MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS OF MAINE:

1903

BEING THE

ANNUAL REPORTS

OF THE VARIOUS

DEPARTMENTS AND INSTITUTIONS

For the Year 1902.

VOLUME IV.

AUGUSTA
KENNEBEC JOURNAL PRINT
1903

ANNUAL REPORT

OF THE

UNIVERSITY OF MAINE

FOR THE YEAR 1902

PART I

REPORTS OF TRUSTEES, PRESIDENT, AND TREASURER

AUGUSTA
KENNEBEC JOURNAL PRINT
1903

REPORT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Executive Council of Maine:

The Trustees of the University of Maine respectfully submit their thirty-fourth annual report, with the report of the President and the Treasurer.

President George E. Fellows assumed the duties of his office the first week in January, and began at once to inform himself regarding the affairs of the University. His zeal, energy, and executive ability have already been productive of most excellent results. His comprehensive report presents a full statement of the condition and needs of the University. All that President Fellows has said in commendation of Dr. Harris and Hon. Wm. T. Haines, has the hearty endorsement of the Trustees. In their report of last year reference was made to the great value of the official and personal services of these staunch friends of the University and the great loss it has sustained because of their resignations.

No change has occurred in the Board of Trustees since their last report was submitted. There have been many changes in the faculty during the year, all of which are referred to in the report of President Fellows. Prof. Walter Flint, a graduate of the University, Instructor and Professor of Mechanical Engineering for nineteen years, resigned in March to accept a desirable position at Jacob Tome Institute, Maryland. Prof. Flint, by his loyalty, and faithful and conscientious service, did much toward bringing the University to its present high position. Perley F. Walker, a graduate of the University in 1896 and for several years after his graduation an instructor in Mechanical Engineering, has been appointed to succeed Prof. Flint. Prof. Walker has had the advantages of a post graduate course at Cornell University and a year's practical experience at the great shipbuilding plant at Newport News, Va. Dean George E. Gardner of the School of Law resigned in March to accept a more attractive and lucrative position at Boston University. Under Dean Gardner the School of Law was organized, and to his rare ability its high reputation and success are largely due. It is believed that a worthy successor to Dean Gardner has been found in acting Dean William E. Walz, who is ably conducting the affairs of this department of the University. Larger and more convenient rooms for the School of Law will have to be provided soon, if the students continue to increase in number. Gen. Ben P. Runkle severed his connection with the University in October. Gen. Runkle was a very popular and efficient military instructor and the students made rapid progress in military tactics while under his charge.

Capt. Amos H. Martin, of the 19th U. S. Infantry, a graduate of West Point, who has the record of good service in the Philippines, has been appointed Gen. Runkle's successor.

The Campus, as in former years, has received careful attention and shows marked improvement. The University buildings are generally in good condition, with the exception of the Shop Building. Extensive repairs have been made during the year to the Commons.

The most important and pressing needs of the University are dormitory accommodations for the students, a suitable shop building for the Mechanical and Electrical Engineering Departments, and a central heating plant. A very large part of the students are unable to live on the campus because of the lack of dormitory accommodations, and are obliged to find boarding places in Orono, Old Town, and Bangor. This is a serious inconvenience, which should be overcome as soon as possible. The present shop building is old, built of wood, much out of repair, too small, and not adapted to the purposes for which it was intended. It contains engines, dynamos, lathes, tools, and other valuable apparatus used for purposes of instruction, liable at any time to be damaged or destroyed by fire. It is so small that the classes are obliged to go in sections for instruction. A suitable brick or stone building would not only afford much needed facilities for instruction, but also better protection to the expensive and valuable equipments now endangered in the present wooden building. The advantages of a central heating plant, whereby the University buildings could be more satisfactorily heated, with a large saving in the cost of fuel, have been stated in former reports. It is estimated that a shop building of sufficient size to meet the demands of the University for years to come, and a proper heating plant, will cost about $60,000. This need is so urgent that it should be met as promptly as possible.

The constant growth and unvarying success of the University of Maine are extremely gratifying to all interested in its welfare. Its faculty is able, faithful, and efficient, doing excellent work in every department. Its students number nearly five hundred, and a finer student body cannot be found anywhere. Every facility should be furnished to give them the training and education they are seeking. The remarkable success of the graduates of the University of Maine, especially in industrial lines, plainly foreshadows the great possibilities awaiting these young men in the immediate future. They will, like their predecessors, bridge rivers, tunnel mountains, construct ships of wood and steel for merchant marine and navy, build electric and steam railroads, cotton, woolen, pulp and paper mills, and other great industrial plants. Their skill and training will be used to utilize the great water powers and develop the agricultural and other resources of our own State, and thereby repay many times the cost of their instruction. Ought there to be any question as to the wisdom of supplying in the largest degree everything required to carry on in the best possible manner the work of the University of Maine? This question must be answered by the legislature of the State of Maine.

HENRY LORD,

President of the Board of Trustees

REPORT OF THE PRESIDENT

To the Board of Trustees of the University of Maine:

The President of the University of Maine has the honor to present his first annual report, covering the calendar year of 1902.

CHANGES IN THE BOARD OF TRUSTEES AND FACULTY

At the beginning of the year 1902, Hon. William T. Haines retired from the Board of Trustees. The President had but little opportunity to become acquainted with Mr. Haines as a trustee, but feels that the board lost a most efficient and able member. With Mr. Haines' retirement comes no abatement of his interest in the institution. The new member, Mr. Edwin James Haskell, has at once taken up the interests of the University as his own, and there is not the slightest doubt that he will devote such energy to the duties placed upon him as a member of the Board as to do great credit to the alumni of which he is a member, and valuable service to the University.

The President feels it his great privilege, as well as duty, to speak in the plainest and highest terms of the efficiency of his predecessor, manifest in every department of the University. It is believed that instances are rare where a retiring president leaves the affairs of the institution in such smoothly running condition that his successor can take hold of the machinery and move forward without a single jar. In the years that are to come the efficient service of Dr. A. W. Harris will become even more evident than during his actual administration, for the organization of the institution on its new and wider career, due to his efforts, will show its effects for many years to come.

Coming to his duties in January, 1902, the new President took up the work already begun with the intention of carrying out, as far as possible through that school year, the entire policy already in operation. Such modifications of this policy as have occurred have seemed to be warranted by changes in conditions.

On March 28, Prof. Walter Flint presented his resignation as Professor of Mechanical Engineering. Prof. Flint had been in service in the Department of Mechanical Engineering for five years as instructor, and fourteen and one-half years as professor. A more lucrative offer, as well as considerations of health, led Prof. Flint to leave the University of Maine. It was with universal regret of the faculty of the institution that

Prof. Flint's resignation was accepted. His cheerful manner and efficient services, not only as professor, but as superintendent of construction at the University of Maine, made it seem that his loss would be irreparable. After consideration of many candidates for the position left vacant by Prof. Flint, Mr. Perley F. Walker, a graduate of the University of Maine in 1896, was chosen. Prof. Walker had been instructor at the University of Maine for four years, hence was not unknown to the trustees and faculty. Since his resignation in 1900 he had been pursuing an advanced course at Cornell University, and still later had been employed in practical engineering at the ship building yards of the Newport News Ship Building and Dry Dock Co. Prof. Walker's education and personality are such that the work assumed by him promises to be satisfactorily performed.

General Ber Piatt Runkle, who was detailed as Professor of Military Science, is no longer connected with the University. The military department, which had been considerably neglected, from the beginning of the Spanish War, was brought into very good condition by General Runkle. The students took great interest in their work and made a very creditable showing at the time of the inspection by the United States Inspector. The vacancy caused by General Runkle's departure has been filled by the detail of Capt. Amos H. Martin, of the 19th Infantry.

Prof. George E. Gardner, Dean of the School of Law, presented his resignation on March 14. Prof. Gardner had endeared himself to all the students of the School of Law and made strong friendships in Bangor and Orono. He had been connected with the School of Law from its opening, and the efficiency of the school was the result of his work. He resigned to accept a position as Professor of Law in the Boston University Law School. His resignation was accepted with sincere regret. Prof William E. Walz was promoted to the position of Acting Dean of the School of Law. His scholarship and personal characteristics are such that it is believed the School of Law will in no way suffer from the change in management. His energy and attention to details have already proven his efficiency.

Mr. Fred Hale Vose, Instructor in Mechanical Engineering, resigned to accept a similar position at Washington University, St. Louis. Mr. Vose's work had been entirely satisfactory, and it was with especial regret that we accepted his resignation as we had already lost the head of the same department. Mr. Walter Rautenstrauch, a graduate of the University of Missouri in the Mechanical Engineering course, in the year 1902, has been engaged to fill the vacancy caused by Mr. Vose's resignation.

Mr. Pillip Warner Harry, Instructor in Modern Languages, has resigned in order to pursue advanced work at another institution.

Mr. Lucius J. Shepard, superintendent of the farm and assistant agriculturist in the Experiment Station, has resigned to take a similar position at National Farm School, Doylestown, Pa.

Mr. Louis Siff, for two years tutor in Mathematics, has resigned.

Mr. Roscoe M. Packard, for two years tutor in Mathematics, has resigned to accept a scholarship at Brown University.

The positions made vacant by the resignations of Mr. Siff and Mr. Packard have been filled by Mr. Walter D. Lambert and Mr. Thomas Buck. Mr. Lambert is a graduate of Harvard in the class of 1900 and has had experience as instructor in Mathematics at Purdue University. Mr. Buck is a graduate of the University of Maine in the class of 1901 and has pursued graduate studies at the University of Chicago.

Mr. Clinton L. Cole, tutor in Drawing, has resigned to go into practical engineering.

Mr. Frank H. Mitchell, tutor in Chemistry, has been promoted to be Instructor in Chemistry.

Mr. John E. Burbank, tutor in Physics, has been promoted to be Instructor in Physics.

Mr. George H. Davis, tutor in Electrical Engineering, has resigned to take up practical work.

Mr. George E. Poucher, assistant in Physics, has resigned to go into practical work.

Mr. Henry E. Cole, a graduate of the class of 1902, has been engaged as tutor in Electrical Engineering, to fill the vacancy caused by the resignation of Mr. Davis.

Mr. Archer L. Grover, Physical Director, has been engaged to give one-half his time as tutor in Drawing in the department made vacant by Mr. Clinton L. Cole's resignation.

Mr. C. C. Alexander has been employed as tutor in Drawing.

Mr. Walter Mitchell has been appointed tutor in Physics.

Mr. Horace P. Hamlin, a graduate of the University of Maine in the class of 1902, has been appointed assistant in Drawing.

THE FACULTY AND OTHER OFFICERS

The number in the list of faculty is sixty. This, however, includes eight instructors and lecturers in the School of Law who give but a small part of their time to the University. The number actually engaged in teaching the regular college classes and law classes is no greater than last year, yet we have about one hundred more students. The teaching force ought to be increased in proportion.

As these new students have very largely entered the engineering courses, it requires not only increased assistance in their own laboratory and drawing room work, but work also in mathematics and modern language. It seems quite imperative that by another year there should be another tutor in mathematics, and another teacher in the Department of French.

The teachers now in the faculty have studied in a great number of different American and foreign universities. This fact insures breadth of information and experience which cannot fail to be of immense value to the students under instruction. The following list does not exhaust the institutions represented in our faculty:

Amherst College; Baldwin University; University of Berne; University of Berlin; Boston University; Bowdoin College; University of Chicago; Cornell University; Dennison University; Harvard University; Univer-

sity of Heidelberg; University of Illinois; University of Iowa; Johns Hopkins University; University of Leipsic; University of Maine; Massachusetts Agricultural College; Massachusetts Institute of Technology; University of Michigan; Michigan Agricultural College; University of Missouri; University of Munich; University of Nebraska; Northwestern University; Ottawa University; University of Rochester; Syracuse University; Trinity College; Tufts College; University of Vermont; Wesleyan University; West Point; Western Reserve University; University of Wisconsin; Yale University.

It is a well known saying by one of the foremost educators in this country, that he would prefer to have an able faculty who were compelled to teach in tents than to have magnificent buildings where instruction was given by inferior men. This, of course, is only another way of saying that if one or the other must be neglected, it should be buildings and not instructors. I heartily agree with this idea, and while necessary repairs should be made to preserve buildings, I believe money would be better expended in general by getting a better grade of instruction than in making repairs or additions merely for comfort and convenience.

DEGREES CONFERRED

The following is the list of degrees conferred at the last commencement:

SHORT COURSE IN PHARMACY

Frank Percy Burns, Ph. C., Westbrook.
Ralph Everett Clark, Ph. C., Freeport.
Walter Maurice Tate, Ph. C., South Corinth.

FOUR YEARS COURSES

Arthur Willis Bachelder, B. S. in Mechanical Engineering, North Sebago.
William Edward Barrows, Jr., B. S. in Electrical Engineering, Augusta.
Enoch Joseph Bartlett, B. S. in Electrical Engineering, Monroe.
Marian Genevieve Boland, B. A., Worcester, Mass.
Henry Alfred Buck, B. S. in Science, Bucksport.
Edith Mae Bussell, B. Ph., Oldtown.
James Warren Butman, B. S. in Civil Engineering, Readfield.
Harold Malcolm Carr, B. S. in Science, Sangerville.
Henry Wilmot Chadbourne, B. S. in Electrical Engineering, Mattawamkeag.
Samuel Clark, B. S. in Science, Waterville.
Henry Ernest Cole, B. S. in Electrical Engineering, Pleasantdale.
Alfred Ricker Davis, B. S. in Electrical Engineering, Auburn.
Samuel Prince Davis, B. S. in Civil Engineering, Portland.
Edward Warren Delano, B. S. in Civil Engineering, Abbot Village.

Harry Elwood Duren, B. S. in Electrical Engineering, Richmond.
George Washington Durgan, B. S. in Science, Sherman Mills.
Walter Hampton Eldridge, B. S. in Electrical Engineering, Bucksport.
Wesley Clarendon Elliott, B. S. in Electrical Engineering, Patten.
Herbert Oscar Farrington, B. S. in Electrical Engineering. Portland.
Lothrop Edward Fessenden, B. S. in Mechanical Engineering, Bridgton.
Arthur Brookhouse Foster, B. S. in Chemistry, Beverly, Mass.
Henry Carter French, B. S. in Civil Engineering, Rumford Center.
Eugene Clarence Gilbert, B. S. in Science, Orono.
Archer Lewis Grover, B. S. in Science, Bethel.
Horace Parlin Hamlin, B. S. in Civil Engineering, Orono.
Fred Eugene Holmes, B. S. in Civil Engineering, East Machias.
Elbridge Augustus Johnson, B. S. in Civil Engineering, Portland.
Frank Winthrop Kallom, B. S. in Electrical Engineering, South Berlin.
Burchard Valentine Kelly, B. S. in Mechanical Engineering, Centerville, Mass.
Henry Wilmot Kneeland, B. S. in Electrical Engineering, Searsport.
Perley Charles Knight, B. S. in Civil Engineering, South Gorham.
Lida May Knowles, B. S. in Science, Bangor.
Sumner Sturdivant Lowe, B. S. in Civil Engineering, Cumberland.
Alpheus Crosby Lyon, B. S. in Civil Engineering, Bangor.
Patrick Edward McCarthy, B. S. in Civil Engineering, Lewiston.
Harold Wilder Mansfield, B. S. in Mechanical Engineering, Union.
Charles William Margesson, B. S. in Civil Engineering, Bangor.
Percival Hildreth Mosher, B. S. in Civil Engineering, Pleasantdale.
Luther Peck, B. S. in Preparatory Medicine, Monson, Mass.
Frank Ethelbert Pressey, B. S. in Civil Engineering, Bangor.
Clinton Nathan Rackliffe, B. S. in Electrical Engineering, Easton.
Marie Cecilia Rice, B. S. in Science, Bangor.
Edwin Bishop Ross, B. S. in Science, Bangor.
Roy Elvert Russell, B. S. in Electrical Engineering, Livermore.
Herbert Willis Sewall, B. S. in Electrical Engineering, Wilton.
Arthur Elmer Silver, B. S. in Electrical Engineering, Silver's Mills.
Charles Walter Stephens, B. S. in Civil Engineering, Oldtown.
Charles Augustus Stilphen, B. S. in Electrical Engineering, Gardiner.
William Brackett Thombs, B. S. in Mechanical Engineering, Gorham.
Edwin Stanley True, B. S. in Electrical Engineering, Portland.

John Clifford Warren, B. S. in Science, Westbrook.
Alvin Morrison Warren, B. S. in Electrical Engineering, Portland.
Allen Francis Wheeler, B. S. in Mechanical Engineering, Brunswick.
Ralph Whittier, B. S. in Science, Bangor.

SCHOOL OF LAW

Thomas Alexander Anderson, LL. B., Hartland.
Patrick Henry Dunn, LL. B., Brewer.
Charles Vey Holman, LL. B., New York City, N. Y.
Hartley Garfield Kenniston, LL. B., Phillips.
Harry Lord, LL. B., Bangor.
Malcom McKay, LL. B., Scottsville, N. S.
James O'Halloran, LL. B., Bangor.
Varney Arthur Putnam, LL. B., Danforth.
George William Ritter, LL. B., Monson, Mass.
William Henry Robinson, LL. B., Bangor.
Robert William Selkirk, LL. B., Wilder, Vt.
Harry Harding Thurlough, LL. B., Littlefield Corner.
Albert Washington Weatherbee, LL. B., Bangor.
Frank Palmer Wilson, LL. B., Belfast.

MASTER OF SCIENCE

William Porter Beck, B. S. (Dennison University, 1900), Waterville.
Clifford Dyer Holley, B. S. (1900), Orono.
Lewis Robinson Cary, B. S. (1901), Bowdoinham.

CIVIL ENGINEER

William Rowe Farrington, B. C. E. (1891), Boston, Mass.
Stanwood Hill Cosmey, B. C. E. (1897), Omaha, Neb.
Wallace Edward Belcher, B. C. E. (1899), New Britain, Conn.

MECHANICAL ENGINEER

Stanley John Steward, B. M. E. (1896), Orono.
Clarence Morrill Hayes, B. M. E. (1899), Lynn, Mass.

STUDENTS

The number of students for the year ending June, 1902, was four hundred and eleven. For the school year beginning September, 1902, it will probably reach five hundred. The number for the calendar year 1902, to date, is four hundred and eighty. The number of new students admitted at the beginning of this academic year is one hundred and fifty-eight at Orono, and thirty-one at Bangor, making a total of one hundred and

eighty-nine. Of these one hundred and twenty-seven entered the freshman class in the four year courses; thirteen entered the Short Pharmacy course; thirty-one entered the Law School; five others have been admitted to advanced standing, and thirteen as special students in the collegiate departments.

Every county in the State is represented in the student body, and every county is also represented in the freshman class. In the freshman class alone, Penobscot, Cumberland, Somerset, Knox, and Oxford counties are represented by from eleven to nineteen, and other counties from one to nine. Massachusetts is represented by nineteen students, New Hampshire by two, New Jersey by one, and Rhode Island by one. The number of women students is five.

Eighty-two preparatory schools are represented. Rockland High School sends the largest number. The average age for the freshmen class at admission is nineteen years, eleven months and sixteen days. The age of the oldest student is twenty-six years, one month, and two days. The age of the youngest student is sixteen years, seven days.

The system of admitting students by certificate from high schools or academies which have been inspected by the University, tends to knit together the educational system of the State as could not otherwise well be done. The experience of western state universities in this respect is well worthy of consideration.

The primary and other public schools of the State have an intimate relation already established with the high schools in their vicinity. If, then, the high schools and other secondary schools have the closest relations with the State university, the whole system becomes a unit which can serve far better to provide an adequate education for the whole people of the State.

A committee in charge of approved schools visits each year as many schools as possible, making the endeavor to reach every one of the schools now upon the approved list, and others who ask for visits, about once in two or three years. Within a few years it may be advisable to employ one of the faculty for about half his time in this visitation for the mutual benefit of schools and University.

The State University should be recognized as the natural head of the public school system, and the high school courses should be so planned that while they offer the best possible training to those who can never go beyond them, they also fit those who choose to pursue higher courses of study at the State University.

COURSES OF STUDY

Certain modifications have been made in the requirements for graduation. These modifications are such in name rather than in reality. Instead of, as heretofore, the student selecting a course which is fixed in tabulated form to pursue exactly as outlined, hereafter he will choose a department in which he will do his major work. He must pursue one study in this department at least three years, and in some instances four years. This insures a sufficiently thorough knowledge of some one sub-

ject to prepare the student for advanced work or practical work in that line. The remaining two-thirds, or three-fourths, of the student's work is partially required, and partially elective. The required work is, one year of English, and two years of some other language, one year of some science, and mathematics one year. The student has the option of selecting any science offered in the University, or any language offered in the University. It should be stated, however, that the head of the department in which the student selects his major subjects, is to be his adviser in his selections as well as in the time that he takes his required work. A credit is understood to be gained by successfully completing one study which runs five hours a week for one term. The successful completion of thirty credits in the technical courses, and twenty-four credits in the other courses, entitles the student to graduation.

It should be said that by this arrangement, no course of instruction has been diminished, but several have been increased, offering students not only all they have had before, but the opportunity for selection among several subjects of equal educational value and utility.

SCHOOL OF LAW

The progress made in the School of Law must be a source of gratification to all who are interested in the welfare of the University. Its graduates have been enabled to pass successfully the severe examinations for admission to the bar in Maine and in other states.

While it was feared that the increase of the course to three years instead of two, might diminish the number of students, such an effect was temporary. The unusual increase in the number of students in the fall of 1902 shows that the increased amount of work has really been of benefit to the school. There are sixty-two students now in the Law School.

The faculty of the school consists of:

George Emory Fellows, Ph. D., L. H. D., LL. D., President of the University.

William Emanuel Walz, M. A., LL. B., Acting Dean and Professor of Law.

Allen Ellington Rogers, M. A., Professor of Constitutional Law.

Forest John Martin, LL. B., Instructor in Common Law Pleading and Maine Practice.

Hugo Clark, C. E., Instructor in Equity Pleading.

Edgar Myrick Simpson, B. A., Instructor in Real Property and Corporations.

Eugene Clement Donworth, LL. B., Instructor in Contracts.

Charles Vey Holman, LL. B., Instructor in Wills.

Bertram Leigh Fletcher, LL. B., Instructor in Agency.

George Henry Worster, Instructor in Damages.

Ralph Kneeland Jones, B. S., Librarian.

SPECIAL LECTURERS

Hon. Andrew Peters Wiswell, B. A., Chief Justice of the Maine Supreme Judicial Court, Lecturer on Evidence.

Hon. Lucilius Alonzo Emery, M. A., LL. D., Senior Associate Justice of the Maine Supreme Judicial Court, Lecturer on Roman Law and Probate Court.

Hon. Charles Hamlin, M. A., Reporter of the Maine Supreme Judicial Court, Lecturer on Bankruptcy Law and Federal Practice.

Hon. Louis Carver Southard, M. S., of the Massachusetts Bar, Lecturer on Medico-Legal Relations.

EQUIPMENT

No large amount of money has been expended since the last biennial report in the equipment of the departments.

A new boiler has been installed in the heating plant at an expense of $3,000.

During the present year it will be necessary to add considerably to the equipment of the mechanical engineering department, possibly at an expense of $1,000. The department of civil engineering is also in serious need of about the same sum.

LIBRARY

The library now contains 22,190 volumes and about 8,000 pamphlets.

With the increasing breadth of instruction offered in all courses, the importance of the library is multiplied. Advanced work requires research and acquaintance with the latest information from all parts of the world. We are gratified that our library is as good as it is, yet no library intelligently managed can be too large or too well equipped. Any amount of money that can be available for library purposes can be judiciously spent. It is to be hoped that private enterprise may be enlisted in this work.

BUILDINGS

The present buildings of the University are in very good condition. Extensive repairs were made on the Commons during the summer, which now make that building thoroughly first-class in every respect for the purpose for which it is intended. All necessary repairs on the other buildings on the campus have either been made, or will soon be finished.

The utility of Alumni Hall is becoming more and more apparent. The large gymnasium room and drill room is so much more appropriate a place for student entertainments that hereafter public functions which have been held elsewhere can best be held on the University grounds. This will serve a double purpose of attracting the interest of those who attend these affairs to the University itself, and of developing a feeling of pride and affection for the buildings among the student body.

NEEDS OF THE UNIVERSITY

The needs of the University for buildings to supply room for shops, foundry, and heating and lighting plant were clearly set forth by my predecessor in his reports. No one now needs to be convinced by argument of the necessity of a new building for the shop. In my opinion this building should no longer be expected to be merely a shop and heating and lighting plant, but should be a mechanical laboratory in addition to the shops and other allied buildings.

It may be wiser to have the power plant not included under the same roof with the laboratory and shops. If this is deemed wisest by those who shall have charge of the construction of the new buildings which we hope the legislature of 1903 will give us, any increased expense will be more than compensated by the utility and convenience of the power plant. It is estimated that a saving of several thousand dollars a year will be made in the use of fuel and power by this concentrating of the work at one place.

At present prices of building materials and labor, $60,000 should be appropriated for this building, or buildings, which are absolutely essential, owing to the recognized unsafe and dilapidated condition of the old wooden shop.

Other needs of the University are nearly as apparent as the need for the mechanical laboratory and power plant, but there is no intention of asking the legislature for more at present. It is sincerely hoped that private enterprise may be enlisted for the construction of other buildings, so that the demands upon the State may be made for maintenance of the University as it increases in size and usefulness.

REPORT OF THE TREASURER

To the Trustees of the University of Maine:

The Treasurer has the honor to submit the following report concerning the financial condition of the University, July 1, 1902.

RECEIPTS OF THE UNIVERSITY OF MAINE FROM JULY 1, 1901, TO JULY 1, 1902.

Cash balance, July 1, 1901		$230 56
Bills payable	$5,000 00	
Bills receivable	2,479 09	
Commons	919 11	
Diplomas	234 77	
Alumni hall subscriptions	694 52	
Land grant fund	5,915 00	
Coburn fund	4,000 00	
Interest and discount	224 37	
Library fines	25 34	
Light station	842 29	
Morrill fund	25,000 00	
Rents	1,004 00	
State	15,000 00	
Student receipts	21,471 80	
Kappa Sigma Construction Act	352 87	
Sundry receipts	17 47	$83,180 63
		$83,411 19

NET EXPENSES OF THE UNIVERSITY FROM JULY 1, 1901, TO JULY 1, 1902.

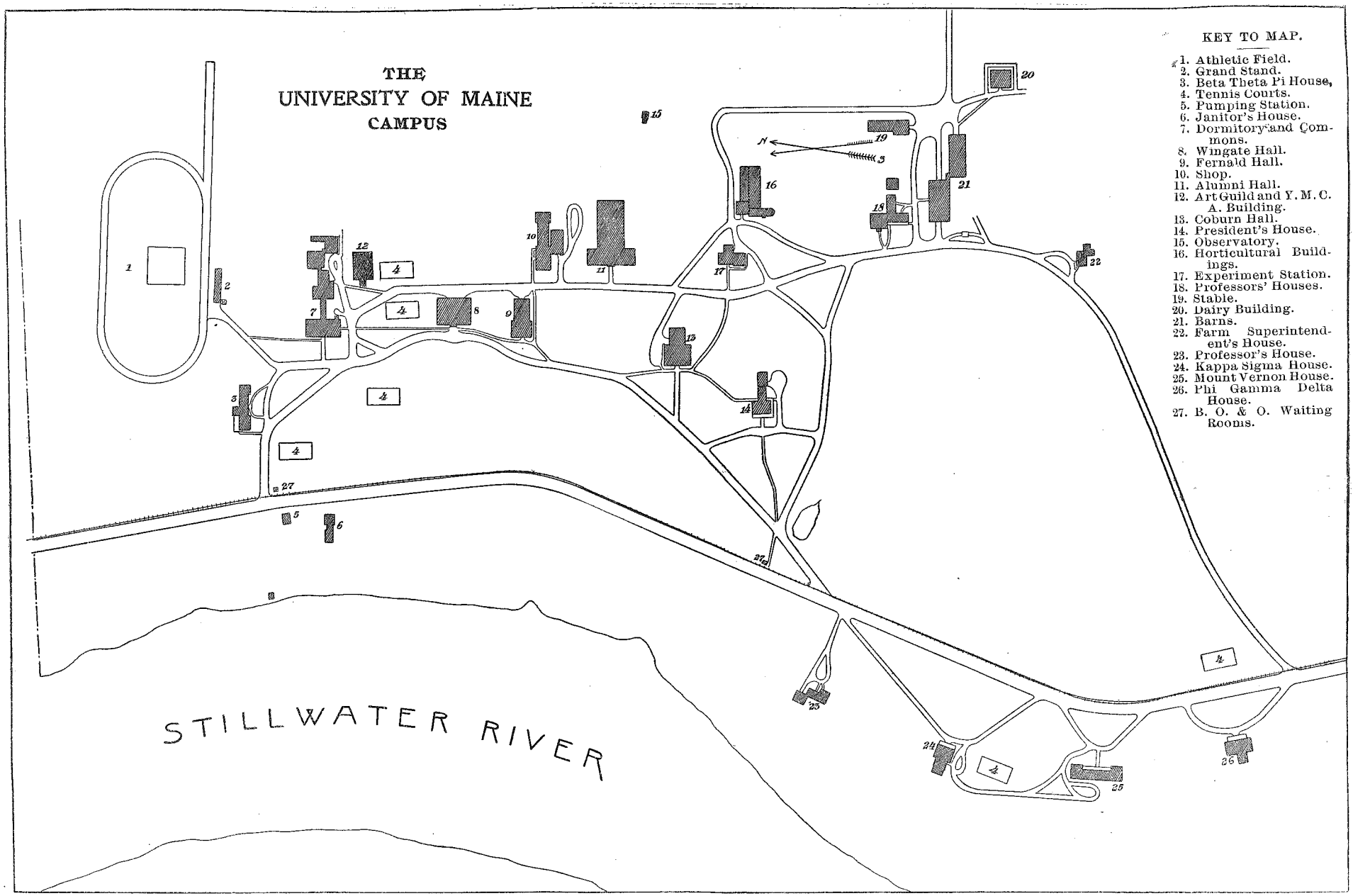
Current expenses:		
Salaries		$44,127 41
Departments:		
Agriculture	$1,134 36	
Bacteriology and Veterinary Science	28 59	
Chemistry, equipment and maintenance	138 75	
Civil Engineering	164 96	
Drawing	1 25	
Electrical Engineering, equipment and maintenance	118 36	
Latin	58 49	
Law School	1,369 92	
Library	2,250 94	
Mathematics and Astronomy	35 24	
Mechanical Engineering, equipment and maintenance	68 68	
Military Science	760 69	
Modern Language	7 70	
Natural History, equipment and maintenance	356 88	
Pharmacy	20 84	
Philosophy	293 91	
Physics, equipment and maintenance	463 05	
Shop	639 45	$7,912 06
		$52,039 47

NET EXPENSES—*Concluded.*

General expenses:		
Advertising	$1,042 17	
Assets and liabilities	902 26	
Care buildings	1,164 89	
Commencement	465 76	
Freight and express	544 34	
Furniture and fixtures	4,150 88	
Grounds, equipment and maintenance	1,302 98	
Heating buildings	2,812 19	
Insurance	22 66	
Incidentals	218 83	
Kidder scholarship	30 00	
Lighting buildings and grounds	1,038 06	
Miscellaneous	1,737 77	
Office	309 02	
Postage and stationery	538 96	
Prizes	40 00	
Reading room	74 40	
General repairs	5,833 30	
Text books	227 35	
Treasury	51 45	
Trustees' expenses	75 00	
Water supply	705 04	
Sundry expenses	85 83	$23,373 14
Cost of maintaining the University for the year		$75,412 61
Alumni Hall		3,486 32
Art Guild		314 70
Heating Plant		3,232 40
Total expense of the University for the year		$82,446 03
Cash balance		965 16
		$83,411 19

ACCOUNT WITH THE UNITED STATES GOVERNMENT APPROPRIATION UNDER THE MORRILL ACT FOR THE YEAR ENDING JUNE 30, 1902.

Received from the United States, July 12, 1901		$25,000 00
Expenditures:		
Agriculture	$5,925 00	
Mechanic Arts	7,700 00	
English Language	2,100 00	
Mathematical Science	2,800 00	
Natural or Physical Science	5,300 00	
Economic Science	1,175 00	$25,000 00


THE
UNIVERSITY OF MAINE
CAMPUS
STILLWATER RIVER
KEY TO MAP.
1. Athletic Field.
2. Grand Stand.
3. Beta Theta Pi House.
4. Tennis Courts.
5. Pumping Station.
6. Janitor's House.
7. Dormitory and Commons.
8. Wingate Hall.
9. Fernald Hall.
10. Shop.
11. Alumni Hall.
12. Art Guild and Y. M. C. A. Building.
13. Coburn Hall.
14. President's House.
15. Observatory.
16. Horticultural Buildings.
17. Experiment Station.
18. Professors' Houses.
19. Stable.
20. Dairy Building.
21. Barns.
22. Farm Superintendent's House.
23. Professor's House.
24. Kappa Sigma House.
25. Mount Vernon House.
26. Phi Gamma Delta House.
27. B. O. & O. Waiting Rooms.

CATALOGUE

OF THE

University of Maine

1902-1903

ORONO, MAINE

AUGUSTA, MAINE
KENNEBEC JOURNAL PRINT
1903

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CALENDAR

FALL TERM, 1902

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September 16, Tuesday,	Entrance examinations begin.
September 18, Thursday,	Fall term begins.
November 25, Tuesday,	Meeting of the Board of Trustees.
November 25, Tuesday,	Thanksgiving recess begins, 5.30 P. M.
December 2, Tuesday,	Thanksgiving recess ends, 7.45 A. M.
December 5, Friday,	Sophomore prize declamations.
December 18, Thursday,	Christmas recess begins, 5.30 P. M.
December 30, Tuesday,	Arrearage examinations begin (Spring term studies).
	1903
January 1, Thursday,	Christmas recess ends, 7.45 A. M.
January 30, Friday,	Fall term ends.

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November 25, Wednesday,	Thanksgiving recess begins, 12 M.
November 30, Monday,	Thanksgiving recess ends, 7.45 A. M.
December 4, Friday,	Sophomore prize declamations.
December 23, Wednesday,	Christmas recess begins, 5.30 P. M.

1904

January 1, Friday,	Arrearage examinations begin (Spring term studies).
January 4, Monday,	Christmas recess ends, 7.45 A. M.
January 29, Friday,	Fall term ends.

SPRING TERM, 1904

February 1, Monday,	Spring term begins.
June 8, Wednesday,	COMMENCEMENT.

CALENDAR OF THE COLLEGE OF LAW

1902

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December 17, Wednesday, Fall term ends.

1903

January 7, Wednesday, Winter term begins.
March 18, Wednesday, Winter term ends.
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June 10, Wednesday, COMMENCEMENT.
October 7, Wednesday, Fall term begins.
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1904

January 6, Wednesday, Winter term begins.
March 16, Wednesday, Winter term ends.
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June 8, Wednesday, COMMENCEMENT.

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Assistant Librarian.

ELIZABETH ABBOTT BALENTINE,.....Campus.
Secretary to the President and Secretary of the Faculty.

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*Deceased.

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Catalogue

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Military

Professor Woods, Professor Walker, Captain Symmonds.

Musical Organizations

Professor Harrington, Professor Fernald, Professor Jackman.

Rules

Professor Woods, Professor Stevens, Professor Munson.

Student Advisers

For Freshmen in all courses: Professor Lewis, Mr. Thompson.
For all other students: the head of the department in which their major subject is taken.

THE UNIVERSITY OF MAINE

ESTABLISHMENT

By an act of Congress, approved July 2, 1862, it was provided that there should be granted to the States, from the public lands, "thirty thousand acres for each Senator and Representative in 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 respectively 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 principal or interest of this fund for the purchase, erection, or maintenance of buildings and required each state taking the benefit of the provisions of the Act "to provide within five years not less than one college" to carry out the purposes of the Act.

Maine accepted this grant in 1863, and in 1865 constituted "a body politic and corporate, by the name of the Trustees of the State College of Agriculture and the Mechanic Arts." The Trustees were authorized to receive and hold donations, to select the professors and other officers of the college, to establish the conditions for admission, to lay out courses of study, to grant degrees, and to exercise other usual powers and privileges.

The Governor and Council were given the right "to examine into the affairs of the college, and the doings of the trustees, and to inspect all their records and accounts, and the buildings and premises occupied by the college."

It was provided that in addition to the studies especially required by the Act of Congress, the college should teach such other studies as its facilities would permit.

The Legislature of 1897 changed the name of the institution to "The University of Maine."

ENDOWMENT AND INCOME

The State of Maine received, under the Act of Congress above referred to, two hundred and ten thousand acres of public land, from which the University has realized an endowment fund of $118,300. This has been increased by a bequest of $100,000 from Abner Coburn of Skowhegan, who was for many years president of the Board of Trustees. The town of Orono contributed $8,000, and the town of Oldtown $3,000, for the purchase of the site on which the buildings stand. The State has appropriated over $300,000 for the material equipment.

Under an Act of Congress approved March 2, 1887, the University receives $15,000 annually for the maintenance of the department known as the Agricultural Experiment Station.

Under an Act of Congress approved August 30, 1890, the University receives $25,000 annually for its more complete endowment and maintenance.

Under an Act of the Legislature, approved March 20, 1897, the University receives $20,000 annually from the State for current expenses. Student fees and miscellaneous receipts complete the income.

LOCATION

The University has a beautiful and healthful location in the town of Orono, Penobscot county, half way between the villages of Orono and Stillwater, three miles from the city of Oldtown, and nine miles from the city of Bangor. The Stillwater river, a branch of the Penobscot, flows in front of the buildings, forming the western boundary of the campus. Orono is upon the Maine Central Railroad and is easy of access from all parts of the State.

The Bangor, Orono and Oldtown Electric Railroad runs through the university grounds. Visitors will find it convenient to take the electric cars at Bangor, Veazie, or Oldtown, as the electric road does not run to the railroad station at Orono. Baggage may be sent to Orono by the Maine Central Railroad.

The College of Law is located in the Exchange Building, Bangor, at the corner of Exchange and State streets.

THE BUILDINGS AND THEIR EQUIPMENT

WINGATE HALL.—One of the most conspicuous buildings on the campus, Wingate Hall, named in honor of William P. Wingate of Bangor, long an honored member of the board of trustees, is a three-story brick structure, rectangular in form, with a handsome clock tower. It was erected for the departments of civil and mechanical engineering, but is at present occupied in part by other departments. On the ground floor are two large designing rooms, recitation rooms, instrument rooms, and the offices of the professors in the engineering departments. On the second floor are the offices and recitation rooms of the professors of

physics, Greek, and Latin, the physical laboratories, and the apparatus room. On the third floor are large, well lighted drawing rooms. In the basement are the dynamo laboratory and the testing room of the department of civil engineering. The testing room contains a Riehle testing machine of 60,000 pounds capacity, cement testing machine, etc. The dynamo laboratory is provided with six direct-current dynamos, two alternating-current dynamos, a rotary converter, transformer, ammeters, voltmeters, wattmeters, rheostats, switches, etc., affording accommodations for fifteen students in a section.

OAK HALL.—North of Wingate Hall is Oak Hall, a substantial four-story brick building used as a dormitory for men, named in honor of Lyndon Oak of Garland, for many years a useful member of the board of trustees. It contains forty-nine study rooms for students, and is supplied with bath rooms. It is heated by steam, supplied with water, and lighted by electricity. It was remodeled in 1895.

UNIVERSITY HALL.—This building, recently equipped as a dormitory and boarding house, is centrally located on Main Street, near the post office and churches, and on the electric car line which passes through the campus. It contains about twenty-five rooms, varying in size, and accommodates about forty students.

FERNALD HALL.—This building, named in honor of Merritt C. Fernald, Ph. D., president of the University from 1879 to 1893, is a two-story brick building, situated south of Wingate Hall. It contains fifteen rooms devoted to the departments of chemistry and pharmacy. On the first floor are the quantitative and pharmaceutical laboratories, with offices and private laboratories for the professors of chemistry and pharmacy: upon the second floor are lecture rooms, the qualitative laboratory, the office and private laboratory of the instructor in qualitative analysis, a store room, and a recitation room. Under the roof are arranged the photographic studio, laboratory, and dark rooms. In the basement is an assay laboratory, the laboratory for beginners, and store rooms. The department is well supplied with apparatus.

COBURN HALL.—Directly south of Fernald Hall is Coburn Hall, named in honor of Abner Coburn of Skowhegan, the chief benefactor of the University. It is a brick building, three stories

in height. In the basement and on the first floor are located the reading rooms and the library, the laboratory and recitation room of the professor of agriculture, and the recitation room of the professor of English. On the second floor are the botanical and zoological laboratories, and recitation rooms for the departments of biology, English, and modern languages. Over the library is the museum. The collections are large and constantly increasing. On the third floor are recitation rooms for the departments of civics and history, philosophy, and modern languages, the modern language seminary room, and the psychological laboratory.

ALUMNI HALL.—To the northeast of Coburn Hall stands the new Alumni Hall, erected in 1900, the largest of the recent additions to the university buildings. The front part contains on the ground floor the offices of the president, secretary, and cashier, a board room, two recitation rooms for the use of the military and mathematical departments, and the office of the professor of mathematics; the second floor contains the university chapel, with a large pipe organ in the choir gallery. In the basement under the drill hall are the offices of the military instructor and the physical director, the baseball cage, bowling alleys, lockers, lavatories, rooms for storage, etc. The dimensions of the drill hall and gymnasium are 100 by 62 feet. This room is encircled by a 9-foot running track suspended from the roof. As a gymnasium it is equipped with complete apparatus of the most approved kind.

THE OBSERVATORY.—The astronomical observatory stands upon a slight elevation to the east of Coburn Hall. The equatorial room is equipped with an eight-inch refractor of the best modern construction, with finding circles, driving-clock, filar micrometer and other accessories. In the transit-room is a Repsold vertical circle of two-inch aperture. These instruments, together with sextants, sidereal chronometer, etc., furnish excellent facilities for instruction in both descriptive and practical astronomy.

THE MACHINE SHOP.—In the rear of Fernald Hall is the machine shop, a wooden building 125 feet long and two stories high, containing the foundry, forge shop, carpenter shop, machine shop and tool room. The building is thoroughly equipped. An

adjoining building, 30 by 71 feet, contains two boilers; of one hundred and fifty, and one hundred horse power, respectively, a fifty horse power Corliss engine, a fifteen horse power Otto gasoline engine, and the dynamos, which comprise the lighting plant. Students in the Electrical Engineering Course receive instruction in the care and running of this equipment.

LORD HALL.—The Legislature of 1903 appropriated the sum of $35,000 for the construction and equipment of a new building for the departments of mechanical and electrical engineering. This building, which is already in process of erection, will consist of a main part about 87x55 feet in dimensions and two stories in height, and an ell 125x40 feet partly of two stories and partly of one story. It will contain three recitation rooms, a large drawing room, the shops, suitable laboratories, and offices for the professors and instructors in the two departments concerned. The increased space will permit also a decided increase in equipment.

THE EXPERIMENT STATION BUILDING.—South of Alumni Hall stands a two-story brick building with basement, which is occupied by the Agricultural Experiment Station. In the basement are rooms for the storage and preparation of samples for analysis, the calorimeter room, and the boiler room. On the ground floor are the chemists' office, the laboratories used in the analysis of foods and feeding stuffs, the nitrogen room, and the laboratory used in the analysis of fertilizers. On the second floor are the general office, the director's office, the bacteriological laboratory, the journal room, and a storage room for books and pamphlets. The building is heated by steam, supplied with gas and electricity, and thoroughly equipped with apparatus.

THE HORTICULTURAL BUILDING.—East of the Experiment Station is the Horticultural Building, consisting of a head-house and three greenhouses. In the head-house are the office of the professor of horticulture, a work room, a seed storage room, a photographing room, the janitor's room, and a room used for storage. The main greenhouse, 20 feet by 100 feet, is devoted to the use of the Experiment Station, and to the instruction of students. A second structure, 20 feet by 80 feet, running parallel to the main greenhouse, is divided, one-half being used for grow-

ing plants, and the remainder as a potting and storage room. The third greenhouse is designed for investigations in plant nutrition. In the south end of this house is the conservatory.

THE DAIRY BUILDING.—The Dairy Building, 50 feet by 42 feet, contains a milk room, a butter room, a cheese-room, a cold storage room, a cheese curing room, a lecture room, the office of the professor of animal industry, and a laboratory. It is supplied with all necessary appliances for teaching the most approved methods of handling milk, cream, butter, and cheese. The building is heated with steam and supplied with hot and cold water. Power is furnished by a six horse power engine.

THE MT. VERNON HOUSE.—This is a wooden building, completed in 1898, to furnish dormitory accommodations for women. It is situated near the recitation and laboratory buildings, upon a site overlooking the campus and commanding a beautiful view of the river, villages, and mountains. It is two stories in height, built in the old colonial style and consisting of a long central portion and two wings. It contains a parlor, dining room, kitchen, bath room, and sixteen study rooms, each intended for two students. The rooms are large, well lighted, heated by a combined system of hot air and hot water, and provided with electric lights from the university plant. A special feature is the long hall on each floor, extending sixty-six feet upon the front of the building, and wide enough to serve as an assembly or study room. The building, and the students who live in it, are under the supervision of a competent matron.

THE FRATERNITY HOUSES.—Five of the student fraternities occupy club houses. Three of the houses are on the campus, and two in the village of Orono. They are large, well arranged houses, affording rooms for about twenty-five students each. Several of the fraternities maintain their own boarding establishments under the supervision of matrons.

THE ART MUSEUM.—The collection of casts, framed pictures, photographs, and engravings belonging to the University Guild occupies quarters in the frame building formerly used as a gymnasium, which has been moved to a point a little northeast of Wingate Hall, and remodeled at an expense of several hundred

dollars. Its main room for exhibition purposes measures 30x40 feet, and contains about three thousand reproductions of various works of art, chiefly of the renaissance period.

OTHER BUILDINGS.—In addition to the buildings already described, there are six others devoted to various purposes. Among these are the President's house, the Commons or general boarding house, and three residences occupied by members of the faculty.

THE ATHLETIC FIELD.—Alumni Field, so called because funds required for its construction were contributed by the Alumni Association, is located at the northwestern extremity of the campus, about 1,200 feet from the Gymnasium. It contains a quarter-mile cinder track, with a 220 yards straightaway, and is graded and laid out for foot ball, base ball, and field athletics.

THE LIBRARY

The library is located in Coburn Hall. It contains over twenty-four thousand bound volumes and eight thousand pamphlets. Some fifteen hundred volumes of special value to the Experiment Station are kept in the Station building; and nearly three thousand law books, in the College of Law. Reference libraries in departmental rooms are maintained by those departments which require them.

Nearly half of the volumes in the library have been added within the last five years, the accessions having averaged more than twenty-five hundred annually during this period; the greater part of these have been acquired by purchase, and in large part have been selected by the heads of departments with particular reference to making the collections of the greatest working value. The time and manner of the selection and purchase of the books result in a particularly useful collection.

The library is classified according to the Dewey system, slightly modified; there is a card catalogue, author and subject; access to the shelves is entirely unrestricted. Students may borrow two

volumes at a time, to be retained two weeks, when they may be renewed unless previously called for; special permission to borrow a larger number may be obtained, when necessary, upon application to the librarian; there is a fine of two cents a day for books kept over time. Officers and alumni of the University may borrow any reasonable number of volumes without time limit, except that all books must be returned at least nine days before Commencement, and the return of any volume may be required at any time by the library committee. Other responsible persons may obtain the privileges of the library upon application to the librarian. The librarian and his assistants are glad to give advice and assistance at any time.

The library is a designated depository for the publications of the United States Congress, and also receives publications of different departments not included in the depository set. All the publications of the State of Maine are received. Over three hundred and fifty of the most important literary, scientific and technical periodicals, both American and foreign, are regularly received. The leading papers of Maine, together with a selected list of daily papers published in the large cities, are on file.

The library is open daily from 8 A. M. to 12.00 M., and from 1.30 to 5.30 P. M., Sundays and legal holidays excepted.

MUSEUM AND HERBARIUM

The museum is located in the wing of Coburn Hall. The mineral cabinet embraces a general collection of three hundred species of the more common minerals, a collection of economic minerals furnished by the National Museum, an educational series of rocks, from the U. S. Geological Survey, and a collection of the more important fragmental, crystalline, and volcanic rocks.

There is a small collection of plant and animal fossils, a set of type exotic mammals, a number of the larger mammals of the State, and working collections of the lower group of both vertebrate and invertebrate animals.

The herbarium comprises the original collection of Maine plants of about 500 species; the new collection of Maine plants of

800 species; the Blake herbarium of 7,000 species, including phænogams and cryptogams; Ellis and Everhard's North American Fungi, comprising thirty-five centuries; Halsted's Lichens of New England; Underwood's Hepaticæ; Cummings and Seymour's North American Lichens; Cook's Illustrative Fungi; Collins's Algæ of the Maine Coast; a collection of illustrative cryptogams in boxes; Harvey's Weeds and Forage Plants of Maine, 300 species; Halsted's Weeds; a collection of grasses and forage plants of 400 species; a collection of United States woods prepared by the United States Department of Agriculture; a collection of seeds and fruits.

ORGANIZATIONS

FRATERNITIES.—The following fraternities are represented in the University: Φ Γ Δ, Β Θ Π, Κ Σ, Α Τ Ω, Φ Κ Σ, Σ Α Ε, Σ Χ, Δ Σ (for women); Γ Η Γ, Σ Β Π (in the College of Law.)

ASSOCIATIONS.—The following is a list of other organizations existing in the University: Scientific Association, Philological Club, German Club, University Guild, Debating Society, Electrical Society, Honorary Society (Phi Kappa Phi), Young Men's Christian Association, Athletic Association, Glee Club, Instrumental Club, Band.

THE SCIENTIFIC ASSOCIATION.—The Scientific Association was organized to promote interest in scientific study and investigation in various departments. It holds a general meeting once a month, and is divided into four groups, each of which has its own stated meetings. Papers describing original work, and those of a more popular nature, are presented from time to time.

THE PHILOLOGICAL CLUB.—The Philological Club meets on the first Monday evening of each month except January, during the academic year, for the presentation and discussion of original papers on philological and literary subjects.

THE UNIVERSITY GUILD.—The University Guild has for its object the building up of an art collection, and the promotion of a general interest, among the faculty, students, and friends of the

University, in the study of the fine arts. The Guild occupies the new Art Museum and holds four regular meetings during the year. As rapidly as funds permit, casts and photographs of celebrated works of art are being added to the collection already begun.

The course in the history of Italian painting is open to members of the Guild.

PHI KAPPA PHI.—The Phi Kappa Phi is an honorary society. At the end of the fall term of the senior year the five members of the class having the highest standing are elected members, and at the end of the year the five next highest are added.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION.—The Young Men's Christian Association, composed of students, has for its object the promotion of Christian fellowship and aggressive Christian work. Religious services are held in the Art Museum, and classes for the study of the Bible are conducted on Sunday.

UNIVERSITY PUBLICATIONS

THE ANNUAL CATALOGUE OF THE UNIVERSITY OF MAINE.—This contains descriptions of the courses of study, lists of the trustees, faculty, and students, and other information relating to the University.

THE SHORT CATALOGUE OF THE UNIVERSITY OF MAINE.—This is an abbreviated form of the catalogue.

THE ANNUAL REPORT OF THE TRUSTEES, PRESIDENT, AND TREASURER, TO THE GOVERNOR AND COUNCIL OF THE STATE.—The reports of the trustees and president include an account of the general affairs and interests of the University for the year, and the reports of the Experiment Station. The report for the odd years contains the biennial catalogue of graduates.

THE UNIVERSITY OF MAINE STUDIES.—These are occasional publications containing reports of investigations or researches made by university officers or alumni.

THE UNIVERSITY CIRCULARS.—These are occasional pamphlets, issued for special purposes. Those now ready for distribution

relate to: the Classical and Latin-Scientific Courses; the Courses in Agriculture; the Courses in Pharmacy; the College of Law; the Courses in Engineering; Student Expenses.

THE MAINE BULLETIN.—This is a small publication issued monthly during the academic year by the University, to give information to the alumni and the general public.

THE ANNUAL REPORT OF THE EXPERIMENT STATION.—This is Part II of the Annual Report of the University.

THE EXPERIMENT STATION BULLETINS.—These are popular accounts of the results of station work which relate directly to farm practice.

THE CAMPUS.—This is a journal published semi-monthly during the university year by an association of the students.

THE PRISM.—This is an illustrated annual, published by the junior class.

MILITARY INSTRUCTION

Military instruction is required by law. The department is under the charge of an officer of the regular army, detailed by the President of the United States for this purpose. Cadet rifles, ammunition, and accoutrements are furnished by the War Department. The course has special reference to the duties of officers of the line. The students are organized into an infantry battalion of three companies, a band, and a signal corps, officered by cadets selected for character, soldierly bearing, and military efficiency. The corps is instructed and disciplined in accordance with rules established by the President of the United States.

The uniform prescribed by the board of trustees is as follows:

For cadets, a dark blue blouse, cut military academy style, braided with black braid and without other ornament than the word MAINE embroidered in gold on each side of the collar; light blue trousers with dark stripe and blue cap, army regulation style, with cross rifles and the letters U. M. embroidered in gold on the front. For commissioned officers, the regulation fatigue

uniform prescribed for infantry officers of the United States Army; for non-commissioned officers, the same uniform as for cadets, with the addition of gilt chevrons on arms of blouse. The total cost of uniforms for all ranks is $13.70. The uniforms are procured through an authorized tailor, and are made in the best manner of thoroughly good material. Cadets are required to wear the uniform when on military duty, and may wear the same at other times, provided the complete uniform is worn.

The three seniors who attain the highest standing in the military department are reported to the Adjutant General of the U. S. Army, and their names are printed in the U. S. Army Register. Cadets who have satisfactorily completed the course in military science receive at graduation a certificate of military proficiency and are reported to the Adjutant General of Maine.

Service in the military department is optional for members of the junior and senior classes that have not received appointments as officers.

PHYSICAL TRAINING

The new gymnasium, completed in the spring of 1901, affords unexcelled opportunities for physical training and in-door athletics.

On the first floor are the baseball cage and bowling alley, lockers, baths and toilet rooms for the accommodation of three hundred and seventy-five students, with space to enlarge these accommodations when necessary.

The gymnasium proper is on the second floor, which has a floor space of 6,550 square feet, with a running track overhead. This main room of the gymnasium is equipped with a large variety of light and heavy gymnastic apparatus and many of the best patterns of modern developing appliances.

Gymnasium work, consisting of drills with Indian clubs, dumb-bells, wands and bar-bells, also exercises on the heavy apparatus, and gymnasium games, is required of freshmen and sophomores from November 15th to April 15th.

A physical examination of each student is made, together with measurements and strength tests. From the data thus procured special exercises are prescribed with a view to the systematic development of the entire physical system.

PUBLIC WORSHIP

Religious services of a simple character are held in the chapel every day except Saturday and Sunday. All undergraduate students are required to be present. Students receive a cordial welcome at all services in the churches of the village. Voluntary religious services, under the direction of the Young Men's Christian Association, are held weekly.

GENERAL REGULATIONS

The regulations in regard to the selection of studies, standings and grades, absences from recitation and examinations, rhetorical exercises, entrance conditions, leave of absence, attendance upon chapel, penalties, examinations, and athletics, are printed in a small pamphlet, which may be obtained from the secretary.

By these regulations, the quota of regular studies for each student varies from a minimum of fifteen hours, to a maximum of twenty hours of class room work each week. In the application of this rule, two hours of laboratory work, or of other exercises not requiring preparation, count as one hour.

Excuses for absence from individual exercises are not required. Each student is expected to be present at all recitations and other exercises except when imperative reasons require absence. Of these reasons he is the judge, but a student who is absent from ten per cent. or more of the exercises in any study is not admitted to the final examination. A student who fails to pass at an examination, is absent from an examination, or is excluded

from an examination, may make up his deficiency at the special examinations held at the times noted in the calendar. The arrearage examinations during the Christmas recess include only studies of the spring term; the examinations during the Easter recess include only studies of the fall term; the examinations at the beginning of the fall term include all the studies of the year. A student who fails to make up an arrearage before the study is again taken in class is required to attend recitations in that study.

Each student is given a report of his work shortly after the close of each term. Parents or guardians may obtain these reports upon application to the secretary.

SCHOLARSHIP HONORS

Honors for scholarship are of two kinds, general and special. General honors are awarded, at graduation, to students who attain an average standing, after the freshman year, of ninety on a scale of one hundred. Special honors are granted for the satisfactory completion of an honor course in addition to the work required for a degree. An honor course must involve at least ninety recitations or an equivalent. The methods of work are determined by the instructor, who should be consulted in each case by students desiring to take such a course. Honor courses are open to juniors and seniors who have attained an average standing of eighty per cent. in all previous work, and an average standing of ninety per cent. in the previous work of the department in which the honors are sought. A student cannot register for an honor course without the consent of the faculty, nor later than the fourth week of the fall term. Upon completion of a course, the student's work will be tested by an examination or thesis, or both, under the direction of the faculty committee on honor courses; and the result, together with the instructor's report, will be laid before the faculty. The faculty may grant special honors to those students who receive the approval of the committee, but will not do so if the general work is unsatisfactory. Honors, and their nature, are stated upon the Commencement program and published in the annual catalogue.

DEGREES

The degree of Bachelor of Arts (B. A.) is conferred upon students that complete the Classical Course.

The degree of Bachelor of Philosophy (B. Ph.) is conferred upon students that complete the Latin-Scientific Course.

The degree of Bachelor of Science (B. S.) is conferred upon students that complete the Scientific, Chemical, Agricultural, Civil Engineering, Mechanical Engineering, Electrical Engineering, Mining Engineering, or Pharmacy Course. The diploma indicates which course has been completed.

The degree of Pharmaceutical Chemist (Ph. C.) is conferred upon students that complete the Short Pharmacy Course.

The degree of Bachelor of Laws (LL. B.) is conferred upon students that complete the Law Course.

Advanced Degrees

For receiving an advanced degree the required preparation must include the attainment of the proper first degree.

The Master's degrees, viz., Master of Arts (M. A.), Master of Philosophy (M. Ph.), Master of Science (M. S.), and Master of Laws (LL. M.), are conferred upon holders of the corresponding Bachelor's degrees under either of the following conditions:

(1) One year's work in residence, including examinations on a prescribed course of study, and the presentation of a satisfactory thesis. The course for each candidate must be approved by the committee on advanced degrees not later than the first week in October. A registration fee of $5.00 is charged, and an additional fee of $15.00 for examinations and diploma is payable upon the completion of the work. The thesis must be submitted in type-written form not later than May 20.

(2) Two years' work in absence, with examinations at the University, the other conditions as in (1).

The professional degrees of Civil Engineer (C. E.), Mechanical Engineer (M. E.), and Electrical Engineer (E. E.), may be conferred upon graduates of the Civil Engineering, Mechanical Engineering, and Electrical Engineering Courses respectively on the presentation of a satisfactory thesis after at least three years of professional work subsequent to graduation. A fee of $10.00 is required, payable upon presentation of the thesis.

STUDENT EXPENSES

Many students go through college with an annual expenditure of little more than $200, exclusive of the expense of clothing, traveling and vacations, and very many earn a part of this sum by vacation work. An estimate of the necessary annual expenses of a student in any department, except the College of Law, may be made from the following table. For the expenses of students in the College of Law reference is made to the article on that College. It should be noticed that clothing, traveling, vacation, society and personal expenses are not included in the table. These vary according to individual tastes and habits. The table is made up for men students who room in Oak Hall and board at the Commons. The necessary expenses of other students are sometimes lower, but usually slightly higher. In all cases an allowance must be made for personal incidental expenses. The expenses of the first year are higher than those of later years.

ANNUAL STUDENT EXPENSES

Tuition, 2 terms at $15.00,	$30 00
Registration fee, 2 terms at $5.00,	10 00
Incidentals, 2 terms at $10.00,	20 00
Laboratory fees (average), about	10 00
Text-books, about,	15 00
Board, 36 weeks at $3.00,	108 00
Heat and light for half room, and general care of dormitory, about	20 00
Total,	$213 00

The tuition charge is $15.00 a term, or $30.00 a year, and all students are subject to this charge except those in the courses in agriculture, for none of which is any tuition charge made. Residents of Maine who need assistance and maintain a good record may obtain, from the University, loans to cover the tuition charge. The regulations in regard to these loans are stated in the article on loans.

The registration fee of $5.00 must be paid at the beginning of each term before the student enters any classes.

The incidental fee is $10.00 a term, or $20.00 a year, and covers heat and light for public buildings, reading-room charges, care of public rooms, and miscellaneous expenses.

The cost of text-books will average about $15.00 a year for the course. These may be bought from the librarian at cost, but must be paid for on delivery. The expense may be decreased by buying second-hand books and selling them after using them.

Students in the laboratories and shops pay certain charges to cover the cost of materials and maintenance. These charges are as follows:—botany, per term, $1.00; chemistry, per term, about $3.00; bacteriology, per course, $3.00; physics, per course, $2.00 to $4.00; pharmacy, per term, about $3.50; mineralogy, $2.00; biology, per course, $2.00; electrical engineering, per course, $2.50; mechanical engineering, per course, $2.00; shop, per course, $4.00 to $5.00. Laboratory charges in the civil engineering course are very few, but traveling expenses incurred in visiting engineering works will be nearly equivalent to the laboratory expenses of other courses.

The largest item of expense is for board. At the Commons, the university boarding house, the price is $3.00 a week. Board may be obtained in clubs or private families at prices ranging from $2.50 to $3.25 a week.

The charges for rooms in Oak Hall are $0.60 a week for each student, when two occupy a room. This pays for heat and light, for the lighting and care of the halls and public rooms of the dormitory, and for ordinary damages. Students supply their own furniture. Furnished rooms, with light and heat, may be obtained in the village for $1.50 a week if occupied by one person, or $2.00 a week if occupied by two persons.

Students in University Hall pay $1.00 a week for room and $3.00 a week for board.

Women students that do not live at their own homes are required to room and board at the Mt. Vernon House. The price of board is $3.00 a week. For the heat, light and care of their rooms and of the public rooms the charge is seventy-five cents a week.

Each student is required to deposit with the treasurer a bond, with two good names as sureties, in the amount of $150.00, to cover term bills. Blanks on which bonds should be made out will be furnished by the secretary upon application. Those who keep a sufficient deposit with the treasurer to cover the bills of one term will not be required to furnish a bond. The deposit required is $90.00 from those who board at the Commons, University Hall, or Mt. Vernon House, and $30.00 from others. No student will be graduated who is in debt to the treasury.

A circular containing a fuller statement in regard to expenses, and treating of the opportunities for self-help, may be obtained upon application.

LOANS

Tuition Loans

Residents of Maine that need assistance and maintain a satisfactory record may borrow from the university treasury a sum sufficient to pay the tuition charge. This privilege is not extended to students in the College of Law.

Borrowers are required to give endorsed notes or other satisfactory security. The loans bear interest at six per cent. per annum, and are due $30.00 a year, beginning with the first year after graduation, but may be paid earlier. No member of the faculty is accepted as an endorser.

Loans are granted by a committee consisting of the president and two other members of the faculty. The number of loans may not exceed one-third of the number of students in the undergraduate departments. Loans are granted to cover the tuition charges of one year at a time.

The first grant of loans for each university year is made in June preceding. Applications for loans are considered during May, and to insure attention at this time should be forwarded to the President not later than May 15. A second award is

made in the fall term. Applications should be made not later than October 10. They must be made to the President upon blanks to be obtained from the Secretary of the faculty. Awards made in June may be withdrawn from students who do not register, or claim their loans, by October 10.

The Kittredge Loan Fund

This fund, amounting to nearly one thousand dollars, was established by Nehemiah Kittredge of Bangor. It is in the control of the president and treasurer of the University, by whom it is loaned to needy students. In the deed of gift it was prescribed that no security but personal notes bearing interest at the prevailing rate should be required. Loans are made on the conditions that the interest shall be paid promptly, and that the principal shall be returned from the first earnings after graduation.

SCHOLARSHIPS AND PRIZES

The Kidder Scholarship.—The Kidder Scholarship was endowed by Frank E. Kidder, Ph. D., Denver, Colorado, a graduate of the University in the class of 1879, to be awarded to a member of the junior class to be selected by the President and the Faculty.

The Junior Exhibition Prize will be awarded to that member of the junior class who shall present the best oration at the junior exhibition. In the award of this prize both the composition and the delivery of the oration will be considered.

The Sophomore Declamation Prize, for excellence in elocution, will be awarded to the best speaker in the sophomore class.

The Libbey Prize, the gift of the Hon. Samuel Libbey, Orono, will be awarded to the student who shall present the best essay upon an agricultural topic. The essays must be handed to the professor of agriculture on or before the first Monday in June.

The Walter Balentine Prize, the gift of Whitman H. Jordan, Sc. D., Geneva, N. Y., a graduate of the University in

the class of 1875, will be awarded to that member of the junior class who shall excel in biological chemistry.

THE KENNEBEC COUNTY PRIZE, the gift of the Hon. William T. Haines, Waterville, a graduate of the University in the class of 1876, will be awarded to that member of the senior class who shall write the best essay on applied electricity.

THE FRANKLIN DANFORTH PRIZE, the gift of the Hon. Edward F. Danforth, Skowhegan, a graduate of the University in the class of 1877, in memory of his father, Franklin Danforth, will be awarded to that member of the senior class in the agricultural course who shall attain the highest standing.

THE PHARMACY PRIZE will be awarded to that student in the Pharmacy Department who shall attain the highest standing in chemistry in the last year of his course.

ADMISSION

Applicants for admission must pass the required examinations, or present satisfactory certificates of fitness, and file with the Treasurer a bond for $150 signed by two bondsmen, as security for the payment of term bills. A cash deposit covering the bills of one term will be accepted in place of a bond. In the School of Law the fees must be paid in advance, and no bond or deposit is required. The University admits men and women, both residents of Maine and non-residents.

Candidates for advanced standing are examined in the preparatory studies, and in those previously pursued by the classes they propose to enter, or in other equivalent studies. Certificates from approved schools are accepted for the preparatory work, but not for any part of the college work, unless done in a college. A student who has accomplished half of the preparatory course may be examined on that part, and receive credit therefor.

The attention of students preparing for the entrance examinations is called to the need of careful work in mathematics. A good preparation in algebra and geometry is most important for those who expect to enter engineering courses. The schools

should give a part of the work in algebra and geometry, or a review of these subjects, during the last year.

Students preparing for the Classical or Latin-Scientific courses should devote special attention to Latin composition, Roman history, and constant practice in pronouncing Latin according to the Roman method.

Persons, not candidates for a degree, who wish to take special studies, may be permitted to do so upon giving satisfactory evidence that they are prepared to take the desired studies. If they subsequently desire to become candidates for a degree, or to take a regular course, they will be required to pass the entrance examinations.

No examinations are required for admission to the short winter courses.

College graduates who wish to enter a technical course are admitted to the junior class without examination. Students in general college courses, who expect to pursue technical courses after graduation, should avail themselves of opportunities for the study of mathematics, physics, chemistry, and drawing, as a preparation for engineering courses; and of physics, chemistry, and drawing, for chemical and biological courses.

Admission to the College of Law

Graduates of a college, or of a preparatory school of good standing, are admitted without examination. Other applicants must give satisfactory evidence of the necessary qualifications. These are fixed in each case on a consideration of its merits.

Students from other law schools of good standing are admitted to the appropriate classes in this school upon certificate. Students from law offices are admitted to advanced standing after passing a satisfactory examination upon the earlier subjects of the course. Members of the bar of any State are admitted to the senior class without examination.

Special students, not candidates for a degree, are admitted without examination.

ENTRANCE EXAMINATIONS

Examinations are held at Orono, beginning two days before the opening of the fall term, and on the day after Commencement. To save expense to candidates, examination papers will be sent

to any satisfactory person who will consent to conduct examinations on these days. The questions are to be submitted under the usual restrictions of a written examination, and the answers returned to the University accompanied by the indorsement of the examiner. Applications for such examinations must be made out on blanks to be obtained from the secretary of the faculty.

Candidates for the CLASSICAL COURSE are examined on—*Language,* English, Latin, Greek, and either French or German; *History,* Roman, Greek; *Mathematics,* Plane Geometry, Algebra.

Candidates for the LATIN-SCIENTIFIC COURSE are examined on—*Language,* English, Latin, and either French or German; *History,* Roman; *Mathematics,* Plane Geometry, Algebra.

Candidates for the SCIENTIFIC COURSE are examined on—*Language,* English, and one year of a foreign language, either ancient or modern; *History,* One of the following,—General, Roman, Greek, English; *Mathematics,* Plane Geometry, Algebra; *Science,* Two of the following,—Botany, Chemistry, Physical Geography, Physics.

Candidates for the CHEMICAL, AGRICULTURAL (four years), PREPARATORY MEDICAL, AND PHARMACY (four years) COURSES are examined on—*Language,* English, and one year of a foreign language, either ancient or modern; *Mathematics,* Plane Geometry, Algebra; *Science,* Two of the following,—Botany, Chemistry, Physical Geography, Physics.

Candidates for the CIVIL ENGINEERING, MECHANICAL ENGINEERING, ELECTRICAL ENGINEERING, AND MINING ENGINEERING COURSES are examined on—*Language,* English, and one year of a foreign language, either ancient or modern; *Mathematics,* Plane and Solid Geometry, Algebra; *Science,* Two of the following,—Botany, Chemistry, Physical Geography, Physics.

Candidates for SHORT COURSES IN AGRICULTURE (one year or more) are examined on—*Elementary Subjects,* Arithmetic, English Grammar, Physiology; *Language,* English; *History,* United States; *Mathematics,* Algebra through simple equations of the first degree; *Science,* One of the following,—Botany, Chemistry, Physical Geography, Physics.

Candidates for the SHORT COURSE IN PHARMACY (two years) are examined on—*Elementary Subjects,* Descriptive Geography, Arithmetic, English Grammar, Physiology; *History,* United States; *Mathematics,* Algebra through simple equations of the first degree.

SUBSTITUTES.—One year of Latin will be accepted as a substitute for any one of the following groups: (a) Geography, Arithmetic, English Grammar, and Physiology; (b) French or German; (c) One science.

One year of French or German will be accepted as a substitute for either of the following groups: (a) Geography, Arithmetic, English Grammar, Physiology; (b) One science.

Other equivalents will be accepted for any of the requirements except Mathematics, Latin, or Greek.

For the requirements for admission to the College of Law, see the article on the College of Law, page 118.

ENTRANCE REQUIREMENTS

The stars indicate the studies required.

For requirements of the College of Law see page 118.

COLLEGE OF	ARTS AND SCIENCES					AGRICULTURE		ENGINEERING			PHARMACY	
COURSE	Classical	Latin Scientific	Scientific	Chemical	Preparatory Medical	Four years	Special	Civil	Mechanical	Electrical	Four years	Two years
Language:												
English	*	*	*	*	*	*	*b	*	*	*	*	*b
French	*c	*c	*d	*d	*d	*d	.....	*d	*d	*d	*d	.....
German												
Latin	*	*										
Greek	*	.....										
History:												
United States	.....	.....	.....	.....	....	.....	*	.....	.....	.....	.....	*
General	.....	.....	*e	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roman	*	*										
Greek	*	.....										
English	.....	.....										
Mathematics:												
Plane Geometry	*	*	*	*	*	*	.....	*	*	*	*	
Solid Geometry	.....	.....	.....	.....	.....	.....	.....	*f	*f	*f	.....	.....
Algebra	*	*	*	*	*	*	*g	*	*	*	*	*g
Science: a												
Botany	.....	.....	*h	*h	*h	*h	*i	*h	*h	*h	*h	.....
Chemistry			*	*	*	*		*	*	*	*	
Physical Geog.												
Physics												
Elementary: a												
Geography	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	*
Arithmetic	.....	.....	.....	.....	.....	.....	*	.....	.....	.....	.....	*
Physiology	.....	.....	.....	.....	.....	.....	*	.....	.....	.....	.....	*

a—One year of a foreign language, ancient or modern, will be accepted as a substitute for all the elementary studies, or for one science. *b*—English grammar only. *c*—One year of French or German. *d*—One year of a foreign language, either ancient or modern. *e*—One from General, Roman, Greek, or English history. *f*—See page 47. *g*—Through simple equations of the first degree only. *h*—Two sciences, from the list of four, are required. *i*—One science, from the list of four, is required.

ENTRANCE REQUIREMENTS

The following statements will show in detail the requirements in each subject.

LANGUAGE

ENGLISH.—*Grammar.* The usual school course. Attention should be given to punctuation and the use of capital letters.

Reading and Practice. Each candidate will be required to present evidence of a general knowledge of the substance of the books mentioned below and to answer simple questions on the lives of their authors. The examination will usually be the writing of one or two paragraphs on each of several topics. The treatment of these topics is designed to test the power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of this test the candidate may present an exercise book, certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

In 1903 this part of the examination will be based upon: Shakespeare's Merchant of Venice; Pope's Iliad, books I, VI, XXII, and XXIV; the Sir Roger de Coverley Papers in the Spectator; Goldsmith's The Vicar of Wakefield; Coleridge's The Ancient Mariner; Scott's Ivanhoe; Cooper's The Last of the Mohicans; Tennyson's The Princess; Lowell's The Vision of Sir Launfal; George Eliot's Silas Marner.

In 1904 and 1905 it will be based upon: Shakespeare's Merchant of Venice and Julius Cæsar; the Sir Roger de Coverley Papers in The Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Scott's Ivanhoe; Carlyle's Essay on Burns; Tennyson's Princess; Lowell's Vision of Sir Launfal; George Eliot's Silas Marner.

In 1906, 1907, and 1908 it will be based upon: Shakespeare's Macbeth and The Merchant of Venice; The Sir Roger de Coverley Papers in The Spectator; Irving's Life of Goldsmith; Coleridge's The Ancient Mariner; Scott's Ivanhoe and The Lady of the Lake; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Lowell's The Vision of Sir Launfal; George Eliot's Silas Marner.

Study and Practice. This part of the examination presupposes a careful study of the works named below. The examination will be upon subject-matter, form, and structure; and will also test the candidate's ability to express his knowledge with clearness and accuracy.

In 1903, this part of the examination will be based upon: Shakespeare's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

In 1904 and 1905 it will be based upon: Shakespeare's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and on Addison.

In 1906, 1907, and 1908 it will be based upon: Shakespeare's Julius Cæsar; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essay on Milton, and Life of Johnson.

MODERN LANGUAGES.—In 1903 candidates offering a modern language need present but one year of French or German. After 1903 the entrance requirements in all courses leading to a Bachelor's degree will include two years of either French or German. Candidates may present themselves for an examination in French or German based upon the Third Year Courses outlined below, and upon obtaining a rank of 80% will be allowed to pursue advanced work in college. But this examination in the Third Year Course will not be received in lieu of any required examination for admission, or of work required for a certificate.

FRENCH

FIRST YEAR. Pronunciation; rudiments of grammar, including inflection of the regular and the more common irregular verbs, plural of nouns, inflection of adjectives, participles and pronouns, use of personal pronouns, common adverbs, prepositions, and conjunctions, word order, and elementary syntax; abundant easy exercises; 100-175 pages of graduated texts; practice in translating into French variations of sentences read; dictation, and reproduction from memory of sentences from text. Super's or Whitney's Reader is recommended.

SECOND YEAR. 250-400 pages of easy modern prose; constant practice in translation of easy variations of the text into French; abstracts of the text; continuation of grammar; dictation.

The following texts are recommended: (1) Perrault's Contes de Fées, or Daudet's Easier Short Stories; (2) Erckmann-Chatrian's Mme. Thérèse or Conscrit de 1813, or About's Roi des Montagnes, or Mérimée's Colomba; (3) Labiche's Voyage de M. Perrichon, or Labiche et Martin's La Poudre aux Yeux.

THIRD YEAR. 400-600 pages of ordinary difficulty; constant practice in French paraphrases, abstracts, reproductions from memory; study of a grammar of moderate completeness; dictation.

The following texts are recommended: (1) Sandeau's Mlle. de la Seiglière, or Augier et Sandeau's Le Gendre de M. Poirier; (2) Corneille's Le Cid or Horace; (3) Racine's Athalie or Andromaque; (4) Molière's L'Avare or Le Bourgeois Gentilhomme; (5) Hugo's Hernani, or Coppée's Poems.

GERMAN

FIRST YEAR. Pronunciation; memorizing and frequent repetition of easy colloquial sentences; grammar; article, commonly used nouns, adjectives, pronouns, weak verbs and more usual strong verbs, more common prepositions, simpler uses of modal auxiliaries, elementary rules of syntax and word-order; abundant easy exercises in composition; 75-100 pages of graduated texts from a reader; constant practice in translating into German easy variations of text, and reproduction from memory of sentences from text.

SECOND YEAR. Continued drill on rudiments of grammar; 150-200 pages of easy stories and plays; continued translation into German of easy variations on matter read and offhand reproduction, orally and in writing.

The following texts are recommended: (1) Andersen's Märchen or Bilderbuch, or Leander's Träumereien, about forty pages; (2) Hauff's Das Kalte Herz, or Zschockke's Der Zerbrochene Krug; (3) Hillern's Höher als die Kirche, or Storm's Immensee; (4) a short story from Heyse or Baumbach or Seidl; (5) Benedix' Der Prozess.

THIRD YEAR. Grammar: less usual strong verbs, use of articles, cases, auxiliaries, tenses and moods (particularly the infinitive and subjunctive), word-order and word-formation; about 400 pages of moderately difficult prose and poetry; constant practice in paraphrases, abstracts and memory reproductions of passages read.

The following texts are recommended: (1) One of Riehl's Novelettes; (2) a part of Freytag's Bilder aus der Deutschen Vergangenheit; (3) a part of Foqué's Undine, or a part of Schiller's Geisterseher; (4) a short course in Lyrics and Ballads; (5) one classical play by Goethe, or Schiller, or Lessing.

LATIN.—The grammar, including prosody; Cæsar's Gallic War, books I-IV; Cicero's four orations against Catiline, and those for Archias and for the Manilian Law; Vergil's Eclogues and the Æneid, books I-VI; the sight translation of Latin passages of moderate difficulty; the translation into Latin of simple English sentences, and of easy narrative passages based on the prose authors read. For the last a vocabulary of unusual words will be furnished. Equivalent readings will be accepted for those prescribed.

GREEK.—The grammar, including prosody; Xenophon's Anabasis, books I-IV; Homer's Iliad, books I-III; the sight translation of easy passages from Xenophon; the translation into Greek of easy passages based on the required books of the Anabasis. For the last a vocabulary of unusual words will be furnished. Equivalent readings will be accepted.

HISTORY

GENERAL HISTORY.—A knowledge such as may be obtained from Myers's General History.

ROMAN HISTORY.—A knowledge such as may be obtained from Allen's Short History of the Roman People, or from Myers's Rome: Its Rise and Fall, to the death of Marcus Aurelius.

GREEK HISTORY.—Pennell's, or Myers's, History of Greece, to the capture of Corinth, 146 B. C.

ENGLISH HISTORY.—A knowledge such as may be obtained from Montgomery's History of England.

UNITED STATES HISTORY.—A knowledge such as may be obtained from Higginson's History of the United States.

Mathematics

Plane Geometry.—The first five books of Wells's, or of Wentworth's Geometry, or an equivalent. Numerical exercises, original propositions and the neat and careful construction of figures should not be neglected. The examination will include original propositions for demonstration or construction.

Solid Geometry.—Books VI-IX of Wells's, or books VI-VIII of Wentworth's Geometry, or an equivalent. The examination will be planned to test the candidate's ability to apply the theorems to the computation of surfaces and volumes, as well as his readiness in demonstration. Required only of candidates for the engineering course.

Algebra.—The elements, equations of the first degree, radicals, the theory of exponents, quadratic equations, ratio and proportion, arithmetical and geometrical progression, the binomial theorem. Candidates for special courses in agriculture or for the short course in pharmacy will be examined on no topics beyond simple equations of the first degree. A satisfactory preparation may be obtained from Newcomb's, Wells's Academic, or Wentworth's School Algebra.

Science

Botany.—An elementary course which will bring the student into contact with plants. Gray's Lessons in Botany, Spaulding's Introduction to Botany, or Bergen's Elements of Botany, will serve as a satisfactory guide.

Chemistry.—The necessary ground is covered by the following text-books: Fisher, Remsen, Roscoe (inorganic part), Shepard, Storer and Lindsay, Williams.

Physical Geography.—A satisfactory preparation may be obtained from Appleton's Physical Geography.

Physics.—A satisfactory treatment of this subject may be found in Avery's, or Gage's Physics.

Elementary Subjects.

Descriptive Geography.—The usual school course. Required for short course in pharmacy only.

ARITHMETIC.—The usual school course, including the metric system of weights and measures. Required for the short courses only.

PHYSIOLOGY.—Cells and tissues, skeleton, muscles, blood and circulation, respiration, nutrition and digestion, lymphatic system, excretory organs, nervous system, special senses, hygiene. Required for the short courses only.

THE NEW REQUIREMENTS FOR ADMISSION

After 1903 the requirements for admission stated in the preceding pages will go out of use, and will be replaced by the following plan of college entrance requirements, which was adopted by the Maine Association of Colleges and Preparatory Schools at its annual meeting in Augusta, October 25th, 1902:

To gain admission into any of the courses leading to the degrees of B. A., B. Ph., or B. S., 26 points must be offered by the candidate, according to the following schedules (to count 2 points, a subject must be pursued for one school year, with five recitation periods a week):

FOR THE B. A. COURSE

(All Subjects Required)

College Entrance English	counts	4	points
Latin	"	8	"
Greek	"	6	"
Algebra	"	4	"
Plane Geometry	"	2	"
Roman History	"	1	point
Greek "	"	1	"
		26	

FOR THE B. Ph. COURSE

Required Subjects

College Entrance English	counts	4	points
Latin	"	8	"
Algebra	"	4	"
Plane Geometry	"	2	"
Roman History	"	1	point
		19	

Optional Subjects (7 Points to be Chosen)

(If Greek is not taken, French or German must be; and if Greek is taken, Greek History must be taken also. Not less than 4 points of any modern language will be accepted.)

Greek	counts	6	points
Each year of French	"	2	"
" " " German	"	2	"
*Chemistry	"	2	"
*Physics	"	2	"
Solid Geometry	"	1	point
Greek History	"	1	"
English "	"	1	"
American History and Civil Government	"	1	"

FOR THE B. S. COURSE

Required Subjects

College Entrance English	counts	4	points
Algebra	"	4	"
Plane Geometry	"	2	"
Solid Geometry	"	1	point
		11	

*The work in these sciences must include certified notebooks exhibiting the results of experimental work performed by the student.

Optional Subjects (15 Points to be Chosen)

(Of these, two years of one modern language, one year of science, and one year of history must be taken. Not less than 4 points of any modern language will be accepted.)

Each year of French	counts	2	points
" " " German	"	2	"
" " " Latin	"	2	"
" " " Greek	"	2	"
Advanced Mathematics (higher Algebra and Plane and Spherical Trigonometry)	"	2	"
*Chemistry	"	2	"
*Physics	"	2	"
Physiography	"	1	point
Physiology	"	1	"
Roman History	"	1	"
Greek "	"	1	"
English "	"	1	"
American History and Civil Government	"	1	"

ADMISSION BY CERTIFICATE

Certificates for admission to the freshman class are accepted from graduates of approved schools, but will not be accepted from non-graduates except in extraordinary cases, and then only provided the candidate is expressly recommended for admission by the principal of the school from which he comes. Certificates must be made out on blanks furnished by the University.

Any preparatory school whose course of instruction covers in a satisfactory manner the requirements for admission may be placed upon the list of approved schools. Application for such approval should be made to the secretary of the University, and must be accompanied by a detailed statement of the course of study.

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*The work in these sciences must include certified notebooks exhibiting the results of experimental work performed by the student.

APPROVED SCHOOLS	PRINCIPAL
Athol (Mass.) High School,	F. C. Avery.
Bangor High School,	Henry K. White, M. A.
Bar Harbor High School,	Arthur M. Thomas, M. A.
Bath High School,	H. E. Cole, M. A.
Belfast High School,	Hal R. Eaton, B. A.
Bennington (Vt.) Academy,	Albert W. Varney, B. A.
Berwick Academy, South Berwick,	Frank E. Nye, B. A.
Biddeford High School,	Harry H. Burnham, M. A.
Boston (Mass.) English High School,	John F. Casey, M. A.
Boynton High School, Eastport,	A. G. Averill, B. A.
Brewer High School,	Harlan M. Bisbee, B. A.
Bridge Academy, Dresden Mills,	L. A. Bailey, M. A.
Bridgton Academy, North Bridgton,	C. C. Spratt, B. A.
Bridgton High School,	Charles Stone, B. A.
Bristol Academy, Taunton, Mass.,	Frederick T. Farnsworth, M. A.
Brunswick High School,	Charles Fish, M. A.
Calais Academy,	J. F. Ryan, B. A.
Caribou High School,	W. P. Hamilton, B. A.
Cherryfield Academy,	T. C. Tooker, M. A.
Coburn Classical Institute, Waterville,	F. W. Johnson, M. A.
Cony High School, Augusta,	C. F. Cook, B. A.
Corinna Union Academy,	Frank E. Briggs, B. A.
Cornish High School,	Stephen Rounds, B. A.
Danforth High School,	James L. Thompson, B. A.
Deering High School,	John M. Nichols, M. A.
Dexter High School,	H. N. Gardner, B. A.
East Corinth Academy,	Francis E. Russell, M. A.
East Maine Conference Seminary, Bucksport,	Simpson A. Bender, B. A., B. D.
Edward Little High School, Auburn,	J. F. Moody, M. A.
Ellsworth High School,	W. H. Dresser, B. A.
Farmington High School,	Charles M. Pennell, B. A.
Fort Fairfield High School,	Harry E. Walker, B. A.
Foxcroft Academy,	Lyman K. Lee, B. A.
Framingham Academy and High School, Framingham Center, Mass.,	Alfred C. Fay, B. A.
Freeport High School,	R. S. Randall, B. A.

Fryeburg Academy, Chas. G. Willard, B. A.
Gardiner High School, William L. Powers, M. A.
George Stevens Bluehill Academy, Bluehill,
Walter H. Russell, M. A.
Gorham High School, Leon O. Glover, M. A.
Gould's Academy, Bethel, Frank E. Hanscom, M. A.
Greeley Institute, Cumberland Center,
Henry H. Williams, M. A.
Guilford High School, C. F. Leadbetter, M. A.
Hallowell High School, Guy C. Howard, B. A.
Hampden Academy, Evangeline Taylor, B. A.
Haverhill (Mass.) High School, A. E. Tuttle, M. A.
Hebron Academy, W. E. Sargent, M. A.
Higgins Classical Institute, Charleston, H. Warren Foss, B. A.
Hyde Park (Mass.) High School, Merle S. Getchell, M. A.
Islands Falls High School, Benj. P. Merrill, B. A.
Jordan High School, Lewiston, Norris E. Adams, B. A.
Leavitt Institute, Turner Center, Horatio P. Parker, B. A.
Limerick Academy, William A. Hawthorne, B. A.
Limington Academy, B. M. Clough, B. A.
Lincoln Academy, Newcastle, George H. Larrabee, M. A.
Lisbon High School, Irving C. Foss.
Lisbon Falls High School, Leander H. Moulton, M. A.
Lubec High School, Wm. K. Holmes, B. A.
Lynn (Mass.) English High School, Charles S. Jackson, B. S.
Machias High School, D. Lyman Wormwood, B. A.
Madison High School, Thomas A. Roberts, B. A.
Maine Central Institute, Pittsfield, F. U. Landman, B. A.
Maine Wesleyan Seminary and Female College, Kent's Hill,
Wilbur F. Berry.
Mechanic Falls High School, H. H. Stuart, B. A.
Melrose (Mass.) High School, William C. Whiting, M. A.
Monmouth Academy, Arthur J. Chick, B. A.
Monson Academy, W. S. Knowlton, M. A.
Northboro (Mass.) High School, C. L. Judkins, B. A.
North Brookfield (Mass.) High School,
Geo. Nelson McDaniels, M. A.
North Yarmouth Academy, Yarmouth, Rev. B. P. Snow, M. A.
Norway High School, Verne M. Whitman, M. A.
Oakland High School, F. L. Tapley.
Oldtown High School, Harry T. Watkins, M. A.

Orleans (Mass.) High School, L. E. Ryther, B. S.
Orono High School, Nathan R. Smith, B. A.
Orange (Mass.) High School, Charles L. Curtis, B. A.
Palmer (Mass.) High School, Fred Wilder Cross, B. A.
Parsonsfield Seminary, Frederick W. Ernst, M. A.
Patten Academy, San Lorenzo Merriman, B. A.
Pennell Institute, Gray, C. W. Pierce, M. A.
Phillips Limerick Academy, Limerick, Kenneth Archibald, B. A.
Portland High School, Albro E. Chase, B. A.
Plymouth (Mass.) High School, George F. Kenney, B. A.
Presque Isle High School, Noah V. Barker, B. A
Richmond High School, Herbert D. Stewart, B. A.
Ricker Classical Institute, Houlton, Justin O. Wellman, B. A.
Rockland High School, L. E. Moulton, B. A.
Rumford Falls High School, Mrs. Charles W. Cary, B. A.
Sanborn Academy, Kingston, N. H., Z. Willis Kemp, Ph. D.
Searles High School, Great Barrington, Mass.,
Geo. R. Pinkham, M. A.
Skowhegan High School and Bloomfield Academy, Skowhegan,
DeForest H. Perkins, Ph. B.
South Paris High School.
Thomaston High School, Albert S. Cole, B. A.
Thornton Academy, Saco, Edwin P. Sampson, M. A.
Warren High School, Parker T. Pearson, B. A.
Washington Academy, E. Machias, A. Sherman Harriman, B. A.
Waterville High School, Richard W. Sprague, B. A.
Westbrook High School, W. B. Andrews, M. A.
Westbrook Seminary, Deering, O. H. Perry, B. A.
Wilton Academy, Drew T. Harthorn, M. A.
Wiscasset Academy, Charles S. Sewall, B. A.
Yarmouth High School, Herbert M. Moore, B. A.

CERTIFICATES AFTER 1903

The New England College Entrance Certificate Board was organized at Boston, on May 16, 1902, and includes representatives from the following co-operating institutions:

Amherst College
Boston University
Brown University
Dartmouth College

Mount Holyoke College
Smith College
The University of Maine
Tufts College
Wellesley College
Wesleyan University.

The By-Laws and Rules of this Board have been endorsed by the above-mentioned institutions, which have agreed to refer to said Board all schools that ask for the privilege of certification.

In accordance with these rules no certificate will be accepted after January 1, 1904, by the The University of Maine from any school in New England which has not been approved by the above-mentioned Board. Certificates from schools approved by this Board will be accepted at any of the institutions co-operating to maintain it. Any Superintendent or Principal desiring to have a school under his charge placed upon the approved list should apply to the Secretary of the Board, Nathaniel F. Davis, 159 Brown St., Providence, R. I.

REQUIREMENTS FOR GRADUATION

(These do not apply to the College of Law and the Short Pharmacy Course. See pp. 56, 59.) The college year is divided equally into a fall term and a spring term. Five recitation hours a week of successful work for one term entitle a student to one credit. The minimum regular work for a term is fifteen hours a week (exclusive of physical training and military science), leading to three credits. Six credits thus represent the minimum work of a year. In making up the quota of studies, laboratory work, and other studies not requiring preparation, count as half time—that is, two hours in the laboratory are counted as equivalent to one hour. The hours devoted to such studies are marked with a dagger (†) in the detailed description of courses of instruction.

Candidates for graduation are required to complete a four-years course of study by securing at least twenty-four credits. Certain courses require a larger number, as stated below. The credits are distributed as follows:

REQUIRED WORK.—This work must be done by all students that are candidates for a degree, unless a special excuse is obtained from the faculty committee on required work, and is common to all courses. The required work includes:

1. English, one year, five hours a week, or the equivalent divided between two years.

2. Mathematics, one year, five hours a week.

3. Science (Chemistry, Physics, Botany, or Biology), one year, five hours a week, of which time an important part must be occupied with laboratory work.

4. Language (Greek, Latin, German, French), one language the equivalent of two years, or two languages the equivalent of one year each, five hours a week. A student beginning German or French must receive at least two credits in the subject to count it towards a degree.

MAJOR SUBJECT.—Each student must select in some one department work to be pursued three or four years, five recitations a week. In many cases the selection of a major subject need not be made before the beginning of the sophomore year. A student may change his major subject with the consent of the professors in charge of the department which he leaves and the one which he wishes to enter; but no student will be graduated who has not finished all the work required for graduation in some one department, no matter how much work he may have done in other departments. The major subject must include work counting not less than six, nor more than eight credits, except that in the engineering and pharmacy courses the maximum is ten credits, and in the chemical course it is eleven credits. In the case of departments in which less work is offered than amounts to six credits, this amount must be made up from such other, related, departments as the professor under whose direction the major is taken may prescribe.

ELECTIVE WORK.—The remainder of the student's work may be selected from any undergraduate department or departments of the University. This must be done with the advice of the head of the department in which the student has chosen his major subject, that it may bear some useful relation to his other work. In the more technical courses this provision naturally makes most of the work practically prescribed.

DEPARTMENTS OF INSTRUCTION

GREEK

PROFESSOR HUDDILSTON.

Gk 1. XENOPHON.—Hellenica, Books I-IV. Study of syntax, and daily exercises in writing Greek. *Four hours a week.* Fall term.

Gk 2. HOMER.—Odyssey, Books VI-XII. The reading of the remaining books, in English translation, is required; assigned readings on the history of Greek poetry, "the Homeric question," and Homeric antiquities. *Four hours a week.* Spring term.

Gk 3. ATTIC ORATORS.—Some of the shorter orations of Demosthenes; selections from the minor Attic orators; parallel reading on the history of Greek prose literature, and the public economy and social life of Athens. *Two hours a week.* Fall term.

Gk 4. GREEK TRAGEDY.—Euripides's Medea and Sophocles's Antigone. The reading of several other plays in English translation is required; also, parallel reading on the history of the Greek tragic drama. *Three hours a week.* Spring term.

Gk 5. THUCYDIDES.—Book I. Assigned reading in Herodotus, and a comparative study of the three great historians of Greece. *Three hours a week.* Fall term. Open to students that have taken courses 1 and 3.

Gk 6. ARISTOPHANES.—The Clouds and the Knights; lectures and collateral reading on the development of Greek comedy. *Two hours a week.* Spring term. Open to students that have taken courses 2 and 4.

Gk 7. PLATO.—Selected dialogues. Lectures on the history of Greek philosophy with special reference to Plato and Aristotle. *Two hours a week.* Fall term. Open to those who have taken courses 3 and 5.

Gk 8. PINDAR.—The Olympian and Pythian Odes; supplementary reading on the history of Greek lyric poetry. *Two hours a week.* Spring term.

Gk 9. GREEK SCULPTURE.—Lectures, illustrated by photographs and lantern slides. This course does not presuppose a knowledge of Greek, but is intended to serve as a general introduction to the history of the fine arts. The interdependence of the arts and their relation to the life of the Greeks, as well as their relation to the world's subsequent art, are emphasized. *Two hours a week.* Given in the fall term of odd years.

Gk 10. GREEK SCULPTURE.—A continuation of course 9, including a study of Greek architecture. *Two hours a week.* Given in the spring term of even years.

Gk 11. NEW TESTAMENT GREEK.—This course is intended for those who have no acquaintance with ancient languages, and, with course 12, is expected to give considerable facility in reading the narrative portions of the Greek Testament. It neither takes the place of preparatory Greek, nor counts toward a degree in the classical course. It is open to all students, but to freshmen only on permission of the instructor. *Three hours a week.* Given in the fall term of even years.

Gk 12. NEW TESTAMENT GREEK.—A continuation of course 11. Reading of the Gospels of John and Matthew; syntax. *Three hours a week.* Given in the spring term of odd years.

Gk 13. GREEK PRIVATE LIFE.—Lectures, illustrated with lantern slides and photographs. Assigned reading. *Two hours a week.* Given in the fall term of even years.

Gk 14. GREEK RELIGION.—A study of the chief divinities in ancient Greek religion. Lectures and assigned reading. Inves-

tigation of special topics by members of the class. *Two hours a week.* Given in the spring term of odd years.

Gk 15. GREEK PROSE COMPOSITION.—A course in writing Greek, intended to continue the work begun in Gk 1. *One hour a week.* Spring term.

Gk 18. GREEK PROSE COMPOSITION.—An advanced course consisting of the translation into Greek of narrative and rhetorical passages. *One hour a week.* Fall term.

Gk 19. GREEK PROSE COMPOSITION.—A continuation of course 18. *One hour a week.* Spring term.

At 1. ITALIAN ART.—The revival of the fine arts in Italy, with special reference to the history of painting in Tuscany and Umbria during the early Renaissance. Lectures and collateral reading. The work is illustrated by a large and growing collection of photographs and casts. *One hour a week.* Given in the fall term of even years.

At 2. ITALIAN ART.—A continuation of course 1, dealing chiefly with the masters of the high Renaissance in Florence and Rome. *One hour a week.* Given in the spring term of odd years.

At 3. ITALIAN ART.—Painting in the north of Italy, and the culmination of the Italian Renaissance in the Venetian masters. Lectures and collateral reading. *One hour a week.* Given in the fall term of even years.

At 4. ITALIAN ART.—A continuation of course 3. *One hour a week.* Given in the spring term of even years.

LATIN

PROFESSOR HARRINGTON.

Lt 1. LIVY AND CICERO.—Livy, History of Rome, selections from Books XXI and XXII; Cicero, De Senectute; Latin composition based upon the authors read. *Four hours a week.* Fall term.

Lt 2. HORACE.—Selections from the Satires, Epistles, Epodes and Odes; classical mythology. *Four hours a week.* Spring term.

Lt 3. PLAUTUS AND TERENCE.—The Captivi, Trinummus, or Menæchmi of Plautus; the Andria, Adelphœ, or Phormio of Terence; lectures on the development of Roman comedy. *Three hours a week.* Fall term.

Lt 4. CICERO AND TACITUS.—Selected letters of Cicero, the Agricola and Germania of Tacitus. *Three hours a week.* Spring term.

Lt 5. PLINY AND TACITUS.—Selected letters of Pliny the younger; readings in the Annals of Tacitus; studies in Silver Latinity. *Two hours a week.* Given in the fall term of odd years. Open to students that have taken courses 1-4.

Lt 6. ROMAN LYRIC POETRY.—Selections from Catullus, Horace, and the Latin hymns of the Christian church; original research. *Two hours a week.* Given in the spring term of even years. Open to students that have taken courses 1-4.

Lt 7. THE ROMAN ELEGIAC POETS.—Selections from Catullus, Tibullus, Propertius, and Ovid; original research. *Two hours a week.* Given in the fall term of even years. Open to students that have taken courses 1-4.

Lt 8. THE ROMAN ELEGIAC POETS.—A continuation of course 7. *Two hours a week.* Given in the spring term of odd years.

Lt 9. ROMAN SATIRE.—Selections from Ennius, Lucilius, Varro, Horace, Persius, Juvenal, Petronius; original research. *Two hours a week.* Given in the fall term of odd years. Open to students that have taken, or are taking, courses 5-6, or 7-8.

Lt 10. ROMAN SATIRE.—A continuation of course 9. *Two hours a week.* Given in the spring term of even years.

Lt 11. ROMAN PHILOSOPHY.—Lucretius (selections); Cicero (selections from the Academica, De Officiis, Tusculanæ Dispu-

tationes, De Finibus, De Natura Deorum); Seneca (De Providentia, De Vita Beata); lectures on the history and development of ancient philosophy; original research. *Two hours a week.* Given in the fall term of even years. Open to students that have taken, or are taking, courses 5-6, or 7-8.

Lt 12. ROMAN PHILOSOPHY.—A continuation of course 11. *Two hours a week.* Given in the spring term of odd years.

Lt 13. ROMAN LITERATURE.—General introduction to the subject; illustrative class-room readings; a choice of one of five courses of collateral reading of Roman authors. *Three hours a week.* Given in the fall term of even years. Open to students that have taken courses 1-4.

Lt 14. ROMAN LITERATURE.—A continuation of course 13. *Three hours a week.* Given in the spring term of odd years.

Lt 15. ROMAN RHETORIC AND ORATORY.—Quintilian (selections from the Institutio Oratoria); Tacitus (Dialogus de Oratoribus); Cicero (selections from the Brutus, De Oratore, Orator); a study of sample orations of Cicero, and of some of the fragments of Roman oratory. *Two hours a week.* Given in the fall term of odd years. Open to students that have taken courses 1-4.

Lt 16. ROMAN RHETORIC AND ORATORY.—A continuation of course 15. *Two hours a week.* Given in the spring term of even years.

Lt 17a. ROMAN TOPOGRAPHY.—Lectures on the development of the city of Rome and the present condition of its ancient ruins, preceded by a glance at the geography of the Italian peninsula. Illustrated by maps, photographs, and stereopticon views. *One hour a week.* Given in the fall term of odd years. Open to students that have taken courses 1-4.

Lt 17b. ROMAN TOPOGRAPHY.—A continuation of course 17a. *One hour a week.* Given in the spring term of even years.

Lt 18. ROMAN PRIVATE LIFE.—Text-book work, supplemented by collateral reading and lectures upon some of the more import-

ant and interesting customs and institutions of Roman everyday life. *One hour a week.* Given in the fall term of odd years. Open to students that have taken courses 1-4.

Lt 19a. LATIN WRITING.—Exercises in the translation of English into Latin with special reference to style. *One hour a week.* Given in the fall term of even years. Open to students that have taken courses 1-4.

Lt 19b. LATIN WRITING.—A continuation of course 19a. *One hour a week.* Given in the spring term of odd years.

Lt 20. ROMAN EPIGRAPHY.—The principles of the science, and the interpretation of selected inscriptions. *One hour a week.* Given in the spring term of even years. Open to students that have taken courses 1-4.

ROMANCE LANGUAGES

PROFESSOR LEWIS; MR. DUBUQUE; MR. SHUTE.

Rm 1. FRENCH.—Elementary Course. Fraser and Squair's French Grammar; Super, French Reader; Mérimée, Colomba; About, Le Roi des Montagnes; Halévy, L'Abbé Constantin. *Five hours a week.* Fall term. MR. DUBUQUE; MR. SHUTE.

Rm 2. FRENCH.—A continuation of course 1. *Five hours a week.* Spring term. MR. DUBUQUE; MR. SHUTE.

Rm 2a. FRENCH.—For students that offer French at entrance. Augier, Le Gendre de Monsieur Poirier; Dumas, Les Trois Mousquetaires; Pailleron, Le Monde Ou L'on S'ennuie; Le Sage, Gil Blas; Herdler, Scientific Reader; Fraser and Squair's French Grammar. *Three hours a week.* Fall term. MR. DUBUQUE; MR. SHUTE.

Rm 2b. FRENCH.—A continuation of course 2a. *Three hours a week.* Spring term. MR. DUBUQUE; MR. SHUTE.

Rm 3a. FRENCH.—For students that have taken courses 1 and 2, or their equivalent. Daudet, Morceaux Choisis; Hugo, Hernani; Beaumarchais, Le Mariage de Figaro; Corneille, Le

Cid; Molière, Le Misanthrope and L'Avare; Popular Science; Review of grammatical principles; Fasnacht, French Composition. *Three hours a week.* Fall term. MR. DUBUQUE.

Rm 3b. FRENCH.—A continuation of course 3a. *Two hours a week.* Spring term. MR. DUBUQUE.

Rm 4a. FRENCH.—The Seventeenth Century. Texts, lectures, outside reading, themes. *Three hours a week.* Fall term. MR. DUBUQUE.

Rm 4b. FRENCH.—A continuation of course 4a. *Three hours a week.* Spring term. MR. DUBUQUE.

Rm 5a. FRENCH.—General survey of French literature. Lectures, recitations, themes in English and French; collateral reading. *Three hours a week.* Fall term. PROFESSOR LEWIS; MR. DUBUQUE.

Rm 5b. FRENCH.—A continuation of course 5a. The extended study of a particular epoch. *Three hours a week.* Spring term. PROFESSOR LEWIS; MR. DUBUQUE.

Rm 9a. SPANISH.—An elementary course, elective for those who have completed course 2 or its equivalent. Giese, First Spanish Book; Short Stories; Selections from Gil Blas; Galdós, Marianela; Alarcón, El Capitán Veneno. *Three hours a week.* Given in the fall term of even years. MR. DUBUQUE.

Rm 9b. SPANISH.—A continuation of course 9a. *Three hours a week.* Given in the spring term of odd years. MR. DUBUQUE.

Rm 11a. ITALIAN.—An elementary course, elective for those who have completed course 2. The text-books are: Grandgent, Italian Grammar; Bowen, First Italian Readings. *Three hours a week.* Given in the fall term of odd years. MR. DUBUQUE.

Rm 11b. ITALIAN.—A continuation of course 11a. The text-books are: Grandgent, Italian Composition; Goldoni, La Locandiera; De Amicis, Cuore; Manzoni, I Promessi Sposi. *Three hours a week.* Given in the spring term of even years. MR. DUBUQUE.

GERMAN

PROFESSOR LEWIS; MR. SHUTE.

Gm 1. GERMAN.—Elementary course. Lange, German Method; Andersen, Märchen; Storm, Immensee; Heyse, L'Arrabbiata; Gerstäcker, Germelshausen. *Five hours a week.* Fall term. PROFESSOR LEWIS; MR. SHUTE.

Gm 2. GERMAN.—A continuation of course 2. *Five hours a week.* Spring term. PROFESSOR LEWIS; MR. SHUTE.

Gm 2a. GERMAN.—For students who offer German at entrance. The equivalent of the first half of course 2. *Three hours a week.* Fall term. PROFESSOR LEWIS.

Gm 2b. GERMAN.—A continuation of course 2a. The equivalent of the last half of course 2. *Five hours a fortnight.* Spring term. PROFESSOR LEWIS.

Gm 3a. GERMAN.—For students that have taken courses 1 and 2, or their equivalent. Lessing, Minna von Barnhelm; Schiller, Wilhelm Tell; Sudermann, Frau Sorge; Gore, Science Reader. Review of grammatical principles; Harris, German Composition. *Three hours a week.* Fall term. PROFESSOR LEWIS.

Gm 3b. GERMAN.—A continuation of course 3a. *Two hours a week.* Spring term. PROFESSOR LEWIS.

Gm 4a. GERMAN.—Schiller, Wallenstein; Goethe, Egmont; Lessing, Nathan der Weise; lectures; outside reading; themes. *Three hours a week.* Fall term. PROFESSOR LEWIS.

Gm 4b. GERMAN.—Goethe, Faust, Part I; lectures, themes, reference readings. *Three hours a week.* Spring term. PROFESSOR LEWIS.

Gm 5a. GERMAN.—History of German literature. Kluge, Deutsche National Litteratur. Lectures, recitations, themes in English and German; collateral reading. *Three hours a week.* Fall term. PROFESSOR LEWIS.

Gm 5b. GERMAN.—A continuation of the history of German literature. The extended study of a particular epoch. *Three hours a week.* Spring term. PROFESSOR LEWIS.

Gm 6a. GERMAN.—Composition and Conversation. Open to students who have completed courses 1 and 2, or their equivalents. *Two hours a week.* Fall term. PROFESSOR LEWIS.

Gm 6b. GERMAN.—Composition and Conversation. A continuation of course 6a. *Two hours a week.* Spring term. PROFESSOR LEWIS.

At 5. HISTORY OF THE DRAMA.—A lecture course, with required collateral reading, themes, discussions. *Two hours a week.* Spring term. PROFESSOR LEWIS.

ENGLISH

PROFESSOR ESTABROOKE; MR. THOMPSON; MR. EBY.

Eh 1. PUBLIC SPEAKING.—The purpose of this course is to give the student a practical knowledge of the fundamental principles of effective public speaking.

The first term, the work consists in the study and rendering of model public addresses of various forms. At these exercises the speakers are freely criticised with reference to the voice, gesture and interpretation, and the principles involved are explained and discussed. During the second term these principles are applied to the delivery of speeches of the student's own composition.

Throughout the year, each student speaks once every two weeks.

The text book is Riddle's Modern Reader and Speaker.

This course may be taken either in the freshman or sophomore year; and instruction by private lessons is offered to those who wish to pursue advanced work in public speaking. MR. EBY.

Eh 2. ENGLISH COMPOSITION.—This course,—to be taken throughout the sophomore year,—supplements the work of the freshman year by giving further practice in narrative, expository, and argumentative writing. Eight themes are required, each

containing from 1,000 to 1,200 words. There will be a conference on each theme. MR. THOMPSON; MR. EBY.

Eh 3. ENGLISH COMPOSITION.—This course gives both theoretical and practical instruction. The theory is taught throughout the year by class-room work, based on Genung's Outlines of Rhetoric and A. S. Hill's Principles of Rhetoric. The practice is obtained by exercises written in the class-room and by weekly themes. That the writer's individuality may be developed, the weekly themes are based almost exclusively on the writer's personal experience. The themes are criticised in detail by the instructor and those falling below the standard must be rewritten.

In addition to the study of rhetoric and the writing and rewriting of themes, certain outside reading from standard authors is required. This course is prescribed for freshmen. *Three hours a week.* MR. THOMPSON; MR. EBY.

Eh 4. RHETORIC.—Extended study of narration and description, argumentative composition, and persuasion; construction of analytical outlines of selections from Burke, Webster, Macaulay, and others; practice in different kinds of composition; exercises in extemporaneous writing.

The text-books are A. S. Hill's Principles of Rhetoric and Newcomer's Elements of Rhetoric. *Three hours a week.* Spring term. MR. THOMPSON; MR. EBY.

Eh 5. OLD ENGLISH.—Elements of Old English grammar; reading of easy prose and poetry. Constant reference is made to the relation of Old English to modern English and modern German.

The text-book is Smith's Old English Grammar. *Three hours a week.* Given in the spring term of even years. PROFESSOR ESTABROOKE.

Eh 6. ENGLISH COMPOSITION AND LITERATURE.—One two-page theme a week, and occasional longer themes, in connection with the study of selections from English prose writings. Among the writings studied will be selections from Addison, Swift, Johnson, Goldsmith, and Burke. *Two hours a week.* Fall term. MR. THOMPSON.

Eh 7. ENGLISH COMPOSITION AND LITERATURE.—A continuation of course 6. Among the writings studied will be selections from Macaulay, Carlyle, Ruskin, Newman, Matthew Arnold, and Stevenson. *Two hours a week.* Spring term. MR. THOMPSON.

Eh 8. ENGLISH LITERATURE.—The text-book, Pancoast's Introduction to English Literature, is supplemented by frequent lectures, and by study in the library. A few masterpieces are studied in detail. Attention is given to historical and social conditions, and the students are required to prepare essays upon the characters and times studied. *Two hours a week.* Fall term. PROFESSOR ESTABROOKE.

Eh 9. ENGLISH LITERATURE.—A continuation of course 8. *Three hours a week.* Spring term. PROFESSOR ESTABROOKE.

Eh 10. ENGLISH LITERATURE.—In this course particular attention is paid to the development of the English novel and to the Lake poets. *Two hours a week.* Fall term. PROFESSOR ESTABROOKE.

Eh 11. ENGLISH LITERATURE.—A continuation of course 10, including a study of the most important American authors of the present century. *Three hours a week.* Spring term. PROFESSOR ESTABROOKE.

Eh 12. ENGLISH LITERATURE.—Readings from English fiction. In this course selections from English novelists (chiefly later ones) are read critically, in order to determine the characteristic qualities of each. At least one entire work of a selected author is carefully studied. *Two hours a week.* Fall term. PROFESSOR ESTABROOKE.

Eh 13. ENGLISH LITERATURE.—A continuation of course 12. *Three hours a week.* Spring term. PROFESSOR ESTABROOKE.

Eh 14. AMERICAN POETS.—This course is designed to make the student acquainted with the more important American poets, especially with Poe, Bryant, Longfellow, Emerson, and Lowell. The text-book is Bronson's American Literature. *Three hours*

a week. Given in the spring term of odd years. PROFESSOR ESTABROOKE.

Eh 15. VICTORIAN POETS.—Tennyson, Browning, Rossetti, and Arnold. A study of selected poems, together with readings in the works of these poets and of contemporary poets. *Three hours a week.* Fall term. PROFESSOR ESTABROOKE.

PHILOSOPHY

PROFESSOR FERNALD.

Pl 1. PSYCHOLOGY.—Among the topics considered are sensation, structure and functions of the brain, conditions of neural activity, consciousness, attention, conception, discrimination, association, memory, imagination, perception, reasoning, instinct, emotions and sentiments, will as volition, will as choice, and will in relation to character.

The text-book is James's Psychology (Briefer Course.) *Three hours a week.* Fall term.

Pl 2. LOGIC.—The object of this course is to give the student a just appreciation of the functions of language as a means of expressing thought, and a familiarity with the principles of deductive and inductive reasoning. The student is given frequent drills in the application of logical principles.

The text-book is Ryland's Logic. *Three hours a week.* Spring term.

Pl 3. HISTORY OF PHILOSOPHY.—The text-book is Weber's History of Philosophy. *Three hours a week.* Given in the fall term of odd years.

Pl 4. PEDAGOGY.—The principles of psychology applied to the art of teaching. The order in which the several powers of the mind become active; their relative activity and development at successive school periods. The principles and methods of teaching; oral instruction and the study of books; the recitation, its objects and methods; methods of testing, by questions, by topics; examinations; psychical facts applied to moral training. *Three hours a week.* Spring term. This course should be preceded by course 9.

Pl 5. COMPARATIVE PSYCHOLOGY.—The psychology of man and the higher animals compared. A study of other minds than ours with reference to sense-experience, instinct and intelligence, association of ideas, memory, perception of relations, the power to reason, and the emotions. *Two hours a week.* Given in the spring term of even years. Open to juniors and seniors that have taken course 1.

Pl 6. ADVANCED PSYCHOLOGY.—Besides special topics in general psychology, this course is designed to include a discussion of such phenomena as sleep and dreams, the hypnotic state, thought transference, illusions and hallucinations. *Two hours a week.* Given in the spring term of odd years. Open to juniors and seniors that have taken course 1.

Pl 8. EXPERIMENTAL PSYCHOLOGY.—This course deals with mental processes from the standpoint of experimental study, and seeks to develop the power of introspection of these processes by modern experimental methods. †*Two hours a week.* Fall or spring term; the same course is given each term. Open to juniors and seniors that have taken course 1, to the limit of the psychological laboratory.

Pl 9. HISTORY OF EDUCATION.—Educational systems, methods, theories, and practices of the ancient oriental and classical nations, as also of the nations and peoples of medieval and modern times. A comparison of the school systems of the more advanced nations, especially of those of Germany, France, England, and the United States. The history of education aims to develop, for present and future service, an educational science based on the clear and definite teachings of the past. *Two hours a week.* Fall term. Open to juniors and seniors. Pl. 9 precedes Pl. 4 in the course in Pedagogy.

Pl 10. ADVANCED LABORATORY PSYCHOLOGY.—Experimental and research work. †*Two hours a week.* Spring term. Open to students that have taken course 8.

Pl 11. ETHICS.—Theoretical and practical ethics. *Two hours a week.* Given in the fall term of even years. Open to juniors and seniors that have taken course 1.

CIVICS

PROFESSOR ROGERS.

CV 1. CONSTITUTIONAL LAW AND HISTORY.—An outline of Anglo-Saxon institutions, the development of the English Constitution, the growth and political conditions of the American colonies, the Articles of Confederation, the adoption of the Constitution, and the comparative study of the Federal and the State Constitutions from the historical and legal standpoints.

The text-book is Rogers's Our System of Government. *Five hours a week.* Spring term.

CV 2. POLITICAL ECONOMY.—Instruction is given by lectures. Topical readings and investigations are required. *Five hours a week.* Fall term.

CV 3. ADVANCED POLITICAL ECONOMY.—A continuation of course 2. *One hour a week.* Spring term.

CV 4. INTERNATIONAL LAW.—The text-book is Lawrence's International Law. *Five hours a week.* Fall term.

CV 5. PUBLIC FINANCE.—A study of taxation and public expenditures. *Four hours a week.* Spring term.

CV 6. COLONIAL PROBLEMS.—*Three hours a week.* Given in the spring term of even years.

CV 7. SOCIOLOGY.—The text-book is Giddings's Sociology. *Three hours a week.* Given in the spring term of odd years.

CV 8. ROMAN LAW.—*Two hours a week.* Spring term.

HISTORY

PROFESSOR FELLOWS; DR. COLVIN.

H 1. HISTORY OF THE UNITED STATES.—The period from the close of the Revolution to the Civil War. Formation of the constitution, and rise of political parties; growth of nationality; foreign relations; conflict between states and federal government; territorial expansion; question of nullification; the slavery struggle.

Three hours a week. Fall term. DR. COLVIN.

H 2. HISTORY OF THE UNITED STATES.—A continuation of course 2. The constitution during the Civil War; foreign relations and questions of international law; theories and actual process of reconstruction; results of the war; new problems.

Three hours a week. Spring term. DR. COLVIN.

H 3. HISTORY OF ENGLAND.—From early times to the beginning of the Tudor period. Special attention is given to constitutional development.

Two hours a week. Fall term. DR. COLVIN.

H 4. INDUSTRIAL AND SOCIAL HISTORY OF ENGLAND.—The rural manor, town guilds and foreign trading; Black Death and Peasants' Rebellion; breaking up of the medieval system; expansion of England; industrial revolution; government control; extension of voluntary association.

Two hours a week. Given in the fall term of even years. DR. COLVIN.

H 5. HISTORY OF ENGLAND.—From the beginning of the Tudor period to the present.

Three hours a week. Spring term. DR. COLVIN.

H 6. EUROPE IN THE NINETEENTH CENTURY.—A general course emphasizing social and industrial conditions.

Two hours a week. Given in the spring term of odd years. PROFESSOR FELLOWS.

H 7. MEDIEVAL HISTORY.—A general course covering the period from 395 to 1500 A. D. The disintegration of the Roman

Empire; ecclesiastical institutions; feudalism; struggle between the papacy and the empire; rise of modern nations.

Five hours a week. Fall term. DR. COLVIN.

H 8. MODERN HISTORY.—An introductory course covering the period from 1500 A. D. to the present time. A rapid survey of the Reformation, the absolute monarchy in France, the French Revolution, the Napoleonic era, and Europe in the nineteenth century.

Five hours a week. Spring term. DR. COLVIN.

H 9. HISTORY OF MODERN CONTINENTAL EUROPE.—The period from the peace of Utrecht to the fall of Napoleon I.

Three hours a week. Fall term. DR. COLVIN. Open to students that have taken course 8.

H 10. HISTORY OF MODERN CONTINENTAL EUROPE.—The period. since the fall of Napoleon I.

Two hours a week. Spring term. DR. COLVIN. Open to students that have taken courses 8 and 9.

H 11. THE RENAISSANCE AND THE REFORMATION.—The period from 1300 to 1648 A. D.

Two hours a week. Fall term. DR. COLVIN. Open to students that have taken courses 8 and 9.

H 12. THE RENAISSANCE AND THE REFORMATION.—A continuation of course 11.

Two hours a week. Spring term. DR. COLVIN.

MATHEMATICS AND ASTRONOMY

PROFESSOR HART; MR. LAMBERT; MR. BUCK.

Ms 1. SOLID GEOMETRY.—Solid and spherical geometry, including original demonstration and the solution of numerical problems.

The text-book is Wells' Solid Geometry. *Five hours a week for eight weeks.* Spring term. MR. LAMBERT; MR. BUCK.

Required of all Freshmen except engineering students, for whom it is an entrance requirement.

Ms 2. ALGEBRA.—A brief review of the theory of exponents, quadratic equations, the binomial theorem, and the progressions; indeterminate equations; logarithms, including practice in the solution of numerical exercises; undetermined coefficients; partial fractions; exponential and logarithmic series, and the computation of logarithms; permutations and combinations; probability; theory of equations.

The text-book is Wells' College Algebra. *Five hours a week.* Fall term. PROFESSOR HART; MR. LAMBERT; MR. BUCK.

Ms 4. PLANE TRIGONOMETRY.—The text-book is Crockett's Trigonometry. *Five hours a week.* Spring term, first ten weeks. PROFESSOR HART; MR. LAMBERT; MR. BUCK.

Courses 2, 4, 1 or 19, are required of all candidates for the Bachelor's degree.

Ms 5. ANALYTIC GEOMETRY.—A brief study of the point, right line, and conic sections. For students in other than engineering courses who do not intend to elect mathematics beyond course 7. Open to students that have taken courses 2 and 4.

The text-book is Wentworth's Analytic Geometry. *Two hours a week.* Fall term. MR. BUCK.

Ms 6. ANALYTIC GEOMETRY.—A more extended course. The straight line; conic sections; transformation of coördinates; equation of the second degree; higher plane curves; introduction to solid analytic geometry. Open to students that have taken courses 1, 2, and 4.

The text-book is Tanner and Allen's Analytic Geometry. *Five hours a week.* Fall term. MR. LAMBERT.

Ms 7. CALCULUS.—Differentiation of the elementary forms of algebraic and transcendental functions; successive differentiation; differentials; integration of the elementary forms; integration between limits; integration as a summation; various methods of integration. Open to students that have taken courses 1, 2, 4, and 5 or 6.

The text-book is Hall's Differential and Integral Calculus. *Five hours a week.* Spring term. PROFESSOR HART; MR. LAMBERT.

Ms 8. CALCULUS.—A continuation of course 7. Applications of differential and integral calculus. *Three hours a week.* Fall term. PROFESSOR HART.

Ms 9. DESCRIPTIVE ASTRONOMY.—The text-book is supplemented by informal lectures, and illustrated by lantern slides, the Trouvelot drawings of celestial objects, and work in the observatory. Open to students that have taken courses 1, 2, 4, and, preferably, Ps 1 and Ps 5.

The text-book is Young's Manual of Astronomy. *Three hours a week.* Fall term. PROFESSOR HART.

Ms 10. PRACTICAL ASTRONOMY.—A course arranged to meet the needs of engineering students, and consisting largely of problems in the conversion of time, the determination of terrestrial latitudes and longitudes, and the establishment of meridian lines. The data for these problems are taken largely from the students' own observations, and the course is intended to emphasize the necessity of careful work in the field, as well as accurate and well arranged computations. The instruments employed are the sextant, artificial horizon, portable chronometer, theodolite, and vertical circle. Open to students that have taken courses 9, 4 and 19. *Two hours of recitations or lectures and two hours of observatory work a week.* Spring term. PROFESSOR HART.

Ms 11. ADVANCED ALGEBRA.—Determinants and the solution of higher equations. Open to students that have taken courses 1, 2 and 4. *Three hours a week.* Spring term. MR. BUCK.

Ms 12. ADVANCED INTEGRAL CALCULUS.—A course based upon Byerly's Integral Calculus. Open to students that have taken courses 6, 7 and 8. *Three hours a week.* Given in the fall term of odd years. PROFESSOR HART.

Ms 13. ADVANCED INTEGRAL CALCULUS.—A continuation of course 12. *Two hours a week.* Given in the spring term of even years. PROFESSOR HART.

Ms 15. DIFFERENTIAL EQUATIONS.—The text-book is Murray's Differential Equations. Open to students that have taken courses

7 and 8. *Two hours a week.* Given in the spring term of odd years. PROFESSOR HART.

Ms 16. PRACTICAL ASTRONOMY.—The theory and use of the sextant, universal instrument, transit, and equatorial. Open to students that have taken courses 6, 7, 8, 9, 19, and, preferably, 10. *Three hours a week.* Given in the fall term of odd years. PROFESSOR HART.

Ms 17. PRACTICAL ASTRONOMY.—A continuation of course 16. *Three hours a week.* Given in the spring term of even years. PROFESSOR HART.

Ms 19. SPHERICAL TRIGONOMETRY.—A continuation of course 4, with additional problems and applications to spherical astronomy. *Five hours a week.* Spring term, last eight weeks. PROFESSOR HART; MR. BUCK.

Ms 20. SOLID ANALYTICAL GEOMETRY.—Lectures based on C. Smith's Solid Geometry. *Three hours a week.* Given in the fall term of even years. PROFESSOR HART.

PHYSICS

PROFESSOR STEVENS; MR. BURBANK; MR. MITCHELL.

Ps 1. GENERAL PHYSICS.—Lectures on the dynamics of solids, liquids and gases; sound and light; experiments before the class; problems. *Five hours a week.* Fall term. PROFESSOR STEVENS; MR. BURBANK.

Open to students that have taken Ms 4.

Ps 2. GENERAL PHYSICS.—A continuation of course 1; heat and electricity. *Three hours a week.* Spring term. PROFESSOR STEVENS; MR. BURBANK.

Ps 3. ELEMENTARY PHYSICS.—A non-mathematical course, covering the ground of course 1. The recitations are supplemented by lectures and experimental demonstrations.

The text-book is Wentworth and Hills's Physics. *Four hours a week.* Spring term. MR. MITCHELL.

Ps 5. LABORATORY PHYSICS.—The subjects usually included in an under-graduate course. Special attention is given to the reduction of observations, and the tabulation of results. †*Four hours a week.* Spring term. MR. BURBANK; MR. MITCHELL.

Open to students that have taken either course 1 or course 12.

Ps 6. LABORATORY PHYSICS.—A brief course for students in the short course in pharmacy. †*Two hours a week.* Spring term. MR. MITCHELL.

Ps 7. ADVANCED OPTICS.—Lectures in continuation of course 1, based chiefly upon Preston's Light and Drude's Optics. *Three hours a week.* Spring term. PROFESSOR STEVENS.

Open to students that have taken Ms 8.

Ps 8. ADVANCED PHYSICS.—One course in advanced physics is offered each year. For this year the text-book is Merriman's Least Squares. *Two hours a week.* Fall term. PROFESSOR STEVENS.

Open to students that have taken Ms 8.

Ps 9. LABORATORY PHYSICS.—General laboratory work in continuation of course 5. †*Six hours a week.* Fall term. PROFESSOR STEVENS.

Ps 10. LABORATORY PHYSICS.—Advanced laboratory work in optics, in continuation of course 9. †*Four hours a week.* Spring term. PROFESSOR STEVENS.

Ps 11. ELECTRICAL MEASUREMENT AND TESTING.—The measurement of resistance, potential, current and capacity; the testing of galvanometers, etc. The charge for this course is $2.50. †*Six hours a week.* Fall term. MR. BURBANK; MR. MITCHELL.

Ps 12. GENERAL PHYSICS.—A course covering the ground of course 1, with more attention to the experimental and historical aspects and less to the mathematical.

The text-book is Gage's Principles of Physics. *Five hours a week.* Fall term. MR. MITCHELL.

Ps 14. THEORY OF ELECTRICAL INSTRUMENTS.—Lectures on the mathematical theory of instruments, and the methods of eliminating errors. *One hour a week.* Fall term. PROFESSOR STEVENS.

Ps 15. LABORATORY PHYSICS.—A special course, open to students that have completed courses 9, 10 and 11. Some subject is assigned for original investigation, or the work of a published research is repeated. †*Four hours a week.* Fall term. PROFESSOR STEVENS.

Ps 16. LABORATORY PHYSICS.—A continuation of course 15. † *Six hours a week.* PROFESSOR STEVENS.

Ps 17. ELECTROCHEMISTRY.—A lecture course on the modern theory of electrolysis and some of its practical applications. Attention will be given to the theory of battery cells, to the application of electrolysis in mining and purification of metals, and other commercial applications. The lectures are supplemented by references. *Three hours a week.* Spring term. MR. BURBANK.

Open to students that have taken Ps 5 and Ch 2.

Ps 18. ELECTRICITY AND OPTICS.—Experiments selected from Ps 10 and Ps 11 to meet the needs of students in chemistry. † *Four hours a week.* Fall term. MR. BURBANK.

CHEMISTRY

PROFESSOR AUBERT; DR. BOGGS; MR. MITCHELL.

Ch 1. GENERAL CHEMISTRY.—Recitations and lectures on the general principles of chemistry, illustrated by charts, experiments, etc. To obtain credit for this course, it must be accompanied by course 3, and followed by courses 2 and 4, unless a special excuse is obtained.

The text-book is Remsen's Introduction to the Study of Chemistry. *Two hours a week.* Fall term. DR. BOGGS.

Ch 2. GENERAL CHEMISTRY.—A continuation of course 1. *Three hours a week.* Spring term. DR. BOGGS.

Ch 3. LABORATORY CHEMISTRY.—Practical work to accompany course 1. The text-book is Remsen and Randall's Chemical Experiments. †*Two hours a week.* Fall term. MR. MITCHELL.

Ch 4. LABORATORY CHEMISTRY.—A continuation of course 3, to accompany course 2, with elementary Qualitative Analysis for those who advance far enough. †*Two hours a week.* Spring term. MR. MITCHELL.

Ch 5. ADVANCED INORGANIC CHEMISTRY.—Lectures and recitations, illustrated by specimens. The text-book is Richter's Inorganic Chemistry. *Two hours a week.* Fall term. PROFESSOR AUBERT; MR. MITCHELL. No credit is given unless course 6 is taken, except by special arrangement. Open to students that have taken courses 1, 2, 3 and 4.

Ch 6. ADVANCED INORGANIC CHEMISTRY.—A continuation of course 5. *Three hours a week.* Spring term. PROFESSOR AUBERT; MR. MITCHELL.

Ch 7. ELEMENTARY ORGANIC CHEMISTRY.—The marsh gas series. Lectures and recitations, illustrated by specimens. The text-book is Remsen's Organic Chemistry. *Three hours a week.* Fall term. This course must be followed by course 8, and preceded by courses 1, 2, 3, 4, 5 and 6, except for those specially admitted. PROFESSOR AUBERT; MR. MITCHELL.

Ch 8. ELEMENTARY ORGANIC CHEMISTRY.—The unsaturated compounds and the benzene series. A continuation of course 7. *Three hours a week.* Spring term. PROFESSOR AUBERT; MR. MITCHELL.

Ch 12. CHEMICAL PREPARATIONS.—The preparation and purification of typical organic and inorganic substances. Open to students that have taken courses 1, 2, 3, 4, 5, 6, 7 and 8. Text-book, Aubert's Organic and Inorganic Preparations. *Five hours a week.* Fall term. PROFESSOR AUBERT.

Ch 13. DESCRIPTIVE MINERALOGY.—The text-book is Moses and Parson's Elements of Mineralogy. *Three hours a week.* Spring term. PROFESSOR JACKMAN.

Ch 14. QUALITATIVE ANALYSIS.—A laboratory study of the chief elements and their derivatives, with a view to a clear understanding of their properties. Supplemented by class room work. Text used is Newth's Chemical Analysis. *Time, not less than †eight hours per week, unless by special arrangement.* Fall term. Open to students that have taken courses 1, 2, 3 and 4, except for students in the Short Pharmacy Course. It is generally advised that course 5 be taken with this course, and it must be followed by course 15. DR. BOGGS.

Ch 15. QUALITATIVE ANALYSIS.—A continuation of course 14 with application of analytical methods to the determination of unknown substances of increasing complexity. Elementary analysis by means of the spectroscope is given. Course 6 is usually an accompanying study, except for students in the Short Pharmacy Course. *Time, the same as course 14.* Spring term. DR. BOGGS.

Ch 16. QUANTITATIVE ANALYSIS.—Gravimetric determinations. The text is Appleton's Quantitative Analysis. *Time, not less than †eight hours per week, unless by special arrangement.* For satisfactory preparation, the student should have taken courses 1, 2, 3, 4, 14 and 15, and should add 18 and 19. PROFESSOR AUBERT AND MR. MITCHELL.

Ch 18. QUANTITATIVE ANALYSIS.—Analysis of complex alloys, minerals, etc. The text used is Clowes and Coleman's Quantitative Analysis. *Time, not less than †eight hours per week, unless by special arrangement.* Fall term. Open to students that have taken Ch 16 and its requirements. PROFESSOR AUBERT.

Ch 19. VOLUMETRIC ANALYSIS AND ASSAYING.—Acidimetry, alkalimetry, oxydimetry; gold and silver assaying. Text, *time,* and general requirements the same as for course 18. PROFESSOR AUBERT.

Ch 20. AGRICULTURAL ANALYSIS.—The analysis of fodders, fertilizers, milk, and other products. The methods are those recommended by the Association of Official Agricultural Chemists Except in special cases, the *time* and requirements are the same as for course 18. PROFESSOR AUBERT.

Ch 21. TOXICOLOGY AND URINALYSIS.—The determination of the more common poisons; the analysis of urine. Text, Aubert's Urinalysis and Toxicology. *Time,* and general requirements, the same as in course 18. PROFESSOR AUBERT.

Ch 22. THESIS WORK.—The Thesis must embody the result of original work in analysis or research. †*Fifteen hours a week for eleven weeks.* Spring term. Open to students that have taken courses 1, 2, 3, 4, 5, 6, 7, 8, 12, 14, 15, 16, 18, 19, 20, 21, 23, 24 and 28. PROFESSOR AUBERT.

Ch 23. ORGANIC CHEMISTRY.—An advanced course. Text-book, Joannis' Cours de Chimie Organique. Vol. III. *Three hours a week.* Fall term. PROFESSOR AUBERT.

Ch 24. INDUSTRIAL CHEMISTRY.—General processes of technical chemistry, and selected topics, including the principal manufactured products of special interest. Lectures and recitations. Text-book, Thorp's Outlines of Industrial Chemistry. *Three hours a week.* Spring term. Open to students that have completed courses 5, 6, 7 and 8. PROFESSOR AUBERT.

Ch 25a. TECHNICAL ANALYSIS.—An advanced course in analysis of ores and industrial products. Open to students that have completed courses 16, 18, 19, and their requirements. †*Five hours a week.* Fall term. PROFESSOR AUBERT.

Ch 25b. TECHNICAL ANALYSIS.—Organic technical products, and advanced mineral analysis. †*Five hours a week.* Spring term. PROFESSOR AUBERT.

Ch 26. PHYSICAL CHEMICAL METHODS.—The determination of molecular weights by the vapor density, boiling point, and freezing point methods. The use of the refractometer and the polariscope. †*Five hours a week.* Spring term. PROFESSOR AUBERT.

Ch 27. LABORATORY PHYSIOLOGICAL CHEMISTRY.—Qualitative tests of fats, carbohydrates, protein, blood, milk, etc. The text is Novy's Physiological Chemistry. †*Ten hours a week for nine weeks.* Fall term. PROFESSOR JACKMAN.

Ch 28. DYEING.—The practical application of dyes to cotton, wool and silk. †*Fifteen hours a week for two weeks.* Spring term. PROFESSOR AUBERT.

BIOLOGY

PROFESSOR DREW; PROFESSOR RUSSELL; PROFESSOR MUNSON; PROFESSOR MERRILL; MR. CARY; MR. CUMMINGS.

The subjects given below are arranged numerically, but not in the order in which it is best for students to pursue them. It is desirable that all intending to take courses in biology should begin with General Biology, (Bl 1 and Bl 2). This followed by Physiology (Bl 9) counts one credit.

Bl 1. GENERAL BIOLOGY.—This course is devoted to the study of the general principles of biology as illustrated by a few forms of plants and animals. It is open to all students and should form the basis for other biological work. It is to be taken in connection with course 2. *Two hours a week.* Fall term. PROFESSOR DREW.

Bl 2. LABORATORY BIOLOGY.—To be taken in connection with course 1. †*Two hours a week.* Fall term. PROFESSOR DREW; MR. CARY.

Bl 3. CRYPTOGAMIC BOTANY.—Type forms of flowerless plants are studied in the laboratory and in the field. Attention is given to their relation to other forms, their structures and their life histories. This course should be preceded by courses 1 and 2. †*Four hours a week.* Given in the fall term of odd years. PROFESSOR DREW; MR. CARY.

Bl 5. ZOOLOGY (Invertebrate animals).—Representatives of the invertebrate groups of animals are studied in the laboratory, class-room and field, where attention is given to their habits, comparative anatomy, and to some extent to their embryology

and classification. This course is to be taken in connection with course 6 and is not complete without courses 7 and 8. Courses 1 and 2 are required as a preparation. *Two hours a week.* Fall term. PROFESSOR DREW.

Bl 6. LABORATORY ZOOLOGY.—To be taken in connection with course 5. †*Six hours a week.* Fall term. PROFESSOR DREW; MR. CARY.

Bl 7. ZOOLOGY (Vertebrate animals).—A continuation of course 5. Types of the vertebrates are studied and their structures compared. A few weeks are devoted to the embryology of the frog. This course is to be taken in connection with course 8. It must be preceded by courses 1, 2, 5 and 6. *Two hours a week.* Spring term. PROFESSOR DREW.

Bl 8. LABORATORY ZOOLOGY.—To be taken in connection with course 7. †*Six hours a week.* Spring term. PROFESSOR DREW; MR. CARY.

Bl 9. PHYSIOLOGY.—Attention is given to the physiological activities of the human body, with enough anatomy to render the physiological discussions intelligible, and enough hygiene to serve as a guide for the intelligent care of the body. It is recommended that this course be preceded by courses 1 and 2. *Two hours a week.* Spring term. PROFESSOR DREW.

Bl 11. ENTOMOLOGY.—Insects are studied with special reference to their habits, life-histories and structure. Attention will be given to their economic importance, and the methods of controlling them. †*Four hours a week.* Given in the fall term of even years. PROFESSOR DREW; MR. CARY.

Bl 13. GEOLOGY.—A study of the structure and history of the earth, and the processes by means of which geological changes are brought about. *Three hours a week.* Fall term. PROFESSOR DREW.

Bl 14. ADVANCED ZOOLOGY OR BOTANY.—This course offers an opportunity for special biological work along lines best suited to the future plans of the student. It may consist of field work, laboratory work, or reading, or a combination of all three. *The time varies and the work may be continued a number of terms.* Fall and spring terms. PROFESSOR DREW.

Ag 1. BIOLOGICAL CHEMISTRY.—For description of this course see p. 83. *Five hours a week.* Fall term. PROFESSOR MERRILL.

Ag 12. ANIMAL ANATOMY.—For description of this course see p. 85. † *Ten hours a week for nine weeks.* Given in the spring term of odd years. PROFESSOR RUSSELL.

Ag 13. BACTERIOLOGY.—For description of this course see p. 85. † *Ten hours a week for nine weeks.* Spring term. PROFESSOR RUSSELL.

Ag 14. ANIMAL HISTOLOGY.—For description of this course see p. 85. †*Ten hours a week for nine weeks.* Spring term. PROFESSOR RUSSELL.

Ag 15. LABORATORY BACTERIOLOGY.—For description of this course see p. 85. †*Ten hours a week for nine weeks.* Spring term. PROFESSOR RUSSELL.

Ht 1. GENERAL BOTANY.—For description of this course see p. 85. †*Four hours a week.* Spring term. PROFESSOR MUNSON; MR. CUMMINGS.

Ht 2. HISTOLOGY OF PLANTS.—For description of this course see p. 85. †*Four hours a week.* Spring term. MR. CUMMINGS.

Ht 11. PLANT BREEDING.—For description of this course see p. 86. *Three hours a week* Given in the spring term of odd years. PROFESSOR MUNSON.

AGRICULTURE

Ag 1. BIOLOGICAL CHEMISTRY.—Lectures and recitations on the composition of the air, soils, natural waters, and plants; the source and assimilation of plant food; the composition of the animal body and of food materials; the chemical changes involved in the digestion and assimilation of food; the chemistry of milk and dairy products; and the chemical processes and methods of investigation by which these subjects are studied. *Five hours a week.* Fall term. PROFESSOR MERRILL.

Ag 2. SOILS AND FERTILIZERS.—Lectures on the chemistry and physics of soils and fertilizers, including the realtion of soils to heat and moisture; the mechanical condition of soils best suited to plant growth, and the objects to be gained by cultivation; the origin, composition, preparation and use of commercial fertilizers; the supply, composition, care and use of farm manures, and the general considerations which pertain to the maintenance of soil fertility. *Two hours a week.* Given in the spring term of even years. PROFESSOR WOODS.

Ag 3. TECHNICAL AGRICULTURE.—Plant production: The adaptation of the farm to general and special purposes; the fall preparation of lands for crops; and the harvesting and storage of crops. Animal husbandry: Breeding, rearing, handling, feeding, and judging dairy cattle; milk production and milk testing. Farm mechanics: Operating farm machinery. Farm management: The work of men and teams upon the farm. *Three hours a week.* Given in the fall term of even years. PROFESSOR GOWELL.

Ag 4. LABORATORY AGRICULTURE.—Practical work supplementing course 3. *Four hours a week.* Given in the fall term of even years. PROFESSOR GOWELL.

Ag 5. TECHNICAL AGRICULTURE.—Plant production: The spring preparation of land for crops; the production and use of farm manures; the purchase and use of commercial manures;

the sowing, planting, tillage, and culture of crops. Animal industry: Composition of milk; separation and ripening of cream and cheese. Farm mechanics: the practical use of farm machinery. Farm management: the general work of men and teams with reference to farm economy. *Three hours a week.* Given in the spring term of odd years. PROFESSOR GOWELL.

Ag 6. LABORATORY WORK.—Practical work supplementary to course 5. *Four hours a week.* Given in the spring term of odd years. PROFESSOR GOWELL.

Ag 7. TECHNICAL AGRICULTURE.—Animal industry: breeding, rearing, feeding, handling and judging beef animals and swine. Farm mechanics: location and construction of farm buildings, fences, wind breaks, and storm shelters. Farm management: observations of daily work of men and teams on the farm and records of farm operations. *Three hours a week.* Given in the fall term of odd years. PROFESSOR GOWELL.

Ag 8. LABORATORY AGRICULTURE.—Practical work supplementary to course 7. *Four hours a week.* Given in the fall term of odd years PROFESSOR GOWELL.

Ag 9. TECHNICAL AGRICULTURE.—Animal industry: the feeding of animals, including the selection of foods; requirements of different kinds of animals; feeding formulas; home production and purchase of foods; pastures and soiling; breeds, breeding, feeding, handling and judging of horses, sheep and poultry. *Three hours a week.* Given in the spring term of even years. PROFESSOR GOWELL.

Ag 10. LABORATORY AGRICULTURE.—Practical work supplementary to course 9. *Four hours a week.* Given in the spring term of even years. PROFESSOR GOWELL.

Ag 11. VETERINARY SCIENCE.—Lectures, demonstrations and clinics, illustrated by models, natural preparations, and living animals. *Three hours a week.* Given in the spring term of even years. PROFESSOR RUSSELL.

Ag 12. ANATOMY OF DOMESTIC ANIMALS.—A brief course intended to make the student familiar with the location and appearance of the more important organs of the animal body. †*Ten hours a week for nine weeks.* Given in the spring term of odd years. PROFESSOR RUSSELL.

Ag 13. BACTERIOLOGY.—An elementary laboratory course, including the preparation of culture media and a critical study of the morphological and biological characteristics of a few typical bacteria. Students in agriculture give special attention to bacteriology of the dairy. †*Ten hours a week for nine weeks.* Spring term. PROFESSOR RUSSELL.

Ag 14. ANIMAL HISTOLOGY.—Dissecting and the preparation of the most important tissues and organs. †*Ten hours a week for nine weeks.* Spring term. PROFESSOR RUSSELL.

Ag 15. LABORATORY BACTERIOLOGY.—An advanced course. †*Ten hours a week for nine weeks.* Spring term. PROFESSOR RUSSELL.

HORTICULTURE

PROFESSOR MUNSON; MR. CUMMINGS.

Ht 1. GENERAL BOTANY.—The structure and functions of the organs of plants; the development and relationship of the leading groups; plant societies; plant distribution; fertilization. Lectures, text book, and laboratory work. †*Four hours a week.* Spring term. PROFESSOR MUNSON; MR. CUMMINGS.

Ht 2. HISTOLOGY OF PLANTS.—A description and comparison of tissues, and studies of the minute anatomy of plants. Open to students that have taken course 1. Lectures and laboratory investigations. †*Four hours a week.* Spring term. MR. CUMMINGS.

Ht 3. FRUIT GROWING.—The principles and practice of growing fruits, including a discussion of climatic conditions, soils, culture, pruning, harvesting, marketing, etc. Lectures and textbook. *Two hours a week.* Given in the fall term of odd years. PROFESSOR MUNSON.

Ht 4. VEGETABLE GARDENING.—The principles and practice of growing vegetables. The culture of the leading garden vegetables in the field and under glass; truck farming; market and home gardening; requisites and returns. Lectures and text-book. *Two hours a week.* Given in the spring term of even years. PROFESSOR MUNSON.

Ht 5. LABORATORY HORTICULTURE.—Practical work in orchard and gardens supplementing course 3. A study of soils; cover crops; harvesting, storing and marketing fruits; pruning; winter protection, etc. †*Four hours a week.* Given in the fall term of odd years. PROFESSOR MUNSON; MR. CUMMINGS.

Ht 6. LABORATORY HORTICULTURE.—A continuation of course 5. Greenhouse work; propagation of plants; a study of seeds; making hot-beds; preparing and planting the garden, etc. †*Four hours a week.* Given in the spring term of even years. PROFESSOR MUNSON; MR. CUMMINGS.

Ht 7. LANDSCAPE GARDENING.—The principles of landscape art and their application to rural conditions; selection of site; arrangement and construction of walks and drives; grading; planting trees, etc. *One hour a week.* Given in the spring term of even years. PROFESSOR MUNSON.

Ht 8. SYSTEMATIC POMOLOGY.—Lectures and critical studies of the leading natural groups of fruits. *One hour a week.* Given in the fall term of even years. PROFESSOR MUNSON.

Ht 9. LABORATORY HORTICULTURE.—Greenhouse construction and management; studies of the literature of horticulture; investigation of assigned topics. †*Four hours a week.* Given in the fall term of even years. PROFESSOR MUNSON.

Ht 10. LABORATORY HORTICULTURE.—A continuation of course 9. Studies of plant diseases; economic botany; original investigations of assigned topics. †*Four hours a week.* Given in the spring term of odd years. PROFESSOR MUNSON; MR. CUMMINGS.

Ht 11. PLANT BREEDING.—The origin, distribution and variation of cultivated plants; studies in heredity; the production of

improved types. Open to students who have taken course 1. Lectures and investigations. *Three hours a week.* Given in the spring term of odd years. PROFESSOR MUNSON.

Ht 12. HORTICULTURAL INVESTIGATIONS.—Advanced work for those desiring to become teachers or investigators. *Time to be arranged.* PROFESSOR MUNSON.

Ht 13. ELEMENTARY FORESTRY.—Importance and scope of the subject; economic considerations; forest management; forest products, etc. Designed for students in the agricultural and engineering courses and others desiring a general survey of the field. Lectures and recitations. *Two hours a week.* Fall term. PROFESSOR MUNSON.

FORESTRY

PROFESSOR ———

The courses to be given in this department, recently organized by authorization of the Legislature of 1902, will be announced in season for the coming academic year by the Professor to be appointed.

CIVIL ENGINEERING

PROFESSOR GROVER; MR. BOARDMAN; MR. ALEXANDER; MR. HAMLIN.

Ce 1. PLANE SURVEYING.—Recitations on the general principles of plane surveying, the laying out of land, the dividing of land, surveying of public lands, direct leveling, and the variation of the magnetic needle.

The text-book is Raymond's Surveying. *Two hours a week.* Spring term. MR. BOARDMAN; MR. HAMLIN.

Ce 2. FIELD WORK IN SURVEYING.—The use of the chain, compass, transit, and level. Instruments are adjusted, original surveys made, and old lines retraced. Plats are prepared of the surveys made in the field. The text-book is Field Manual by Pence and Ketchum. †*Four hours a week.* Spring term. MR. BOARDMAN; MR. ALEXANDER; MR. HAMLIN.

Ce 3. RAILROAD ENGINEERING.—Lectures and recitations on the theory of railroad curves, switches, turnouts and slope stakes; the calculation of earthworks, and the resistance to trains offered by grades and curves; the theory of economic location.

The text-book is Webb's Railroad Construction. *Three hours a week.* Fall term. MR. BOARDMAN.

Ce 4. RAILROAD WORK.—The location and detailed survey of a railroad several miles long. The curves are laid out, levels taken, and all the necessary measurements made to enable the student to compute the excavations and embankments and estimate the cost of construction. †*Six hours a week.* Fall term. MR. BOARDMAN; MR. HAMLIN.

Ce 5. HIGHWAY ENGINEERING.—The location, construction, and improvement of country roads under different conditions of soil, climate, and traffic. *One hour a week.* Fall term. PROFESSOR GROVER.

Ce 6. MECHANICS.—The principles of statics; the algebraic and graphic solution of statical problems, including simple trusses; exercises in finding the moment of inertia, center of gravity; the principles of dynamics, shearing force and bending moment. *Five hours a week.* Fall term. MR. RAUTENSTRAUCH.

Ce 7. MECHANICS.—A continuation of course 6. *Five hours a week.* Spring term. MR. RAUTENSTRAUCH.

Ce 8. SANITARY ENGINEERING.—Drainage of land; plumbing of houses; drainage and sewerage of towns; sewage disposal; water supply and purification; ventilation of houses.

The text-book is Folwell's Sewerage. *Two hours a week.* Spring term. MR. BOARDMAN.

Ce 9. HIGHER SURVEYING.—The plane table, stadia measurements, topographical surveying, the elements of geodesy, the measurement of base lines, calculation of a system of triangulation. †*Ten hours a week for eight weeks.* Spring term. PROFESSOR GROVER; MR. ALEXANDER; MR. HAMLIN.

Ce 10. HYDRAULICS.—The weight, pressure and motion of water; the flow of water in open channels, mains, and distribution pipes; distribution systems, the construction of water works for towns and cities.

The text-book is Merriman's Hydraulics. *Three hours a week.* Spring term. PROFESSOR GROVER.

Ce 11. HYDRAULICS FIELD WORK.—The measurement of the flow of rivers is illustrated by the application of the current meter and the various forms of floats to the Penobscot river or some of its large branches. †*Ten hours a week for six weeks.* Fall term. PROFESSOR GROVER.

Ce 12. STRUCTURES.—A detailed study of the properties of materials used in engineering structures; their resistance to bending, breaking, extension and compression, under the various conditions of practice; the theory of stresses in framed structures; the usual systems of loading; the principles of designing. *Five hours a week.* Fall term. PROFESSOR GROVER.

Ce 13. STRUCTURES.—A continuation of course 12; including the study of problems in connection with masonry structures; natural and artificial foundations; the stability of dams and retaining walls; the designing of bridge piers and abutments; the theory of the masonry arch. *Five hours a week.* Spring term. PROFESSOR GROVER.

Ce 14. DESIGNING.—Designs for several of the common types of wooden and steel structures, and preparation of drawings for the shop †*Ten hours a week for twelve weeks.* Fall term. MR. BOARDMAN.

Ce 15. DESIGNING AND THESIS WORK.—A continuation of course 14 and the preparation of a thesis. †*Fifteen hours a week.* Spring term. PROFESSOR GROVER; MR. BOARDMAN.

Ce 16. HYDRAULIC ENGINEERING.—Rainfall, evaporation, and stream-flow; the collection, purification, and distribution of water for city supplies; water meters, water wheels and motors; the development and utilization of water power. *Three hours a week.* Fall term. PROFESSOR GROVER.

Ce 17. HYDRAULIC ENGINEERING.—A continuation of course 16. *Two hours a week.* Spring term. PROFESSOR GROVER.

Ce 18. SANITARY SCIENCE.—Lectures on the causes and prevention of disease, sanitation and the public health, and the relations of the engineer to this work. *One hour a week.* Fall term. PROFESSOR GROVER.

MECHANICAL ENGINEERING

PROFESSOR WALKER; MR. RAUTENSTRAUCH; MR. STEWARD; MR. DAVEE.

Me 1. WOOD WORK.—The care and use of tools; joinery; wood turning; pattern making. Charge for material, $4.00. † *Four hours a week.* Spring term. MR. DAVEE.

Me 2. FORGE WORK.—Forging; welding; tool dressing. A set of lathe tools and cold chisels for use in machine work is made by each student. Charge for material, $5.00. Cost of hammer, calipers, and scale, about $2.50. † *Four hours a week.* Fall term. MR. DAVEE.

Me 3. DRAWING.—Reading and tracing detail drawings and penciling simple details. Especial attention is given to lettering. † *Two hours a week.* Fall term. MR. RAUTENSTRAUCH.

Me 4. KINEMATICS.—Motion in machine construction; links; gears; cams; belts. The text-book is Jones's Kinematics. † *Six hours a week.* Spring term. MR. RAUTENSTRAUCH.

Me 5. MACHINE WORK.—Exercises in filing and chipping; lathe work; exercises on planer, shaper and milling-machine; making of cut gears, machinist taps, etc. Charge for materials, $5.00 per term. Credit is given for work done in commercial shops on presentation of satisfactory proof. † *Nine hours a week for Mechanical Engineering students.* † *Five hours a week for Electrical Engineering students.* Fall and spring terms. MR. STEWARD.

Me 6. FOUNDRY WORK.—Moulding; pouring, etc. Work as assigned in connection with Me 5. MR. STEWARD.

Me 7. VALVE GEARS.—The steam engine valve motion, discussed by means of the Bilgram Diagram, with solution of practical problems in the drawing room. The text-book is Halsey's Valve Gears. †*Four hours a week.* Fall term. MR. RAUTENSTRAUCH.

Me 8. MACHINE DESIGN.—(a) Proportioning machine parts for strength, with special reference to the steam engine; laying out work and crank effort diagrams; fly wheel design. Given by lectures and notes. *Three hours a week.* Spring term. MR. RAUTENSTRAUCH. (b) Designing as assigned to accompany course (a). †*Three hours a week.* Spring term. PROFESSOR WALKER.

Me 9. MATERIALS OF ENGINEERING.—Metallurgy of iron, steel, copper and the principal alloys. Physical properties of materials discussed and investigated by tests. The text-book is Smith's Materials of Machines.

Two hours a week. Fall term. MR. RAUTENSTRAUCH.

Me 10. FUELS.—Heating value, supply and distribution of various fuels; types of furnaces; methods of stoking. The text-book is Kent's Steam Boiler Economy.

Two hours a week. Fall term. MR. RAUTENSTRAUCH.

Me 11. THERMODYNAMICS.—The laws of gases during heat interchanges, with applications to steam and other heat engines. The text-book is Spangler's Notes on Thermodynamics.

Three hours a week. Fall term. PROFESSOR WALKER.

Me 12. STEAM BOILER DESIGN.—Complete design of some type of steam boiler, worked up in drawing room. †*Nine hours a week for regular students.* †*Six hours a week for students specializing in Marine Engineering.* Fall term. PROFESSOR WALKER.

Me 14. MARINE MACHINERY.—A course of descriptive lectures on the types and processes of construction of machinery commonly seen on steamships. Taken by students specializing in Marine Engineering. *Two hours a week.* Fall term. PROFESSOR WALKER.

Me 15. MECHANICAL LABORATORY.—Testing materials, lubricants, steam boilers and engines, gasoline engines, etc. † *Three hours a week.* Fall and spring terms. PROFESSOR WALKER; MR. RAUTENSTRAUCH.

Me 16. STEAM ENGINE.—A continuation of course 11, covering the methods of designing and testing. Lectures. *Two hours a week.* Spring term. PROFESSOR WALKER.

Me 17. STEAM ENGINE DESIGN.—Detailed design of some type of steam engine, accompanying course 16. † *Twelve hours a week for nine weeks.* Spring term. PROFESSOR WALKER.

Me 18. GENERAL DESIGNING.—Work as assigned. † *Four hours a week.* Spring term. PROFESSOR WALKER.

Me 19. MARINE ENGINEERING.—The problem of ship propulsion and propeller design. Taken by students specializing in Marine Engineering. The text-book is Durand's Resistance and Propulsion of Ships. *Two hours a week.* Spring term. PROFESSOR WALKER.

Me 20. ESTIMATES AND SPECIFICATIONS.—A short lecture course on forms of contracts and specifications, and methods of making cost estimates. *One hour a week.* Spring term. PROFESSOR WALKER.

Me 21. SEMINARY.—General discussion of leading articles appearing in current engineering literature. *One hour a week.* Fall and spring terms. PROFESSOR WALKER.

Me 22. THESIS.—The results of some investigation or design presented in proper form. The subject must be submitted at, or before, the close of the fall term. Students specializing in Marine Engineering submit their designs of steam machinery as a thesis. † *Twelve hours a week for nine weeks.* Spring term. PROFESSOR WALKER.

ELECTRICAL ENGINEERING

PROFESSOR WEBB; MR. COLE.

Ee 1. ELECTRICITY AND MAGNETISM.—This course continues the subject of electricity and magnetism begun in physics. The work is taken up by text-book, lectures and problems.

The text-book is Silvanus Thompson's Electricity and Magnetism. *Two hours a week.* Fall term. Required of juniors in Electrical Engineering. MR. COLE.

Ee 2. ELECTRICITY AND MAGNETISM AND DYNAMO DESIGN.—A continuation of course 1, with the application of principles to the problems of dynamo design. The work is taken up by text-book, lectures and problems.

The text-book is Sheldon's Dynamo Electric Machinery. *Three hours a week.* Spring term. Required of juniors in Electrical Engineering. MR. COLE.

Ee 3. ELECTRICAL MACHINERY.—A course on the design and construction of direct current generators and motors. The work is taken by lectures and problems. *Five hours a week for the first nine weeks.* Fall term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

Ee 4. ALTERNATING CURRENT MACHINERY.—In this course are considered the principles involved in the design, construction and operation of alternating current generators, motors, transformers and rotary converters.

The text-book is Jackson's Alternating Currents and Alternating Current Machinery. *Five hours a week for the first nine weeks.* Spring term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

Ee 5. DESIGN OF DIRECT CURRENT MACHINES.—This course is taken up in the drawing room. Each student is required to make the calculations and drawings of a direct current dynamo. †*Ten hours a week for the second nine weeks.* Fall term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

Ee 6. DESIGN OF ALTERNATING CURRENT MACHINES.—A drawing room course similar to course 5. The calculations and drawings are made for an alternating current generator. †*Five hours a week for nine weeks.* First half spring term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

Ee 7. LABORATORY WORK, DIRECT CURRENTS.—Tests of electrical instruments. Experimental work with generators and motors. Power and photometric tests of electric lamps. Care and management of the college lighting plant. The charge for this course is $5. †*Six hours a week.* Fall term. Required of seniors in Electrical Engineering. MR. COLE.

Ee 8. LABORATORY WORK, ALTERNATING CURRENTS.—A course similar to course 7. Tests of alternating current instruments. Experimental work with generators, motors, transformers and rotary converters. †*Five hours a week for nine weeks.* First half of spring term. The charge for this course is $2.50. Required of seniors in Electrical Engineering. MR. COLE.

Ee 9. DYNAMOS.—The general principles and theory of design. Different types of machines. Practical considerations in the construction and operation of direct current generators and motors. Connecting and starting up of generators and motors. Illustrations by laboratory experiments.

The text-book is Crocker's Electric Lighting. *Two hours a week.* Fall term. Required of juniors in Mechanical Engineering. MR. COLE.

Ee 10. DYNAMO LABORATORY WORK.—Practice in the connecting and running of direct current generators and motors. Tests for regulation, heating, efficiency and insulation. †*Five hours a week for nine weeks.* Offered for seniors in Mechanical Engineering. The charge for this course is $2.50. MR. COLE.

Ee 13. ALTERNATING CURRENTS.—Theory of alternating currents. The text-book is Jackson's Alternating Currents and Alternating Current Machinery. *Three hours a week.* Fall term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

Ee 14. ELECTRICAL ENGINEERING.—Polyphase alternating currents and wiring. Theory and construction of telegraph and telephone instruments. Methods of operating and testing. The course is taken by lectures. *Three hours a week for nine weeks.* Last half of spring term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

Ee 16. THESIS WORK.—The designing of electrical apparatus, laboratory investigation, or commercial testing, with results presented in proper form. †*Fifteen hours a week for nine weeks.* Last half of spring term. Required of seniors in Electrical Engineering. PROFESSOR WEBB.

DRAWING

PROFESSOR GROVER; MR. GROVER; MR. ALEXANDER; MR. HAMLIN.

Dr 1. DRAWING.—Free-hand work in perspective and model drawing; lettering.

†*Four hours a week.* Fall term. MR. GROVER; MR. ALEXANDER; MR. HAMLIN.

Dr 3. MECHANICAL DRAWING.—Instruction and practice in the care and use of drawing instruments, in the drawing of geometrical problems, and in the use of water colors. The textbook is Cole's Notes on Mechanical Drawing.

†*Four hours a week.* Spring term. MR. GROVER; MR. ALEXANDER; MR. HAMLIN.

Dr 4. MECHANICAL DRAWING.—Problems in shades and shadows, and dimension drawing.

†*Four hours a week.* Fall term. MR. ALEXANDER.

Dr 5. GENERAL DRAWING.—Isometric and cabinet projections, perspective, and the preparation of working drawings. Lectures and exercises in the drawing room.

†*Ten hours a week for five weeks.* Spring term. MR. ALEXANDER.

Dr 6. DESCRIPTIVE GEOMETRY.—Elementary problems; tangents, intersection of planes, cylinders, cones, spheres, etc. The time is divided equally between the recitation room and drawing room.

The text-book is Church's Descriptive Geometry. *Two hours a week.* Fall term. MR. GROVER; MR. ALEXANDER.

Dr 7. DESCRIPTIVE GEOMETRY.—A continuation of course 6. *Two hours a week.* Spring term. MR. GROVER; MR. ALEXANDER.

Dr 8. STEREOTOMY.—The application of the methods of descriptive geometry to the preparation of drawings for arches, retaining walls, bridge abutments, piers, etc.

†*Ten hours a week for five weeks.* Spring term. MR. ALEXANDER.

PHARMACY

PROFESSOR JACKMAN.

Pm 1. ELEMENTARY PHARMACY.—The history of pharmacopœias, dispensatories, etc.; weights and measures, specific gravity, the pharmaceutical uses of heat, distillation, solution, filtration, etc.; official preparations; pharmaceutical problems, involving percentage solutions, parts by weight and measure, chemical principles and equations, actual pharmacy operations.

The text-book is Caspari's Pharmacy. *Five hours a week.* Fall term.

Pm 2. GALENICAL PHARMACY.—The chemical elements, official salts, and inorganic acids, their preparation and classification; organic compounds, their classification, official preparations; official drugs of the materia medica, their preparations, animal preparations; extemporaneous pharmacy, the principles of dispensing, store management, etc.

The text-book is Caspari's Pharmacy. *Five hours a week.* Fall term.

Pm 3. LABORATORY PHARMACY.—Official preparations and tests. The operations of manufacturing pharmacy, including the preparation of granular and scale salts, infusions, syrups, tinctures, and other galenicals; official tests of chemicals, drugs, and preparations, of identity, strength and adulteration; drug assaying.

The text-books are Caspari's Pharmacy and the U. S. Pharmacopœia. †*Twelve hours a week.* Fall term.

Pm 4. PHARMACOPŒIA.—A complete review of the pharmacopœia, with special reference to the chemical and pharmaceutical principles involved in tests and preparations.

The text-books are Caspari's Pharmacy and the U. S. Pharmacopœia. *Five hours a week.* Spring term.

Pm 5. INORGANIC PHARMACOGNOSY.—Nomenclature; practical exercises in the identification of specimens.

The text-book is the U. S. Pharmacopœia. *Two hours a week.* Fall term.

Pm 6. ORGANIC PHARMACOGNOSY.—Nomenclature; habitat, etc.; practical exercises.

The text-books are the U. S. Pharmacopœia and Maisch's Materia Medica. *Four hours a week.* Spring term.

Pm 7. MATERIA MEDICA.—Chemicals and drugs; their nature, uses, classification, therapeutic action, and doses; poisons, and antidotes.

The text-book is Potter's Materia Medica. *Three hours a week.* Fall term.

Pm 9. PHARMACY READINGS.—Current pharmacy literature; research and reference readings; abstracting; reports. †*Five hours a week.* Spring term.

Pm 10. LABORATORY PHARMACY.—A continuation of Pm 3. †*Five hours a week.* Spring term.

Pm 11. PRESCRIPTIONS.—Critical examination of prescriptions from actual files, with reference to inelegance, physiological, pharmaceutical, and chemical incompatibility; doses; methods and order of compounding, etc.

The text-book is Ruddiman's Incompatibilities in Prescriptions. *Three hours a week.* Spring term.

MILITARY SCIENCE AND TACTICS

PROFESSOR SYMMONDS.

Each man student is required to take military drill, unless physically unfit, and to attend recitations in military science, during the first two years of his college course.

COURSE OF INSTRUCTION

(a) PRACTICAL:

Infantry Drill Regulations, through the school of the battalion in close and extended order.
Advance and rear guards, and outposts.
Marches.
The ceremonies of battalion review, inspection, parades, guard mounting, and escort of the colors.
Infantry target practice.
Instruction in First Aid to the Injured.

(b) THEORETICAL:

The Infantry Drill Regulations covered by the practical Instruction.
The Manual of Guard Duty.
Small-arms Firing Regulations.
The Articles of War.
Enlistment and discharge papers, including descriptive lists.
Morning Reports.
Field and monthly returns.
Muster rolls.
Rosters.
Ration returns.
Requisitions.
Property returns.

Ten lectures each year on military subjects, notes to be taken by the students and to be made the basis of subsequent recitations.

ORGANIZATION OF THE UNIVERSITY

The University is divided into colleges, each offering several courses upon related subjects. The colleges are interdependent and together form a unit. The organization is as follows:

COLLEGE OF LIBERAL ARTS
- The Classical Course
- The Latin-Scientific Course
- The Scientific Course

COLLEGE OF AGRICULTURE
- The Agricultural Course
- The Horticultural Course
- The Special Short Courses
- The Agricultural Experiment Station

COLLEGE OF TECHNOLOGY
- The Chemical Course
- The Civil Engineering Course
- The Mechanical Engineering Course
- The Electrical Engineering Course
- The Mining Engineering Course

COLLEGE OF PHARMACY
- The Pharmacy Course
- The Short Course in Pharmacy

COLLEGE OF LAW

COLLEGE OF LIBERAL ARTS

The aim of this college is to furnish a liberal education and to afford opportunity for specialization along literary, philosophical, and general and special scientific lines. The college comprises:

The Classical Course

The Latin-Scientific Course

The Scientific Course

The Classical Course

This course is planned for those who desire general culture, and is especially adapted to the needs of those intending to become teachers. During the freshman year Greek and Latin must be included in the required work stated on p. 55. After the freshman year the student may give special attention to language, mathematics, natural science, history, philosophy or any other subject offered to undergraduates.

At graduation the student receives the degree of Bachelor of Arts. Upon the completion of one year's prescribed graduate work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Arts.

The Latin-Scientific Course

This course differs from the classical course by omitting Greek.

During the freshman year Latin must be included among the required studies. After the freshman year the student may give special attention to language, mathematics, natural science, history, philosophy, or any other subject offered to undergraduates.

At graduation the student receives the degree of Bachelor of Philosophy. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Philosophy.

The Scientific Course

This course is arranged for those who seek a broad general training, based chiefly upon the study of mathematics, science, and modern languages.

The required studies are stated on p. 55. The elective studies studies may be selected so as to give special attention to modern languages, mathematics, natural science, history, philosophy, or any subject offered to undergraduates.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Science.

COLLEGE OF AGRICULTURE

The aim of the College of Agriculture is to prepare young men to become farmers, or teachers or investigators of agricultural subjects. Students in this College are not charged tuition. The College comprises:

The College Courses
- The Agricultural Course
- The Horticultural Course

The Short Courses
- The Special Courses in General Agriculture
- The Special Courses in Horticulture
- The Special Course in Dairying
- The Special Course in Poultry Management

The Agricultural Experiment Station

The College Courses

These courses are designed for those who wish to follow agriculture or horticulture as a business, or who purpose becoming teachers or investigators in the sciences related to these subjects. The instruction is arranged to secure that intellectual development which is fundamental to the highest success in any calling and to give the largest amount of technical knowledge consistent therewith. The theoretical instruction is associated with practical work and observation, for the demonstration of principles and training in methods; but time is not consumed in merely manual operations.

A minimum of 24 credits is required for graduation in these courses. Of the general requirements stated on page 55 the science must be chemistry.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Science.

AGRICULTURE

The course in Agriculture emphasizes technical training in the branches pertaining to general farming, stock raising, dairying, poultry industry, and agricultural chemistry. The entire agricultural equipment, including the farm, the barns, the dairy, the agricultural machinery, the poultry plant, the flocks and the herds, is used for instruction. The following courses are included in this major:

Ag 3 to Ag 10, Technical Agriculture.....4 credits
Ht 3 to Ht 7, Technical Horticulture.....2 credits
Ag 1, Biological Chemistry.....1 credit
Ag 2, Soils and Fertilizers.....2-5 credit
Ag 11, Veterinary Science.....3-5 credit

In addition the following subjects are essential to this major and should as far as practicable be elected by the student:

Ag 13, Bacteriology.....1-2 credit
Ag 12, Anatomy of domestic animals.....1-2 credit
Bl 1 and 2, General Biology.....3-5 credit
Bl 9, Physiology.....2-5 credit
Bl 11 and 12, Economic Entomology.....3-5 credit

Botany and Physics are sciences of great practical value in connection with this major. The student who wishes to make agricultural chemistry a feature of his work should elect qualitative and quantitative analysis.

HORTICULTURE

The course in Horticulture provides training in the theory and practice of fruit growing, general and ornamental gardening and in experimental methods. The greenhouses, gardens, orchards, nurseries and the university campus are freely used for purposes of instruction. The following courses are included in this major:

Ht 1, General Botany.....3-5 credit
Ht 2, Histology of Plants.....2-5 credit
Ht 3 to 13, Technical Horticulture (except Ht 12).....4 credits
Ag 3 to 6, Technical Agriculture.....2 credits
Ag 2, Soils and Fertilizers.....2-5 credit
Bl 11 and 12, Economic Entomology.....3-5 credit

In addition to these subjects General Biology, Bl 1-2, and Cryptogamic Botany, Bl 3-4, are essential and should be elected as far as practicable by the student. Physics, Biological Chemistry and Bacteriology are also desirable.

The Special Courses in Agriculture

For those who can meet the expense, the investment of time and money necessary to complete the four years course is most wise. To others the Special Courses in Agriculture are offered. Students are admitted to courses of such length as their time will allow, and of such breadth as their previous training will permit.

For admission to these courses, applicants should possess a good common school education. No formal entrance examination is required for admission to these courses, but the Professor of Agriculture will satisfy himself of the fitness of candidates to pursue them with success.

These courses are intended to give the greatest amount of directly useful knowledge that can be acquired in the time allotted. The studies pursued must usually be selected from those announced in the catalogue, but they will be arranged, so far as practicable, to meet the needs of each student.

The annual expenses for courses of one year or more, are the same as those of students in the four-year courses. No charge is made for rooms or tuition.

These courses, including the work in agriculture, agricultural chemistry, animal industry, economic entomology, horticulture, and veterinary science, are in the general charge of the Professor of Agriculture, to whom inquiries should be addressed.

The outline of the subjects which may be profitably pursued, and which a student may expect to complete within the time allotted is listed below:

SUBJECTS WHICH MAY BE TAKEN IN A ONE YEAR COURSE

General Chemistry; Agricultural Chemistry; Cryptogamic Botany; Laboratory Botany; Plant Variation; Landscape Gardening; Laboratory Horticulture; Pomology; Vegetable Gardening; General Biology; Physiology; Entomology; Stock Feeding; Poultry Industry; Dairy Practice; Veterinary Science; Agricultural Physics; Agricultural Engineering; Business Law; Carpentry; Forge Work.

SUBJECTS WHICH MAY BE TAKEN IN A TWO YEARS COURSE

First Year. Rhetoric; Elementary Physics; General Chemistry; Agricultural Mechanics; Cryptogamic Botany; Laboratory Botany; General Biology; Physiology; Drawing; Business Law; Entomology; Laboratory Horticulture; Pomology; Vegetable Gardening; General Botany; Carpentry; Forge Work.

Second Year. Laboratory Chemistry; Biological Chemistry; Agricultural Chemistry; Vertebrate Zoology; Invertebrate Zoology; Laboratory Zoology; Dissection; Veterinary Science; Stock Feeding; Plant Variation; Landscape Gardening; Laboratory Horticulture; Geology; Agricultural Physics; Agricultural Engineering; Dairying; Stock Feeding; Poultry Industry; Dairy Practice; Bacteriology.

Short Winter Course in General Agriculture and Dairying

The Course in Dairying is intended to meet the needs of those who wish to fit themselves for managers of creameries and cheese factories. If the course is pursued during two terms, and two seasons' satisfactory work is performed in a butter or cheese factory, the student will be granted a certificate of proficiency.

This course begins on the Tuesday preceding the last Friday of January, and continues six weeks.

The subjects taken up are: Chemistry of Plants and Animal Nutrition; Dairying; Feeds and Feeding; Breeds and Breeding; Crop Production; Bacteria of the Dairy; Diseases of Animals; Sheep Husbandry; Dairy Practice; Shop Work.

Short Special Course in Horticulture

On the Tuesday following the close of the Short Course in Dairying the special three weeks' course in Horticulture begins.

There is crowded into this short course all of the practical, helpful information possible. It is necessarily somewhat in the nature of an extended farmers' institute, and a special effort is made to outline future work for the students. The following subjects are taken up: Chemistry of Soils and Fertilizers; Chemistry of Plants; How Plants Feed; Plant Propagation; Orchard Culture; Small Fruit Culture; Vegetable Gardening; Insects and Fungi; Spraying of Plants.

Short Special Course in Poultry Management

On the Tuesday following the close of the Short Course in Horticulture the special three weeks' course in poultry management begins. The design is to make the course practical and valuable to persons who desire to engage in the pursuit of poultry growing and egg production. The subjects studied are embryology, buildings and appliances, incubation, egg production and breeds. The afternoons are devoted to work with incubators, brooders, and the treatment and breeding of young chickens, growing stock, and mature fowl.

The Agricultural Experiment Station

The Maine Agricultural Experiment Station owes its existence to an act of Congress, approved March 2, 1887, popularly known as the Hatch Act. The act of the legislature accepting the congressional grant made the Station a department of the University of Maine.

The affairs of the Station are considered by an advisory council consisting of a committee of the trustees of the University, the president of the University, members of the Station staff, the Commissioner of Agriculture, and representatives from the State Pomological Society, the State Grange, and the State Dairymen's Association. The recommendations of the council are referred to the trustees for ratification. The Station receives $15,000 annually from the general government.

The inspection of fertilizers, the inspection of concentrated commercial feeding stuffs, and the testing of the graduated glassware used in creameries, are entrusted to the Station through its

director, who is responsible for the execution of the public laws relating to these matters.

The Station publishes the account of its work in bulletin form. The bulletins for a year form a volume of about 200 pages and make up the annual report. Bulletins which contain matter of immediate value to practical agriculture are sent free of cost to the entire mailing list of the Station. On request, the name of any resident of Maine will be placed on the mailing list of the Station. Bulletins which contain the record of experiments involving the technical language of science, and containing detailed data are sent to Station workers and others interested in the science of agriculture, but are not sent to farmers unless they are specially asked for.

COLLEGE OF TECHNOLOGY

The College of Technology provides technical instruction in chemistry and in various kinds of engineering. Thirty credits are required for graduation, with any of these subjects as a major. In such technical courses it is necessary to prescribe a large proportion of the work; but some elective studies may be chosen in the junior and senior years. The college comprises:

The Chemical Course
The Civil Engineering Course
The Mechanical Engineering Course
The Electrical Engineering Course
The Mining Engineering Course

The Chemical Course

This course is designed for those who plan to become professional chemists and analysts, managers or chemists of industries which require an extensive knowledge of chemistry, or teachers of chemistry. Attention is given to preparation for the work of the agricultural experiment stations.

Lectures and recitations are closely associated with practical work in the laboratories. The student is drilled in the use of chemical apparatus, in accurate observation, and in careful interpretation of directions.

Eleven credits are required for the completion of the major, and a total of thirty for graduation.

Courses 1, 2, 3, and 4 in Chemistry must be taken in the Freshman year, for which one and two-fifths credits will be given toward the two credits in science required in all courses.

The major must include also the following subjects:

Ch 5 & 6.....Advanced Inorganic Chemistry.....1 credit
Ch 14 & 15.....Laboratory and Recitation work in Qualitative Analysis.....2 credits

Ch 7 & 8	Elementary Organic Chemistry	1 credit
Ch 16, 18 & 19	Quantitative Analysis	3 credits
Ch 23 & 24	Advanced Organic Chemistry, and Industrial Chemistry	1 credit
Ch 12, 20, 21, 22, 28, & Ag 13	Laboratory work in Agricultural Analysis, Chemical Preparations, Toxicology, Urinalysis, Dyeing, Bacteriology, and Thesis work	3 credits

Where a subject continues throughout a whole year, credit will not be given for less than a year of work.

The four credits required in language must be chosen in French and German, and these studies must be continued as far as is necessary to obtain a reading knowledge of both.

If French is offered on entrance to college, courses Rm 2a and 2b should be completed in the freshman year. Should no preparatory French have been taken, courses Rm 1 and 2 must be taken the first year. In the sophomore year German should be begun, and continued throughout the junior year, covering courses Gm 1, 2, 3a, 3b.

The students electing this major must also take Ps 1 & 2 in Physics, Bl 1 & 2 in Biology, Bl 13 in Geology, and at least one-half credit in Elementary Drawing. Ch 13, Mineralogy, is advisable. Those who intend to teach or pursue advanced courses are advised to elect Ms 5 and Ms 7, Analytical Geometry and Calculus, as essential to a mastery of the recent progress in some fields of chemistry.

The remainder of the student's work may be selected from any of the courses offered in the University, with the advice and approval of the Professor of Chemistry and the professor in charge of the course selected. In every case such choice should be made with reference to the line of work to be taken up after graduation.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the university, he receives the degree of Master of Science.

The Course in Civil Engineering

The object of this course is to give the student a knowledge of mathematics, mechanics, and drawing, experience in the care and use of engineering instruments, and a drill in the application of mathematical principles and rules, with a view to fitting him at graduation to apply himself at once to engineering work. The course is planned to furnish not only technical instruction, but also the basis of a liberal education.

In addition to the general requirements in English and language stated on page 55, which amount to six credits, there are required in technical civil engineering a minimum of six, and a maximum of ten credits, and as prerequisites to this technical work certain courses in pure and applied mathematics, science and drawing, aggregating about 12 credits, as follows:

Dr 1 and Dr 2	Drawing	1 credit
Dr 6 and Dr 7	Descriptive Geometry	1 credit
Ms 1	Solid Geometry	1 credit
Ms 2 and Ms 3	Algebra	1 credit
Ms 4	Trigonometry	1-2 credit
Ms 6	Analytical Geometry	1 credit
Ms 7 and Ms 8	Calculus	1 1-2 credits
Ce 6 and Ce 7	Mechanics	2 credits
Ch 1, Ch 2, Ch 3 and Ch 4	Chemistry	1 2-5 credits
Ps 1, Ps 2 and Ps 5	Physics	2 credits

The technical work must include the following courses:

Ce 1 and Ce 2	Surveying and Field Work	4-5 credit
Ce 3 and Ce 4	R. R. Eng. and Field Work	1 1-5 credits
Ce 10	Hydraulics	3-5 credit
Ce 12 and Ce 13	Structures	2 credits
Dr 5, Dr 8 and Ce 9	Drawing, Stereotomy, Higher Surveying	1 credit
Ce 11 and Ce 14	Hyd. Field Work and Designing	1 credit
Ce 15	Designing and Thesis	1 1-2 credits

The methods of instruction are recitations, lectures, original problems, work in the testing laboratories, field practice, and designing, including the making of original designs and the preparation of the necessary drawings. Effort is made to acquaint the student with the best engineering structures, and with standard engineering literature.

The engineering building contains recitation rooms, designing rooms, testing laboratories, drawing rooms, and instrument rooms, and is well equipped.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Science. Three years after graduation, upon the presentation of a satisfactory thesis and proofs of professional work, he may receive the degree of Civil Engineer.

The Mechanical Engineering Course

This course is designed to give a training along fundamental lines for those who wish to engage in pursuits involving the application of mechanical principles or power. It is to be considered as a technical preparation for the special professional work to follow, the leading object being to develop systematic methods of work and the power to reason accurately from the true principles of mechanics.

The course begins with a study of the forms and principles of mechanisms considered only in those features relating to motion, and leading to a study of the engine valve motion. This is followed by constructive designing of simple machine parts, and accompanied by practice in wood and metal working in the shops and by study in the Mechanics of Engineering.

After this the more technical work is taken up. This includes a study of the properties of materials of engineering—illustrated by laboratory tests—of the properties of steam under pressure, and of the theory and forms of steam boilers and engines. A considerable portion of the time is devoted to designing, and in this work the student is free to select the type of machinery on which he is to specialize. Particular attention is given to experimental work. Tests are made for the lubricating properties of oils, bearing qualities of metals, evaporative power of the boilers, and efficiency of the engines in the university laboratory and power station, while commercial tests are often conducted for outside parties.

Work in Marine Engineering is offered as a special feature. This consists of a study of those types of steam boilers and engines common in marine practice, and of the design of propelling machinery for a ship of given form and dimensions. Esti-

mates of weight and cost are made, the whole constituting the thesis required for graduation.

The courses which must be taken as prerequisites to the technical work in Mechanical Engineering are the same as for Civil Engineering, as given on page 110.

The courses which constitute a major in Mechanical Engineering, amounting to 9 credits, are as follows:

Me 1, Me 2, Me 5 and Me 6.....Shop Work.....2 3-5 credits
Me 3 and Me 4.....Drawing and Kinematics.....1-5 credit
Me 8 and Me 9.....Machine Design and Materials of Engineering.....1 credit
Me 10.....Fuels.....2-5 credit
Me 7, Me 12, Me 16 and Me 17..Steam Engineering..2 3-5 credits
Me 15.....Mechanical Laboratory.....3-5 credit
Me 20.....Specifications and Estimates.....1-5 credit
Me 21.....Seminary.....1-5 credit
Me 22.....Thesis.....3-5 credit

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Science. Three years after graduation, upon the presentation of a satisfactory thesis and proofs of professional work, he may receive the degree of Mechanical Engineer.

The Electrical Engineering Course

This course is intended to provide a thorough preparation in the scientific principles involved in the practice of electrical engineering; to explain and illustrate the application of these principles to the design, construction, installation and running of apparatus with which the electrical engineer has to deal, and to give practice and experience in the care and running of the same. In addition to this purely electrical work the student takes up carpentry, forge work, machine work, mechanical drawing, mathematics, physics, mechanics, steam engineering and other subjects allied to engineering work. For general courses he may

elect from the list of subjects offered in the line of general training, including English, language, logic, psychology, history, political economy, and constitutional law.

The prerequisites for a major in Electrical Engineering include Me 1, 2, 4, 5, 19 in addition to the prerequisites for a major in Civil Engineering.

A major course in Electrical Engineering should include the following:

Ee 1 and 2....Electricity and Magnetism and Dynamo Design.....1 credit
Ee 3 and 5....Electrical Machinery and Design of D. C. Machines.....1 credit
Ee 4 and 13...Alternating Currents and Alternating Current Machinery.....1.1 credits
Ee 7 and 8....Laboratory Work, Direct and Alternating Currents..... .85 credit
Ee 6 and 14...Design of Alternating Current Machines, Elec. Eng..... .55 credit
Ee 16.....Thesis..... .75 credit
Me 7 and 11...Valve Gears, Heat and Steam.....1 credit
Ps 11.....Electrical Measurement and Testing..... .6 credit

The equipment for laboratory work in electrical engineering is ample and includes most of the standard forms of instruments and machines.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed graduate work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, he receives the degree of Master of Science. Three years after graduation, upon the presentation of a satisfactory thesis and proofs of professional work, he may receive the degree of Electrical Engineer.

The Mining Engineering Course

In the newly established department of mining engineering, the course of study for the first two years is identical with that in civil engineering, except that, during the second year, class and laboratory work in chemistry takes the place of the courses in mechanical drawing, descriptive geometry and surveying. It is expected that more specific and advanced instruction in this department will be provided at an early date.

COLLEGE OF PHARMACY

The College of Pharmacy comprises:

The Pharmacy Course

The Short Course in Pharmacy

The Pharmacy Course

This course is offered in response to a demand for a thorough training, both general and technical, for those who are to become pharmacists. It aims to combine a broad general culture and a thorough preparation along its special lines, with the design of affording both the intellectual development necessary for the well rounded professional or business man, and the necessary technical training. To this end, it includes the same instruction in modern languages, civics, and the sciences, as is offered in other college courses. Thirty credits are required for graduation.

Those who intend to fit themselves for pharmaceutical work are urged to consider carefully the superior advantages of this course. The growing importance of the biological, sanitary, and medical sciences, and the pharmacist's relation to them, makes it increasingly necessary to his success that he be not only a well trained man in the technical branches, but an educated man in the broadest sense.

Instruction in pharmaceutical studies is given by means of lectures, recitations, and tests, supplemented by work in the laboratories of chemistry and pharmacy. It embraces qualitative, quantitative, and volumetric analysis, toxicology, bacteriology, prescriptions, the preparation of pharmaceutical compounds, and original investigations.

The library contains valuable reference literature in chemistry and pharmacy, and the best chemical and pharmaceutical journals.

For the general requirements common to all curricula see page 55. In addition the following courses are required:

Pharmacy: Pm 5, 6, Pharmacognosy; Pm 2, 4, Pharmacy; Pm 3, 10, Lab. Pharmacy; Pm 7, Materia Medica; Pm 9, Pharmacy Readings; Pm 11, Prescriptions.....7 credits

Chemistry: Ch 1, 2, Gen. Chemistry; Ch 3, 4, Lab. Chemistry; Ch 5, 6, Inorg. Chemistry; Ch 14. 15, Qual. Analysis; Ch 7, 8, Organic Chemistry; Ch 16, 19; Quant. Analysis; Ch 21, Toxicology.....7 credits

Botany: Ht 1, Gen. Botany; Ht 8, Hist. Plants.....1 credit

Biology: Ag 1, 2, Biolog. Chemistry; Ag 13, 15, Bacteriology and Lab. Bacteriology.....1.6 credits

Physics: Ps 12, 13, Gen. Physics; Ps 5, Lab. Physics, 1.4 credits

Civics, Philosophy, or History.....2 credits

From other courses enough must be elected to make a total of 30 credits.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis, and examination at the University, he receives the degree of Master of Science.

The Short Course in Pharmacy

This course, of two years, is designed for those who, for lack of time or for other reasons, are unable to take the course of four years. The more general educational studies of the full course are omitted, but as broad a range of subjects is offered as can be undertaken without sacrifice of thoroughness in the technical work. The course corresponds, in general, to the usual full course of the pharmacy college. The work required of the student will occupy his whole time during the college year of nine months, and will usually exclude work in drug stores during term time. The brevity of this course does not warrant extending to other than advanced students the privilege of electives.

The required courses are:

Pharmacy: Pm 1, 2, 4, Pharmacy; Pm 5, 6, Pharmacognosy; Pm 7, Material Medica; Pm 9, Pharmacy Readings; Pm 3, 10, Lab. Pharmacy; Pm 11, Prescriptions.

Chemistry: Ch 1, 2, Gen. Chemistry; Ch 14, 15; Qual. Analysis; Ch 19, Vol. Analysis; Ch 7, 8, Organic Chemistry; Ch 21, Toxicology.
Physics: Ps 3, 4, 6, Elementary Physics.
Botany: Ht 1, Gen. Botany; Ht 8, Hist. Plants.
Biology: Ag 1, Biolog. Chemistry; Ag 13, Bacteriology.

Students who complete this course in a satisfactory manner receive the degree of Pharmaceutical Chemist.

COLLEGE OF LAW

FACULTY

GEORGE EMORY FELLOWS, PH. D., L. H. D., LL. D.,
President of the University.

WILLIAM EMANUEL WALZ, M. A., LL. B.,
Dean and Professor of Law.

ALLEN ELLINGTON ROGERS, M. A.,
Professor of Constitutional Law.

EDGAR MYRICK SIMPSON, B. A.,
Instructor in Real Property and Corporations.

EUGENE CLEMENT DONWORTH, LL. B.,
Instructor in Contracts.

BERTRAM LEIGH FLETCHER, LL. B.,
Instructor in Agency.

GEORGE HENRY WORSTER,
Instructor in Damages.

FOREST JOHN MARTIN, LL. B.,
Resident Lecturer on Common Law Pleading and Maine Practice.

HUGO CLARK, C. E.,
Resident Lecturer on Equity Pleading and Practice.

CHARLES HAMLIN, M. A.,
Lecturer on Bankruptcy and Federal Procedure.

LUCILIUS ALONZO EMERY, LL. D.,
Lecturer on Roman Law and Probate Law.

ANDREW PETERS WISWELL, B. A.,
Lecturer on Evidence.

LOUIS CARVER SOUTHARD, M. S.,
Lecturer on Medico-Legal Relations.

CHARLES VEY HOLMAN, LL. B.,
Lecturer on Wills and Mining Law.

RALPH KNEELAND JONES, B. S.,
Librarian.

The College of Law was opened to students in 1898. It occupies rooms in the Exchange Building, at the corner of State and Exchange streets, Bangor. In this city are held annually one term of the U. S. District Court, five terms of the Maine Supreme Judicial Court, one term of the Law Court, and daily sessions of the Municipal Court. The law library contains about 3,000 volumes, including the reports of the Supreme Court of the United States, Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Ohio, and the Court of Appeals of New York, the New York Common Law and Chancery Reports, the American Decisions, American Reports, American State Reports, the Complete Reporter System, the Lawyers' Reports Annotated, all the Law Encyclopaedias, and a considerable number of text-books.

Admission

Graduates of any college or satisfactory preparatory school are admitted to the college as candidates for the degree of Bachelor of Laws, without examination. Other applicants must give satisfactory evidence of the necessary educational qualifications for the pursuit of the required course of study. These will be fixed in each case according to the rules of the Association of American Law Schools, of which association this school is a member.

Special students, not candidates for a degree, will be admitted without examination, and may pursue any studies for which they are prepared.

Students from other law schools, also members of the Association of American Law Schools, are admitted to classes in this institution corresponding to classes in the schools from which they come, upon the production of a certificate showing the satisfactory completion of the prior work in such schools.

Students from law offices are admitted to advanced standing upon passing a satisfactory examination upon the earlier subjects of the course.

Members of the bar of any state may be admitted to the senior class, without examination, as candidates for the degree of Bachelor of Laws, while graduate students may take one of the two courses leading to the degree of Master of Laws.

Methods of Instruction

The college is not committed exclusively to any one method of instruction, and recognizes the great value of lectures by able men, and the profit to be found in the use of standard text-books, but the greatest stress is placed upon the study of selected cases, and most of the work is carried on in this way. It is believed that through the case the student can best come at the controlling principles of the law, and that in no other way can he get so vital a comprehension of them. "Through the case to the principle," may perhaps adequately indicate the standpoint of the school in the matter of method.

Particular stress is placed upon the Practice Court, which is held once a week as a part of the work of the college, and in which every student is required to appear regularly. The questions of law are in all instances made to arise from the pleadings prepared by the students, and briefs, summarizing the points involved and the authorities cited, are submitted to the presiding judge.

The aim and spirit of the college are eminently practical, the purpose being to equip men for the everyday duties of the practicing attorney.

Course of Study

The course of study covers three years, in accordance with the requirements for admission to the bar in the State of Maine. The college year consists of thirty-two weeks, and is divided into the fall, winter, and spring terms, of eleven, ten, and eleven weeks respectively.

Expenses

The annual tuition fee is $60. The graduation fee is $10. There are no other charges.

Board and furnished rooms, with light and heat, may be obtained in the most convenient locations, at a price ranging from $3 to $7 a week. In other parts of the city lower rates may be obtained. It is believed that expenses in this department, as well as in other departments of the University, are lower than in any other New England college.

Degrees

At the completion of the three years course, the degree of Bachelor of Laws is conferred. Upon the completion of one year's prescribed work in residence, or two years' in absence, including the presentation of a satisfactory thesis and examination at the University, the degree of Master of Laws is granted.

COURSES OF INSTRUCTION

Law 1. Admiralty.—Text-book, Hughes on Admiralty. *Two hours a week.* Spring term. Professor Rogers.

Law 2. Agency.—Text-book, Huffcut's Cases on Agency. *Three hours a week.* Spring term. Mr. Fletcher.

Law 3. Bankruptcy.—Lectures. *Two hours a week.* Winter term. General Hamlin.

Law 4. Carriers.—Text-book, McClain's Cases on Carriers. *One hour a week.* Fall term. Mr. Simpson.

Law 5. Carriers.—A continuation of course 4. *Two hours a week.* Winter term. Mr. Simpson.

Law 6. Common Law Pleading.—Lectures. *Two hours a week.* Winter term. Mr. Martin.

Law 7. Common Law Pleading.—A continuation of course 6. *One hour a week.* Spring term. Mr. Martin.

Law 8. Conflict of Laws.—Dwyer's Cases. *Three hours a week.* Spring term. Mr. Simpson.

Law 9. Constitutional Law.—Boyd's Cases. *Two hours a week.* Winter term. Professor Rogers.

Law 10. Contracts.—Keener's Cases on Contracts. *Four hours a week.* Fall term. Mr. Donworth.

Law 11. Contracts.—A continuation of course 10. *Three hours a week.* Winter term. Mr. Donworth.

Law 12. Contracts.—A continuation of course 11. *Two hours a week.* Spring term. Mr. Donworth.

Law 13. Criminal Law.—Beale's Cases on Criminal Law. *Two hours a week.* Winter term. Mr. Simpson.

Law 14. Criminal Law.—A continuation of course 13. *Two hours a week.* Spring term. Mr. Simpson.

Law 15. Damages.—Beale's Cases on Damages. *Three hours a week.* Winter term. Mr. Worster.

Law 16. Domestic Relations.—Smith's Cases on Persons. *Three hours a week.* Fall term. Mr. Simpson.

Law 17. Equity Jurisprudence.—Bispham on Equity Jurisprudence and Shepard's Cases on Equity. *Four hours a week.* Fall term. Professor Walz.

Law 18 Equity Jurisprudence.—A continuation of course 17. *Three hours a week.* Winter term. Professor Walz.

Law 19. Equity Pleading.—Lectures. *Two hours a week.* Spring term. Mr. Clark.

Law 20. Evidence.—Thayer's Cases. *Four hours a week.* Fall term. Professor Walz.

Law 21. Evidence.—A continuation of course 20. *Three hours a week.* Winter term. Professor Walz.

Law 22. Evidence.—Lectures. *Number of hours not fixed.* Winter term. Mr. Chief Justice Wiswell.

Law 23. Executors and Administrators.—Lectures. *One hour a week.* Spring term. Mr. Simpson.

Lw 24. FEDERAL COURTS.—Lectures. *One hour a week.* Spring term. MR. SIMPSON.

Lw 25. GENERAL REVIEW.—Gardner's Review. *Two hours a week.* Spring term. PROFESSOR WALZ.

Lw 26. HISTORY OF LAW.—Lectures. *One hour a week.* Fall term. PROFESSOR ROGERS.

Lw 27. INSURANCE.—Woodruff's Cases. *Three hours a week.* Spring term. PROFESSOR WALZ.

Lw 28. MAINE PRACTICE.—Lectures. *One hour a week.* Spring term. MR. MARTIN.

Lw 29. MEDICO-LEGAL RELATIONS.—Lectures. *About six hours.* Spring term. MR. SOUTHARD.

Lw 30. MINING LAW.—Lectures. *About four hours.* Winter term. MR. HOLMAN.

Lw 31. MUNICIPAL CORPORATIONS.—Smith's Cases. *Three hours a week.* Winter term. PROFESSOR WALZ.

Lw 32. NEGOTIABLE PAPER.—Huffcut's Cases. *Two hours a week.* Winter term. PROFESSOR WALZ.

Lw 33. NEGOTIABLE PAPER.—A continuation of course 32. *Two hours a week.* Spring term. PROFESSOR WALZ.

Lw 34. PARTNERSHIP.—Ames's Cases. *Four hours a week.* Spring term. PROFESSOR WALZ.

Lw 35. PRIVATE CORPORATIONS.—Smith's Cases. *Four hours a week.* Fall term. MR. SIMPSON.

Lw 36. PRIVATE CORPORATIONS.—A continuation of course 35. *Three hours a week.* Winter term. MR. SIMPSON.

Lw 37. PROBATE LAW AND PRACTICE.—Lectures. *About ten hours.* Spring term. MR. JUSTICE EMERY.

Lw 38. REAL PROPERTY.—Tiedeman on Real Property. *Four hours a week.* Fall term. MR. SIMPSON.

Lw 39. REAL PROPERTY.—A continuation of course 38. *Three hours a week.* Winter term, MR. SIMPSON.

Lw 40. REAL PROPERTY.—Finch's Cases on the Law of Property in Land. *Four hours a week.* Spring term. MR. ————

Lw 41. ROMAN LAW.—Lectures. *About ten hours.* Spring term. MR. JUSTICE EMERY.

Lw 42. SALES.—Burdick's Cases. *Two hours a week.* Fall term. PROFESSOR WALZ.

Lw 43. SALES.—A continuation of course 42. *Two hours a week.* Winter term. PROFESSOR WALZ.

Lw 44. SURETYSHIP.—Ames's Cases. *Two hours a week.* Fall term. PROFESSOR WALZ.

Lw 45. SURETYSHIP.—A continuation of course 44. *Two hours a week.* Winter term. PROFESSOR WALZ.

Lw 46. TORTS.—Ames and Smith's Cases. *Four hours a week.* Fall term. PROFESSOR WALZ.

Lw 47. TORTS.—A continuation of course 46. *Three hours a week.* Winter term. PROFESSOR WALZ.

Lw 48. TORTS.—A continuation of course 47. *Two hours a week.* Spring term. PROFESSOR WALZ.

Lw 49. WILLS.—Chaplin's Cases. *Three hours a week.* Spring term. MR. HOLMAN.

COMMENCEMENT

The Commencement exercises of 1902 were as follows:—

Saturday, June 7: Junior Exhibition.

Sunday, June 8: Baccalaureate Address, by President G. E. Fellows.

Monday, June 9: College Convocation, including reports of departments and student enterprises, and the awarding of prizes; Class Day Exercises.

Tuesday, June 10: Receptions by the Fraternities; President's Reception.

Wednesday, June 11: Commencement Exercises; Commencement Dinner; Meeting of the Alumni Association; Commencement Concert.

CERTIFICATES AND DEGREES

The Degree of Pharmaceutical Chemist was conferred upon:

Frank Percy Burns, Westbrook.
Ralph Everett Clarke, Freeport.
Walter Maurice Tate, South Corinth.

The Bachelor's degree was conferred upon:

Arthur Willis Bachelder, B. S. in Mechanical Engineering, North Sebago.
William Edward Barrows, Jr., B. S. in Electrical Engineering, Augusta.
Enoch Joseph Bartlett, B. S. in Electrical Engineering, Monroe.
Marian Genevieve Boland, B. A., Worcester, Mass.
Henry Alfred Buck, B. S., Bucksport.
Edith Mae Bussell, B. Ph., Oldtown.
James Warren Butman, B. S. in Civil Engineering, Readfield.

Harold Malcolm Carr, B. S., Sangerville.
Henry Wilmot Chadbourne, B. S. in Electrical Engineering, Mattawamkeag.
Samuel Clark, B. S., Waterville.
Henry Ernest Cole, B. S. in Electrical Engineering, Sedgwick.
Alfred Ricker Davis, B. S. in Electrical Engineering, Auburn.
Samuel Prince Davis, B. S. in Civil Engineering, Portland.
Edward Warren Delano, B. S. in Civil Engineering, Abbott Village.
Harry Elwood Duren, B. S. in Electrical Engineering, Richmond.
George Washington Durgan, Jr., B. S., Sherman Mills.
Walter Hampton Eldridge, B. S. in Electrical Engineering, Bucksport.
Wesley Clarendon Elliott, B. S. in Electrical Engineering, Patten.
Herbert Oscar Farrington, B. S. in Electrical Engineering, Portland.
Lothrop Edwin Fessenden, B. S. in Mechanical Engineering, Bridgton.
Arthur Brookhouse Foster, B. S. in Chemistry, Beverly, Mass.
Henry Carter French, B. S. in Civil Engineering, Rumford Center.
Eugene Clarence Gilbert, B. S., Orono.
Archer Lewis Grover, B. S., Bethel.
Horace Parlin Hamlin, B. S. in Civil Engineering, Orono.
Fred Eugene Holmes, B. S. in Civil Engineering, East Machias.
Elbridge Augustus Johnson, B. S. in Civil Engineering, Portland.
Frank Winthrop Kallom, B. S. in Electrical Engineering, South Berlin, Mass.
Burchard Valentine Kelly, B. S. in Mechanical Engineering, Centerville. Mass.
Henry Wilton Kneeland, B. S. in Electrical Engineering, Searsport.
Perley Charles Knight, B. S. in Civil Engineering, South Gorham.

Lida May Knowles, B. S., Bangor.
Sumner Sturdivant Lowe, B. S. in Civil Engineering, Cumberland.
Alpheus Crosby Lyon, B. S. in Civil Engineering, Bangor.
Patrick Edward McCarthy, B. S. in Civil Engineering, Lewiston.
Harold Wilder Mansfield, B. S. in Mechanical Engineering, Union.
Charles William Margesson, B. S. in Civil Engineering, Bangor.
Percival Hildreth Mosher, B. S. in Civil Engineering, Pleasantdale.
Luther Peck, B. S. in Preparatory Medicine, Monson, Mass.
Frank Ethelbert Pressey, B. S. in Civil Engineering, Bangor.
Clinton Nathan Rackliffe, B. S. in Electrical Engineering, Easton.
Marie Cecilia Rice, B. S., Bangor.
Edwin Bishop Ross, B. S., Bangor.
Roy Elvert Russell, B. S. in Electrical Engineering, Livermore.
Herbert Willis Sewall, B. S. in Electrical Engineering, Wilton.
Arthur Elmer Silver, B. S. in Electrical Engineering, Silver's Mills.
Charles Walter Stephens, B. S. in Civil Engineering, Oldtown.
Charles Augustus Stilphen, B. S. in Electrical Engineering, Gardiner.
William Brackett Thombs, B. S. in Mechanical Engineering, Gorham.
Edwin Stanley True, B. S. in Electrical Engineering, Portland.
John Clifford Warren, B. S., Westbrook.
Alvin Morrison Watson, B. S. in Electrical Engineering, Portland.
Allen Francis Wheeler, B. S. in Mechanical Engineering, Brunswick.
Ralph Whittier, B. S., Bangor.

The degree of Bachelor of Laws was conferred upon:

Thomas Alexander Anderson, Hartland.
Patrick Henry Dunn, Brewer.

Charles Vey Holman, New York, N. Y.
Hartley Garfield Kenniston, Phillips.
Harry Lord, Bangor.
Malcolm McKay, Scottsville, N. S.
James O'Halloran, Bangor.
Varney Arthur Putnam, Danforth.
George William Ritter, Monson, Mass.
William Henry Robinson, Bangor.
Robert William Selkirk, Wilder, Vt.
Harry Harding Thurlough, Littlefield Corner.
Albert Washington Weatherbee, Bangor.
Frank Palmer Wilson, Belfast.

The degree of Master of Science, upon the presentation of satisfactory theses, and examination on prescribed courses of advanced study, was conferred upon:

William Porter Beck, B. S. (Denison University, 1900), Waterville.
Clifford Dyer Holley, B. S. (1900), Orono.
Lewis Robinson Cary, B. S. (1901), Bowdoinham.

The degree of Civil Engineer, upon presentation of satisfactory theses, and proof of professional work extending over a period of not less than three years, was conferred upon:

William Rowe Farrington, B. C. E. (1891), Boston, Mass.
Stanwood Hill Cosmey, B. C. E. (1897), Omaha, Neb.
Wallace Edward Belcher, B. C. E. (1899), New Britain, Conn.

The degree of Mechanical Engineer, upon presentation of satisfactory theses and proof of professional work extending over a period of not less than three years, was conferred upon:

Stanley John Steward, B. M. E. (1896), Orono.
Clarence Morrill Hayes, B. M. E. (1899), Lynn, Mass.

The various prizes were awarded last year as follows:

The Kidder Scholarship, to Elmer Bishop Crowley, Indian River.

The Junior Exhibition Prize, to Archie Ray Benner, Waldoboro.

The Sophomore Exhibition Prize, to Ira Mellen Bearce, Hebron.

The Libbey Prize, to Enoch Joseph Bartlett, Monroe.

The Walter Balentine Prize, to Henry Melville Soper, Oldtown.

The Kennebec County Prize, to Henry Ernest Cole, Sedgwick.

APPOINTMENTS

SPEAKERS AT COMMENCEMENT, JUNE, 1902

Harold Malcolm Carr, Sangerville; Henry Ernest Cole, Sedgwick; Wesley Clarendon Elliott, Patten; Lida May Knowles, Bangor; Patrick Edward McCarthy, Lewiston; James O'Halloran, Bangor; George William Ritter, Monson, Mass.; Arthur Elmer Silver, Silver's Mills.

SPEAKERS AT THE JUNIOR EXHIBITION, JUNE, 1902

Archie Ray Benner, Waldoboro; Ralph Melvin Conner, East Wilton; Frank Libby Douglass, West Gorham; John Hollis MacCready, Houlton; Amy Ines Maxfield, Sandypoint; Paul Dyer Simpson, Sullivan.

SPEAKERS AT THE SOPHOMORE PRIZE DECLAMATION CONTEST, DECEMBER, 1901

Robert Clinton Baker, Taunton, Mass.; Ira Mellen Bearce, Hebron; Clyde Irving Giles, Skowhegan; Herbert Stanley Gregory, Elmira, N. Y.; Harry Dennett Haley, Gardiner; John Herman Quimby, Orrington; James Herbert Sawyer, Saco; Howard Smith Taylor, Bangor.

MEMBERS OF THE PHI KAPPA PHI

Henry Ernest Cole, Sedgwick; Walter Hampton Eldridge, Bucksport; Wesley Clarendon Elliott, Patten; Henry Carter French, Rumford Center; Horace Parlin Hamlin, Orono; Alpheus Crosby Lyon, Bangor; James O'Halloran, Bangor; Frank Ethelbert Pressey, Bangor; Clinton Nathan Rackliffe, Easton; Marie Cecilia Rice, Bangor; George William Ritter, Monson, Mass.; Arthur Elmer Silver, Silver's Mills.

Students Receiving General Honors

Henry Ernest Cole, Sedgwick; Henry Wilmot Chadbourne, Mattawamkeag; Walter Hampton Eldridge, Bucksport; Wesley Clarendon Elliott, Patten; Henry Carter French, Rumford Center; Horace Parlin Hamlin, Orono; Alpheus Crosby Lyon, Bangor; Harold Wilder Mansfield, Union; Frank Ethelbert Pressey, Bangor; Clinton Nathan Rackliffe, Easton; Marie Cecilia Rice, Bangor; Roy Elvert Russell, Livermore; Arthur Elmer Silver, Silver's Mills.

Students Receiving Special Honors

SENIORS

Henry Wilmot Chadbourne, Mattawamkeag, in Mathematics.
Henry Ernest Cole, Sedgwick, in Mathematics.
Walter Hampton Eldridge, Bucksport, in Mathematics, (twice).
Wesley Clarendon Elliott, Patten, in Physics.
Arthur Brookhouse Foster, Beverly, Mass., in Chemistry.
Henry Carter French, Rumford Center, in Physics.
Horace Parlin Hamlin, Orono, in Physics.
Lida May Knowles, Bangor, in Physics.
Harold Wilder Mansfield, Union, in Physics.
Marie Cecilia Rice, Bangor, in Physics.

JUNIOR

Leroy Melville Coffin, Freeport, in Mathematics.

CATALOGUE OF STUDENTS

GRADUATE STUDENTS

Bussell, Edith Mae, B. Ph.,	Oldtown,	Oldtown.
Cummings, Marshall Baxter, B. S.,	Oldtown,	Mrs. Graves.
Fraser, Gertrude Lee, B. Ph.,	Oldtown,	Oldtown.
Hamlin, Horace Parlin, B. S.,	Orono,	Main St.
Mitchell, Walter Alfred, B. A.,	Hartford, Conn.,	Mrs. Graves.
Rautenstrauch, Walter,	Orono,	W. B. Dukeshire.
Rice, Marie Cecilia, B. S.,	Bangor,	Bangor.
Small, Clinton Leander, B. A.,	Long Island City,	N. Y.
Swain, Pearl Clayton, B. A.,		Corinna.

SENIORS

Baker, Ernest Linwood,	Portland,	301 Oak Hall.
Benner, Archie Ray,	Waldoboro,	G. E. Thompson.
Carr, Cleora May,	Oldtown,	Mt. Vernon House.
Chandler, Robert Flint,	New Gloucester,	Φ. Γ. Δ. House.
Chase, Nathan Ajalon,	South Paris,	211 Oak Hall.
Coffin, Leroy Melville,	Freeport,	Mrs. L. P. Harris.
Collins, Fred,	Bar Harbor,	K. Σ. House.
Conner, Ralph Melvin,	East Wilton,	311 Oak Hall.
Cooper, Ralph Leonard,	Belfast,	A. T. Ω. House.
Crabtree, Leroy Brown,	Hancock,	K. Σ. House.
Crocker, Henry Kennedy,	Rockland,	B. Θ. Π. House.
Davis, Rodney Clinton,	Lewiston,	203 Oak Hall.
Dinsmore, Sanford Crosby,	Dover,	B. Θ. Π. House.
Dorticos, Carlos,	Portland,	K. Σ. House.
Douglass, Frank Libby,	Gorham,	Mayo's Block.
Dyer, William Norman,	Harrington,	A. T. Ω. House.
Ellstrom, Victor Edwin,	Fitchburg, Mass.,	Σ. X. House.
Everett, Chester Steele,	Attleboro, Mass.,	Σ. X. House.
Foster, Samuel Joshua,	Bingham,	K. Σ. House.
Freeman, George Leonard,	West Gray,	K. Σ. House.
Gage, Arthur Willard,	Dennisport, Mass.,	[209 Oak Hall.

Goodridge, Oren Leslie,	Orono,	O. T. Goodridge.
Goodwin, Burton Woodbury,	Berry Mills,	Φ. Γ. Δ. House.
Graves, Sherley Preston,	Northeast Harbor,	H. H. Finn
Harris, Philip Howard,	Portland,	B. Θ. Π. House.
Hartford, Edward Goodwin,	Calais,	H. H. Finn.
Hilliard, John Heddle,	Oldtown,	Oldtown.
Hinchliffe, Henry John,	Worcester, Mass.,	Φ.Γ.Δ.House.
Hinckley, Frances Augusta,	Oldtown,	Oldtown.
Kittredge, Claude Abbott,	Farmington,	A. T. Ω. House.
Leary, Thomas Edward,	East Hampden,	Σ. X. House.
Loud, Warren Cornelius,	Caribou,	209 Oak Hall.
McCready, John Hollis,	Houlton,	A. T. Ω. House.
Maxfield, Amy Ines,	Sandypoint, Mt. Vernon	House.
Mullaney, Roderick Edward,	Bangor,	A. T. Ω. House.
Patrick, Stephen Edmund,	Gorham,	Dr. Whitcomb.
Porter, Ernest Albee,	Eustis,	K. Σ. House.
Rogers, Herbert Kemp,	Wellfleet, Mass.,	F. A. Abbott.
Sheahan, Harold Vose,	Dennysville,	301 Oak Hall.
Simpson, Paul Dyer,	Sullivan Harbor,	B.Θ.Π. House.
Small, Silas Gilman,	Lubec,	302 Oak Hall.
Smith, Howard Ausburn,	North Truro, Mass.,	[F. A. Abbott.
Soper, Henry Melville,	Oldtown,	Φ. Γ. Δ. House.
Stone, Charles Wesley, Jr.,	Milo,	Milford.
Towse, Arthur Roy,	North Lubec,	301 Oak Hall.
Treworgy, Isaac Emery,	Surry,	K. Σ. House.
White, Ralph Henry,	East Machias,	309 Oak Hall.
Whitney, Harvey David,	Auburn,	Φ. Γ. Δ. House.
Wiley, Mellen Cleveland,	Bethel,	203 Oak Hall.

JUNIORS

Alden, Carl Howard,	Gorham,	201 Oak Hall.
Averill, Roy Samuel,	Milltown,	210 Oak Hall.
Bassett, Ralph Smith,	Dover,	A. A. Powers.
Bean, Paul Leonard,	Saco,	A. T. Ω. House.
Bearce, Ira Mellen,	Hebron,	207 Oak Hall.
Berry, Edward Robie,	Lynn, Mass.,	B. Θ. Π. House.
Bradford, Luther Cary,	Turner,	B. Θ. Π. House.
Bragg, Jesse S.,	St. Albans,	A. A. Powers.
Brann, George Samuel,	Dover,	304 Oak Hall.

Breed, Everett Mark,	Brewer,	Mrs. Shatney.
Broadwell, Edwin Sherman,	Cleveland, Ohio,	K. Σ. House.
Brown, Ernest Carroll,	Gorham,	201 Oak Hall.
Brown, Horace Arthur,	Bradley,	Bradley.
Buck, Florence Emily,	Bucksport,	Mt. Vernon House.
Buker, Edson Bayard,	Brownville,	305 Oak Hall.
Case, Albert Deering,	Lynn, Mass.,	A. T. Ω. House.
Chaplin, Carroll Sherman,	Portland,	Φ. Γ. Δ. House.
Chase, Clifford Gray,	Baring,	302 Oak Hall.
Clifford, Edward Clinton,	Woodfords,	Φ. Γ. Δ. House.
Copeland, Lennie Phoebe,	Bangor,	Mt. Vernon House.
Crowley, Elmer Bishop,	Indian River,	208 Oak Hall.
Davenport, Arthur Edward,	E. Brimfield, Mass.,	308 Oak Hall.
Day, Charles Iven,	Damariscotta,	A. T. Ω. House.
Day, Eugene Garfield,	Madison,	Φ. Γ. Δ. House.
Dorticos, Philip,	Woodfords,	K. Σ. House.
Fifield, Fred Victor,	East Eddington,	310 Oak Hall.
Flynt, Roy Horton,	Augusta,	B. Θ. Π. House.
Giles, Clyde Irving,	Skowhegan,	Σ. X. House.
Haley, Harry Dennett,	South Gardiner,	K. Σ. House.
Haskell, Roger,	Westbrook,	H. H. Finn.
Herbert, Thomas Carroll,	Richmond,	105 Oak Hall.
Holmes, Ernest Randall,	Eastport,	A. T. Ω. House.
Hopkins, Ralph Thomas,	Bangor,	B. Θ. Π. House.
Johnstone, Leslie Ingalls,	Milford,	Milford.
Jones, Vaughn,	Bangor,	K. Σ. House.
Jordan, Alfred Carroll,	Casco,	University Hall.
Kingsbury, Ralph Waldo Emerson,	So. Brewer,	212 Oak Hall.
Knowles, Allen Mark,	Corinna,	A. T. Ω. House.
Larrabee, Benjamin True,	Cumberland Mills,	K. Σ. House.
Lawrence, Leonard Alexander,	Eastport,	H. H. Perkins.
Leighton, Clifford Henry,	Addison,	Main St.
Little, Leslie Eugene,	Bucksport,	Φ. Γ. Δ. House.
Livermore, Scott Page,	Lynn, Mass.,	B. Θ. Π. House.
McCullough, Frank,	Lynn, Mass.	B. Θ. Π. House.
McIntire, Walter Draper,	Orange, Mass.,	Σ. X. House.
Monk, Holman Waldron,	North Buckfield,	110 Oak Hall.
Olivenbaum, John Emanuel,	Jemtland,	Φ. Γ. Δ. House.
Paine, Allen Thatcher,	Brewster, Mass.,	109 Oak Hall.

Parker, Edward Alton,	Skowhegan,	K. Σ. House.
Pearson, Ralph Howard,	Guilford,	208 Oak Hall.
Perkins, Connor Arthur,	Bucksport,	K. Σ. House.
Phinney, Alverdo Linwood,	Portland,	Σ. X. House.
Porter, Karl Byron,	Oldtown,	A. T. Ω. House.
Quimby, John Herman,	Goodale's Corner,	109 Oak Hall.
Richardson, Roy Henry,	Mt. Blue, Mass.,	312 Oak Hall.
Sampson, Charles Henry,	Gorham,	204 Oak Hall.
Sawyer, Harry Ansel,	Portland,	102 Oak Hall.
Sawyer, James Herbert,	Saco,	A. T. Ω. House.
Scott, Walter Erwin,	Dexter,	Φ. Γ. Δ. House.
Small, Alvah Randall,	Portland,	312 Oak Hall.
Small, Lottie Luella,	Auburn,	Mt. Vernon House.
Smith, Elmer Garfield,	Portland,	K. Σ. House.
Smith, Leroy Clifton,	East Exeter,	Mrs. W. S. Hatch.
Snell, Roy Martin,	Lagrange,	211 Oak Hall.
Soderstrom, Godfrey Leonard,	Hartford, Conn.,	Φ. Γ. Δ. House.
Stewart, George Thomas,	Auburn,	105 Oak Hall.
Strickland, Roy Elgin,	South Paris,	212 Oak Hall.
Taylor, Alec Gladstone,	North Sullivan,	B. Θ. Π. House.
Taylor, Elliott Williams,	Wollaston, Mass.,	Σ. X. House.
Taylor, Howard Smith,	Bangor,	K. Σ. House.
Taylor, Thomas Francis,	Bangor,	Bangor,
Tucker, John Voden,	Stillwater,	Stillwater.
Turner, Roland Lee,	Boothbay Harbor,	A. T. Ω. [House.
Webber, Mary Frances,	Bangor,	Bangor.
Webster, Francis Howe,	Orono,	Mrs. A. Webster.
White, Alphonso,	North Sebago,	W. Reed.

SOPHOMORES

Abbott, Curtis Eames,	Locke's Mills,	Mrs. E. Prescott.
Allen, George Proctor,	West Gray,	S. A. Beale.
Alton, Ralph Henry,	Lynn, Mass.,	Mrs. S. Gee.
Ames, Bertram Eugene,	Lynn, Mass.,	A. T. Ω. House.
Armstrong, George Otty,	St. John, N.B.,	O. T. Goodridge.
Bachelder, Herbert Walter,	E. Winthrop,	Prof. C. D. Woods.
Bailey, Charles Lester,	Auburn,	202 Oak Hall.
Balentine, Florence,	Orono,	Mt. Vernon House.
Barton, Murray Fernald,	Bradley,	Bradley.

Beale, Harry Orlando,	North Anson,	S. A. Beale.
Bearce, Edwin Freeman,	Auburn,	B. Θ. Π. House.
Blaisdell, Harry George,	Bangor,	Bangor.
Bowles, Clayton Wass,	Columbia Falls,	Bangor.
Brown, Archer Norwood,	Stillwater,	Stillwater.
Carle, George Wilmot,	Portland,	107 Oak Hall.
Chalmers, Arthur Sumner,	Bangor,	K. Σ. House.
Chatto, Byron Herbert,	East Surry,	210 Oak Hall.
Churchill, Howard Lincoln,	North Buckfield,	J. P. Spearen.
Colcord, Lincoln Ross,	Searsport,	K. Σ. House.
Collins, Arthur Winfield,	Fort Fairfield,	Φ. Γ. Δ. House.
Cotton, Ernest Linwood,	Cumberland Mills,	Mayo's Block.
Cowan, Benjamin Mosher,	Biddeford,	A T. Ω. House.
Crowe, Francis Trenholm,	Rumford Falls,	205 Oak Hall.
Crowe, Joseph Wilkinson,	Rumford Falls,	202 Oak Hall.
Dow, Henry Kingman,	Oldtown,	Oldtown.
Drummond, Robert Rutherford,	Bangor,	K. Σ. House.
Fifield, Ralph Herbert,	Dexter,	Φ. Γ. Δ. House.
Flanders, Frank Leroy,	Howard, R. I.,	A. T. Ω. House.
Foss, Howard Colburn,	Boston, Mass.,	A. T. Ω. House.
French, Prentiss Edwin,	Turner,	205 Oak Hall.
Fullam, William Edward Peabody,	Portland,	Miss A. T. Emery.
Gulliver, Edward Charles,	Portland,	Mrs. W. S. Hatch.
Garland, Clarence Leroy,	Bangor,	Φ. Γ. Δ. House.
Hamlin, Charles Mayo,	Orono,	Orono.
Harlow, Clarence Burr,	Brewer,	108 Oak Hall.
Harvey, Bartle Trott,	Orono,	Orono.
Haskell, Ralph Webster,	Westbrook,	Φ. Γ. Δ. House.
Hayes, Andrew Jenkins,	Oxford,	Mrs. E. Prescott.
Higgins, Roy Edwin,	Brewer,	Φ. Γ. Δ. House.
Hilliard, Edward Knight,	Oldtown,	Φ. Γ. Δ. House.
Hilton, Horace Alden,	Bangor,	B. Θ. Π. House.
Hodges, Thomas Victor,	Boston, Mass.,	B. O. Π. House.
Huntington, George Kemp,	Lynn, Mass.,	Mrs. Reed.
Kay, Frank Wilbur,	Fiskdale, Mass.,	206 Oak Hall.
Kenrick, William Winslow,	Lynn, Mass.,	Σ. X. House.
Lang, Charles Libby,	Harrison,	211 Oak Hall.
Learned, Frank Everett,	Waterville,	A. T. Ω. House.
Longfellow, John Gilman,	Monmouth,	104 Oak Hall.

McClure, James Harvey,	Bangor,	B. Θ. Π. House.
McDermott, John Augustine,	Biddeford,	A. T. Ω. House.
Maddocks, William Samuel,	Oldtown,	Oldtown.
Martin, Lloyd Arthur,	Oldtown,	Oldtown.
May, John,	Rockland,	A. T. Ω. House.
Mitchell, Lester Hale,	West Newfield,	Φ. Γ. Δ. House.
Moody, Clare Joseph,	Winterport,	Mrs. Graves.
Moody, Percival Ray,	Biddeford,	A. T. Ω. House.
Pennell, Charles Weston,	Gray,	Σ. X. House.
Powell, Mabel Frances,	Orono,	Orono.
Rogers, Elmer George,	Bowdoinham,	303 Oak Hall.
Rogers, Robert Fisher,	Bowdoinham,	303 Oak Hall.
Sampson, Freeman Marston,	Gorham,	204 Oak Hall.
Sands, Roy Granville,	Foxcroft,	47 Main St.
Seabury, Ralph Lowe,	Yarmouth,	103 Oak Hall.
Shaw, Walter Jefferson,	Orono,	Mill St.
Smith, Carl David,	Skowhegan,	Φ. Γ. Δ. House.
Smith, Dwight Freeman,	Skowhegan,	Φ. Γ. Δ. House.
Sprague, Adelbert Wells,	Bangor,	K. Σ. House.
Stanley, Howard Arthur,	Beverly, Mass.,	Φ. Γ. Δ. House.
Sweet, Calvin Arthur,	South Atkinson,	206 Oak Hall.
Sweetser, Ernest Osgood,	Cumberland Center,	Σ. X. House.
Taylor, Roy Edmund,	Springvale,	H. H. Finn.
Thatcher, Henry David Thoreau,	Dexter,	B. Θ. Π. House.
Thomas, Burton Merrill,	Portland,	B. Θ. Π. House.
Thomas, Herbert Arthur,	Andover,	202 Oak Hall.
Thomas, Lucian Alvah,	Rockland,	Σ. X. House.
Thomes, Edward Calder,	Portland,	B. Θ. Π. House.
Trafton, Ernest Eugene,	Auburn,	Mt. Vernon House.
Trask, Oland Wilbur,	Woodfords,	K. Σ. House.
Weeks, Carl Wellington,	Masardis,	110 Oak Hall.
Weld, Moses Waldo,	Oldtown,	Oldtown.
Wentworth, Marion Barry,	Kennebunk Beach,	Mt. Vernon [House.
White, Frank Osmond,	Orono,	Mill St.
Whittier, Arthur Craig,	Farmington,	108 Oak Hall.
Williams, Charles Robert,	Putnam,	107 Oak Hall.
Williams, George Seth,	Augusta,	B. Θ. Π. House.
Wood, Alphonso,	Belfast,	B. Θ. Π. House.

FRESHMEN

Abbott, Herbert Lester,	Bucksport,	J. P. Spearen.
Aborn, Edward Burton,	Lynn, Mass.,	Φ. Γ. Δ. House.
Alexander, Jefferson Leavitt,	Eastport,	301 Oak Hall.
Austin, Alton Arthur,	Ridlonville,	University Hall.
Bacon, Roy Sawtelle,	Oakland,	University Hall.
Banks, Frank Arthur,	Biddeford,	A. T. Ω. House.
Bass, Girard Newman,	East Wilton,	Wm. Page.
Battye, John,	Wales, Mass.,	308 Oak Hall.
Bean, Ernest Daniel,	Haverhill, Mass.,	University [Hall.
Bearce, Henry Walter,	Hebron,	207 Oak Hall.
Bearce, Winfield Dexter,	Auburn,	B. Θ. Π. House.
Bennett, Arthur Guy,	Paris Hill,	112 Oak Hall.
Bowdoin, Emery Ray,	Prospect Ferry,	J. P. Spearen.
Boyd, Leland Gilman,	North Monroe,	University Hall.
Bradley, Elmer Percy,	Pemaquid,	A. T. Ω. House.
Brawn, Elwin Dresser,	Dexter,	Main St.
Brown, Everett Dana,	North Bethel,	Prof. N. C. [Grover.
Burke, Walter Horace,	West Kennebunk,	A. Z. Cowan.
Burrill, Horace Everett,	Waterville,	K. Σ. House.
Butterworth, Albert Jared,	Southbridge, Mass.,	308 Oak [Hall.
Campbell, Charles William,	Ellsworth,	K. Σ. House.
Campbell, Fred Glover,	Rockland,	Miss A. T. Emery.
Carlson, Gotthard Wilhelm,	Bethel,	203 Oak Hall.
Carver, Wilbur Joshua,	Searsport,	Mrs. S. Gee.
Cassey, Sidney,	Lynn, Mass.,	Mrs. O. T. Abbott.
Caswell, Claude Edgar,	Gray,	Σ. X. House.
Cleland, Galen Snow,	Calais,	Mr. Harding.
Colby, Edward Kelly,	Lynn, Mass.,	University Hall.
Colcord, Joanna Carver,	Searsport,	Mt. Vernon House.
Coligny, Guerric Gaspard de,	Springfield, Mass.,	A. T. Ω. [House.
Cony, Daniel William,	Augusta,	B. Θ. Π. House.
Crowell, Lincoln,	Boston, Mass.,	Charles Crowell.
Cullen, William Mortimer,	Thomaston,	Mrs. Goode.

Currier, Charles Ellsworth,	Brewer,	Mrs. Shatney,
Danforth, Franklin Wendell,	Skowhegan,	University Hall.
Derby, Frank Albert,	Temple,	University Hall.
Devereux, Rosman Styer,	Castine,	Mrs. Hatch.
Dinsmore, Arlie Abner,	Bingham,	K. Σ. House.
Dixon, Esther Margaret,	South West Harbor,	Mrs. O. C. [Dunn.
Dolbier, William Ray,	Salem,	Pres G. E. Fellows.
Dwelley, James Raymond,	Franklin,	Σ. X. House.
Edwards, Dayton James,	Oaks,	111 Oak Hall.
Elliott, Hallet Carroll,	Patten,	Mayo's Block.
Elliott, Samuel Gault,	Rumford Point,	305 Oak Hall.
Elms, James William,	Foxcroft,	A. T. Ω. House.
Emery, Harry Alvah,	North Anson,	47 Main St.
Fellows, Gladys Ethel,	Orono,	Pres. G. E. Fellows.
Finnegan, John Dennis,	Bangor,	K. Σ. House.
Floyd, Charles Wallace,	Wytopitlock,	Oldtown.
Forbes, Clinton Fairfield,	Buckfield,	Mayo's Block.
Fraser, Percy Donald,	Oldtown,	Oldtown.
French, Cecil Sumner,	Kingfield,	Mrs. Wm. Colburn.
Frost, Walter Oscar,	Rockland,	Φ. Γ. Δ. House.
Goodwin, George Parlin,	Skowhegan,	Φ. Γ. Δ. House.
Gray, Claude Albert,	Bridgton,	Mrs. E. Prescott.
Gray, Ernest Linwood,	North Fairfield,	311 Oak Hall.
Grinnell, Robert Williston,	Searsport,	Mrs. S. Gee.
Hamlin, Roy Gilbert,	Gorham, N. H.,	Mrs. E. [Prescott.
Harding, Brydone Ellsworth,	Danforth,	J. P. Spearen.
Harlow, Frederic Hall,	Gorham,	112 Oak Hall.
Hendricks, Frank Sherman,	South Turner,	Mayo's Block.
Hews, Wellington Prescott,	Ashland,	A. T. Ω. House.
Hill, George Herbert,	Saco,	Mrs. A. J. Cowan.
Hills, Oliver Fuller,	Rockland,	B. Θ. Π. House.
Hodgdon, Carolyn Adelle,	Hampden Corner,	Mt. Vernon [House.
Howard, Lester Boynton,	Dover,	E. Webster.
Hoxie, Harold Shepherd,	North Fairfield,	University [Hall.
Hoxie, Harvey Hamlin,	Waterville,	307 Oak Hall.
Hunnewell, Carl,	Madison,	Mr. S. A. Beale.

Johnson, Caleb Hartwell,	Nahant, Mass.,	Mrs. R. S. Merryman.
Jones, Gertrude May,	Corinna,	Mt. Vernon House.
Jordan, Roy Faunce,	Norway,	University Hall.
Karl, Harold Louis,	Rockland,	Σ. X. House.
Kittredge, Raymond Brown,	Beverly, Mass.,	101 Oak Hall.
Lancaster, Howard Augustus,	Oldtown,	Oldtown.
L'Esperance, Oscar Ralph Talon,	Woonsocket, R.I.,	J.P.Spearen.
Libby, James Nelson,	South Gorham,	K. Σ. House.
Lord, Ralph Edwin,	Bangor,	B. Θ. Π. House.
Lovett, Merton Rooks,	Beverly, Mass.,	101 Oak Hall.
Lynott, Edward Martin,	East Eddington,	Bangor.
McDermott, William Laurence,	Biddeford,	A. T. Δ. House.
McDonald, Karl,	Belfast,	B. Θ. Π. House.
McGregor, Francis Howard,	Montague,	Alec Latno.
McLain, William Alvin,	Rockland,	Alec Latno.
Martin, Charles Henry,	Fort Fairfield,	Φ. Γ. Δ. House.
Millane, Henry P.,	Holyoke, Mass.,	Σ. X. House.
Moody, James M.,	Limington,	
Morin, Jerome Alfred,	Biddeford,	Mrs. Lynch.
Newman, Max Gibson,	Fryeburg,	S. A. Beale.
Nichols, Leroy Cleveland,	Saco,	Mrs. A. J. Cowan.
Norwood, Henry Eugene,	Bangor,	Bangor.
O'Brien, Thomas Francis,	Boston, Mass.,	Σ. X. House.
Olds, Robert Franklin,	Lewiston,	University Hall.
Owen, George Stuart,	Portland,	Φ. Γ. Δ. House.
Pennell, Alcot Johnson,	Melrose Highlands, Mass.,	[Mrs. R. S. Merryman.
Peterson, William Wallace,	Searsport,	
Plummer, Arthur Bartlett,	N. New Portland,	Φ.Γ.Δ. House.
Porter, Roy Hiram,	South Paris,	312 Oak Hall.
Prescott, Arthur William,	Hanover, N.H.,	University Hall.
Prince, Charles Edward,	Kittery,	306 Oak Hall.
Prouty, Charles Homer,	Northboro, Mass.,	210 Oak Hall.
Reed, Frank Radford, Jr.,	Rumford Falls,	311 Oak Hall.
Reynolds, Thomas Harold,	Eastport,	Φ. Γ. Δ. House.
Richards, Earle Revere,	New Gloucester,	Mrs. W. S. [Hatch.
Richardson, Alton Willard,	Bethel,	University Hall.
Roberts, Guy H. B.,	Alfred,	Σ. X. House.

Rogers, David Nathan,	Patten,	111 Oak Hall.
Rollins, Deane Whittier,	Farmington Falls,	Φ. Γ. Δ. [House.
Ross, Harold Dockum,	Skowhegan,	Mrs. Hayes.
Sawyer, Edgar John,	Millbridge,	University Hall.
Sawyer, Warren Sylvester,	Fort Fairfield,	Mrs. Kenney.
Scudder, Orville Albert,	Jamaica Plain, Mass.,	307 Oak [Hall.
Sherman, Raphael Simmons,	Camden,	Σ. X. House.
Simmons, John Percy,	Belfast,	Pres. G. E. Fellows.
Skinner, Edward Leslie,	Mansfield, Mass.,	
Smith, Ralph Seldon,	Orono,	Gideon Eddy.
Southard, Frederick Dean,	Dorchester, Mass.,	Φ. Γ. Δ. [House.
Sparrow, Arthur Leonard,	South Orleans, Mass.,	[Miss A. T. Emery.
Stanford, Edward Arthur,	Lovell Center,	306 Oak Hall.
Stewart, Frank Carroll,	Farmington,	University Hall.
Tarbox, George Roger,	Calais,	302 Oak Hall.
Veazie, Frank Fuller,	Rockland,	B. Θ. Π. House.
Wallace, James Gordon,	Portland,	Mrs. Kenney.
Webster, Robert Adelbert,	Orono,	Penobscot St.
Weymouth, Arthur Pettingill,	Corinna,	Φ. Γ. Δ. House.
Wilson, George,	Portland,	B. Θ. Π. House.
Wood, Walter Albert,	Gardiner,	K. Σ. House.
Worcester, Herbert Wheeler,	Portland,	Mrs. Kenney.

SHORT PHARMACY COURSE

SOPHOMORES

Cowan, Ernest Lester,	Hampden,	Σ. X. House.
Cowles, Harry Davis,	Athol, Mass.,	J. P. Spearen.
Hoyt, Andy Lurin,	Dover,	304 Oak Hall.
Race, James Leroy,	Boothbay,	Mrs. R. S. Merry- [man.
Ward, Arthur Stephen,	Fryeburg,	Σ. X. House.
Wilson, Robert Potter,	Portland,	102 Oak Hall.

FRESHMEN

Bailey, Frank Linwood,	South Harpswell,	Mrs. Wing.
Chandler, Mary Ruggles,	Columbia Falls,	Mt. Vernon [House.
Farnsworth, Herbert E.,	West Jonesport,	Pres. G. E. [Fellows.
Gould, Lewis Elmo,	Presque Isle	Mrs. Goode
Huen, Charles John,	Sabattus,	University Hall.
Kittredge, John Raymond,	Rockland,	Mrs. Goode.
Leighton, Percy Augustine,	Cumberland Center,	[Σ. X. House.
McNamara, Francis William,	Oldtown,	Oldtown.
Nutter, Harry Hayes,	Corinna,	Σ. X. House.
Sikes, Walter Scott,	Three Rivers, Mass.,	[University Hall.
Talbot, James Rich,	East Machias,	309 Oak Hall.
Tewksbury, John Leslie,	Lewiston,	112 Oak Hall.

SPECIAL STUDENTS

Anderson, William Lewis,	Hartland,	Φ. Γ. Δ. House.
Bird, Ralph Butler,	Rockland,	B. Θ. Π. House.
Cole, Winfield Lee,	Biddeford,	A. T. Ω. House.
Downing, Herbert Plummer,	Ripley,	Mrs. Harding.
Harville, Guy Lee,	Skowhegan,	A. T. Ω. House.
Ilsley, Gardner Frederick,	Wellesley Hills, Mass.,	Mrs. R. S. [Merryman.
Jones, Albert C ,	Rockland,	University Hall.
Lemassena, Clement French,	Newark, N. J.,	Mrs. R. S. [Merryman.
Linn, William Henry,	Hartland,	Φ. Γ. Δ. House.
Locke, Adelbert Yeaton,	Farmington,	Φ. Γ. Δ. House.
Paige, James Lonsdale,	Southbridge, Mass.,	310 Oak [Hall.
Robertson, Bernard Ernest,	Detroit,	
Spencer, Carl Crabtree,	Beverly, Mass.,	210 Oak Hall.
Swasey, Lawrence Mabry,	Limerick,	102 Oak Hall.
Swett, Lucius Black,	West Hollis,	S. A. Beale.

Varney, Leroy Reuben,	Windham Center,	Mrs. R. S. [Merryman.
Varney, Perley Wood,	Windham Center,	S. A. Beale.
Webster, Marion Lee,	Orono,	Penobscot St.
Whitmore, Albert Ames,	Fryeburg,	Miss A. T. Emery.
Wilson, Mary Martha,	Solon,	Mt. Vernon House.

SUMMER SCHOOL

Fellows, Lucia Russell,	Orono.
Fellows, Gladys Ethel,	Orono.
Hamilton, Andrew George,	Orono.
Hennessey, Harold Stewart,	Bangor.
Lewis, Emma Freeman,	Bangor.
Libby, Arthur Stephen,	Dexter.
Matthews, Ella M.,	Stillwater.
Mitchell, Fred Carlton,	West Newfield.
Moody, Frank Wilson,	Hallowell.
Smith, Nathan Rideout,	Orono.
Vickery, Myra Frances,	Bangor.
Ware, Amy E.,	Bangor.
Wass, Clifton Ennis,	Sangerville.

SHORT COURSES IN AGRICULTURE

Appleton, Ethel May,	Augusta,	Mt. Vernon House.
Allan, Herbert Hayes,	Dennysville,	University Hall.
Bailey, Herbert Barton,	Biddeford,	University Hall.
Bartlett, Bradford W.,	East Dixmont,	C. E. Bartlett.
Bromley, Lewis,	Essex, Mass.,	University Hall.
Hackett, Orman Brown,	Winterport,	University Hall.
Hutchins, Evan Stanley,	Strong,	University Hall.
Ireland, Rollie Elwin,	Corinna,	University Hall.
Leavitt, Benjamin Wilbur Piper,	Dixmont,	University Hall.
Leland, Carl Wesley,	E. Sangerville,	University Hall.
Low, Frederick Clark,	Brewer,	University Hall.
Mitchell, Clifton Cross,	Poland,	University Hall.
Parkman, Fred,	Skowhegan,	University Hall.
Porter, Charles Beardsley,	Houlton,	University Hall.

Seekins, Herbert Levi,	City Point,	University Hall.
Watson, Alvah Carrol Perce,	No. Belgrade,	University Hall.
Weed, Edward,	Winterport,	University Hall.
White, Charles Marshall,	Bowdoinham,	University Hall.

THE SCHOOL OF LAW

GRADUATE STUDENTS

Cook, Harold Elijah, LL. B.,	Waterville,	Waterville.
Dunn, Patrick Henry, LL. B.,	Brewer,	Brewer.
Folsom, LeRoy Rowell, B. S.,	South Norridgewock,	South Norridgewock.
Holman, Charles Vey, LL. B.,	New York City,	88 Broadway.
Lord, Harry, LL. B.,	Bangor,	82 Cumberland St.
Mackay, John Daniel, LL. B.	Quincy, Mass.,	Quincy, Mass.
Plumstead, Frank, B. A., LL. B.,	Bangor,	Morse Oliver Building.
Robinson, William Henry, LL. B.,	Bangor,	74 Jefferson St.
Selkirk, Robert William, LL. B.,	Bangor,	16 Broad St.
Waterhouse, William Henry, LL. B.,	Oldtown,	Oldtown.

SENIORS

Bennett, Waldo Horace,	Newport,	The Lowder.
Buckley, William Wallace,	Winchendon, Mass.,	135 Union St.
Geary, Thomas Reardon,	Whitneyville,	147 Essex St.
Merrill, John Bryant,	Bangor,	26 Jefferson St.
Morson, James Herbert,	Marshfield, P. E. I.,	50 Charles St.
Mudgett, Ulysses Grant,	Hampden,	Hampden.
Murray, Edward Patrick,	Bangor,	190 York St.
Noble, Ernest Eugene, B. A.,	Blaine,	16 Clark St.
Potter, Paul, B. A.,	Worcester, Mass.,	135 Union St.
Reid, Charles Hickson,	Bangor,	60 Lincoln St.
Snow, Donald Francis, B. A.,	Bangor,	134 Ohio St.
Thombs, George Warren,	Monson,	67 Summer St.
Violette, Nil Louis, B. A.,	Van Buren,	135 Union St.
Winn, George Hayes,	Lewiston,	147 Essex St.

JUNIORS

Blanchard, Benjamin Willis,	Bangor,	118 Congress St.
Bryant, Glidden,	Newcastle,	154 Essex St.
Clarke, Edward Everett,	New Bedford, Mass.,	50 Charles St.
Clough, George Edward,	Monson, Mass.,	5 Dole's Court.
Haley, John Howard,	Cornville,	245 Center St.
Hight, Clarence Bertrand,	Athens,	57 Park St.
Lang, Alfred Alexander,	Vigues, P. R.,	265 Hammond St.
Lougee, George,	Hampden,	Hampden.
MacLean, Neil Vincent,	Bangor,	57 Park St.
*Mansur, Walter Granville,	Pittsfield,	57 Park St.
Sipprelle, Judson Emery,	Bangor,	197 Warren St.

FIRST YEAR

Adams, William Thomas,	Boston, Mass.,	265 Main St.
Bartlett, Mark Jonathan, B. Ph.,	Montville,	97 Second St.
Barwise, Mark Alton,	Bangor,	48 Elm St.
Bridges, Ansel Harrison,	Sprague's Mills,	Oldtown.
Brown, Leon Gilman Carleton,	Milo,	5 Dole's Court.
Crawford, Adolphus Stanley,	Oldtown,	Oldtown.
Doyle, Joseph Henry,	Franklin,	Brewer.
Dunbar, Oscar Hall,	Jonesport,	67 Summer St.
Foster, Walter Herbert,	Bangor,	38 Mt. Hope Ave.
Gould, Arthur Garfield,	Presque Isle,	50 Charles St.
Hall, Joseph Edward, Jr.,	Bangor,	48 Glen St.
Head, Frank,	Jackman,	Brewer.
Keyes, Orman Leroy,	Stetson,	5 Dole's Court.
Lancaster, Arthur Blaine,	Gardiner,	105 Third St.
Linehan, Daniel Joseph,	Bradford, Mass.,	100 Ohio St.
Littlefield, Eben Frank,	Brooks,	Brewer.
Moody, William Harold,	Malden, Mass ,	50 Charles St.
Peabody, Leon Irving,	Rockland,	91 Fifth St.
Putnam, Edgar Burnham, B. A.,	Danforth,	The Lowder.
Record, Lewis Stillman, B. Ph.,	Worcester, Mass.,	17 Prentiss St.
Robbins, Charles Alphonso, B. Ph.,	Patten,	154 Essex St.

*Deceased.

Robinson, Curville Charles,	East Machias,	123 Essex St.
Smalley, Charles Tobias,	Rockland,	91 Fifth St.
Wall, Erastus Lewis, B. A.,	Castine,	99 Pine St.
White, Harvey Aaron,	Brewer,	Brewer.
Winslow, Joseph Towne,	New Bedford, Mass.,	250 Hammond St.

SPECIAL STUDENTS

Allen, Hattie Eunice,	Machias,	Penobscot Exchange.
Ball, William Franklin,	South Sebec,	4 Center Ave.
Hadlock, George Russell,	Islesboro,	154 Essex St.
Junkins, Samuel Howard,	York Corner,	116 Essex St.
Morang, Charles Libbens,	Ellsworth,	Ellsworth.

SUMMARY

Graduate Students,		9
Seniors,		49
Juniors,		76
Sophomores,		86
Freshmen,		128
Short Pharmacy, Sophomores,	6	
Freshmen,	12	18
Special Students,		20
Summer School,		13
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School of Law, Graduate Students,	10	
Seniors,	14	
Juniors,	11	
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Special Students,	5	66
Total,		483

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