 Arts
Whiteley, Ethel Christine, (2)	<i>Philadelphia, Pa.,</i>	1 Arts
Whiting, Philip Charles, (3)	<i>Holyoke, Mass.,</i>	1 Arts
Whitlock, Edgar Montgomery, (2)	<i>Brooklyn,</i>	1 Civil Eng.
Whitney, Howard Vrooman, (4)	<i>Dunkirk,</i>	2 Mech. Eng.
Whitney, Leonard Harrison Martin, (6)	<i>Hornell,</i>	3 Civil Eng.
Whitson, Olive Louella, B.E., (2)	<i>Ithaca,</i>	1 Arts
Whittlesey, Granville Egbert, (4)	<i>Pittsfield, Mass.,</i>	2 Mech. Eng.
Wicker, George McMillen, (2)	<i>Niagara Falls,</i>	1 Arts
Wicks, Charles Hall, (8)	<i>Cohoes,</i>	4 Arts
Wickser, Philip John, (6)	<i>Buffalo,</i>	3 Arts
Wiederschall, Sidney, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Wieghardt, George Frederick, (2)	<i>Baltimore, Md.,</i>	2 Civil Eng.
Wiggins, Ernest Smith, (2)	<i>Greenport,</i>	Sp. Agriculture
Wiggins, Ralph William, (1)	<i>Warsaw,</i>	1 Mech. Eng.
Wigley, Chester Greenhalgh, (8)	<i>Yonkers,</i>	4 Civil Eng.
Wigley, William Roy, (6)	<i>Yonkers,</i>	4 Mech. Eng.
Wigton, Charles Benson, (5)	<i>Philadelphia, Pa.,</i>	1 Civil Eng.
Wilber, David Truxton, (2)	<i>Binghamton,</i>	1 Arts
Wilde, Lydia Mae, (3)	<i>Cranesville,</i>	1 Arts
Wilder, Harold, (6)	<i>Elmhurst, Ill.,</i>	3 Arts
Wiley, Clarence Fairfax, (8)	<i>Chicago, Ill.,</i>	3 Mech. Eng.
Wilhelm, Karl Edward, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Wilke, William Leonard, (4)	<i>Buffalo,</i>	2 Mech. Eng.
Wilkes, Stuart Ball, (8)	<i>Buffalo,</i>	4 Arts
Wilkins, George Raymond, (9)	<i>Buffalo,</i>	4 Arts
Wilkinson, Edith Lucia, (4)	<i>Emporia, Kans.,</i>	3 Arts
Willard, Luvia Margaret, (4)	<i>East Angus, Que., Canada,</i>	2 Medicine
Willard, Stephen Franklin, Jr., (4)	<i>Wethersfield, Conn.,</i>	2 Agriculture
Willcox, James DeWitt, (8)	<i>Montgomery, Ala.,</i>	4 Civil Eng.
Willets, Geraldine Jane, (1)	<i>White Plains,</i>	1 Arts
Willey, Wilford Bennett, (7)	<i>Ithaca,</i>	4 Arts
Willgoose, Arthur Linforth, (5)	<i>Brooklyn,</i>	2 Civil Eng.
Williams, Eleanor Adista, (2)	<i>Ithaca,</i>	3 Arts
Williams, Edwin Clifford, (5)	<i>Washington, D. C.,</i>	4 Civil Eng.
Williams, Ethel May, (2)	<i>Ithaca,</i>	1 Arts
Williams, Harold Hale, (4)	<i>Albany,</i>	1 Civil Eng.

Williams, Ira, (5)	<i>Philadelphia, Pa.,</i>	2 Civil Eng.
Williams, J Stewart, (6)	<i>Kingston, Pa.,</i>	3 Civil Eng.
Williams, Paul, (2)	<i>Salt Lake City, Utah,</i>	1 Arts
Williams, Rodney Ralph, (6)	<i>Fredonia,</i>	3 Med. (N.Y.C.)
Williams, Samuel, (2)	<i>Salt Lake City, Utah,</i>	1 Mech. Eng.
Williamson, Philip Hearn, (2)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Willis, Ralph Sanderson, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Willson, Anna Rachel, (4)	<i>Ithaca,</i>	2 Arts
Willson, Frederic Cornelius, (6)	<i>Ithaca,</i>	3 Veterinary
Wilson, Alexander, (2)	<i>Lansdowne, Pa.,</i>	1 Mech. Eng.
Wilson, Anna Hummer, (2)	<i>Titusville, Pa.,</i>	2 Arts
Wilson, Byron James, (2)	<i>Rochester,</i>	Sp. Agriculture
Wilson, David, A.B., (4)	<i>Amsterdam,</i>	4 Med. (N.Y.C.)
Wilson, Edgar Myers, (2)	<i>Lansdowne, Pa.,</i>	1 Civil Eng.
Wilson, Ella Mary, (2)	<i>Ann Arbor, Mich.,</i>	Sp. Arts
Wilson, George Edward, (2)	<i>Washington, D. C.,</i>	1 Civil Eng.
Wilson, Harry Keith, (6)	<i>Bloomington, Ill.,</i>	3 Civil Eng.
Wilson, Harry Nathaniel, (2)	<i>Dansville,</i>	1 Arts
Wilson, Joseph Shields, (4)	<i>Wilmington, Del.,</i>	2 Mech. Eng.
Wilson, Lester Jay, (2)	<i>Castile,</i>	Sp. Agriculture
Wilson, Leroy Alonzo, (4)	<i>Guilford,</i>	2 Mech. Eng.
Wilson, Martin Luther, (8)	<i>Ithaca,</i>	4 Arts
Wilson, Robert, (8)	<i>Brooklyn,</i>	4 Mech. Eng.
Wiltse, Chauncey Livingston, (6)	<i>Fullerton, Neb.,</i>	3 Arts
Winans, James Albert, A.B., A.M., (8)	<i>Ithaca,</i>	Sr. Law
Winder, Adam Heber, (6)	<i>Dayton, O.,</i>	Jr. Law
Wing, Lois Watson, (4)	<i>Ithaca,</i>	2 Arts
Wing, Lucius Arthur, B.Sc., (4)	<i>Columbus, O.,</i>	4 Med. (N.Y.C.)
Wing, Walter Sterling, (8)	<i>Detroit, Mich.,</i>	4 Mech. Eng.
Winne, Worden Elliott, (6)	<i>Ames,</i>	Sr. Law
Winslow, John, (4)	<i>Ithaca,</i>	2 Mech. Eng.
Wise, Frank Lounsbury, B.A., (6)	<i>New York City,</i>	3 Mech. Eng.
Witbeck, Benjamin Franklin, (6)	<i>Albany,</i>	4 Mech. Eng.
Witzig, DeWitt Franklin, (2)	<i>Buffalo,</i>	1 Civil Eng.
Wolcott, George Norton, (4)	<i>Ithaca,</i>	1 Agriculture
Wolcott, Kenneth Oliver, (4)	<i>Batavia, Ill.,</i>	4 Mech. Eng.
Wolcott, William Albert, (4)	<i>Le Roy,</i>	2 Mech. Eng.
Wolf, Charles, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
Wolf, Luther Otterbein, (3)	<i>Keithsburg, Ill.,</i>	2 Civil Eng.
Wolfe, Isidor Erlich, (6)	<i>Brooklyn,</i>	Jr. Law
Wolff, Solon Charles, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)

Wolkowyski, Alexander Ilich, (2)	<i>Suwalki, Russia-Poland,</i>	4 Civil Eng.
Wolnski, Alfred Julius, (2)	<i>Philadelphia, Pa.,</i>	1 Civil Eng.
Wonderly, George Arthur, Ph.B., (4)	<i>New Kingstown, Pa.,</i>	3 M. E.
Wood, Charles Bryant Drake, (3)	<i>Wilkes-Barre, Pa.</i>	1 Mech. Eng.
Wood, Edward Ainslie, C.E., (4)	<i>Dallas, Texas,</i>	3 Civil Eng.
Wood, Edward Corey, (2)	<i>Seneca Falls,</i>	1 Mech. Eng.
Wood, Frank Sidney, (2)	<i>Shelburne Falls, Mass.,</i>	1 Veterinary
Wood, Frederick William, (6)	<i>Berkeley, Calif.,</i>	3 Veterinary
Wood, James Hewitt, LL.B., (2)	<i>Mayfield,</i>	1 Arts
Wood, Percy Osmun, (6)	<i>Ithaca,</i>	3 Agriculture
Wood, Stanley Victor, (2)	<i>Wilkes-Barre, Pa.,</i>	1 Mech. Eng.
Wood, Walter Dougan, (4)	<i>Port Richmond,</i>	2 Mech. Eng.
Wood, William Maxwell, (6)	<i>Portland, Ore.,</i>	3 Mech. Eng.
Woodford, Fred, (4)	<i>Ithaca,</i>	2 Mech. Eng.
Woodruff, Glenn Barton, (2)	<i>LeRaysville, Pa.,</i>	1 Civil Eng.
Woodruff, George Carroll, (4)	<i>Camden,</i>	Jr. Law
Woodruff, Walter Bennett, (2)	<i>Flushing,</i>	1 Civil Eng.
Woodside, James Hamlet, (2)	<i>Binghamton,</i>	1 Veterinary
Woodward, Dasie Lucile Field, (6)	<i>Ithaca,</i>	4 Arts
Woodward, George William, (2)	<i>Worcester, Mass.,</i>	2 Mech. Eng.
Woodworth, Olin Fitch, (6)	<i>Borodino,</i>	3 Mech. Eng.
Woolsey, Chester Howard, B.S., M.D., (2)	<i>San Francisco, Calif.,</i>	Sp. Med. (N.Y.C.)
Wootton, Henry Tissington, (1)	<i>Boonton, N. J.,</i>	3 Mech. Eng.
Worden, Harold Everett, (8)	<i>Ithaca,</i>	3 Mech. Eng.
Worden, John Halleck, (6)	<i>Westmoreland,</i>	3 Arts
Workman, Isaac, (6)	<i>New York City,</i>	2 Med. (N.Y.C.)
Wortman, George Augustus, (6)	<i>Kingston,</i>	3 Mech. Eng.
Wright, Edward Albin, (10)	<i>Lewiston,</i>	4 Mech. Eng.
Wright, James Chester, (4)	<i>Auburn,</i>	2 Mech. Eng.
Wright, John Henry, (4)	<i>Ithaca,</i>	2 Arts
Wright, Richard Horatio, (2)	<i>Baltimore, Md.,</i>	2 Mech. Eng.
Wright, Thomas Temple, B.A., (7)	<i>Rutherghlen, Va.,</i>	4 Civil Eng.
Wright, William Ellis, (2)	<i>Columbus, N. J.,</i>	Sp. Agriculture
Wundt, Karl Raymond, (2),	<i>Burlington, Iowa,</i>	Sp. Agriculture
Wurst, Frank Euchner, (4)	<i>Holland,</i>	2 Agriculture
Wyckoff, DeWitte B, (2)	<i>Fairport,</i>	1 Law
Wyckoff, Ralph Fenton, (6)	<i>Pasadena, Calif.,</i>	2 Civil Eng.
Wynkoop, Roy Baldwin, (6)	<i>Chemung,</i>	3 Med. (N.Y.C.)
Xerez-Burgos, José, (2)	<i>Boac, Marinduque, P. I.,</i>	1 Mech. Eng.
Ycasiano-Roxas, Francisco, B.A., (8)	<i>Bulacan, P. I.,</i>	1 Mech. Eng.

Yeomans, Mabel Ford, (8)	<i>Oxford,</i>	4 Arts
Yih, Koliang, A.B., (6)	<i>Foochow, Fookien, China,</i>	3 Agr.
Yohe, Curtis Miller, (2)	<i>Pittsburg, Pa.,</i>	1 Law
York, Everett Magnon, (4)	<i>Flushing,</i>	2 Arts
Yost, Harry Adams, (2)	<i>Waterloo,</i>	1 Mech. Eng.
Young, Hobart Cone, (2)	<i>Batavia,</i>	Sp. Agriculture
Yum, William, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)
van Zandt, Fanny Brice, (3)	<i>Ithaca,</i>	Sp. Agriculture
Zehnder, Anthony Charles, (8)	<i>Newark, N. J.,</i>	4 Med. (N.Y.C.)
Zhorn, Edward, (2)	<i>New York City,</i>	1 Med. (N.Y.C.)
Zimmerman, Earl William, (8)	<i>Fort Plain,</i>	4 Mech. Eng.
Zingher, Abraham, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Zorn, Freda, (7)	<i>Brooklyn,</i>	3 Arts
Zuckerman, Jerome, (6)	<i>New York City,</i>	3 Med. (N.Y.C.)
Zuckerman, Samuel, (4)	<i>New York City,</i>	2 Med. (N.Y.C.)

STUDENTS IN SHORT WINTER COURSE IN AGRICULTURE.

WINTER, 1907.

Ackley, Horace Charles,	<i>Peru</i>
Alvord, James Ward,	<i>Kirkville</i>
Anderson, Nestell K,	<i>Mt. Vernon</i>
Atwater, Elnathan,	<i>Greenville</i>
Atwater, Lucy Tilla,	<i>Ithaca</i>
Badger, Roy,	<i>De Peyster</i>
Baldwin, Arthur William,	<i>Ithaca</i>
Barker, F Willard,	<i>Chester, Pa.</i>
Barker, Herbert Calvin,	<i>Media, Pa.</i>
Barnhart, Albert,	<i>Briarcliff Manor</i>
Barns, Amos Augustus,	<i>Washington Mills</i>
Barnum, William Webber,	<i>Buffalo</i>
Beers, Helen Johnston,	<i>Willseyville</i>
Bellamy, Edward Tappen,	<i>Rochester</i>
Bellamy, Frank Rufus,	<i>Rochester</i>
Bonns, Walter Weidenfeld,	<i>Geneva</i>
Bouck, Edgar Thomas,	<i>Middleburg</i>
Bradley, Jesse Leroy,	<i>Worcester</i>
Braucher, Emma Alberty,	<i>Ithaca</i>
Brayton, Silas Anson,	<i>Smith's Basin</i>
Bridge, Louis Armour,	<i>Canastota</i>
Brown, Almy Arnold,	<i>Borodino</i>
Brown, Emmett Paul,	<i>Vestal Centre</i>
Brown, Harry David,	<i>South Apalachin</i>
Brown, Wilber Earl,	<i>Sauquoit</i>
Brust, Horace W,	<i>Guilderland Centre</i>
Buck, Ira Joseph,	<i>Lounsberry</i>
Bumpus, Frank De Witt,	<i>Victor</i>
Burdick, Milton Price,	<i>De Ruyter</i>
Burke, James Horace,	<i>Little Falls</i>
Burt, Gale,	<i>Lysander</i>
Bushman, Irving,	<i>Gates</i>
Bushman, Maude M,	<i>Gates</i>
Butler, Ralph Asom,	<i>Homer</i>
Caldwell, Truman J,	<i>Medina</i>
Call, Ralph Merrill,	<i>Morganville</i>
Cannon, Curtis Leon,	<i>Bridgeville, Del.</i>

Casler, Ashton, -----	<i>Little Falls</i>
Chaffee, Urban, -----	<i>Richford, Vt.</i>
Charles, Julia Octavia, -----	<i>Salamanca</i>
Chase, Floyd A, -----	<i>Pulaski</i>
Chodos, Benjamin, -----	<i>New York City</i>
Clay, Walter Willis, -----	<i>Vesper</i>
Clute, Raymond Ernest, -----	<i>South Granby</i>
Cody, Stuart Alverton, -----	<i>Penn Yan</i>
Coffin, Louis U, -----	<i>Avoca</i>
Cole, Simeon L, -----	<i>Oneonta</i>
Collins, G Lewis, -----	<i>Aurora</i>
Collins, Harry Charles -----	<i>Boonville</i>
Conklin, Clyde Main, -----	<i>Locke</i>
Conner, Richard Ray, -----	<i>Ithaca</i>
Cooper, Elizabeth Morrison, -----	<i>Ithaca</i>
Cornelius, Orrie Sylvester, -----	<i>Ithaca</i>
Cornell, Clarence Augustus, -----	<i>Piermont</i>
Cornish, Marshall, -----	<i>South Canisteo</i>
Counter, Charles Royal, -----	<i>West Charleston, Vt.</i>
Covington, Eben Thurman, -----	<i>Centreville, Md.</i>
Crandall, Charles Brockett, -----	<i>Norwich</i>
Crandall, Daniel Phillips, -----	<i>Kendall</i>
Crego, Percy D, -----	<i>Claverack</i>
Crego, Russel E, -----	<i>Buffalo</i>
Crofoot, Herman Kilde, -----	<i>Little Falls</i>
Culliford, Philip J, -----	<i>Forest Home</i>
Cummins, Gorton D, -----	<i>Brooklyn</i>
Currie, Byron La Grange, -----	<i>Preble</i>
Darrow, Norman Earl, -----	<i>Greenfield Center</i>
Danyew, Bertram A, -----	<i>Granville</i>
Davidson, Dennie William, -----	<i>Arena</i>
Davis, Chester Duane, -----	<i>New Berlin</i>
Daw, Charlie L, -----	<i>Henrietta</i>
Dean, Josephine, -----	<i>Ithaca</i>
De Bolt, Frank E, -----	<i>Penn Yan</i>
Donaldson, James, -----	<i>New Brunswick, N. J.</i>
Doty, Asa Lovett, -----	<i>West Falls</i>
Doughty, Herbert Guardinos, -----	<i>Berkshire</i>
Dutton, Clayton, -----	<i>South Otselic</i>
Edmunds, Frederick Burr, -----	<i>Cohocton</i>
Eggleton, Alec Fulton, -----	<i>Great Bend</i>
Engle, Fred Kingsbury, -----	<i>Livingstonville</i>

Fickeissen, Edwin O,	Southold
Finch, Marcus Vernon,	Kingston
Fish, Ada May,	Geneva
Fisk, Earl,	Kennedy
Fisk, Erwin Riley,	Colton
Fitts, Wallace Lick,	Moravia
Flagg, Charles Abram,	Syracuse
Fortin, Elder John,	Tiashoke
Foster, George Reginald,	Tully
Foster, Herman Harvey,	Fulton
Gane, John Lawrence,	Sauquoit
Garrett, Edna Savage,	Ithaca
Gavett, Ira,	Downsville
Gifford, Emma Louise,	Ithaca
Gillespie, Albert McCracken,	Fulton
Goessling, Theodore A,	West New Brighton
Goodenbery, Albert Martin,	Batavia
Gott, O Howard,	Spencerport
Gow, James Alexander,	Bovina Centre
Grant, Frank Leland,	Irondequoit
Grout, Emery M,	Frewsburg
Hall, John William,	Parish
Hamsher, George Herbert,	Dansville
Hannum, E Ross,	Hannibal
Haylett, Lena,	Ithaca
Hill, Charles Herbert,	Chittenango
Holden, Arthur B,	Ithaca
Holl, Judson Gager,	Cortland
Hooker, Ava Lucile Salisbury,	Geneseo
Hopper, Mary Helen,	Ithaca
Howe, Burr,	Treadwell
Howe, Marshall Mehaffey,	Buffalo
Huey, Martin Vanburen,	Watkins
Huggins, Ralph S,	Cambridge
Hutton, Harry Forbes,	Carlisle
Jennings, Frederick Terry,	Southold
Jenson, Will P,	Penn Yan
Johnson, Howard Ames,	Fisher's Island
Jones, Lyle G,	Stittville
Kelly, Thomas,	Philadelphia, Pa.
Kelly, William, Jr.,	Philadelphia, Pa.
Kennedy, Richard Ridgway,	Granville

Kent, Maurice Eugene,	<i>Kingston, R. I.</i>
Kenyon, Avery Palmer,	<i>Marcellus</i>
Kepner, Maude Agnes,	<i>Ithaca</i>
Kidd, David Clarence,	<i>Dansville</i>
King, Herbert Hill,	<i>Otisville</i>
Kiug, Ray David,	<i>McGraw</i>
Kirby, Clarence Henry,	<i>Bainbridge</i>
Kirk, Ralph,	<i>Candor</i>
Kisler, Joseph John,	<i>White Haven, Pa.</i>
Kozel, George Frederick,	<i>Washington, D. C.</i>
Lake, Marguerite B,	<i>Baltimore, Md.</i>
Lamb, Charles William,	<i>Hubbardsville</i>
Lee, Harry G,	<i>Montvale, N. J.</i>
Leroy, Loren Adelbert,	<i>Oswego</i>
Lindsay, Glenn H,	<i>Newfane</i>
Livingston, Charles C,	<i>Heuvelton</i>
Livingston, John Robert,	<i>Biltmore, N. C.</i>
Lytle, Harry Lord,	<i>Salem</i>
MacCumber, Vern Robert,	<i>Delhi</i>
Mack, Jay Leroy,	<i>Union Springs</i>
McKinley, James Gilbert,	<i>Rexville</i>
McMicken, James Alexander,	<i>Williamson</i>
McMicken, Kenneth Bruce,	<i>Williamson</i>
Mallette, Emile Alexandre,	<i>Burlington, Vt.</i>
Markham, Verne,	<i>Dayton</i>
Marshall, Lewis Harvey,	<i>Norway, Pa.</i>
Mead, William,	<i>Wicoppee</i>
Miller, Jay Arthur,	<i>Dansville</i>
Mills, Katherine Hobart,	<i>Garrattsville</i>
Mitchell, Edmund Weston,	<i>Waterloo</i>
Mitchell, Josephine,	<i>Waterloo</i>
Mix, Mary Agnes,	<i>Ithaca</i>
Morse, E Crosby,	<i>Halcott Center</i>
Moseley, Ralph,	<i>Cambridge</i>
Mosher, Frank J,	<i>Greenwich</i>
Muirhead, David,	<i>West New Brighton</i>
Munson, Frank Martin,	<i>Farmington, Conn.</i>
Murray, William McCaull,	<i>Auburn</i>
Nelson, Winfred H W,	<i>Victor</i>
Northup, Walter Philip,	<i>Addison</i>
Oliver, Alexander D,	<i>Waddington</i>
Orman, Harriet Hester,	<i>Barnard</i>

Orman, Thomas James,	.....	<i>Barnard</i>
Orr, Melvin James,	.....	<i>Mongaup Valley</i>
Osgood, Albert Kendrick,	.....	<i>Herkimer</i>
Otto, Carl,	.....	<i>Toronto, Ont., Canada</i>
Page, Walter G,	.....	<i>West Edmeston</i>
Parker, George Ethan,	.....	<i>East Aurora</i>
Parnell, Chester A,	.....	<i>Churchville</i>
Parry, Marvin Emory,	.....	<i>Baldwinsville</i>
Parsell, Raymond,	.....	<i>Kelloggsville</i>
Payne, Charles L,	.....	<i>Berkshire</i>
Pendleton, S Taylor K,	.....	<i>Richmond, Va.</i>
Pennoyer, Charles E,	.....	<i>Brooklyn</i>
Pilate, George R,	.....	<i>Dayton, O.</i>
Platt, Floyd S,	.....	<i>Newtown, Pa.</i>
Ray, Jane Paull,	.....	<i>St. Paul, Minn.</i>
Reddout, Willard Arnold,	.....	<i>Baldwinsville</i>
Reed, Nellie Marie,	.....	<i>Ithaca</i>
Rigby, Linden,	.....	<i>New York City</i>
Risley, Austin,	.....	<i>Hubbardsville</i>
Robinson, Charles Owen,	.....	<i>Walden</i>
Rogers, Hawley Bunce,	.....	<i>Waverly</i>
Rottman, George F,	.....	<i>Brooklyn</i>
Rowe, Clark Edwin,	.....	<i>Mc Graw</i>
Rutherford, Bennett W,	.....	<i>Norwood</i>
Rutter, Mary D,	.....	<i>Patchogue</i>
Sanborn, Carl J,	.....	<i>Pittsfield, N H.</i>
Schreiner, Tryggue,	.....	<i>New York City</i>
Seeley, Hattie Shepard,	.....	<i>Ithaca</i>
Shaeffer, William Edmunds, Jr.,	.....	<i>Lockport</i>
Shank, Mack,	.....	<i>New York City</i>
Sheive, Joel Edmund,	.....	<i>Seeley Creek</i>
Sibenman, Henry Eugene,	.....	<i>Peekskill</i>
Sinsebaugh, Arthur G,	.....	<i>Ithaca</i>
Sixby, Morris B,	.....	<i>Buffalo</i>
Smith, Gordon Parker,	.....	<i>Rome</i>
Smith, Robert Oliver,	.....	<i>Springfield Centre</i>
Smith, Sarah Elizabeth,	.....	<i>Brooklyn</i>
Smith, William Warren,	.....	<i>New York City</i>
Spurr, Lawrence,	.....	<i>Poughkeepsie</i>
Staring, William,	.....	<i>Houseville</i>
Stewart, James Harris,	.....	<i>Pittsford</i>
Stickney, Carl Curtis,	.....	<i>Menands</i>

Stockdale, Elizabeth N,	<i>White Haven, Pa.</i>
Sturdevant, Winifred,	<i>Cragmoor</i>
Sturges, William George,	<i>Hobart</i>
Sweet, Floyd,	<i>Borodino</i>
Taber, Grace Belle,	<i>Ithaca</i>
Tarble, Clayton A,	<i>Killawog</i>
Taylor, Maurice J,	<i>Cambridge</i>
Thomas, Asenath,	<i>Ithaca</i>
Thorndike, Richard King, A.B. (Harvard), 1902,	<i>Boston, Mass.</i>
Thornton, Carl Alvin,	<i>Solon</i>
Tomlinson, Edward Daniel,	<i>Willsboro</i>
Track, Robert Palmer,	<i>Sterling, Mass.</i>
Tyler, Fred E,	<i>Tully</i>
Tyler, James Patton,	<i>Knoxville, Tenn.</i>
Tyler, Ralph Newell,	<i>Binghamton</i>
Utley, Everell,	<i>East Otto</i>
Van Atler, Carl George,	<i>Hermon</i>
Verplanck, John Bayard Rodgers,	<i>Fishkill-on Hudson</i>
Walker, Harry,	<i>Auburn</i>
Walter, Ralph Harvey,	<i>Hamorton, Pa.</i>
Washburn, Charles Daniel,	<i>Gansevoort</i>
Waterman, Nellie Vaughan,	<i>Ithaca</i>
Webster, Henry Underwood,	<i>Auburn</i>
Weeden, James Vaughan,	<i>Wakefield, R. I.</i>
West, Leo,	<i>New York City</i>
Weyeneth, George Ralph,	<i>Tully</i>
White, Daniel Stephen,	<i>Cincinnati</i>
Whittaker, Louise Eleanor,	<i>Ithaca</i>
Wickham, J C,	<i>Schenevus</i>
Wiggins, Albert Allen,	<i>Gouverneur</i>
Wiley, Mack Chester,	<i>Carthage</i>
Willetts, Grace Jennings,	<i>Ithaca</i>
Willis, Minnie Strong,	<i>Ithaca</i>
Wilson, Harry Vernon,	<i>Olmstedville</i>
Wilson, Henry,	<i>Castile</i>
Wolcott Marion Delia,	<i>Ithaca</i>
Wood, Charles E,	<i>Philadelphia</i>
Wyckoff, Ray,	<i>Groton</i>
Wynkoop, Bodine Max,	<i>Mt. Morris</i>

GENERAL SUMMARY

Government, Teachers, and Other Officers.

TRUSTEES :—

Ex officio	9	
Elected—By the Board	20	
By the Alumni	10	
By the New York State Grange	1	
Total	40	

TEACHERS :—

Professors	108	
Assistant Professors	67	
Lecturers	12	
Instructors	151	
Assistants, etc.	178	
Total	516	

LIBRARY STAFF	22	
OTHER OFFICERS	28	
PREACHERS	25	

Students.

GRADUATE DEPARTMENT :—

Fellows	25	
Scholars	15	
Graduates, candidates for Advanced Degrees	217	
Graduates not candidates for Degrees	19	

Total, deducting for 40 names counted twice 236

GRADUATE STUDENTS IN UNDERGRADUATE COURSES 220

Total Graduate Students 456

COLLEGE OF ARTS AND SCIENCES :—

Senior Class	149	
Junior Class	157	
Sophomore Class	193	
Freshman Class	230	
Special Students	18	

Total

747

COLLEGE OF LAW :—

Senior Class	49
Junior Class	68
First Year Class	91
Special Students	3
	<hr/>
Total	211

THE MEDICAL COLLEGE :—

Senior Class, New York City	72
Junior Class, New York City	64
Sophomore Class, New York City	61
Freshman Class, New York City	67
Specials, New York City	15
Sophomore Class, Ithaca	24
Freshman Class, Ithaca	39
	<hr/>
Total	342

STATE COLLEGE OF AGRICULTURE :—

Senior Class	19
Junior Class	36
Sophomore Class	28
Freshman Class	62
Special Students	133
	<hr/>
Total	278

STATE COLLEGE OF VETERINARY MEDICINE :—

Third Year Class	35
Second Year Class	21
First Year Class	30
	<hr/>
Total	86

COLLEGE OF ARCHITECTURE :—

Senior Class	16
Junior Class	9
Sophomore Class	16
Freshman Class	34
Special Students	7
	<hr/>
Total	82

COLLEGE OF CIVIL ENGINEERING :—

Senior Class	89
Junior Class	79
Sophomore Class	137
Freshman Class	158
Special Students	4
	<hr/>
Total	467

SIBLEY COLLEGE OF MECHANICAL ENGINEERING :—

Senior Class.....	230
Junior Class.....	225
Sophomore Class.....	253
Freshman Class.....	349
Special Students.....	24
Total.....	1081

Total number of regular students, deducting for names counted twice..... 3515

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Pennsylvania.....	314	Washington.....	10	Brazil.....	5
New Jersey.....	157	Delaware.....	9	Peru.....	5
Ohio.....	128	Utah.....	9	Russia.....	4
Illinois.....	102	Vermont.....	9	England.....	4
Massachusetts.....	87	West Virginia.....	8	Australia.....	3
Maryland.....	53	Georgia.....	7	Costa Rica.....	2
Dist. of Columbia.....	48	Louisiana.....	7	Ecuador.....	2
Connecticut.....	47	Nebraska.....	7	Holland.....	2
Virginia.....	35	Arkansas.....	6	Switzerland.....	2
Michigan.....	30	Montana.....	6	Turkey.....	2
Indiana.....	31	Porto Rico.....	6	France.....	2
Colorado.....	22	Rhode Island.....	7	Germany.....	2
Texas.....	21	New Hampshire.....	4	Sweden.....	2
California.....	21	South Carolina.....	4	Asiatic Turkey.....	1
Missouri.....	20	Hawaii.....	3	Bulgaria.....	1
Iowa.....	19	Oklahoma.....	3	Gautemala.....	1
Wisconsin.....	16	Wyoming.....	3	Ireland.....	1
Maine.....	15	Indian Terr.....	2	Nicaragua.....	1
Oregon.....	14	North Dakota.....	2	Norway.....	1
Alabama.....	13	Idaho.....	1	Palestine.....	1
Kentucky.....	15	Canada.....	23	South Africa.....	1
Mississippi.....	13	China.....	16	Uruguay.....	1
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