Catalog
OF THE
University Of Maine
1912 - 1913
CALENDAR

FALL SEMESTER, 1912

September 13-17 inclusive, October 12, November 26, December 2, January 6, January 31.
September 18, Wednesday, November 13, Thursday, December 13, Friday, December 21.
September 19, Thursday, November 27, Wednesday,
October 12, Saturday, December 1, Saturday,
November 26, Tuesday,
November 27, Wednesday,

Arrearage examinations
Registration begins, 1.30 P. M.
First Chapel, 11.00 A. M.
Columbus Day, a holiday
Meeting of the Board of Trustees
Thanksgiving recess begins, 12.00 M.
Thanksgiving recess ends, 1.30 P. M.
Sophomore prize declamations
Christmas recess begins, 12.00 M.
Christmas recess ends, 1.30 P. M.
Fall semester ends, 12.00 M.

SPRING SEMESTER, 1913

February 1, Saturday, Registration, 8.00 A. M.-12.00 M.
February 3, Monday, Spring semester begins, 8.00 A. M.
February 22, Saturday, Washington's Birthday, a holiday
March 20, Saturday, Spring recess begins, 12.00 M.
April 7, Monday, Spring recess ends, 1.30 P. M.
April 19, Saturday, Patriots' Day, a holiday
May 1, Thursday, An outline of theses must be passed in to the major instructor
May 30, Friday, Memorial Day, a holiday
June 2, Monday, Completed theses must be deposited at the Library, 12.00 M.
June 4-7, Entrance examinations
June 4, Wednesday.
8.00 A. M. Algebra
10.00 A. M. Chemistry
Botany
1.30 P. M. Latin
4.30 P. M. Roman History
University of Maine

June 5, Thursday, 8.00 A. M. Solid Geometry
10.00 A. M. French
1.30 P. M. English
4.30 P. M. English History

June 6, Friday, 8.00 A. M. American History and Civil Government
Trigonometry
10.00 A. M. Plane Geometry
1.30 P. M. Physics

June 7, Saturday, 8.00 A. M. Greek
Physiology
10.00 A. M. Greek History
1.30 P. M. Physiography

June 8, Sunday, Baccalaureate address

June 9, Monday, Reception by the President
Class Day

June 10, Tuesday, Meeting of the Board of Trustees
Commencement dinner
Alumni luncheon; alumnae luncheon
Meeting of the Alumni Association
Commencement

June 11, Wednesday, Summer Term begins

SUMMER TERM

June 25, Wednesday, Summer Term begins
August 5, Tuesday, Summer Term ends

FALL SEMESTER, 1913

September 12-16, Arrearage examinations
September 12-16, Entrance examinations
September 12, Friday, 8.00 A. M. Algebra
10.00 A. M. Chemistry
Botany
1.30 P. M. Latin
4.30 P. M. Roman History
5.30 P. M. Logic

September, 13, Saturday, 8.00 A. M. Solid Geometry
10.00 A. M. French
German
1.30 P. M. English
4.30 P. M. English History
Calendar

September 15, Monday, 8:00 a.m. American History and Civil Government
Trigonometry
10:00 a.m. Plane Geometry
1:30 p.m. Physics
8:00 a.m. Greek
Physiology
10:00 a.m. Greek History
1:30 p.m. Physiography

September 16, Tuesday, Registration begins, 8:00 a.m.

September 17, Wednesday, First Chapel, 11:00 a.m.
September 18, Thursday, Columbus Day, a holiday
October 12, Sunday, Meeting of the Board of Trustees
November 25, Tuesday, Thanksgiving recess begins, 12:00 m.
November 26, Wednesday, Thanksgiving recess ends, 1:30 p.m.

December 1, Monday, Sophomore prize declamations
December 12, Friday, Christmas recess begins, 12:00 m.
December 20, Saturday.

January 5, Monday, Christmas recess ends, 1:30 p.m.
January 30, Friday, Fall semester ends, 12:00 m.

1914

SPRING SEMESTER, 1914

January 31, Saturday, Registration, 8 a.m.-12:00 m.
February 2, Monday, Spring semester begins, 8 a.m.
June 10, Wednesday, Commencement
University of Maine

CALENDAR OF THE COLLEGE OF LAW

1912
October 2, Wednesday, Fall term begins
December 18, Wednesday, Fall term ends

1913
January 8, Wednesday, Winter term begins
March 19, Wednesday, Winter term ends
March 26, Wednesday, Spring term begins
June 11, Wednesday, Commencement
October 8, Wednesday, Fall term begins
December 24, Wednesday, Fall term ends

1914
January 7, Wednesday, Winter term begins
March 18, Wednesday, Winter term ends
March 25, Wednesday, Spring term begins
June 10, Wednesday, Commencement
BOARD OF TRUSTEES

Hon. WILLIAM THOMAS HAINES, B. S., LL. B., LL. D., Waterville
   President
   Term expires April 24, 1913
Hon. SAMUEL WADSWORTH GOULD, B. S., Clerk Skowhegan
   Term expires April 16, 1914
EDWIN JAMES HASKELL, B. S., Westbrook
   Term expires December 31, 1913
Hon. SUMNER PETER MILLS Farmington
   Term expires September 10, 1914
JOHN MARSHALL OAK, B. S., Bangor
   Term expires April 2, 1915
Hon. CHARLES LESTER JONES Corinna
   Term expires April 17, 1917
FREELAND JONES, LL. B., Bangor
   Term expires May 31, 1918
WILLIAM ROBINSON PATTANGALL, M. S., Waterville
   Term expires April 13, 1919.

EXECUTIVE COMMITTEE
   Trustees HAINES, OAK, AND F. JONES
MAINE AGRICULTURAL EXPERIMENT STATION COUNCIL

ROBERT JUDSON ALEY, Ph. D., LL. D.                      President
CHARLES DAYTON WOODS, Sc. D.                            Secretary
JOHN MARSHALL OAK, B. S., Bangor                        Committee
FREELAND JONES LL. B., Bangor                           of
CHARLES LESTER JONES, Corinna                           Trustees
JOHN PATRICK BUCKLEY, Stroudwater

EUGENE HARVEY LIBBY, Auburn                             Commissioner of Agriculture
ROBERT HALLOWELL GARDINER, Gardiner
RUTILLUS ALDEN, Winthrop                                 State Grange
WILLIAM GEORGE HUNTON, Readfield                        State Pomological Society
WILLIAM HENRY DAVIS                                      State Dairymen's Association
JAMES MONROE BARTLETT, M. S.                            Maine Seed Improvement Association
EDITH MARION PATCH, Ph. D.                              Maine Livestock Breeders Association
WARNER JACKSON MORSE, Ph. D.                            Members
RAYMOND PEARL, Ph. D.                                   of the
HERMAN HERBERT HANSON, M. S.                            Station Staff
CHARLES EDWARD LEWIS, Ph. D.
OSKAR AUGUSTUS JOHANNSEN, Ph. D.
OFFICERS OF ADMINISTRATION

OF THE UNIVERSITY
ROBERT JUDSON ALEY, President
JAMES NORRIS HART, Dean
CHARLES JOHN DUNN, Treasurer
ELIZABETH ABBOTT BALENTINE, Registrar
JAMES ADRIAN GANNETT, Commercial Secretary

OF THE COLLEGES AND EXPERIMENT STATION
LEON STEPHEN MERRILL, Dean of the College of Agriculture
JAMES STACY STEVENS, Dean of the College of Arts and Sciences
CHARLES DAYTON WOODS, Director of the Experiment Station
WILLIAM EMANUEL WALZ, Dean of the College of Law
HAROLD SHERBURN BOARDMAN, Dean of the College of Technology

OF OTHER DEPARTMENTS
RALPH KNEELAND JONES, Librarian
EDGAR RAMEY WINGARD, Director of Athletics
RALPH RIGBY GLASS, In Charge of Military Instruction
*FACULTY OF INSTRUCTION AND INVESTIGATION

PROFESSORS

ROBERT JUDSON ALEY, PH. D., LL. D. Campus

MERRITT CALDWELL FERNALD, PH. D., LL. D. 54 Main Street

JAMES MONROE BARTLETT, M.S. College Street

LUCIUS HERBERT MERRILL, Sc. D. 100 Main Street

JAMES NORRIS HART, C. E., M. S., Sc. D. College Street

FREMONT LINCOLN RUSSELL, B. S., V. S. Campus

JAMES STACY STEVENS, M. S., LL. D. 99 Main Street

CHARLES DAYTON WOODS, SC. D. 55 Main Street

JOHN HOMER HUDDILSTON, PH. D. 105 Main Street

WILLIAM EMANUEL WALZ, M. A., LL. B., LITT. D. 8 Fifth Street, Bangor

WILBUR FISK JACKMAN, B. S., PH. C. 38 Pine Street

RALPH KNEELAND JONES, B. S. 26 Bennoch Street

JACOB BERNARD SECALL, PH. D. The Colonial, Bangor

*Arranged in groups in order of seniority of appointment
Faculty

HAROLD SHERBURNEN BOARDMAN, C. E. 40 Main Street
Professor of Civil Engineering
Dean of the College of Technology

GEORGE DAVIS CHASE, Ph. D. 59 Main Street
Professor of Latin

CAROLINE COLVIN, Ph. D. University Inn
Professor of History

ARTHUR CRAWFORD JEWETT, S. B. 104 Main Street
Professor of Mechanical Engineering

WARNER JACKSON MORSE, Ph. D. 33 North Main Street
Plant Pathologist in the Experiment Station

CHARLES PARTRIDGE WESTON, C. E., M. A. College Street
Professor of Mechanics and Drawing

RAYMOND PEARL, Ph. D. College Street
Biologist in the Experiment Station

PERCY ANDERSON CAMPBELL, M. S. A. Campus
Professor of Animal Industry

CHARLES BARTO BROWN, C. E. 97 Main Street
Professor of Railroad Engineering

WALLACE CRAIG, Ph. D. College Street
Professor of Philosophy

ROLAND PALMER CRAY, M. A. College Street
Professor of English

RALPH HARPER McKEE, Ph. D. College Street
Professor of Chemistry

GARRETT WILLIAM THOMPSON, Ph. D. 109 Main Street
Professor of German

CUY ANDREW THOMPSON, M. A. College Street
Professor of English Literature

WINDSOR PRATT DACETT, Ph. B. College Street
Professor of Public Speaking

OSKAR AUGUSTUS JOHANNSEN, Ph. D. College Street
Entomologist in the Experiment Station

MINTIN ASBURY CHRYSLER, Ph. D. College Street
Professor of Biology

JOHN MANVERS BRISCOE, M. F. The Colonial, Bangor
Professor of Forestry

LEON STEPHEN MERRILL, M. D. Campus
Director of Extension Work
Dean of the College of Agriculture
University of Maine

EDGAR RAMEY WINGARD, M. S. University Inn
Professor of Physical Culture
Director of Athletics

ARTHUR JULIUS JONES, Ph. D. 78 North Main Street
Professor of Education

GEORGE EDWARD SIMMONS, M. S. 1 Forest Avenue
Professor of Agronomy

GEORGE WARE STEPHENS, Ph. D. 76 North Main Street
Professor of Economics and Sociology

WILLIAM EDWARD BARROWS, E. E. 6 Myrtle Street
Professor of Electrical Engineering

EDGAR MYRICK SIMPSON, A. B. 31 Highland Avenue, Bangor
Professor of Law

RALPH RIGBY GLASS, First Lieutenant, 21st United States Infantry 14 Fifth Street, Bangor
Professor of Military Science and Tactics

ARTHUR ADAMS, Ph. D. Hartford, Conn.
Professor of English (Summer Term)

EDITH MARION PATCH, Ph. D. University Inn
Associate Entomologist in the Experiment Station

HERMAN HERBERT HANSON, M. S. Forest Street
Associate Chemist in the Experiment Station

CHARLES EDWARD LEWIS, Ph. D. 80 North Main Street
Associate Plant Pathologist in the Experiment Station

CHARLES WILSON EASLEY, Ph. D. 7 Main Street
Associate Professor of Chemistry

EDSON FORBES HITCHINGS, C. E., M. S. Mill Street
Associate Professor of Horticulture

WILLIAM LEROY SLATE, Jr. B. Sc. (Agr.) 61 Main Street
Associate Professor of Agronomy

ANDREW PAUL RACCIO, Ph. D. University Inn
Associate Professor of Romance Languages

LEON ELMER WOODMAN, Ph. D. 10 Oak Street
Associate Professor of Physics

PAUL LEONARD BEAN, C. E. Forest Avenue
Associate Professor of Civil Engineering

LAURA COMSTOCK 24 Main Street
Associate Professor of Home Economics
Faculty

ALBERT THEODORE CHILDS, E. E. 55 Main Street
Associate Professor of Electrical Engineering

WINSLOW HOBART HERSCHEL, A. B. College Street
Associate Professor of Mechanical Engineering

GEORGE HENRY WORSTER, LL. M. 234 Center Street, Bangor
Associate Professor of Law

HARLEY RICHARD WILLARD, Ph. D. 32 Main Street
Assistant Professor of Mathematics

ARCHER LEWIS GROVER, B. S. 40 Main Street
Assistant Professor of Drawing

WINSTON LEIGH HAMLIN, M. A. Stillwater
Assistant Professor of Mathematics

WILLIAM FREEMAN SCHOPPE, B. S. 82 North Main Street
Assistant Professor of Animal Industry

ALICE MIDDLETON BORING, Ph. D. University Inn
Assistant Professor of Zoology

BARTLETT BROOKS, A. B., LL. B. 10 Columbia Building, Bangor
Assistant Professor of Law

HARRY NEWTON CONSER, M. S., M. A. Oak Street
Assistant Professor of Botany

LLOYD MEeks BURGHART, M. A. College Street
Assistant Professor of Chemistry

RALPH WOODBURY REDMAN, B. S. 59 Main Street
Assistant Professor of Animal Industry

JULIUS ERNEST KAULFUSS, B. S. Main Street
Assistant Professor of Civil Engineering

INSTRUCTORS

EVERETT WILLARD DAVEE College Street
Instructor in Wood and Iron Work

CHARLES JENKINS CARTER 6 Pine Street
Instructor in Machine Tool Work

LOWELL JACOB REED, M. S. College Street
Instructor in Mathematics

MAYNE ROSE CURTIS, M. A. University Inn
Assistant Biologist in the Experiment Station

ALBERT GUY DURGIN, M. S. Middle Street
Instructor in Chemistry

WALTER ELWOOD FARNHAM Forest Street
Instructor in Drawing
ROBERT RUTHERFORD DRUMMOND, Ph. D. University Inn
Instructor in German

* SHERMAN DANIEL CHAMBERS, B. S. Ithaca, N. Y.
Instructor in Mathematics

WALTER EDMUND WILBUR, B. S. 5 Pine Street
Instructor in Mathematics

* ERNEST CONANT CHESWELL
Instructor in Electrical Engineering
Boston, Mass.

ERNEST CLAUDE DREW, M. S. 16 Bennoch Street
Instructor in Physics

* VICTOR ALVIN KETCHAM. B. A., LL. B. Urbana, Ills.
Instructor in English

ROYDEN LINDSAY HAMMOND 59 Main Street
Seed Analysist and Photographer in the Experiment Station

CORNELIA PALMER 24 Main Street
Instructor in Home Economics

EARLE OVANDO WHITTIER, B. S. College Street
Instructor in Chemistry

CLAYTON ULREY, A. B. 208 Hannibal Hamlin Hall
Instructor in Physics

HOWARD MADISON PARSHLEY, A. M. 206 Hannibal Hamlin Hall
Instructor in Zoology

CARL HENRY LEKBERG, B. S. 82 North Main Street
Instructor in Mechanical Engineering

EDWARD ARTHUR STANFORD, B. S. West Kennebunk, Maine
Itinerant Instructor in Farm Management

EMILE SAM SAMRA, B. ès L. 405 Hannibal Hamlin Hall
Instructor in German

WEBSTER NEWTON JONES, M. A. College Street
Instructor in Industrial Chemistry

VICTOR GEORGE AUBRY, B. S. 205 Hannibal Hamlin Hall
Instructor in Animal Industry

HARRY WOODBURY SMITH, B. S. 307 Hannibal Hamlin Hall
Instructor in Agriculture

ALBERT VERRILL, B. S. North Main Street
Assistant Chemist in the Experiment Station

* Absent on leave from September 1, 1912, to September 1, 1913.
Faculty

CLARENCE WALLACE BARBER, B. S.  Campus
Assistant Biologist in the Experiment Station

EDWARD EUGENE SAWYER, B. S.  Old Town
Assistant Chemist in the Experiment Station

HELEN WILLARD AVERILL, B. S.  Park Street
Assistant Chemist in the Experiment Station

ALPHEUS CROSBY LYON, B. S.  1 Pond Street
Instructor in Civil Engineering

WILLIAM HINDS DARROW, M. A.  16 Bennoch Street
Instructor in Horticulture

CHARLES ANSON NASH, B. S.  College Street
Instructor in Electrical Engineering

HENRY ROBBINS BARROWS, B. A.  106 Hannibal Hamlin Hall
Instructor in English

JOHN HARRY PARRY, B. A.  106 Hannibal Hamlin Hall
Instructor in English

LEROY FRANKLIN BLISS, B. A.  College Street
Instructor in English

EVERETT HARLOW BOWEN, A. B., M. S., LL. B.  53 Fifteenth Street, Bangor
Instructor in Common Law and Pleading

BENJAMIN CALVIN KENT, B. S.  139 Pine Street, Bangor
Tutor in Mechanical Engineering

MAY ELLA TAFT, A. B., B. S.  14 Bennoch Street
Cataloger in the Library

CLARA PENNEY, B. S.  14 Bennoch Street
Assistant in the Library

GENEVA ALICE REED, B. A.  College Street
Assistant in the Library

HELEN CHARLOTTE WORSTER, B. A.  33 Mill Street
Assistant in English

LECTURERS

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

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

EDWARD HARWARD BLAKE, LL. B., LL. D.  107 Court Street, Bangor
Lecturer on Admiralty
University of Maine

ISAAC WATSON DYER, B. A. Portland
Lecturer on Federal Jurisdiction and Procedure, and on Private Corporations

JOHN ROGERS MASON, A. M., LL. B. 384 Hammond Street Bangor
Lecturer in Bankruptcy Law

EMPLOYEES

ANDREW MAYHEW SHAW
Superintendent of Greenhouses and Gardens

CHARLES HENRY BOLSTER
Foreman of the Farm

HALSEY RICHARDSON WING
Head Janitor and Meteorological Observer

GEORGE ABRAHAM COBURN
Head Carpenter

GRACE MARY COBURN
Cashier

FRANK EVANS OAK
239 Cedar Street, Bangor
Assistant to the Treasurer, and Bookkeeper

JENNIE HAMLIN WAITE
University Inn
Secretary to the President

MARIETTA HOOVER DUNN
Campus
Superintendent of Mount Vernon House

MARY ADELINE COBURN
University Inn
Manager of the University Inn

GEORGE ALBERT YEATON
Highmoor Farm
Orchardist in the Experiment Station

VIVIAN AUGUSTA PAGE
16 Bennoch Street
Stenographer in the College of Agriculture

BLANCHE FOSLOM POOLER
Stillwater
Stenographer in the Experiment Station

ANIE WEED
Veazie
Office Stenographer

GEM MAE COOMES
Stillwater
Stenographer in the Experiment Station

MARGERY STORMANN
Stillwater
Stenographer in the College of Technology

MARGARET DRUMMOND PENDLETON
124 Essex Street, Bangor
Stenographer in the College of Agriculture

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STANDING COMMITTEES OF THE FACULTY

ADMISSION: Hart, Boardman, Merrill, Stevens, Walz

ADVANCED DEGREES: Chase, Colvin, McKee, Pearl, Segall, Walz

ATHLETICS: Wingard, Bean, A. J. Jones, R. K. Jones, Worster

ATTENDANCE: Brown, Craig, L. H. Merrill, Simpson, Stephens

AUDITING: L. H. Merrill, Brooks, Russell, Segall, Woodman

CHAPEL: Stevens, Barrows, L. H. Merrill, G. A. Thompson

COMMENCEMENT: Woods, Childs, Hitchings, R. K. Jones, L. H. Merrill

DELIQUENT STUDENTS: Boardman, Campbell, Chrysler, Segall, Walz

EMPLOYMENT: L. S. Merrill, Carter, Gannett

FITTING SCHOOLS: A. J. Jones, Chase, Gray, Hart, Weston

HEALTH: Wingard, Comstock, Jackman, Russell
University of Maine

Honors: Chrysler, Briscoe, Easley. G. W. Thompson

Library: R. K. Jones, Gray, A. J. Jones

Organizations other than Athletics: McKee, Boardman, Slate, G. W. Thompson

Publications: Stevens, R. K. Jones

Public Exhibitions: Gray, Daggett, Simmons, Willard

Rules: Jewett, Hart, L. S. Merrill

Schedule: Weston, Balentine, Hamlin, Reed

Social Affairs: Huddilston, Colvin, Comstock, Raggio, Wingard

Student Affairs: Hart, Boardman, Glass, L. S. Merrill, Stevens, Walz
GENERAL INFORMATION

HISTORY

The University of Maine is a part of the public educational system of the State. Its establishment followed the passage of an act of Congress, approved July 2, 1862, by President Lincoln, which 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 accepting the benefit of the provisions of the act "to provide within five years not less than one college" to carry out its purposes.

The State of Maine accepted the land grant and gave full assent to all the provisions and conditions of the act in a resolve of the Legislature of 1863, approved March 25. The Legislature of 1865, in an act approved February 25, created a corporation to act for the State in the administration of the affairs of the College, and defined its powers and duties. The original name of the institution was the State College of Agriculture and the Mechanic Arts. This was changed by the Legislature of 1897, and Commencement Day, June 23, of that year, was designated as the time when the change went into effect.
University of Maine

The first Board of Trustees was composed of sixteen members, one from each county, each county delegation in the Legislature selecting one member of the Board. The principle of county representation was abandoned in 1867, when the size of the Board was reduced. It now consists of eight members, seven of whom are appointed by the Governor with the advice and consent of the Council, and one by the Governor upon the nomination of the General Alumni Association.

The first class was admitted September 21, 1868. It had twelve members. The Faculty numbered two. By 1871-72, when the first class had become seniors, four curricula had been arranged.—Agriculture, Civil Engineering, Mechanical Engineering, and Elective.

The Legislative act which created the Board of Trustees directed that they should, "as soon as may be, arrange and make known the several courses of instruction which they will undertake at the outset of the College, and shall enlarge and improve the same whenever practicable." The development of the University has been in compliance with these directions. The College of Agriculture is the result of the enlargement and improvement of the original curriculum in Agriculture, the College of Technology of the curricula in Civil and Mechanical Engineering, and the College of Arts and Sciences of the Elective curriculum.

The original single curriculum of the College of Agriculture continued with but minor changes for many years. A curriculum in Horticulture was added in 1902. The School Course in Agriculture was established in 1903. The curriculum in Agriculture was divided into Agronomy and Animal Industry in 1904, and the latter was subdivided into Animal Husbandry and Poultry Husbandry in 1909. The Extension department was organized in 1907. Although work in Home Economics was begun some years earlier, the Home Economics curriculum was not given in full until 1909.

The College of Technology has added to its two original curricula, Civil and Mechanical Engineering, Chemistry in 1874, Electrical Engineering in 1894, and Pharmacy in 1905. This college was the first to gain popularity and much of the success of the University as a whole is due to the immediate success of the engineering graduates of the early classes.

The College of Arts and Sciences has developed gradually, as the needs of the other colleges of the University and the demands of its own students have required, and as means have permitted, from the original Elective curriculum into an organization which not only provides required and elective courses for students in the other colleges of
History

the University but has also a well developed entity of its own. It offers men and women opportunities at the University of Maine equal to those of the New England colleges of the usual type. It has now thirteen departments in which students may select their major subject,—Biology, Chemistry, Economics and Sociology, Education, English, German, Greek and Classical Archaeology, History, Latin, Mathematics and Astronomy, Philosophy, Physics, and Romance Languages.

The Maine Agricultural Experiment Station was established as a department by act of the Legislature of 1887, succeeding the Maine Fertilizer Control and Agricultural Experiment Station which had been established in 1885. The latter, although an organically independent institution, had been given accommodations by the College, and its property was transferred to the new station when that came into existence as a result of the passage of the so-called Hatch act by Congress, in 1887, and the acceptance of its terms by the Maine Legislature of the same year. In 1906, Congress passed the Adams act for the further endowment of the station established under the Hatch act. The work of the Station has developed so that it now has a staff for research and inspection composed of seventeen persons.

The College of Law was opened in 1898. It occupied quarters in the Exchange Building, at the corner of State and Exchange Streets, Bangor, until the Bangor fire of 1911. It is now located in a building of its own at the corner of Union and Second Streets, Bangor.

Graduate instruction has been given by various departments for many years. The first Master's degree was conferred in 1882. There is no provision for graduate work in advance of that required for the Master's degrees.

Summer schools were held in cooperation with the State Department of Education in 1895, 1896, and 1897. These were of three weeks each and they attracted chiefly teachers in elementary schools. Beginning with 1902, a Summer Term has been held annually, first of five weeks but now of six. It is designed for teachers in secondary schools and for college students who desire to take advantage of its opportunities, and it also gives some courses for those who seek an opportunity to make up entrance credits. In 1912, the departments offering courses were Chemistry, Economics and Sociology, Education, English, German, History, Latin, Mathematics and Astronomy, Physics, and Romance Languages. Provision was made also for instruction in manual training, and a three-weeks course in rural economics was given.

The University in coeducational, women having been admitted since 1872, in compliance with special legislative enactment.
University of Maine

ENDOWMENT AND INCOME

The State of Maine received by the act of Congress above referred to 210,000 acres of public land from which an endowment fund of $118,300 was realized. Former Governor Abner Coburn, of Skowhegan, for many years President of the Board of Trustees, made a bequest of $100,000 to the institution. These two funds yield respectively 5% and 4% annually.

Under acts of Congress, approved August 30, 1890, and March 4, 1907, the University receives $50,000 annually from the United States.

Under an act of the Legislature, approved April 2, 1909, the University received $100,000 for each of the years, 1909, 1910, 1911, and 1912, for buildings and maintenance.

Under acts of Congress approved March 2, 1887 and March 17, 1906, Agricultural Experiment Station. Students fees and miscellaneous receipts complete the income.

LOCATION

The university campus has a beautiful location in the town of Orono, Penobscot county, 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 cars of the Bangor Railway and Electric Company run through the university grounds. Visitors may 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 at the corner of Union and Second Streets, Bangor.

BUILDINGS AND THEIR EQUIPMENT

Alumni Hall.—This is a brick building, erected in 1900. It was given its name because funds required for its erection were subscribed by alumni of the University. The front part contains on the ground floor the offices of the President, the Dean of the University, the Registrar, the Treasurer, and the Commercial Secretary, the Trustees' room, the university post office, and two recitation rooms for the use
Buildings

of the department of Mathematics. The second floor contains the university chapel with a large pipe organ in the choir gallery, and the gymnasium and drill hall. The dimensions of the gymnasium are 100 by 72 feet. It is equipped with complete apparatus of the most approved kind, and is encircled by a nine-foot running track suspended from the roof. Under the gymnasium are offices of the Professors of Physical Culture and Athletics and Military Science and Tactics, the baseball cage, lockers, lavatories, and store rooms.

Coburn Hall.—This building was erected in 1888 for the departments of Natural History and Agriculture. It was named for ex-Governor Abner Coburn of Skowhegan, Governor of Maine, 1863-64, President of the Board of Trustees, 1867-79, and chief individual benefactor of the University. It is now occupied chiefly by the department of Biology and the museum. It is a brick building three stories in height. In the basement are a laboratory for animal and plant physiology, a taxidermist’s laboratory, and the University Store; connected with it is a small greenhouse for the use of the department of Biology. On the first floor are a research zoological laboratory, three class rooms, and part of the museum. On the second floor are the botanical and zoological laboratories and offices, a lecture room, and part of the museum. On the third floor are two large rooms, one containing the remainder of the museum, the other forming a spacious lecture room.

Estabrooke Hall.—This building is named for Professor Horace M. Estabrooke, head of the department of English from 1891 until his death in 1908. It is a wooden building, formerly the Commons, remodeled in 1911 for the use of the department of English. It contains four recitation rooms for large sections, two smaller rooms for consultation purposes, and four offices for members of the department.

Fernald Hall.—This is the oldest building on the campus, erected 1868-70 for the department of Chemistry. It was named for Merritt C. Fernald, LL. D., the first member of the faculty appointed, and who retired in 1908. He was Acting President, 1868-71, and President, 1879-93. It is a two-story brick building, containing seventeen rooms. The balance rooms, a small lecture room, three offices, and the laboratory for advanced students are on the ground floor. Upon the second floor are a large lecture room, the laboratory for freshman work, a recitation room, an office, and the supply room. Under the roof are
arranged the mineralogical laboratory, dark rooms, and a laboratory for qualitative analysis. An assay laboratory, laboratory for water and gas analysis, a room for work in physical chemistry, and store rooms are in the basement.

**Holmes Hall.**—This is a two-story brick building erected for the Maine Agricultural Experiment Station. The central portion was built in 1888, the south wing was added in 1899, and the north wing in 1904. It is named for Dr. Ezekiel Holmes, of Winthrop, pioneer in scientific agricultural investigation, founder and first secretary of the State Board of Agriculture, founder of *The Maine Farmer*, and its editor until his death in 1865, and most active in securing the establishment of the State College of Agriculture and the Mechanic Arts as an independent institution. On the ground floor are five large chemical laboratories used in the analysis of foods, feeding stuffs, drugs, and fertilizers; the laboratory for vegetable pathology; and the biological laboratories. The general office and mailing room, the Director's Office, the laboratory for seed testing and photography, the entomological laboratories, and the library are on the second floor. In the basement are rooms for the boiler, for the gas machine, for the grinding and preparation of samples, and for the calorimeter; culture and preparation rooms used by the plant pathologist; and rooms for the storage of fuel, chemicals, and glass ware. The large attic is used for the storage of samples and supplies. The building is connected with the steam heating plant, supplied with gas and electricity, and is thoroughly equipped with apparatus for the work of agricultural investigation. An attached greenhouse is used by the entomologist and plant pathologist.

**Lord Hall.**—This is a brick building, completed in 1905, erected for the departments of Electrical and Mechanical Engineering. It is named for the Honorable Henry Lord of Bangor, member of the Board of Trustees, 1891-1908, and its President, 1892-1908. It consists of a main part, 82x56 feet in area and two stories in height, and an ell, 125x42 feet, partly of two stories and partly of one story. It contains six recitation rooms, a large drawing room, the shops, suitable laboratories, and offices for the professors and instructors. The mechanical laboratory contains the usual apparatus necessary for the study of strength of materials, steam and gas apparatus, principles of hydraulics, etc. For tests of materials there are two Riehlé power-operated testing machines, one of 60,000 lbs. capacity for tensile, compressive, and
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transverse tests, and a 20,000 pound transverse machine. These are equipped with the necessary measuring appliances. There are also gas and steam engines and apparatus necessary for the study of engine performance. The shops comprise the machine shop, forge shop, foundry, carpentry, and pattern shop. These are all well equipped. The forge shop had complete new apparatus installed a few years ago. The forges are of the Sturtevant down draft type. New benches and new lathes have been installed in the pattern shop, and also new lathes of the highest type in the machine shop. The equipment in the electrical laboratory has been developed to parallel practical conditions as far as possible, and consists essentially of a 20 kilowatt electrical sub-station, converting from a three phase, 60 cycle, 115 volt alternating current system to direct current by means of rotary converters and belted alternating current motors driving direct current generators. In addition to volt-meters, ammeters, and watt-meters for both direct and alternating currents, the equipment includes circuit breakers, various types of transformers, three 7 1/2 kilowatt special auto-transformers giving variable pressures for experimental work and voltages for operating two and three phase rotary converters, a self starting rotary converter, a three phase generator, a three phase revolving field synchronous motor, a three phase variable speed induction motor, a single phase synchronous motor, a single phase self-starting induction motor, direct current generators and motors, and laboratory telephone equipment.

Wingate Hall.—This is a brick building, erected in 1891-92 for the engineering departments. It stands on the site of White Hall, the first building erected for college uses, burned in 1890. It is named for Honorable William P. Wingate of Bangor, who first suggested and was most active in securing the location of the institution in Orono. He was a member of the Board of Trustees, 1867-84, and its President, 1879-83. It is now occupied by the departments of Civil Engineering, Latin, Mechanics and Drawing, and Physics. On the ground floor are three recitation rooms, instrument rooms, an optical room, and the offices of the professors of Civil Engineering and Mechanics and Drawing, and the Dean of the College of Technology. On the second floor are the offices and recitation room of the professors of Physics and Latin, two physical laboratories, and the physical apparatus rooms. On the third floor are two large, well lighted drawing rooms for the use of the departments of Civil Engineering and Mechanics and Drawing, and a filing room containing a collection of blue prints belonging
to the department of Civil Engineering. In the basement are the electrical laboratory and the photometer room of the department of Physics, and the cement testing laboratory. On the fourth floor is another photometer room for the use of students in Physics. Meteorological records for the United States Government are kept in this building.

Winslow Hall.—This building was erected in 1908 for the various departments of the College of Agriculture. It is named in honor of the Honorable Edward B. Winslow of Portland, member of the Board of Trustees, 1898-1911, and its President, 1908-11. It is the largest building on the campus. The ground plan measures 63x100 feet and the building contains over forty rooms. It is built of brick, concrete, and slate, of the Tudor style of architecture, and has four floors including a well lighted basement for lecture rooms and laboratories. On the first floor are the offices of the Dean of the College of Agriculture, the faculty room and library, the offices and class rooms of the professors of Agricultural Chemistry, Animal Industry, Bacteriology and Veterinary Science, and the office and filing room of the Extension department. On the second floor are the offices of the departments of Agronomy, Farm Management, Forestry, and Home Economics; the agronomy and forestry lecture rooms; farm crops laboratory with seed and plant storage rooms; bacteriological laboratory; and the laboratory and dining room of the department of Home Economics. Across the front of the building on the third floor are the office, class room, refrigerator, and laboratories of the department of Horticulture. The remaining half of this floor is occupied by a large lecture room, a drawing room, and a room used for domestic art; the two latter are separated from the larger room by folding doors, so that the three rooms can be thrown into a large auditorium. The basement is built high above the grade line so that light and ventilation are good. It contains a lecture room, the agricultural and biological chemistry laboratory, the soil physics laboratory, a laundry for the department of Home Economics, and a dark room for photography. The interior finish and furniture are in dark stain, and the building is equipped with electric lights, elevator, hot and cold water, gas, and high pressure steam for laboratory work.

Library Building.—The Library building is of stone, two stories above a basement which is almost entirely above the ground level, and is surmounted by a dome. It was completed in 1906. For its erection
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and furnishing, Mr. Andrew Carnegie gave $55,000, and the Hallowell Granite Works furnished the granite at a price that was equivalent to a gift of several thousand dollars.

The first floor contains an entrance hall, open to the dome, reference and periodical rooms, the librarian's office, a room for reserved books, and a women's room. The second floor contains a general lecture room with seating capacity of 150, and five seminar rooms. On the walls of the gallery, the lecture room, and the delivery room is the art collection of the University. The basement contains a newspaper room, store room, janitor's room, men's room, and a club room designed primarily as a meeting place for various student organizations.

The stacks are in the rear of the main building, and are freely accessible. They contain shelf room for 60,000 volumes, and a cataloger's room.

The Library Building is well lighted and heated and is thoroughly ventilated. It is connected by telephone with all other important university buildings.

College of Law Building.—The building is situated in Bangor, corner of Union and Second Streets. It is in one of the finest parts of the city, on the car line, in a very quiet neighborhood, and within a few minutes' walk from the Court House, the Y. M. C. A., the business section of the city, and the M. C. R. R. station. The grounds about the building occupy nearly a whole square. They are surrounded by elms and afford ample space for tennis courts. The building itself is a brick structure, three stories high. There are twelve large, commodious, and well lighted rooms in the main part. Those on the first floor are used as recitation rooms. There are four large rooms on the second floor devoted to library and office purposes, and four rooms on the top floor, one large enough to constitute a fine dormitory hall. The building is lighted and heated throughout by gas and steam heat.

Observatory.—The astronomical observatory stands upon a slight elevation to the east of Alumni 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 combined transit instrument and zenith telescope of three-inch aperture constructed by Bomberg, and a Respold vertical circle of two-inch aperture. These instruments, together with sextants, sidereal chronometer, etc., furnish excellent facilities for instruction both in descriptive and practical astronomy.
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Dairy Building.—The dairy building, 50 x 42 feet, contains a milk room, a butter room, a cheese room, a cold storage room, a cheese-curing room, and a testing laboratory. It is supplied with all necessary appliances for teaching the most approved methods of handling milk, cream, butter, and cheese. The building is supplied with hot and cold water. Power is furnished by a six horse-power engine.

Horticultural Building.—The range of greenhouses just east of Holmes Hall covers about 4000 square feet of surface. The building is heated with steam and furnishes opportunity for a demonstration of the practical culture of flowers and vegetables under glass.

Poultry Plant.—The poultry plant of the College of Agriculture consists of a two and a half story building, 25 x 40 feet, the lower portion of which is designed for an incubator room and is built of brick with non-conducting walls. On the upper floors is located a poultry apparatus laboratory. Attached to this building is a brooder house, 15 x 40 feet, for winter brooding. It is equipped with a hot water heater. The fattening and killing house is 14 x 45 feet, with an interior arrangement to demonstrate crate fattening. A room 14 x 16 feet in one end of this house is used for a poultry dressing room, and is equipped with water heater and cooling tanks. The several breeds of poultry kept by the College of Agriculture are housed in colony houses of various styles and sizes, and one long laying-house, 14 x 96 feet, divided into twelve pens especially adapted for instructional purposes. The poultry plant belonging to the Experiment Station contains an incubator house 31 x 31 feet, with tenement above; a poultry house, 12 x 150 feet; a poultry house, 16 x 120 feet; a two-story house, 39 x 39 feet, containing three laboratories, feeding rooms, and storage rooms; a building containing a hospital for hens, 16 x 36 feet, and rooms for digestion experiments. The houses accommodate 700 mature birds. There are also detached brooder houses capable of caring for 2500 chicks.

Stock Judging Pavilion.—Located about fifty feet to the rear of Winslow Hall is an octagonal structure fifty feet in diameter, built of similar materials and used for scoring and judging stock. In the center of the structure is a ring twenty-five feet in diameter, and surrounding this are six rows of seats arranged in amphitheatre style. The building has a seating capacity of about six hundred and can be used for meetings too large for any of the rooms in Winslow Hall.
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Farm Buildings.—The lower barn, 100 x 50 feet, contains a cow stable with 26 stalls, two grain rooms, three bull rooms, and silo; and has storage capacity for 150 tons of hay and 100 tons of silage. The upper barn, 100 x 40 feet, contains rooms for grain and storage, scales for weighing animals, and an electric motor for power. The barns are lighted by electricity and supplied with water and steam. The basements of the barn contain storage rooms for manure and roots. The sheep barn, 125 x 20 feet, is of special design and contains six large pens, a nursery, and a storage room. Two tool houses furnish 10,000 square feet of floor room for the storage of wagons and farm machinery. The upper floor of one is used as a laboratory for classes in farm machinery. A modern piggery, 28 x 40 feet in size, has been erected, which contains eight pens, together with grain and feed-cooking rooms. A ten-room farm cottage, occupied by the men employed in the different departments comprising the College of Agriculture, has also been erected. The farm of the University of Maine is composed of two parcels of land aggregating 473 acres, of which 120 acres are under cultivation. The cultivated land is handled according to a definite system of rotation of crops, including hoed crops, nurse crops, and hay crops. Such grains as oats, barley, rye, and wheat are grown extensively, and potatoes and corn form a large part of the crops of the farm. The hay acreage cuts considerably more than 100 tons annually. The fertility of the land is maintained by applications of lime, barnyard dressing, commercial fertilizers, and by the turning under of green crops once in four years. It is the aim of the management to make the farm support the live stock maintained upon it. The areas of permanent pasture land form a considerable part of the farm and the remainder of it is given up to forest and orchard areas. Highmoor Farm, purchased by the State Legislature for the use of the Experiment Station, is described under that department of the University.

Hannibal Hamlin Hall.—This is a men’s dormitory, completed in 1911, named for the Honorable Hannibal Hamlin, of Hampden and Bangor. Mr. Hamlin held many offices of honor and responsibility, including that of Vice President of the United States, 1861-65. Mr. Hamlin represented Penobscot County in the original Board of Trustees and was its first President, serving 1865-66. This building is of brick with stone trimmings. It is 35 feet wide and 168 feet long. It has four stories founded on a high, well lighted concrete basement, in which are located a dining room 32 by 90 feet, recreation room 26 by 32 feet, waiters’ room 12 by 18 feet, with lavatory, toilet, and locker room, and room for training table 12 by 26 feet. In a one-story ell ad-
joining the basement is the kitchen, 32 by 34 feet, with pantry, ice room, coal room, toilet room, and closet. From the basement up, the building is separated into three sections by two 12-foot brick fire walls, which extend up through the roof. Each section has its own entrance, vestibule hall, and corridor. The first story of the central section has a reception hall and living room, with bath, lavatory, and shower bath on one side of the corridor, and on the other side the Young Men's Christian Association rooms with toilet and lavatory. The central section in the second, third, and fourth stories is divided in each story into four chambers, with shower bath and lavatories. The two end sections in each of the four stories are divided into four suites of two bedrooms and a study room, with a toilet, lavatories, and shower bath for the use of the four suites. The interior is of ash. The building is heated by steam and lighted by electricity. There are 96 rooms in the two end sections and 17 in the central section, making a total of 113 rooms above the basement. Each bedroom has an ample clothes closet.

Oak Hall.—This is a men's dormitory, erected in 1871. It is named for Honorable Lyndon Oak, of Garland, member of the Board of Trustees, 1867-89, its Clerk, 1871-83, and President, 1883-89. It is a substantial brick building of four stories and has forty-nine rooms for students. It contains bath rooms, is heated by steam and lighted by electricity, and is connected with Hannibal Hamlin Hall by a covered passage way.

Mount Vernon House.—This is a wooden building, completed in 1898, which provides dormitory accommodations for women. It is situated near the recitation and laboratory buildings upon a site overlooking the campus, and commands a beautiful view of the river, villages, and hills. It is two stories in height, built in the colonial style, and consists of a long central portion and two wings. It contains a parlor, dining-room, kitchen, bath-room, and ten study rooms intended for two students each. The rooms are large, well lighted, heated by steam, and provided with electric lights. A special feature is the long hall on each floor, extending sixty-six feet, and wide enough to serve as an assembly or study room. The Mount Vernon House is under the supervision of a superintendent.

The Infirmary.—A wooden building has been erected in the rear of Hannibal Hamlin Hall to be used in caring for any cases of infectious disease that may appear among the students. It contains a ward for
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women, as well as one for men, with sanitary, comfortable, and convenient equipment for patients.

Central Heating Plant.—The central heating station is located across the car tracks from the university buildings, just above the Sigma Alpha Epsilon house, and on low ground so that practically all the buildings to be connected will drain by gravity to the plant, thus saving the pumping or lifting of the returns. The station is a plain red brick structure, without any attempt at ornamentation, but of good proportions, and large enough to provide room for present needs and allow for considerable future extension. All necessary provisions have been made for the future installation of engines and generators to furnish light and power for the University when practicable. This plant supplies heat to nearly all the university buildings.

Power House.—This wooden building, 30 x 56 feet, north of Alumni Hall, formerly the power and heating plant of the University, is now used exclusively for laboratory purposes in connection with the department of Mechanical Engineering. It contains two boilers, a one hundred and fifty horse-power Babcock and Wilcox and an eighty-five horse-power Heine, a fifty horse-power Corliss engine, a fifteen horse-power Otto gasolene engine, a plain slide valve engine, and two dynamos with operating switchboard.

Fraternity Houses.—The local chapters of Beta Theta Pi, Delta Tau Delta, Kappa Sigma, Phi Gamma Delta, Phi Kappa Sigma, Sigma Alpha Epsilon, and Theta Chi, and the local fraternity Phi Eta Kappa have built houses on the campus; the local fraternity Theta Epsilon leases a house on the campus from the University; the local fraternity Delta Kappa owns a house adjoining the campus on College Street, and the local chapters of Alpha Tau Omega and Sigma Chi own houses on North Main Street.

Other Buildings.—In addition to the buildings already described, there are several others devoted to various purposes. Among these are the President's house, and six residences occupied by members of the faculty.

Athletic Field.—Alumni Field, so called because funds required for its construction were contributed by the Alumni Association, is located at the northern end of the campus, about 1,200 feet from the
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gymnasium. It contains a quarter-mile cinder track, with a 220-yard straightaway, and is graded and laid out for football, baseball, and field athletics.

THE LIBRARIES

The universities libraries contain over forty-eight thousand volumes, of which slightly over three thousand are in the law library at Bangor, slightly over thirty-five hundred in the Maine Agricultural Experiment Station library in Holmes Hall, and the balance in the general library. Such volumes as are required for departmental use are deposited temporarily in other buildings, where they may be consulted.

More than half of the volumes in the libraries have been added within ten years, and the greater part have been acquired by purchase. Most of the books bought are selected by heads of departments. The collection is of far greater working value than many libraries containing a much greater number of volumes.

The valuable horticultural library of the late Professor Welton M. Munson was bequeathed by him to the University.

The new law library is particularly well selected; the old library was destroyed in the Bangor fire of 1910.

The station library contains many very valuable sets of scientific periodicals and only in exceptional cases does it duplicate books in the general library.

The general library is open daily during term time from 8.00 A. M. to 5.30 P. M., and from 7.00 to 9.30 P. M., except Sundays and holidays. It is open Sunday afternoons from 2.30 to 5.30, and on holidays from 8.00 A. M. to 12.00 M. Students may borrow three volumes at a time, to be retained three weeks; if a larger number are desired, application should be made to the Librarian. Officers of the University may borrow any reasonable number of volumes, without time limit except that any book may be recalled at any time, and all books must be returned prior to Commencement. Other responsible persons may obtain the privileges of the library upon application to the Librarian.

The libraries are classified by the Dewey decimal system, modified for certain classes. There is a card catalog, author and subject, near the delivery desk. It includes all volumes in the general, the law, and the station libraries.

It is the desire of the university authorities to make the library as useful as possible to all citizens of the State so far as this may be done without interference with its primary purposes.
Museum

MUSEUM OF NATURAL HISTORY

MINTIN ASBURY CHRYSLER
Curator of the Botanical and Zoological Collections

LUCIUS HERBERT MERRILL
Curator of the Geological Collections

The museum is located in the wing of Coburn Hall and in an adjoining room in the main part of the building.

GEOLICAL COLLECTIONS.—These collections, occupying the upper floor of the wing of Coburn Hall, are accessible daily during the college year except on Saturdays and Sundays. They include the more important fragmental, crystalline, and volcanic rocks; a collection of building stones; a series designed to illustrate the rocks of the State; a general collection of more common minerals; a collection of economic minerals furnished by the United States National Museum, an educational series of rocks furnished by the United States Geological Survey; and a small collection of plant and animal fossils.

The part of the museum illustrating the mineral resources of the State may be made of great value, both from the scientific and economic standpoint. Students and others residing in the State are urged to contribute specimens from their home localities. Valuable accessions have been received from the United States National Museum.

ZOLOGICAL COLLECTIONS.—These collections occupy the lower floor of the wing of Coburn Hall. Some of the alcoholic and formaline material is placed in wall cases in the biological laboratories. The collections consist of a number of the larger mammals of the State; a small set of exotic mammals; a more complete working collection of native birds, birds’ nests, and eggs; an illustrative collection of the other groups of vertebrates; a rather large collection of the shells of native and exotic molluscs; and illustrative collections of the other groups, dry, alcoholic, and prepared as microscopic objects.

BOTANICAL COLLECTIONS.—These collections are situated in rooms on the second and third floors of Coburn Hall. The herbarium includes several collections of considerable value, the most important of which is the one presented to the University by Mr. Jonathan G. Clark, of Bangor, and made by the late Rev. Joseph Blake. It contains more than 7,000 species of both flowering and flowerless plants, and represents more especially the flora of Maine and other New England states, but includes many forms from the western United States, Mexico, and the West Indies, and a number from many of the European and Asiatic countries, and from Africa and Australia. The late Professor Harvey
left to the herbarium the general collections accumulated during his connection with the University, and his special collection of the weeds and forage plants of Maine, comprising 300 species. Other important collections are Collins's Algae of the Maine coast, Halsted's Lichens of New England, Halsted's Weeds, Ellis and Everhart's North American Fungi, Cook's Illustrative Fungi, Underwood's Hepatics, Cummings and Seymour's North American Lichens, and a collection of economic seeds prepared by the United States Department of Agriculture.

Collections other than the herbarium include exhibits illustrating the manufacture of paper and of cocoa, the wood and bark features of the timber trees of Maine, conifers mounted in jars, plants used in pharmacy, commercial fibres, and artificial silk. The valuable collection of fossil plants presented by the late Professor Harvey occupies two cases.

**THE ART COLLECTION**

The collection consists of photographs, prints, engravings, polychrome reproductions, and plaster casts. Many of the large reproductions are framed and the entire collection has found a fitting home in the Library Building, the gallery of which is well adapted to the exhibition of many of the plaster-cast reliefs and the larger framed works. The collection is distributed on the first and second floors, in the large lecture room, and in a seminar room. In the latter is a specially constructed cabinet for the mounted photographs.

With the organization of the Classical departments in 1899 a beginning was made in the establishing of an art collection which would serve to vitalize and intensify the work in the humanities.

The entire collection numbers upwards of 4,000 reproductions of various sorts covering the fields of Classical and Renaissance architecture, sculpture, and painting. The illustrations for the Greek, Florentine, and Venetian schools are particularly representative. For much of the most important work the photographs are supplemented by lantern slides.

The University is fortunate in possessing many of the famous polychrome prints published by the Arundel Society. These and many other colored reproductions covering nearly all the great masters of Italian painting have been framed; and in the case of the *Madonna della sedia* and the *Sistine Madonna* the reproductions were imported in the frames which are stucco copies of the originals in Dresden and Florence.

The large lecture room in the Library Building contains examples of the work of the chief Florentine and Umbrian masters of the 14th and
Organizations

15th centuries, arranged on the walls in historical sequence. The gallery of the second floor is devoted to masters of the High Renaissance.

For the study of Greek and Roman antiquity the departments of Greek and Latin have a large collection of photographs and lantern slides. A stereopticon lantern is a part of the regular equipment in classics and art.

ORGANIZATIONS

University of Maine Society of Civil Engineering.—This society is composed of the members of the senior and junior classes who are enrolled in the curriculum in Civil Engineering. The object of the society is to investigate by reading and discussion the various engineering topics of the day. Monthly lectures are given under the direction of the society by members of the faculties of other institutions and by practicing engineers.

The affairs of the society are controlled by the students under the advice of the head of the department of Civil Engineering.

University of Maine Branch of the American Society of Mechanical Engineers.—A regularly organized branch of this national society holds regular meetings for the presentation and discussion of engineering papers by members and by visiting engineers.

Agricultural Club.—This organization is composed of students taking agricultural courses. Meetings are held throughout the college year, at which important agricultural topics are discussed by members of the club, and also by prominent speakers from this and other states.

University of Maine Branch of the American Institute of Electrical Engineers.—This is an organization for the promotion of the student's interest in electrical engineering work, and to keep him in touch with the latest developments in this branch of engineering activity. Membership in the branch is extended to members of the Electrical Engineering faculty, students pursuing the Electrical Engineering curriculum; and to members and associate members of the American Institute.

American Chemical Society.—The Maine Section of the American Chemical Society has its headquarters at Orono. Some students in the department of Chemistry are members, and all are welcome to its meetings.
MAINE MASQUE.—This is a dramatic club which aims to make a practical study of the acted drama, and to present each year before the public one or more representative plays. Membership is determined by competitive trials to which all undergraduates are eligible.

DEUTSCHER VEREIN.—This society, organized in 1902, is composed of teachers and students. Its purpose is to stimulate interest in the various phases of German life and literature and afford practice in speaking German. The number of members is in practice limited. Meetings are held every three weeks during the academic year.

CERCLE FRANÇAIS.—The object of the Cercle Français of the University of Maine is to cultivate the spoken French language and arouse and stimulate an interest in the intellectual life of France among the students of the University. The work is carried on in French. Papers are read and discussed and addresses delivered by the members. Plays are studied with a view toward production in French. The Cercle Français meets once in two weeks.

ROUND TABLE.—The Round Table is an organization composed of the women of the faculty, the wives of the professors and instructors, and other women interested in the University. Its purpose is to promote the social welfare of the students.

ARTS CLUB.—This is a club composed of the professors and instructors in the College of Arts and Sciences with their wives. It meets monthly and discusses various subjects of general interest.

YOUNG MEN'S CHRISTIAN ASSOCIATION.—The Young Men's Christian Association, composed of men students, has for its object the promotion of Christian fellowship and aggressive Christian work. Religious services are held in the Library Building and classes for the study of the Bible are conducted on Sunday. This association is a branch of the national Young Men's Christian Association.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION.—This is an organization for religious work composed of women students.

PHI KAPPA PHI.—The Phi Kappa Phi is an honorary society. At the end of the spring semester of the junior year the five members of the class having the highest standing are elected members, and at the end
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of the fall semester of the senior year the five next highest in the collegiate departments, and two from the College of Law, are added.

**Alpha Zeta.**—The Maine chapter of Alpha Zeta, the national agricultural fraternity, was organized at the University in 1905. Chapters exist in fourteen other universities. Membership is honorary and is restricted to those attaining high class standing, or to those who have shown marked ability along the lines of agricultural study and research.

**Tau Beta Pi.**—Tau Beta Pi is an honor fraternity for engineers and has chapters in about twenty-five of the leading universities and technical schools. Elections to the fraternity take place twice a year, and are made from those juniors and seniors in engineering who have shown high mental and moral qualifications.

**Alpha Chi Sigma.**—Alpha Chi Sigma is a professional fraternity with chapters in about twenty American universities. The members are elected from those whose major work is in the department of Chemistry.

**UNIVERSITY PUBLICATIONS**

**Annual Report of the Trustees, President, and Treasurer, to the Governor and Council of the State.**—The report of the Trustees and President includes an account of the general affairs and interests of the University for the year, and the report of the Experiment Station.

**University of Maine Studies.**—These are occasional publications containing reports of investigations or researches made by university officers or alumni.

**Maine Bulletin.**—This is a publication issued monthly during the academic year, to give information to the alumni and the general public. Among recent issues are bulletins relating to the Classical Curriculum, the Curricula in Agriculture, the Curriculum in Pharmacy, the College of Law, the College of Arts and Sciences, the College of Technology, the Curriculum in Forestry, the Courses in Education, the Summer Term, Student Expenses, and an Alumni Directory.

**Timely Helps for Farmers.**—This is a monthly publication issued in the interest of the farmers and schools of the State by the department of Agricultural Extension.
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ANNUAL REPORT OF THE EXPERIMENT STATION, AND THE EXPERIMENT STATION BULLETINS.—These give complete results of the work of investigation of the Station.

OFFICIAL INSPECTIONS.—These are published by the Experiment Station, and contain the results of the work of inspection of agricultural seeds, commercial feeding stuffs, commercial fertilizers, drugs, foods, fungicides and insecticides.

The Bulletins and Official Inspections are sent free on request to any resident of Maine.

MAINE CAMPUS.—This is a journal published weekly during the academic year by an association of the students.

PRISM.—The Prism is an illustrated annual, published by the junior class.

PRACTICAL HUSBANDRY.—This is a quarterly magazine published under the direction of the Agricultural Club. It is devoted to practical and technical agriculture.

MAINE LAW REVIEW.—This is a magazine published under the direction of the students of College of Law. It is devoted to a discussion of law cases and other current legal problems.

MILITARY INSTRUCTION

Military instruction is required by law. The department is in charge of an officer of the regular army, detailed by the President of the United States for this purpose. United States army rifles, model 1898, ammunition, and accoutrements are furnished by the War Department. The course makes special preparation for the duties of infantry officers of the line. The students are organized into an infantry battalion of four companies, 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. These rules include the minimum course of instruction that must be covered, and the minimum time that must be devoted to this instruction.

The uniform prescribed by the Board of Trustees is as follows:

For commissioned officers, the olive-drab service uniforms prescribed for infantry officers of the United States Army, except that "Maine" insignia and buttons are used; for non-commissioned officers,
Military Instruction

the olive-drab service uniforms of the United States Army, except that "Maine" insignia and buttons are used, and trousers instead of breeches. The total cost of the uniform is $14.15. 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.

The three seniors who attain the highest standing in the military department are reported to the military secretary of the United States Army, and their names are printed in the 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.

With the exceptions noted below, all men students physically qualified are required to take military work for three hours a week during their first and second years at the University. One credit is allowed for this work. Those physically disqualified are required to elect other work equal to one credit in lieu of military work. No fractional credit for military work will count towards graduation. Military instruction is arranged in a four years course. After the freshmen and sophomore years the work is elective. Students in the College of Law, the School Courses in Agriculture, the two years curriculum in Pharmacy, and graduate students are excused from military work.

The grades and relative rank of Officers and non-commissioned officers will be determined by the Professor in charge, subject to the approval of the President.

PHYSICAL TRAINING

Physical training is required of male freshmen three hours per week. All other students may elect this work and receive credit. Credit is given on the basis of three hours of physical training to one hour of recitation. Students registered on athletic teams are excused in the regular athletic training, but no credit will be given for the athletic training unless the physical training is taken for the remainder of the year. Every student who registers for an athletic team must first pass a required physical examination.

The gymnasium affords excellent opportunity for physical training. On the first floor are the main offices, the office of the director, the baseball cage, lockers, bath rooms, and toilet rooms. The gymnasium proper is located on the second floor. It is supplied with an equipment
of modern apparatus for heavy and light gymnastic work. There is a floor space of 6,262 square feet and an overhead running track.

The athletic field is situated a short distance from the gymnasium; it has a quarter-mile running track with a 220-yard straightaway and is graded and laid out for football, baseball, and track athletics. Here the men may exercise for recreation or train for active competition. There are several tennis courts on the university campus. On the Stillwater river canoeing may be enjoyed, as well as skating and ice hockey in the winter.

All students exercising at class hours wear a regulation suit which consists of white shirt, white running pants with blue stripe, and white rubber sole shoes.

It is the aim of the department to encourage participation in all forms of wholesome out-door exercise and to arouse a general interest in athletic sport. In this way the benefits will become less and less confined to the few who need them least.

Instead of requiring gymnasium work of students who do not particularly need it, those who are physically fit are encouraged to register for athletic teams, with whose supervision the department is charged.

**PUBLIC WORSHIP**

Short religious services 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 and the Young Women's Christian Association, are held twice each week.

**GENERAL INFORMATION**

It is assumed that all students entering the University are willing to subscribe to the following:

_A student is expected to show both within and without the University respect for order, morality, and the rights of others; and such sense of personal honor as is demanded of good citizens and gentlemen._

A pamphlet containing information in regard to the selection of studies, standing and grades, absences from recitations and examinations, entrance conditions, leave of absence, attendance upon chapel,
General Information

penalties, examinations, athletics, and student organizations may be obtained from the Registrar.

The quota of regular studies for each student varies from a minimum of fourteen hours to a maximum of twenty-two hours of classroom work each week. In the application of this rule, two or three hours of laboratory work count as one hour. Each student is expected to be present at every college exercise for which he is registered, including each chapel exercise. Any student absent in one semester nine times from a course scheduled five times a week, or eight times from a course scheduled four times a week, or six times from a course scheduled three times a week, or four times from a course scheduled twice a week, or three times from a course scheduled once a week must immediately give the reasons for his absence to the committee on attendance. Explanations should cover all absences. If the committee do not find his explanation satisfactory he will be dropped from that course.

Written examinations are held immediately before the beginning of the fall semester for all studies in arrears, and during the spring recess for fall semester arrearages. A student absent from the University by permission of the Faculty, at the time of these arrearage examinations, or at the time of a final examination, may have a special examination at such time as may be arranged with the instructor under whom the arrearage occurred. For such a special examination a fee of two dollars shall be paid to the University. A student who fails to make up an arrearage in a required subject before the study is again given 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 semester. Parents or guardians may obtain these reports upon application to the Registrar.

SCHOLARSHIP HONORS

Honors for scholarship are of two kinds, general and special. General honors are awarded, at graduation, to students who attain an average grade of B, after the freshman year. 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, and be completed in one year. 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 of B in all previous work, and an average grade of A or B in all previous work.
University of Maine

of the department in which the honors are sought. A student may not register for an honor course later than the fourth week of the fall semester. Upon the 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 honors, and the result, together with the instructor's report, will be laid before the Faculty. Examinations for honors shall be held at such times and places as the committee on honors may appoint. They shall be distinct from any class examinations in the same course, which latter examinations the candidate for honors may or may not take, as he chooses. The honor examination shall be written and, if the committee so desires, also oral. The professors giving the courses shall submit to the committee papers for the honor examinations not later than one week before the date set for the examinations.

The students in honor courses involving laboratory work may be tested by examination, or thesis, or both, at the discretion of the committee. The Faculty may grant special honors to those students who receive the approval of the committee, but shall not do so if the general work is unsatisfactory. Honors and their nature are stated upon the Commencement program and published in the annual catalog.

DEGREES

Bachelors' Degrees

The degree of Bachelor of Arts (B. A.), with specification of the major subject, is conferred upon all students who complete a curriculum in the College of Arts and Sciences. These students are required to fulfill the proper entrance conditions and to obtain six credits in the department in which their major work lies.

The degree of Bachelor of Science (B. S.) in the curriculum pursued is conferred upon students who complete the prescribed work of four years in the College of Agriculture and Technology.

The degree of Bachelor of Laws (LL. B.) is conferred upon students who complete the prescribed work in the College of Law.

The degree of Pharmaceutical Chemist (Ph. C.) is conferred upon students who complete the two-year Pharmacy curriculum.

Theses shall be printed, or typewritten in black record unless the subject matter prevents, and the paper used shall be a standard thesis.
Degrees

paper 8 x 10½ inches which may be procured at the University Store. Care should be taken to have a margin of one inch on the inner edge, at least one-half inch on the outer edge, one and one-half inches at the top, and one inch at the bottom of the page.

If drawings accompanying the thesis they may be bound in with the rest of the pages or placed in a pocket in the third page of the cover, or if too many for this, they may be bound separately according to personal instructions of the head of the department.

For further information see pamphlet relating to degrees and theses. Candidates for degrees who fail to meet these requirements will not be awarded their degrees at Commencement. A minimum residence of one year is required for the attainment of any Bachelor's degree.

Advanced Degrees

Graduate students, whether candidates for a degree or not, are required to register at the office of the University at the beginning of each semester or term. Those entering the University after that date must obtain the consent of the committee on advanced degrees before they can count a full year's work.

Candidates for the degree of Master of Arts, Master of Science, or Master of Laws must have received the corresponding bachelor's degree from this institution, or from one granting a fully equivalent degree.

At least one year must elapse between the conferring of the bachelor's and the master's degrees.

No work done before the conferring of the Bachelor's degree shall be counted toward the Master's degree.

The candidate shall devote at least one year to graduate resident study and shall complete work of the equivalent of six credits or fifteen hours per week throughout a college year.

The courses of study for each candidate must be approved by the committee on advanced degrees not later than the fourth week of the semester or term.

A registration fee of $5 is charged, and an additional fee of $15 for examinations and diplomas is payable upon the completion of the work. One registration fee only is required of graduate students.

The curriculum shall include work in one major department or subject in which the candidate has already pursued undergraduate study for at least two years, and work in not more than two minor subjects which bears a distinct relation to the general plan or purpose of the major subject.
At least three-fifths of the work must be done in the major subject. In special cases all the work may be done in one department. All of the work must be of advanced character and must be tested by examinations which the candidate shall pass with distinction.

The candidate shall prepare as a part of his curriculum a satisfactory thesis on some topic connected with the major subject. Theses must be submitted not later than May 20th. The same regulations regarding the size and style of binding, outlined under the Bachelor's degree, apply here. (See pamphlet relating to theses.)

The professional degrees of Chemical Engineer (Ch. E.), Civil Engineer (C. E.), Electrical Engineer (E. E.), and Mechanical Engineer (M. E.) may be conferred upon graduates in the curricula of Chemistry or Chemical Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering respectively, upon the presentation of a satisfactory thesis after at least three years of professional work subsequent to graduation. During at least two of the years after graduation the candidate must have occupied a position of responsibility. A fee of $5.00 is required at the time of registration. A fee of $10.75 is required, payable upon presentation of the thesis, which must be submitted not later than May 20. Candidates are expected to be present in person to receive their degrees.

**STUDENT EXPENSES**

These estimates are prepared upon the basis of students living in University halls.

**Estimates of Annual Expenses for Men**

<table>
<thead>
<tr>
<th></th>
<th>Students from within the State</th>
<th>Students from without the State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>$10.00</td>
<td>$10.00</td>
</tr>
<tr>
<td>Incidental Expenses</td>
<td>20.00</td>
<td>20.00</td>
</tr>
<tr>
<td>Tuition</td>
<td>30.00</td>
<td>40.00 to $70.00</td>
</tr>
<tr>
<td>Laboratory Fees</td>
<td>10.00 to $25.00</td>
<td>10.00 to $25.00</td>
</tr>
<tr>
<td>Text-books</td>
<td>10.00 to $30.00</td>
<td>10.00 to $30.00</td>
</tr>
<tr>
<td>Board 36 weeks @ $3.50</td>
<td>126.00</td>
<td>126.00</td>
</tr>
<tr>
<td>Room Dormitory</td>
<td>36.00 to 45.00</td>
<td>36.00 to 45.00</td>
</tr>
<tr>
<td></td>
<td><strong>$242.00 to $286.00</strong></td>
<td><strong>$252.00 to $326.00</strong></td>
</tr>
</tbody>
</table>

**Note.** The tuition charge of $70.00 is for technology students from without the State.
Expenses

Estimates of Annual Expenses for Women
The expenses for women are the same as for men, except that the annual charge for board and room is uniformly $170.00.

Exceptions
By legislative enactment, students in an agricultural curriculum except in Forestry and Home Economics, are exempted from the payment of tuition charges. This applies both to students from within and from without the State. For such students the above estimates should be reduced by an amount equal to the tuition charge.

Details of Laboratory Fees
The laboratory charges indicated above are made to cover cost of material used by the students. These charges vary with the subject and length of the course. They are as follows: Bacteriology, per course, $3.00; Biology, per course, $2.00 to $3.00; Chemistry, per course, $2.00 to $5.00; Civil Engineering, per course, $2.00 to $5.00; Electrical Engineering, per course, $2.50; Mechanical Engineering, per course, $2.00; Mineralogy, per course, $2.00; Pharmacy, per semester, about $3.50; Physics, per course, $2.50 to $3.50; Shop Work, per course, $4.00 to $5.00.

Special Charge
A fee of $2.00 is charged a student for each special examination.

Dormitory Rooms
The rooms in the Mt. Vernon House, Oak Hall, and the middle section of Hannibal Hamlin Hall accommodate two students each. All other rooms accommodate four students each.

Dormitory charges include steam heat and electric lighting. The rooms in the dormitories for men are furnished with beds, mattresses, chiffoniers, desks, and chairs. The rooms in Mt. Vernon House (the dormitory for women) are furnished with all the larger articles of furniture. Each resident in a dormitory has bed linen and three towels laundered each week without extra charge.

Women students not living at home are required to live at the Mt. Vernon House. In exceptional cases women students are allowed to live at some boarding house approved by the President. To secure the reservation of a room in a University dormitory, application, accompanied by a deposit of $5.00, should be made on or before September 1.
University of Maine

Deposits to Cover Expenses

Each student on or before registration day is required to make a deposit in accordance with the following table:

<table>
<thead>
<tr>
<th>Students from within the State</th>
<th>Students from without the State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students in Agriculture .......</td>
<td>$95.00</td>
</tr>
<tr>
<td>Students in Forestry ..........</td>
<td>110.00</td>
</tr>
<tr>
<td>Students in Home Economics...</td>
<td>110.00</td>
</tr>
<tr>
<td>Students in Arts and Sciences.</td>
<td>110.00</td>
</tr>
<tr>
<td>Students in Technology .......</td>
<td>110.00</td>
</tr>
</tbody>
</table>

For a student not living in a University dormitory the above deposits are reduced by $75.00.

Expenses at the College of Law

For expenses of students in the College of Law see the article on that college.

Communications

Communications with reference to financial affairs of students should be addressed to the Treasurer, University of Maine, at Orono.

Athletic Contributions

Students generally contribute $10.00 annually to the support of athletics. This is not a University requirement, but is wholly voluntary.

The Kittridge Loan Fund

The fund, amounting to nearly one thousand dollars, was established by Nehemiah Kittridge, of Bangor. It is in the control of the President and the Treasurer of the University, by whom it is loaned to needy students in the three upper classes. 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

SCHOLARSHIPS AND PRIZES

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

Western Alumni Association Scholarship.—Tuition for the sophomore year, is awarded that student taking a regular course whose deportment is satisfactory and who makes good progress in his studies during his freshman year.

Junior Exhibition Prize, fifteen dollars, is awarded to that member of the junior class who presents 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.

Sophomore Declamation Prize, fifteen dollars, for excellence in elocution, is awarded to the best speaker in the sophomore class.

Walter Balentine Prize, fifteen dollars, the gift of Whitman H. Jordan, Sc. D., LL. D., Geneva, N. Y., a graduate of the University of the class of 1875, is awarded to that member of the junior class who excels in biological chemistry.

Kennebec County Prize, twenty-five dollars, the gift of Hon. William T. Haines, LL. D., Waterville, a graduate of the University of the class of 1876, is awarded to that member of the senior class who writes the best thesis on applied electricity.

Franklin Danforth Prize, ten dollars, the gift of the Hon. Edward F. Danforth, Skowhegan, a graduate of the University, of the class of 1877, in memory of his father, Franklin Danforth, is awarded to that member of the senior class in the agricultural curriculum who attains the highest standing.

Pharmacy Prize, five dollars, is awarded to that student in the pharmacy department who attains the highest standing in chemistry in the last year of his course.

Holt Prizes, the gift of Dr. Erastus Eugene Holt, of Portland, are given to the three students of the senior class who show the greatest
University of Maine

improvement in their physical rating. The rating will be determined from deductions made from the gymnasium and class records of the students at the beginning and end of their college course by the mathematical formula for the normal earning ability of the body, devised by Dr. Holt.

New York Alumni Association Scholarship, thirty dollars, is awarded upon conditions to be determined by the Board of Trustees. It has for some years been awarded to the student who excelled in debate.

Pittsburgh Alumni Association Scholarship, tuition for one year, is awarded to a member of the junior class in the College of Technology, to be selected by the President and the professors in that college.

L. C. Bateman Prize, five dollars, is awarded to the student who shall write the best newspaper article of one column length.

Lewiston Journal Prize, ten dollars, is awarded to a student in the College of Agriculture who shall excel in some line of work connected with dairying.

American Pharmaceutical Association Prize, free membership for one year in the Association, is awarded by the Faculty, to the member of the senior class in Pharmacy who has made the best record in his college course.

Fraternity Scholarship Cup, presented to the University by the 1910 Senior Skull Society, is awarded at Commencement to that fraternity having the highest standing in scholarship for the preceding calendar year. The cup is to be awarded for eleven years, 1910 to 1925 inclusive. The fraternity to which this cup is awarded the greatest number of times is to be the permanent owner of the cup.

Wingard Cup, the gift of Professor E. R. Wingard, is awarded to that student who has won his “M” in athletics, and who has made the greatest improvement in his studies during the year.

Class of 1908 Commencement Cup, is awarded each year to the class having the largest percentage of its membership back for Commencement.

Father Harrington Prize, twenty dollars, established by Rev. John M. Harrington, pastor of St. Mary’s Church, Orono, is given to that student who writes the best essay upon modern literature. It may
Admission

treat of German, English, French, Spanish, or Italian literature. The essay may be limited to any one of these literatures or to a comparative study of any number of them. This is open to any student in the University.

The College of Technology Prize, twenty-five dollars, is awarded to the student who attains the highest rank in the College of Technology during 1912-1913, and shall make an "M" in track, baseball, or football.

ADMISSION

General Requirements.—Applicants for admission must pass the required examinations, or present satisfactory certificates of fitness, and make a cash deposit covering the bills of one semester. In the College 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.

Admission to Advanced Standing.—Candidates for advanced standing are examined in the preparatory studies, and in those previously pursued by the classes they wish to enter, or in other equivalent studies. A rank of B must be attained in order to pass any course in advance. Certificates from approved schools are accepted for the preparatory work; but certificates are not accepted for any part of the college work, unless such work has been done in a college. Graduates of a college of equivalent standing who wish to enter an agricultural or engineering course are admitted to the junior class without examination, provided their course has covered a sufficient amount of work in mathematics, physics, chemistry, and biology.

Special Recommendations.—A good preparation in algebra and geometry is most important for those who expect to enter engineering curricula.

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 to take a major in Greek or Latin should devote especial attention to Greek and Latin composition, Roman history, and Latin pronunciation according to the Roman method.

Special Students.—Persons not candidates for a degree who wish to take special studies may be permitted to do so, if, upon examination,
they give satisfactory evidence that they are prepared to take the desired studies. This privilege is intended for students of unusual maturity or previous advancement in particular subjects, rather than for those who are incompetent to pursue a regular course. Candidates under twenty-one years of age will not be received as special students unless they have completed the regular requirements for admission.

No examinations are required for admission to the special and extension courses in Agriculture, or to the two years course in Household Economics, but admission to the latter presupposes the completion of a four years high school course.

The terms of admission to the College of Law are stated under the article on that college.

Admission by Examinations

Entrance examinations are held at Orono, beginning four days before the opening of the fall semester, and on the Wednesday, Thursday, Friday, and Saturday preceding Commencement. To save expense to candidates, examination papers will be sent to any satisfactory person who will consent to conduct examinations on the days appointed in June. If possible these examinations should be in charge of the Principal of the school. Papers will not be sent at any other time. The questions are to be submitted under the usual restrictions of a written examination, and the answers returned to the University immediately, accompanied by the endorsement of the examiner. The examinations must be given on the days appointed in the schedule. Applications for such examinations must be made out on blanks to be obtained from the Registrar. Candidates for admission by examination, particularly those examined at Orono in September, should present statements from their school principals regarding their fitness to take the examinations and to undertake college work.

The examinations given by the College Entrance Examination Board will be accepted by the University. These examinations will be held during the week June 17-22, 1913. All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y., and must be made upon a blank form to be obtained from the Secretary of the Board upon application.

A candidate who wishes to be examined on part of his work in advance of the year in which he proposes to enter the University may receive credit for such examination, provided he offers not less than
Admission

one-half of his preparatory work. It is advised that candidates avail themselves of this privilege as far as possible. Examinations on subjects which are to be continued in college should not be taken more than one year in advance.

Admission of Graduates from Class A Schools in Maine

Graduates of Maine high schools and academies placed by the State Superintendent of Schools in Class A may be admitted upon their school records, provided they have pursued a course of study approved by the State Superintendent as suitable for college preparation. If the high school record satisfies the specific requirements for the curriculum that they wish to pursue in the University, such candidates may have credit towards admission for any subject that has been credited toward their graduation. Unless the circumstances are exceptional, a candidate whose record does not fully meet the requirements will not be admitted under this plan.

The school record of the candidate must be certified by the Principal, upon blanks furnished by the University, and should be submitted before August 1st.

Admission by Certificate

Candidates from the other New England states who are graduates of schools approved by the New England College Entrance Certificate Board will be admitted upon certificate.

Certificates for admission will be accepted from such schools outside of New England as are admitted upon certificate at the leading colleges in their own states.

Certificates will not be accepted for non-graduates except in unusual cases, and then only provided the candidate is expressly recommended for admission by the Principal of the high school from which he comes. Certificates must be made out on blanks furnished by the University.

Entrance Requirements

To gain admission to any of the curricula leading to the degree of Bachelor of Arts or Bachelor of Science, 14 units must be offered by the candidates, according to the following schedules (to count one unit, a subject must be pursued for one school year, with five recitation periods, of at least 45 minutes each, a week):
University of Maine

For the Bachelor of Arts Curricula

Required Subjects

Foreign languages .................................................. 4 units
English ............................................................................... 3 "
History ................................................................................ 1 unit
Mathematics ................................................................. 2½ units

(Not less than two units of any foreign language may be offered. Credit for advanced work will be accepted at the rate of one unit for each year of work.)

Optional Subjects (3 1-2 units to be chosen)

Each year of Greek ............................................................ counts 1 unit

Latin .............................................................. 1
French ........................................................................ 1
German ................................................................. 1

Advanced algebra ......................................................... ½
Trigonometry ............................................................... ½
Chemistry (including note-book) ...................................... 1

Physics (including note-book) .......................................... 1
Physiography (one-half year or one year) ... counts ½ unit or 1 unit

Biology (including note-book) ........................................ 1
Botany (including note-book) ........................................... 1
Zoology (including note-book) .......................................... 1

Physiology ................................................................. ½

Solid geometry ............................................................ ½

Greek history .............................................................. ½

English history (1 year) ............................................... 1
American history and civil government (1 year) ........... 1

Medieval and modern history ........................................ 1

The requirement in history must include either a year of Greek and Roman history, a year of English, a year of Medieval and Modern history, or a year of American history and civil government. A choice will be allowed between the last half year of algebra and solid geometry for those who do not expect to continue mathematics in college.
Admission

For the Bachelor of Science Curricula

Required Subjects

English ........................................... counts 3 units
* Algebra ........................................... 1½
Plane geometry .................................... 1 unit
Solid geometry (College of Technology except Pharmacy) ½ "

Optional Subjects (8 or 8 ½ units to be chosen)

(Of these, two years of one modern language, one year of science, and one year of history must be taken. Candidates entering a B. S. curriculum and offering four years of Latin may complete their entrance credits without a modern language, but must take at least four credits in modern language in college.)

Each year of French .............................. counts 1 unit
  * " German ...................................... 1
  * " Latin ......................................... 1
  * " Greek ........................................ 1
Advance algebra ................................... 1
Trigonometry ..................................... ½
** Mechanical drawing (for technical courses) .... counts ½ unit
** Manual training (for technical courses) ........ ½ "
Chemistry (including note-book) .............. 1
Physics (including note-book) ................. 1
Physiography (one-half year or one year)..... counts ½ unit or 1 unit
Biology (including note-book) ................. counts 1 unit
Botany (including note-book) ................... 1
Zoology (including note-book) ................. 1
Physiology ....................................... ½
Roman history ................................... ½
Greek history .................................... ½
English history .................................. counts ½ or 1 unit
American history and civil government ....... ½ 1

* Candidates who have had two full years of algebra, including a review during the last year, and the use of advanced text book may receive credit of two units. Such a course is recommended.

** Graduates from high schools giving a full manual training course may receive credit for mechanical drawing, manual training, and free-hand drawing on the basis of one credit for five forty-five minute periods per week for one year in one subject taken in the high school.
University of Maine

Candidates for admission to the Bachelor of Science curricula who are well prepared in all the required subjects, but whose high-school course has included other subjects, instead of some of the electives mentioned above, will be allowed to substitute such of these as will furnish a real equivalent. Each case of such proposed substitution will be considered upon its merits.

Candidates for the two years Curriculum in Pharmacy must be at least seventeen years of age, and must have successfully completed at least one year in an approved high school.

REQUIREMENTS IN DETAIL

The following statement shows in detail the requirements in each subject:

Languages

English.—The entrance examination in English presupposes courses in composition and English literature pursued in the high school during four years. Prospective students are warned against attempting to prepare the required work in one year. Progress in composition particularly is of slow growth, and requires almost daily cultivation during a long period of time. Books, to be thoroughly enjoyed and appreciated, should be read leisurely and under favorable circumstances.

Rhetoric.—Candidates are expected to have had practice in composition for at least three days a week during the whole four years of the high school, and to have included in the latter part of their course such work in the elements of rhetoric, as for example, is contained in Carpenter’s Rhetoric and Composition.

Grammar.—The examination on the B list of books will include incidentally questions on the syntax of sentences, and on general grammatical principles.

The grammatical sense is slowly acquired. Grammar, therefore, should be studied in the early grades and kept up from year to year and not formally introduced in some one grade, as the seventh or eighth.

Weight of Composition.—The examination is mainly designed to test the candidate’s ability to express his thought correctly and clearly. It is quite possible to answer all questions on the literature correctly, and yet fail on the examination as a whole because of crude and ungrammatical English. Prospective candidates are advised to give especial
Admission

attention to spelling, punctuation, grammatical correctness, idiomatic words and phrases, sentence and paragraph formation.

Subjects.—The subjects for the short compositions will be taken from the A list of books; also from the candidate's general knowledge and experience.

The prescribed books are those adopted by the Conference on Uniform Entrance Requirements. The A list is for general reading. The candidate is not expected to have a detailed knowledge of these books, but such acquaintance with them as naturally follows intelligent and appreciative reading. For 1912, the books are as follows: Group I (two to be selected): Shakespeare's As You Like It, Henry V. Julius Cæsar, The Merchant of Venice, Twelfth Night. Group II (one to be selected): Bacon's Essays; Bunyan's Pilgrim's Progress, Part I: The Sir Roger de Coverley Papers in the Spectator; Franklin's Autobiography. Group III (one to be selected): Chaucer's Prologue; Spenser's Faerie Queen, (selections); Pope's The Rape of the Lock; Goldsmith's The Deserted Village; Palgrave's Golden Treasury, (First Series) Books II and III, with especial attention to Dryden, Collins, Gray, Cowper, and Burns. Group IV (two to be selected): Goldsmith's Vicar of Wakefield; Scott's Ivanhoe, Quentin Durward; Hawthorne's House of Seven Gables; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; Dickens's Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone. Group V (two to be selected): Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc, The English Mail Coach; Carlyle's Heroes and Hero Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies. Group VI (two to be selected): Coleridge's Ancient Mariner; Scott's Lady of the Lake; Byron's Mazeppa, The Prisoner of Chillon; Palgrave's Golden Treasury, (First Series) Book V, with especial attention to Wordsworth, Keats, and Shelley; Macaulay's Lays of Ancient Rome; Poe's Poems; Lowell's Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's Courtship of Miles Standish; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader. How They Brought the Good News from Ghent to Aix, Evelyn Hope. Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, The Boy and the Angel, One Word More, Hervé Riel, and Pheidippides.

B. Shakespeare's Macbeth: Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America, or Washington's Farewell Address, and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.
The B list of books is for thorough study. The examination will be upon subject matter, form, and structure.

French.—The admission requirements in elementary and advanced French are those recommended by the Modern Language Association of America.

I. Elementary French.—At the end of the second year the pupil should be able to pronounce French accurately, to read at sight easy French prose, to put into French simple English sentences taken from the language of everyday life or based upon a portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

The first year's work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural of nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; order of words in the sentence, and elementary rules of syntax; (3) abundant easy exercises, designed not only to fix in memory the forms and principles of grammar, but also to cultivate readiness in reproducing natural forms of expression; (4) the reading of 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English), and in reproducing from memory sentences previously read; (5) writing French from dictation.

The second year's work should comprise: (1) the reading of 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; (2) constant practice, as in the previous year, in translating into French easy variations upon the texts read; (3) frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; (4) writing French from dictation; (5) continued drill upon the rudiments of grammar, with constant application in the construction of sentences; (6) mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

Suitable texts for the second year are: About, le Roi des montagnes; Bruno, le Tour de la France; Daudet, Easier Short Tales; De la Bédollière, La Mère Michel et son chat; Erckmann-Chatrian's Stories; Foa, Contes biographiques and le Petit Robinson de Paris; Foncin, le Pays de France; Labiche and Martin, la Poudre aux yeux and le Voyage de M. Perrichon; Legouvé and Labiche, la Cigale chez les fourmis;
II. Advanced French.—At the end of the third year the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

This should comprise the reading of 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate proportions; writing from dictation.

Suitable texts are: About’s Stories; Augier and Sandeau, le Gendre de M. Poirier; Béranger’s Poems; Corneille, le Cid and Horace; Coppée’s Pocus; Daudet, le Belle-Nivernaise; La Brête, Mon oncle et mon curé; Madame de Sévigné’s Letters; Hugo, Hernani and la Chute; Labiche’s Plays; Loti, Pêcheur d’Islande; Mignet’s Historical Writings; Molière, l’Avare and le Bourgeois gentilhomme; Racine, Athalie, Andromaque, and Esther; George Sand’s Plays and Stories; Candeau, Mademoiselle de la Seiglière; Scribe’s Plays; Thierry, Récits; Vigny, la Canne de jonc; Voltaire’s Historical Writings.

At the end of the fourth year the pupil should be able to read at sight, with the help of a vocabulary of special or technical expressions, difficult French not earlier than that of the seventeenth century; to write in French a short essay on some simple subject connected with the works read; to put into French a passage of easy English prose, and to carry on a simple conversation in French.

This should comprise the reading of from 600 to 1,000 pages of standard French, classical and modern, only difficult passages being explained in the class; the writing of numerous short themes in French; the study of syntax.

Suitable reading matter will be: Beaumarchais’s Barbier de Séville; Corneille’s Dramas; the elder Dumas’s Prose writings; the younger Dumas, la Question d’argent; Hugo, Ruy Blas, Lyrics, and Prose Writings; La Fontaine’s Fables; Lamartine, Graciella; Marivaux’s Plays; Molière’s Plays; Musset’s Plays and Poems; Pellissier, Mouvement littéraire au XIX siècle; Renan, Souvenirs d’enfance et de jeunesse; Rousseau’s Writings; Sainte-Beuve’s Essays; Taine, Origines de la France contemporaine; Voltaire’s Writings; Selections from Zola, Maupassant, and Balzac.
University of Maine

The examinations of the College Entrance Certificate Board in elementary French will be accepted for two units, and that in advanced French for one additional unit.

German.—The admission requirements in elementary and advanced German are those recommended by the Modern Language Association of America.

I. Elementary German.—The first year's work should comprise: (1) careful drill upon pronunciation; (2) memorizing and frequent repetition of easy colloquial sentences; (3) drill upon the rudiments of grammar: that is, upon the inflection of the articles, of such nouns as belong to the language of every-day life, of adjective, pronouns, weak verbs, and the more usual strong verbs; also in the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word order; (4) abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in reproducing natural forms of expression; (5) the reading of 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in reproducing from memory sentences previously read.

The second year's work should comprise: (1) the reading of 150 to 200 pages of literature in the form of easy stories and plays; (2) accompanying practice, as before, in translating into German easy variations upon the matter read, also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages; (3) continued drill in the rudiments of grammar, to enable the pupil first, to use his knowledge with facility in forming sentences, and second, to state his knowledge correctly in the technical language of grammar.

Stories suitable for the elementary course can be selected from the following list: Anderson, Märchen and Bilderbuch ohne Bilder; Baum-bach, Die Nonne and Der Schwiegersohn; Gerstäcker, Germelshausen; Heyse, L'Irrabbiata, Das Mädchen von Treppi, and Anfang und Ende; Hillern, Höher als die Kirche; Jensen, die braune Erica; Leander, Träumereien und Kleine Geschichten; Siedel, Märchen; Stökl, Unter dem Christbaum; Storm, Immensee and Geschichten aus der Tonne; Zschokke, Der zerbrochene Krug.

The best shorter plays available are: Benedix, Der Prozess, Der Weiberfeind, and Günstige Vorzeichen; Elz, Er ist nicht eifersüchtig;
Admission

Wichert, *An der Majorsecke*; Wilhelmi, *Einer muss heiraten*. Only one of these plays need be read, and the narrative style should predominate. A good selection of reading matter for the second year would be Anderson, *Märchen* or *Bilderbuch*, or Leander, *Traumereien*, to the extent of about forty pages. Afterward, such a story as *Das kalte Herz*, or *Der zerbrochene Krug*; then *Höher als die Kirche*, or *Immensee*; next a good story by Heyse, Baumbach, or Seidel; last *Der Prozess*.

II. *Advanced German*.—The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; also grammatical drill in the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with especial reference to the infinitive and subjunctive), and likewise in word order and word formation. To do this work two school years are usually required.


The examinations of the College Entrance Certificate Board in elementary German will be accepted for two units, and that in advanced German for one additional unit.

**Latin.**—The entrance examination in Latin will consist of four parts as follows:

1. An examination on the elements of Latin grammar and easy translations.
2. a. An examination in sight translation of Latin prose suited to test the ability of a candidate who has read from Caesar (Gallic War and Civil War) and Nepos (Lives) an amount not less than Caesar, Gallic War, I-IV.
b. Questions on the ordinary forms and constructions of Latin grammar and the translation of easy English sentences into Latin.

3. a. An examination on Cicero, speeches for the Manilian Law and for Archias, with questions on subject-matter, literary and historical allusions, and grammar.
b. An examination in sight translation of Latin prose adapted to candidates who have read from Cicero (speeches, letters, and De Senectute) and Sallust (Catiline and Jugurthine War) an amount not less than Cicero, speeches against Catiline I-IV, for the Manilian Law, and for Archias.

c. A test in writing simple Latin prose which shall demand a thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school.

4. a. An examination on Virgil, Aeneid, I, II and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody.
b. An examination in sight translation of Latin poetry adapted to candidates who have read from Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia) an amount not less than Vergil, Aeneid, I-VI.

A candidate may obtain separate credit for each part. Each represents year's work and entrance credit for one unit.

In parts 2 and 3 candidates must deal satisfactorily with both the sight and set passages, or they will not be given credit for either.

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 less usual words will be furnished. Equivalent readings will be accepted in place of those prescribed.

History

Grecian History.—History of Greece, to the capture of Corinth, 146 B.C. Myers, Morey, or Botsford.
Admission

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

**English History.**—A knowledge such as may be obtained from Montgomery, Coman and Kendall, Terry, or Cheyney's History of England.

**United States History and Civil Government.**—A knowledge such as may be obtained from the works of Fiske, Hart, Montgomery, or McLaughlin.

**Mathematics**

**Algebra.**—The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and least common multiple by factoring; fractions, including complex fractions, and ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations; radicals, including the extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative; quadratic equations, both numerical and literal; simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations; problems depending on quadratic equations; the binomial theorem for positive integral exponents; the formulas for the nth term and the sum of the terms of arithmetical and geometrical progressions, with applications.

It is assumed that pupils are required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

**Plane Geometry.**—The usual theorems and constructions of good text books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle.

**Solid Geometry.**—The usual theorems and constructions of good text books, including the relations of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle.
University of Maine

**Trigonometry.**—Definitions and relations of the six trigonometric functions as ratios; circular measurement of angles; proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle; the product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas; solution of trigonometric equations of a simple character; theory and use of logarithms (without the introduction of work involving infinite series); the solution of right and oblique triangles, and practical applications, including the solution of right spherical triangles.

**Advanced Algebra**—Permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots.

**Sciences**

* Biology.—This may consist of a continuous course for one year dealing with the problems of general biology, including the study of the structure, functions, and habits of both plants and animals; a course for one year in botany alone; a course for one year in zoology alone; or a course for one-half year in human physiology. The human physiology may be arranged to form a part of the general biology, or of the zoology; but in such cases it must be treated as an integral part of the subject under consideration.

* Chemistry.—The necessary ground is covered by the following textbooks; Brownlee and others, Hessler and Smith, McPherson and Henderson, Newell.

* The work in these sciences must include certified note-books exhibiting the results of experimental work performed by the student. In physics forty exercises are required and in chemistry fifty exercises. These note-books should be presented at the examination. In the case of students certificated in the sciences, the principal is expected to pass upon the quality of the note-books rather than send them to the University.
Admission

**Physical Geography (Physiography).**—A satisfactory preparation may be obtained from Appleton’s Physical Geography.

*Physics.*—The work usually covered in one year in a good fitting school.

The requirements in botany and zoology are the same as those of the College Entrance Examination Board, and are outlined in the syllabus of the board. The note-book should include properly labelled drawings, and descriptions of experiments, representing as much of the work in this syllabus as may be practicable, and should be the record of a year’s laboratory work in the subject. The making of an herbarium is optional.

*The work in these sciences must include certified note-books exhibiting the results of experimental work performed by the student. In physics forty exercises are required and in chemistry fifty exercises. These note-books should be presented at the examination. In the case of students certified in the sciences, the principal is expected to pass upon the quality of the note-books rather than send them to the University.*
ORGANIZATION OF THE UNIVERSITY

The University is divided for purposes of administration into the Colleges of Agriculture, Arts and Sciences, Law, and Technology, and the Maine Agricultural Experiment Station. The policies of the University as a unit are determined by the Board of Trustees and the General Faculty, but each division regulates those affairs which concern itself alone.

COLLEGE OF AGRICULTURE


Two Years Course in Home Economics for Teachers; One Year Course in Agriculture for Teachers; School Course in Agriculture (two years).

Short Courses; Farmers' Week; Correspondence and Lecture Courses; Demonstration Work.

COLLEGE OF ARTS AND SCIENCES

Major subjects may be selected in Biology, Chemistry, Economics and Sociology, Education, English, German, Greek and Classical Archaeology, History, Latin, Mathematics and Astronomy, Philosophy, Physics, and Romance Languages.

COLLEGE OF LAW

This College is located in Bangor.

COLLEGE OF TECHNOLOGY

Curricula in Chemical Engineering, Chemistry, Civil Engineering, Electrical Engineering, Mechanical Engineering, and Pharmacy, and Two Years Curriculum in Pharmacy.
Organization of the University

MAINE AGRICULTURAL EXPERIMENT STATION

Offices and principal laboratories in Orono; Highmoor Farm in Monmouth.

Graduate Courses leading to the Master's degree are offered by various departments.

Summer Term of six weeks.

GENERAL STATEMENT

The College of Agriculture, the College of Arts and Sciences, and the College of Technology offer four years curricula leading to the Bachelor's degree. The College of Law offers a three years curriculum leading to the Bachelor's degree.

The college year, except for the College of Law, is divided equally into a fall semester and a spring semester. Five recitation hours a week of successful work for one semester entitle a student to one credit. The minimum regular work for a semester in the College of Arts and Sciences is fourteen hours a week (exclusive of physical training and military science) leading to two and four-fifths credits. In the College of Agriculture and the College of Technology the minimum is seventeen hours a week (exclusive of physical training and military science), leading to three and two-fifths credits. Six credits in the major subject represent the minimum requirement for a degree. In making up the quota of studies, laboratory work not requiring preparation, counts as half time, unless otherwise specified. Such subjects are marked with a star (*) or dagger (†) in the detailed description of courses of instruction.

Except in the College of Law, the two years Pharmacy Curriculum, and the School Course in Agriculture, candidates for graduation are required to complete a four years curriculum of study by securing twenty-five or thirty credits, according to the college in which they are registered.

The College of Arts and Sciences has the following graduation requirements: (One year's work in college is equivalent to two years' work in preparatory school.)

1. Language Group.—This is composed of courses in language and literature, including all the courses offered in the departments of
University of Maine

English, German, and Romance Languages, and such courses offered by the departments of Greek and Latin as deal with the Greek and Latin languages and literatures, or presume some knowledge of these languages.

2. **Science and Mathematics Group.**—This is composed of the courses offered in mathematics and the biological and physical sciences, including all the courses offered by the departments of Mathematics, Biology, Chemistry, Biological Chemistry, and Physics.

3. **Social Science Group.**—This is composed of the courses offered in the departments of History, Economics and Sociology, Philosophy, Education, and Bibliography; and the courses in History, Archaeology, Fine Arts, and Biblical Literature offered in other departments and not included in the first group.

Every candidate for the Bachelor of Arts degree is required to complete the following amount of work in college: (a) eight hours prescribed in English; (b) ten or sixteen hours elected in group 1, of which six or ten hours must be in foreign language; (c) ten hours elected in group 2; (d) ten hours elected in group 3; (e) military science and tactics, two years, three hours a week; (f) physical training, one year, two hours a week.

A student who enters college with a minimum of four units credit in foreign language shall be required to elect sixteen hours in group 1, of which at least ten hours shall be in foreign language. A student who enters with more than the minimum of four units credit shall be required to elect at least ten hours in group 1, of which at least six hours shall be in foreign language.

4. **Military Science and Tactics,** two years, three hours a week.

5. **Physical Training,** one year, three hours a week.

The following courses are open to freshmen in the College of Arts and Sciences: Bibliography 1; Biology 1; Chemistry 1, 2, 3, 4, 14, 15; English 3, 4, 1a, 1b, 8a, 8b; German 1, 2; Greek 1, 2; History 1, 2, 3, 4, 6, 7; Latin 1, 2; Mathematics 2, 3, 1, 6, 10; Philosophy 5b; Physics 4, 5, 6; Romance Language 1, 2.

The College of Agriculture has the following requirements for graduation:

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

2. Mathematics, one year, five hours a week.
Organization of the University

3. Science (biology, chemistry, or physics), one year, five hours a week, of which time an important part must be occupied with laboratory work.

4. Language (French or German), the equivalent of one-half year, five hours a week.

5. Military Science and Tactics, two years, three hours a week.

6. Physical Training, one year, three hours a week.

The College of Technology has the following requirements for graduation:

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

2. Mathematics, except in Chemistry and Chemical Engineering where one and two-fifths years are required, and Pharmacy where one year is required, two years, five hours a week.

3. Science (biology, chemistry, or physics), one year, five hours a week, of which time an important part must be occupied with laboratory work.

4. Language (French and German), the equivalent of one college year of each, five hours a week taken in college or preparatory school. Candidates offering one full year of the second language for admission must take the equivalent of a five hour year in that language in college. A student in German or French must receive at least two credits in the subject to count it toward a degree.

5. Military Science and Tactics, two years, three hours a week.

6. Physical Training, one year, three hours a week.

The science requirement in each college demands a year's work in some one science, and is not fulfilled by fractions of a year's work in two or more sciences. In making up the language requirement, work done in preparation for college may be counted, but two years' preparatory study will be reckoned as one year of college work.

Twenty-five credits (one credit is given for a recitation course that meets five hours a week, or for a laboratory course that meets at least ten hours a week, for one-half year) are required for graduation in the College of Arts and Sciences; thirty credits are required for graduation in the College of Technology, and the College of Agriculture.

The requirements for the College of Law are stated in connection with the description of that College.
COLLEGE OF AGRICULTURE

FACULTY OF INSTRUCTION

LEON STEPHEN MERRILL, M. D.  Director of Extension Work

DEAN

LUCIUS HERBERT MERRILL, Sc. D.
Professor of Biological and Agricultural Chemistry

FREMONT LINCOLN RUSSELL, B. S., V. S.
Professor of Bacteriology and Veterinary Science

PERCY ANDERSON CAMPBELL, M. S. A.
Professor of Animal Industry

MINTIN ASBURY CHRYSLER, Ph. D.
Professor of Biology

JOHN MANVERS BRISCOE, M. F.
Professor of Forestry

GEORGE EDWARD SIMMONS, M. S.
Professor of Agronomy

EDSON FORBES HITCHINGS, C. E., M. S.
Associate Professor of Horticulture

WILLIAM LEROY SLATE, Jr. B. Sc. (Ag.)
Associate Professor of Agronomy

LAURA COMSTOCK
Associate Professor of Home Economics

WILLIAM FREEMAN SCHOPPE, B. S.
Assistant Professor of Animal Industry

ALICE MIDDLETON BORING, Ph. D.
Assistant Professor of Zoology

HARRY NEWTON CONSER, M. S., M. A.
Assistant Professor of Botany

RALPH WOODBURY REDMAN, B. S.
Assistant Professor of Animal Industry

CORNELIA PALMER
Instructor in Home Economics

HOWARD MADISON PARSHLEY, A. M.
Instructor in Zoology

VICTOR GEORGE AUBRY, B. S.
Instructor in Animal Industry

HARRY WOODBURY SMITH, B. S.
Instructor in Agriculture

WILLIAM HINDS DARROW, M. A.
Instructor in Horticulture

ARTHUR EDWARD STANFORD, B. S.
Itinerant Instructor in Farm Management
GENERAL INFORMATION

The College of Agriculture comprises the departments of Agricultural Extension, Agronomy, Animal Industry, Biological and Agricultural Chemistry, Biology, Farm Management and Agricultural Engineering, Forestry, Home Economics, Horticulture, Veterinary Science and Bacteriology. The aim of the college is to train young men for service as farmers, teachers of agriculture and the allied sciences in schools and colleges, investigators in the agricultural experiment stations, and foresters; and to prepare young women to become teachers of home economics and to comprehend the problems of administration in the home and in public institutions. On entering either a four years curriculum or two years School Course in Agriculture a student is required to fill out a practical experience blank. Those who have not had experience in general farming are required to work during at least one summer vacation on some farm approved by the faculty of the college.

The courses of instruction are organized as follows

1. Regular Curricula
   - The four years general curricula in Agronomy, Animal Husbandry, Biology, Dairy Husbandry, Forestry, Home Economics, Horticulture, and Poultry Husbandry, and the four years curriculum for Teachers in General Agriculture
   - The two years Teachers’ Course in Home Economics
   - The one year Teachers’ Course in Agriculture
   - The two years School Course in Agriculture
   - The short winter courses in General Agriculture, Animal Industry, Horticulture, and Poultry Management
   - Farmers’ week

2. Extension Courses
   - The correspondence courses
   - The lecture courses
   - The traveling schools
   - The demonstration work
   - The cooperative experiments

THE COLLEGE CURRICULA

The college curricula are designed for those who wish to follow general farming, animal husbandry, dairy husbandry, poultry husbandry, horticulture, home economics, chemistry as related to experiment sta-
tion work, biological chemistry, bacteriology and veterinary science, biology, farm management, and forestry either as a business or as a profession.

Certain studies are fundamental to all work in agricultural lines. As many as possible of these studies are offered in the first two years, during which time the student is necessarily given no choice of subjects. By the beginning of the junior year each student must decide whether he is to specialize in Agronomy, Animal Husbandry, Dairy Husbandry, Poultry Husbandry, Horticulture, or Biology. To specialize in any one of these lines, he must during his junior and senior years take the studies given in the schedules which follow.

Students in agriculture who contemplate entering experiment station work should elect the course offered by the department of agricultural chemistry covering the qualitative and quantitative chemical analysis of fodders, fertilizers, and dairy products. Those intending to take this course must elect a preparatory course in quantitative chemical analysis.

One of the following curricula, embracing 150 college hours each, is required for the students taking the four years curricula in agriculture. It is recommended that the subjects be taken in the order here given. The elective subjects are selected with the advice of the major instructor.

Curriculum for the First Two Years for All Students Taking Four Years Curricula in Agriculture

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Subject</td>
<td>Hours</td>
<td>Subject</td>
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<td>Physical Training * 2</td>
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The College Curricula

**SOPHOMORE YEAR**

<table>
<thead>
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<th>Subject</th>
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**CURRICULUM FOR STUDENTS SPECIALIZING IN AGRONOMY**

**JUNIOR YEAR**

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**SENIOR YEAR**

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20

19

16

17
College of Agriculture

Curriculum for Students Specializing in Animal Industry

Animal and Dairy Husbandry

**JUNIOR YEAR**

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**SENIOR YEAR**

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*Note—Students desiring to follow Animal Husbandry should elect Animal Industry 9, 11, 12, and Veterinary Science 9; those following Dairy Husbandry should elect Bacteriology 2 and 4, and Animal Industry 13 and 14.
# The College Curricula

## Poultry Husbandry

### Junior Year

#### Fall Semester

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<tbody>
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#### Spring Semester

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**Total:** 17

#### Senior Year

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<td>or</td>
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**Total:** 16

## Curricular for Students Specializing in Horticulture

### Junior Year

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#### Spring Semester

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**Total:** 19

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73
## College of Agriculture

### SENIOR YEAR

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### Curriculum for Students Taking Major Work in Biology

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*Given in alternate years.*

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## The College Curricula

### Curriculum in Agriculture for Those Who Intend to Become Teachers of this Subject in the Public Schools

This curriculum is offered in response to a call for men capable of teaching all branches of elementary agriculture in high schools or academies. In order to receive a degree, 150 college hours, or 30 credits, must be completed.

### Freshman Year

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College of Agriculture

### JUNIOR YEAR

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#### Spring Semester

<table>
<thead>
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<tbody>
<tr>
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### SENIOR YEAR

#### Fall Semester

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#### Spring Semester

<table>
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<tr>
<td>Agricultural Chemistry 3</td>
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<tr>
<td>Bacteriology 1, †6</td>
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<td>Biology 8</td>
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<td>Physics 5, *5</td>
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### The Forestry Curriculum

A complete undergraduate curriculum is arranged which will serve as the basis not only for practical work in forestry, but also for a liberal education. During the first two years much attention is given to biology and civil engineering, both of which are important fundamental subjects upon which are built the more technical forestry courses. A knowledge of the principles of forestry in its different branches is gained by the student, and considerable practical work is done in the forest. The woodlands belonging to the University, together with adjacent lands covered by young forest, furnish a field for the study of many forest problems. Field trips are made and demonstration thinnings and plantations made at various places throughout the State.

The instruction in this department consists of lectures, recitations, laboratory, and field work; the latter consuming a considerable portion of the scheduled time during the junior and senior years.
The College Curricula

There are good openings for students to obtain work in the Maine woods during the summer vacations, and many take advantage of the opportunity to get practical experience, and at the same time aid in defraying the expense of their university course.

Besides the prescribed work in other departments, courses 4 to 14 inclusive are required of all students majoring in Forestry, and courses 3 and 15 are recommended as electives for these students. Course 1 is open to all students, but is not required of students majoring in Forestry.

At graduation the student receives the degree of Bachelor of Science in Forestry. A special bulletin, giving detailed descriptions of all the courses as well as of the equipment, is issued by the department and will be sent free to any address upon request.

Curriculum in Forestry

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Subject</th>
<th>Fall Semester</th>
<th>Hours</th>
<th>Subject</th>
<th>Spring Semester</th>
<th>Hours</th>
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<tbody>
<tr>
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<td>Biology 1</td>
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<td>Military *3</td>
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SOPHOMORE YEAR

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<td>Agronomy 2</td>
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<tr>
<td>Biology 17</td>
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<td>4</td>
</tr>
<tr>
<td>Civil Engineering 1a, 2a</td>
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<td>English 1a</td>
<td></td>
<td>1</td>
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<td>English 2a</td>
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</tr>
<tr>
<td>History 6</td>
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<td>Military</td>
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<td></td>
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</tbody>
</table>

77
### Four Years Curriculum in Home Economics

This curriculum, leading to a Bachelor of Science degree, prepares women to teach Home Economics in elementary, high and normal schools, and in colleges. It gives instruction in cookery, dietetics, marketing, serving, household economics, laundering, sewing, and handwork. A foundation for the practical work is laid in pursuing a thorough course in biology, chemistry, and physics. Practice teaching and normal methods are based upon a study of psychology and the history of education.

Those desiring admission to this curriculum must meet the regular college requirements.

Laboratory fees, to cover the cost of materials used, are as follows: Cookery courses 1, 7, 8, each $6 a semester. Cookery courses 3, 4, each $2.50 a semester. Cookery courses 5, 6, each $6 a semester. Handwork courses $1 a semester. Household economics 50c. a semester. Laundering $1 a semester. Practical housework $3.50 a semester.

---

### Junior Year

<table>
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<tr>
<th>Course</th>
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<tr>
<td>Civil Engineering 4b, 4c</td>
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<tr>
<td>Geology 5</td>
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<tr>
<td>Forestry 10</td>
<td>2</td>
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<td>Horticulture 8</td>
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<td>Modern Language</td>
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### Senior Year

<table>
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<td><strong>Total</strong></td>
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Laboratory fees, to cover the cost of materials used, are as follows:

- Cookery courses 1, 7, 8, each $6 a semester.
- Cookery courses 3, 4, each $2.50 a semester.
- Cookery courses 5, 6, each $6 a semester.
- Handwork courses $1 a semester.
- Household economics 50c. a semester.
- Laundering $1 a semester.
- Practical housework $3.50 a semester.
The College Curricula

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Subject</th>
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<th>Hours</th>
<th>Subject</th>
<th>Spring Semester</th>
<th>Hours</th>
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<tbody>
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<td>Biology 1</td>
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**SOPHOMORE YEAR**

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<td>English 2a</td>
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<td>English 2b</td>
<td></td>
<td>1</td>
</tr>
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**JUNIOR YEAR**

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<td>Home Economics 17</td>
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College of Agriculture

Senior Year

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<tbody>
<tr>
<td>Economics 1a</td>
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<td>Education 8</td>
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<td>Education 5</td>
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<td>Home Economics 11</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

* Either fall or spring semester.

Two Years Course in Home Economics

This course aims to prepare women for teachers in Home Economics. It is offered to those who find it impossible to remain at the University for a longer period. This course does not lead to a degree but a certificate is granted when the prescribed course has been satisfactorily completed. Women who are graduates of a recognized high school or its equivalent, and who have some practical knowledge of housework, are admitted to this course without examination. It is desirable that a student should have taken, previous to her entering the University, courses in elementary chemistry, physics, and physiology. For information concerning fees, see the four years curriculum.

First Year

<table>
<thead>
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<th>Hours</th>
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<td>Chemistry 3, 4</td>
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<td>English 3</td>
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<td>Home Economics 1</td>
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<table>
<thead>
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<th>Hours</th>
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<td><strong>Total</strong></td>
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</table>
The College Curricula

SECOND YEAR

- Biological Chemistry 1 ............. 5
- Education 1 .......................... 3
- Home Economics 7 .................. 3
- Home Economics 12 ................ 2
- Home Economics 17 ................ 2
- Home Economics 19 ................ 1\frac{1}{2}
- Home Economics 24 ................ 1
- Home Economics 25 ................ 2
- Mechanical Engineering 20 ... 1

Total: 20\frac{1}{2}

Special Courses in Agriculture and Home Economics

The Special Courses in Agriculture and Home Economics are designed for young men and women who cannot well spend four years in preparation, but who desire to secure special training in this line. No fixed schedule of studies is prescribed, but students may elect along the line of horticulture, dairying, poultry management, veterinary science, agricultural chemistry, bacteriology, farm management, general agriculture, or home economics.

Persons not candidates for a degree, who wish to take special studies, may be permitted to do so, if, upon examination, they give satisfactory evidence that they are prepared to take the desired studies. This privilege is intended for students of unusual maturity or previous advancement in particular subjects, and not for those who are incompetent to pursue a regular course. If they subsequently desire to become candidates for a degree, they will be required to meet all the entrance requirements.

The annual expenses for courses of one year or more are the same as those for students in the four years courses. Tuition is free except in Forestry and Home Economics.

Two Years School Course in Agriculture

This is a course designed to train young men and women who wish to become practical farmers, farm superintendents, dairymen, poultrymen or gardeners, but who cannot devote time to high school or college training.
College of Agriculture

The same equipment is used as in the four years curricula, but the work is of a more elementary nature. All the classes are separate and distinct from the four years classes, and in no case will college credit be allowed for work done in the school course.

There are no entrance examinations required of those who desire to enter the school course. Students over fifteen years of age who are prepared for advanced grammar or high school work are eligible for registration. No tuition is charged in this course, but the same registration and incidental fees of fifteen dollars a semester, or thirty dollars a year, are charged school course students in agriculture as are charged all others attending the University. Fees amounting to two dollars and fifty cents are charged in each of the carpentry and blacksmithing courses to cover cost of material used.

The practical side of the work in this course is strongly emphasized, and since students are expected to be able to do work and handle men when they have finished, those taking this course are required to spend the summer vacation between the first and second years in work either at the college, or on some farm approved by the Faculty.

On completion of the course a certificate is awarded those who have satisfactorily done the work.

The following is a schedule of the work given:

**FIRST YEAR**

**Fall Semester**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
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<tbody>
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<td>Animal Industry</td>
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<tr>
<td>Business Arithmetic and Farm Accounts</td>
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<td>Carpentry</td>
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<td>English</td>
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<tr>
<td>Farm Crops</td>
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<td>Farm Crops Laboratory</td>
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<tr>
<td>Fruit Handling</td>
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<tr>
<td>Fruit Picking, Packing, and Laboratory Work</td>
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<tr>
<td>Poultry Husbandry</td>
<td>2</td>
</tr>
<tr>
<td>Poultry Husbandry Laboratory</td>
<td>2</td>
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<tr>
<td>Practical Dairying and Stock Management</td>
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<tr>
<td>Management</td>
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**Spring Semester**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Animal Industry and Dairy Work</td>
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<tr>
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<td>3</td>
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<td>Farm Botany</td>
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<td>Forge Work</td>
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<tr>
<td>Fruit Growing</td>
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<td>Orchard Practice and Laboratory Work</td>
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<td>Poultry Husbandry</td>
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<tr>
<td>Poultry Husbandry Laboratory</td>
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</tr>
<tr>
<td>Practical Dairying and Stock</td>
<td>3</td>
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<tr>
<td>Management</td>
<td>3</td>
</tr>
<tr>
<td>Soils and Fertilizers</td>
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<tr>
<td>Soils Laboratory</td>
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82
Short Courses in General Agriculture, Dairying, Horticulture, and Poultry Management

The short course in general agriculture deals especially with farm crops. Special attention is given to the potato, corn, oat, and hay crops,—the preparation of the seed bed, selection of seed, seeding, fertilization, culture, and harvesting. Such general subjects as drainage, maintenance of soil fertility, rotation of crops, control of weeds, etc., are considered. Potato, corn, and small grain judging is made a prominent feature.

The short course in dairying begins on the Tuesday following the Christmas recess and continues for four weeks. It is designed to meet the requirements of creamery assistants, practical farmers, herdsmen, and others who desire to learn milk testing, butter making, the principles of animal nutrition and practices of feeding, breeding, judging stock, and the diseases of farm animals.

The short course in horticulture is offered for those who wish to acquaint themselves with the most approved methods of orchard management. Special attention will be given to such subjects as the selection of orchard sites, selecting and obtaining nursery stock, pruning, cultivation, spraying, packing, and cooperation in the fruit business. Opportunity will be given for the laboratory study of spraying, packing, planting, pruning, and grafting. An effort is made to show where money is lost and made in the fruit business.
College of Agriculture

The short course in poultry management is given each year to aid persons who wish to gain a practical knowledge of the handling of incubators and brooders, the feeding and rearing of young chicks, the general management of mature fowls, scoring, judging, killing, and marketing. Supplemeting the work of the regular instructors some of the best known poultrymen in the country are engaged to give lectures and demonstrations along special lines. For purposes of instruction the College of Agriculture keeps representatives of the leading breeds of fowls.

Very few text-books are used in any of the courses and the expenses for board and room, which are the only other expenses, are moderate. Circulars giving the dates and programs of these courses are published each year and will be sent upon application to the College of Agriculture.

Farmers' Week

There are a large number of people who cannot come to the college for a great length of time, but who desire a few days of practical instruction. To reach and accommodate these, "Farmers' Week" is held. Lectures on practical agricultural subjects are given morning, afternoon, and evening. Practical demonstrations occupy a part of each afternoon. Besides the practical subjects discussed, one session is given up to problems of rural betterment. A section is arranged where home economics for farmers' wives is taught. Dates and programs may be secured each year by addressing the College of Agriculture.

Department of Agricultural Extension

This department of the College of Agriculture offers correspondence courses, lecture courses, demonstration work, cooperative experiments, and extension schools in agriculture.

This work is intended to give direct help to those on the farm and in the home; to aid those who desire definite instruction in practical agriculture, animal and dairy husbandry, poultry husbandry, home economics, forestry, and horticulture. It supplements the teaching and experimenting of the College of Agriculture and the Experiment Station. It is professedly a popular work, because it endeavors to aid the farmer to solve the practical problems of the farm, to quicken agricultural work, and to inspire greater interest in country life.
The College Curricula

Correspondence Courses

These courses are given by means of text-books and free publications, either furnished by the College or procured from the U. S. Department of Agriculture, or from the various Experiment Stations. The text-books are furnished at publishers' prices. The courses are free and may be taken by individuals, granges, reading circles, or other organizations. A certificate will be given to students completing any of these courses with satisfactory standing.

The following courses are offered:

Course 1—Farm Crops and Crop Production
Course 2—Farm Management
Course 3—Feeding and Breeding of Farm Animals and Dairying
Course 4—Poultry Keeping
Course 5—Fruit Growing
Course 6—Forestry
Course 8—Elementary Agriculture
Course 9—Home Economics
Course 10—Vegetable Gardening
Course 11—The Business of Dairying

Lecture Courses

Lectures in these courses are given under the auspices of granges, clubs, societies, and other gatherings by the members of the agricultural faculty.
A complete list of the lectures will be forwarded on request.

Demonstration Work

For this work members of the agricultural faculty will make demonstrations, showing, as well as telling, how to solve many practical farm problems. These demonstrations are made on the farms and are offered under the same conditions as the lectures.

The following is a partial list of the demonstrations that may be secured: home mixing of fertilizers; milk testing (use of Babcock
College of Agriculture

tester); stock judging; corn and small grain judging and breeding; potato judging, breeding, and spraying; orchard spraying, pruning, and grafting; apple packing; method of killing and dressing poultry; method of determining the age of horses; methods of giving medicine to domestic animals. All demonstrations are accompanied by lectures.

Cooperative Experiments

Experiments will be undertaken in cooperation with farmers along such lines as the following: the determination of fertilizing problems; the eradication of noxious weeds; the determination of the best means for increasing the hay crop. To encourage systematic seed improvement the college will each year distribute a large amount of improved seeds of various kinds among such farmers of the State as will undertake to carry on careful experiments and to make reports of the results obtained at the close of each season.

Experiments with corn, oats, alfalfa, fertilizers, and pastures have been carried on in nearly every country in the State.

During Farmers' Week exhibits are made showing the results of this experimental work. School gardening is encouraged by the distribution of seeds.

Extension Schools in Agriculture

To extend the advantages of agricultural instruction to persons actively engaged in agriculture, the Extension department will conduct a limited number of Three or Six Day Schools in various parts of the State. Members of the agricultural faculty will teach in these schools.

Correspondence

Besides the Demonstration, Correspondence, and Lecture courses, the College of Agriculture welcomes correspondence on practical farm topics. If information is desired along lines relating to crops, fertilizers, dairy work, feeding, or orcharding and gardening, the various instructors are ready to give such assistance as they are able.

A free monthly publication, "Timely Helps for Farmers," treating of subjects of interest to farmers, is published by the Extension Department and may be secured upon application.

Circulars giving full information upon these subjects will be sent upon request.
DEPARTMENTS OF INSTRUCTION

Note.—The prefix of a star (*) before the time designated for a course usually indicates that three hours of actual work are required to obtain credit for one hour, while a dagger (†) indicates that two hours are required to obtain this credit. In certain cases two and one-half hours work give credit for one hour. This system presupposes that one hour of recitation work requires an average of two hours of preparation.

AGRONOMY

Professor Simmons: Associate Professor Slate

1. Soils.—Lectures and recitations on the origin, types, physical properties, moisture content, and distribution of soils, and their relation to crop production. The fundamental principles underlying soil management for soil conservation and improvement will be studied. Two hours a week. Fall semester.

2. Soils.—A laboratory course accompanying Course 1 dealing with the soil from the physical standpoint. Some field work is given for the purpose of correlating the laboratory exercises with actual field operations. * Three hours a week. Fall semester.

3. Field Crops.—A laboratory course in seed and grain identification, selection, judging, testing, and commercial grading. † Four hours a week. Fall semester.

4. Manures and Fertilizers.—A lecture course dealing with barnyard manure, commercial fertilizers, green manures, and soil amendments. Two hours a week. Fall semester.

5. Field Crops.—A study of the most important cereals, their history, adaptation, distribution, culture, and uses, with special reference
College of Agriculture

to New England conditions. The potato is included in this course. Lecture, *two hours a week*; laboratory, †*two hours a week*. Fall semester.

6. **FIELD CROPS—GRASSES AND FORAGE CROPS.**—Lectures and laboratory work dealing with the grasses, forage plants, and roots. A study of the hay crop and markets, soil ing systems, and special forage crops. Prerequisite, Agronomy 5. †*Four hours a week*. Fall semester.

7. **FIELD CROPS—CROP IMPROVEMENT.**—A study of the principles and methods involved in field crop improvement. The work of experiment stations in this country and abroad is reviewed. Prerequisites, Agronomy 3, 5 and 6. †*Two hours a week*. Spring semester.

9. **FIELD CROPS—SPECIAL.**—A course dealing with crops not covered in Agronomy 5 and 6. Prerequisite, Agronomy 5. †*Two hours a week*. Spring semester.

10. **SCHOOL GARDENING.**—This course is especially designed for those taking the four years teachers' course in agriculture. It will deal with the use of the school garden as a supplement to the teaching of agriculture in secondary schools; the material that should be found therein, and the use of this material for laboratory purposes; the laying out of the school garden, and its general management. *Three hours a week*. Spring semester.

11. **THESIS.**—Those specializing in Agronomy will be required to prepare a thesis on some line of this work, the subject of the thesis to be chosen by the student under the direction of the head of the department. The subject for this study should be chosen and definite assignment made before the close of the junior year. Six hours minimum credit. *Three hours* fall semester and *three hours* spring semester of the senior year.

**ANIMAL INDUSTRY**

**Professor Campbell; Assistant Professor Schoppe; Assistant Professor Redman; Mr. Aubry**

**Animal and Dairy Husbandry**

1. **ANIMAL Breeding.**—A study of the market and breed types of dairy cattle, beef cattle, and sheep; their history, development, breed
Animal Industry

characteristics and economic values. The work is given by lectures and text-books. Two hours a week. Spring semester.

2. **Live Stock Judging.**—Practice in the use of score cards and judging, handling, and management of dairy cattle, beef cattle, and sheep. This course is taken in conjunction with Course 1. † Two hours a week. Spring semester.

3. **Animal Breeding.**—A study of the market and breed types of swine and horses; their history, development, breed characteristics, and economic values. Lectures and recitations on the principles of breeding. Two hours a week. Fall semester.

4. **Live Stock Judging.**—Practice in the use of score cards, and judging, handling, and management of swine and horses. This course is taken in conjunction with Course 3. † Two hours a week. Fall semester.

5. **Animal Feeding.**—Food requirements for different kinds of animals; composition of foods and the nutrients furnished by them; feeding formulas; calculating rations; valuation of foods; pasturing, soil­ing, and methods of feeding. Two hours a week. Spring semester.

6. **Dairying.**—A study of the Babcock test; use of lactometer; determination of acidity and adulterations. Given by lectures, text-books, and practice in dairy laboratory. † Two hours a week. Fall semester.

7. **Dairying.**—Lectures and recitations upon the composition and formation of milk; its production and aeration, pasteurization, separation, manufacture into butter, and marketing. Two hours a week. Fall semester.

8. **Laboratory Dairying.**—Practice in handling and testing milk and cream for butter fat, acidity, and solids; ripening cream; making butter, and operating dairy machinery. This must be in conjunction with or preceded by Courses 6 and 7. * Three hours a week. Spring semester.

9. **Advanced Animal Feeding.**—This course is devoted to the methods and practices of successful feeders in the production of milk, and meat, and the rearing of horses. Elective for those who have completed Course 5. Two hours a week. Fall semester.
10. **Advanced Dairying.**—This course is provided for those who desire to follow some line of dairying. It will deal with such problems as handling of milk for city trade, milk inspection, certified milk plants, manufacture and sale of ice-cream, and those problems pertaining to the creamery. Courses 6, 7, and 8 are prerequisites for this course. *Three hours a week.* Fall semester.

11. **Advanced Animal Breeding.**—Lectures upon the formation of flocks, herds, etc.; a study of pedigrees, records, and the practices of successful breeders. Elective for those who have completed Courses 1 to 4 inclusive. *Two hours a week.* Spring semester.

12. **Advanced Stock Judging and Management.**—This course is intended for those who desire more practice in judging than is given in Courses 2 and 4; also actual experience in preparation of stock for the show ring and market. *† Two hours a week.* Spring semester.

13. **Cheese Making.**—Lectures and recitations upon the manufacture and curing of Cheddar and other brands of cheese. Elective for those who have completed Courses 6, 7, and 8. *Two hours a week.* Fall semester.

14. **Cheese Making.**—Practice in the laboratory. Taken in conjunction with Course 13. *† Four hours a week.* Fall semester.

15. **Thesis.**—Students specializing in Animal Industry are required to prepare a thesis on some subject approved by the head of the department. *Three hours* fall semester and *three hours* spring semester.

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**Poultry Husbandry**

Courses 1, 1a, 6, and 6a, are required of all agricultural students. Courses 2, 2a, 3, 4, 5, 9, and 10a are required of all students specializing in Poultry Husbandry. Course 5 is required only of students who intend to become teachers of, or Experiment Station workers in, poultry husbandry.

1. **Poultry Breeds and Management.**—A general consideration of the present status of poultry keeping in America. A study of the types and breeds of market poultry, including ducks, geese, and turkeys. *One hour a week.* Fall semester.
Poultry Husbandry

1a. Laboratory Practice.—The judging of the breeds of poultry, mainly from the utility standpoint; the selection of breeding stock. To be taken with Course 1. \*Two hours a week. Fall semester.

2. Commercial Poultry Keeping.—Considered as a business, as an investment, as an employment. A consideration of the large successful poultry farms and how they are operated. One hour a week. Fall semester.

2a. Laboratory Practice.—The planning and laying out of poultry plants, houses, and fixtures suitable for specialization on a large scale. To be taken with Course 2. \*Two hours a week. Fall semester.

4. Markets and Marketing.—A consideration of the requirements of the best markets for poultry produce in America, possible improvements, the commission business, cold storage, cooperation. Two hours a week. Spring semester.

5. Poultry Literature.—An advanced course in the study of bulletins and reports of the experiment stations in this and other countries, with especial attention to the work of the Maine Experiment Station, poultry papers, and text books. Two hours a week. Fall semester.


6a. Laboratory Practice.—The drawing of plans of houses and appliances suitable for work on the farm; practice in the mixing of feeds; the examination of incubators and brooders; the killing and dressing of poultry; the handling of eggs for market. To be taken with Course 6. \*Two hours a week. Spring semester.

9. Incubation.—Natural and artificial; history of artificial, Chinese, and Egyptian methods; modern methods; the principles; the application. Two hours a week. Spring semester.

9a. Laboratory Practice.—The selection of eggs to set; the operation of incubators; the setting of hens and other work intimately connected with the operation of incubators and brooders. \*Two hours a week. Spring semester.
College of Agriculture

10. Breeds and Breeding.—A study of the types and breeds of market and fancy poultry; their history, development and breed characteristics; mating; the application of the principles of breeding to both fancy and utility poultry. Two hours a week. Fall semester.

10a. Laboratory Practice.—The judging and scoring of the various breeds and varieties of poultry; the selection, washing, and fitting of birds for exhibition. To be taken with Course 10. Two hours a week. Fall semester.

11. Thesis.—Original work on some subject chosen by the student under the direction of the head of the department.

BACTERIOLOGY AND VETERINARY SCIENCE

Professor Russell; Mr. Smith

1. Bacteriology.—A laboratory course in general bacteriology. Open to all students. The work includes the preparation of the usual culture media and the study of the morphological and biological characteristics of typical bacteria. Some outside reading will be required. This course may be taken alone or in connection with Course 2. Six hours a week. Spring semester.

2. Bacteriology.—A lecture course open to all students. It should be elected by students taking Course 1 as well as by students who cannot take a laboratory course. Subjects considered will include history of bacteriology; classification and biological characteristics of bacteria, bacteria in air, water, soil, and dairy products; the relation of bacteria to health and disease; immunity. One hour a week. Fall semester.

3. Bacteriology.—A laboratory course in which students will study bacteria of water, air, soil, and dairy products; or pathogenic bacteria. Course 1 is a prerequisite. Six hours a week. Fall semester.

4. Bacteriology.—This is a laboratory course for students who desire to pursue some particular line of bacteriological investigation. Open only to students who have done considerable work in bacteriology. The kind of work and the time will be arranged to suit individual students.
Bacteriology and Veterinary Science

5. Veterinary Science.—This course deals with the anatomy, physiology, and diseases of poultry. Two hours a week. Spring semester.

6. Veterinary Science.—A combined lecture and laboratory course dealing with the anatomy and physiology of our domestic animals and their treatment to preserve and restore health. Three hours a week. Spring semester.

7. Veterinary Science.—A continuation of Course 6. Two hours a week. Fall semester.

8. Veterinary Science.—A clinic open to all students studying veterinary science. One hour a week. Fall and spring semester.

9. Veterinary Science.—Veterinary materia medica and pharmacy. Two hours a week. Fall semester.

BIOLOGICAL AND AGRICULTURAL CHEMISTRY

Professor Merrill; Mr. Smith

1. Biological Chemistry.—Lectures and recitations on the composition of the plant; the source, nature, and assimilation of plant food; the composition of the animal body and of food materials; the adaptation of food to the animal requirements; the chemical changes involved in the digestion and assimilation of foods; respiration; absorption and liberation of energy; general metabolism; the chemical processes and methods of investigation by which these subjects are studied. Five hours a week. Fall semester.

2. Laboratory Biological Chemistry.—A study of the carbohydrates, fats, and protein bodies; the digestive enzymes; the blood, muscle, bones, and other tissues of the body; milk, bile, and other secretions. A continuation of the preceding course. Six hours a week. Spring semester.

3. Agricultural Chemistry.—This course includes a study of the origin and composition of soils; the source and composition of fertilizing materials; the fixation of atmospheric nitrogen; the chemistry of milk and other dairy products. Open to students who have completed Course 1. Two hours a week. Spring semester.
College of Agriculture

4. AGRICULTURAL ANALYSIS.—A course in the qualitative and quantitative analysis of fodders, fertilizers, milk, butter, and other dairy products. The course is designed for students desiring to take up experiment station and inspection work. Open to students who have completed the courses, Chemistry 1, 2, 3, 4, 7, 8, 14, 15, and 16. † Ten hours a week. Spring semester.

5. GEOLOGY.—A study of the earth's history and development, with especial attention to dynamical, structural, and physiographical geology. Three hours a week. Fall semester.

6. ECONOMIC GEOLOGY.—A course in applied geology, including a general survey of our mineral resources, with special reference to the mineral fuels; the distribution and manner of occurrence of the more useful metals; the economically important non-metallic minerals; and a study of the rocks and their uses as building stone, as road material, and as sources of lime and cement. Two hours a week. Fall semester.

BIOLOGY

The courses in this department are described under the College of Arts and Sciences.

FARM MANAGEMENT AND AGRICULTURAL ENGINEERING

Professor Simmons; Associate Professor Slate; Mr. Smith

1. FARM MANAGEMENT.—A study of the various types of farming, with comparison of investment and returns for each. A study will be made of the conditions under which extensive, intensive, and mixed systems of farming prosper or fail; laying out of fields and rotation of crops; investigation of cost of different farming operations; management of men and teams; markets and marketing. Farm surveys with a detailed study of the conditions on different farms will be made. Farm plans will be outlined to suit various conditions. Two hours lecture and * three hours laboratory a week. Spring semester.

2. AGRICULTURAL ENGINEERING AND RURAL ARCHITECTURE.—(a) Agricultural Engineering. Farm surveying and leveling; the plotting of
Agricultural Engineering

farms and the measurement of land; a study of drainage; estimating the investment and returns from a system of drainage; the making of roads; road material.

(b) *Rural Architecture.* The planning, designing, location, and construction of farm buildings, water systems, sewerage, concrete construction. *Two hours lecture and three hours laboratory a week.* Fall semester.

3. **History and Economics of Agriculture.—** *(a) History of Agriculture.* A history of agriculture from early times to the present day; the beginning of British agriculture, and the development of modern agriculture; the agriculture of the United States, its influence on social conditions; the importance of our leading products, and their effect on the world's commercial life; the agriculture of different sections; the evolution of farm machinery; progress in agricultural education. Lectures supplemented by illustrative material and lantern slides.

(b) *Economics.* The factors of agricultural production, and their economic properties; organization of the farm; rent of farm land; the law of diminishing returns from the land; system of distribution; co-operative organizations; a study of life in the rural communities; schools and other rural organizations. *Two hours lecture and two hours laboratory a week.* Fall semester.

4. **Farm Accounting.—** *(a) Farm Mathematics.* Instruction in this subject consists in the application of its principles to all kinds of farm problems where measurements of material, extension, capacity, etc., are required.

(b) *Farm Records and Accounts.* A system of records of the various operations of the farm, such as records of field labor, milk production in the dairy, crop yields, etc.; a system of accounts showing the receipts and expenditures on the farm. *Two hours lecture a week.* Spring semester.

5. **Farm Mechanics and Farm Machinery.—** *(a) Farm Mechanics.* A study of the simpler laws of mechanics as applied to farm implements and farm machinery.

(b) *Farm Machinery.* A study of machinery used on the farm, farm power, etc. Demonstrations and tests are made with various machines and implements. *Two hours lecture and three hours laboratory a week.* Spring semester.
The courses in Forest Botany and Forest Zoology are listed under Biology.

1. General Forestry.—The importance and scope of the subject; forest as a soil-former and soil-improver; relation of forest to health of a community; relation to the state; esthetic value; influence on floods; importance of forest in irrigation; geographical distribution of forests. Open to all students. Two hours a week. Spring semester.

3. Forest Mapping and Computing.—Making type and topographical maps using data of valuation surveys; practical work in computing aneroid readings for altitude; timber estimates from valuation surveys. Elective for seniors. Time to be arranged. Spring semester.

4. Forest History.—The rise and development of forestry in European countries, the United States, and other countries. The text-book is History of Forestry, by B. E. Fernow. Two hours a week. First half of fall semester.

6. Silviculture.—A study of the facts which concern forest growth in the relation of the tree to external influences; characteristics of the forest and of the forest regions of the United States; systems of reproducing forests naturally, thinnings and improvement cuttings. To be taken in connection with Course 8. Open to those who have taken Biology 10, 11 and 17. Two hours a week. Fall semester.

7. Silviculture.—A continuation of course 6. To be taken in connection with course 9. Two hours a week. Spring semester.

8. Silviculture Field Work.—Special studies and practical work in the forest. A part of the time is devoted to the making of a forest map of 1000 to 2000 acres of forest land in the vicinity of the University. A report accompanies the map describing the condition of the tract and type of forest growth. Open to students in Forestry who have had Drawing 1 and 2. Six hours a week. Fall semester.

9. Silviculture Field Work.—A continuation of course 8. It includes practice in thinning and work in planting; practical test of
Forestry

germinating quality of tree seeds and a study of seedlings. The student is required to make a planting plan for about 100 acres of land and prepare a map of the tract. This course should be preceded by courses 6 and 7. *Six hours a week. Spring semester.

10. Forest Measurements.—Practical instruction in the woods and in the office. Some recitations.

   (1) Woods Work.—The use of various hypsometers in ascertaining the height of standing trees; determining the contents of felled and standing trees and the volume of stands; study and use of American log scales; consideration of the methods of measurement used in the United States; study of the rate of growth of trees in diameter, height, and volume.

   (2) Office Work.—Computing the data obtained in the woods; calculating the contents of logs in cubic feet, and the contents of trees and stands in cubic feet, cords and board feet; use of graphic methods in determining the average rate of growth in diameter, height, and volume; construction of tables of rate of growth, volume, and yield. *Six hours a week. Fall semester.


12. Lumbering.—The industry considered from an economic standpoint; an account of the methods of lumbering in the different parts of the United States. In connection with this course the student is expected to spend two weeks in a lumber camp and prepare a written report on the operations of lumbering in that locality. Two-fifths credit is allowed for the time spent in the lumber camp and in preparing the report. Open to students taking Forestry as a major subject. Two hours a week. First half of fall semester.

13. Forest Management.—Financial and economic considerations; the normal forest; principles and preparation of working plans. Open to those who have taken Courses 6, 7, 8, 9, 10, and 11. Two hours a week. First half of spring semester.

14. Forest Policy and Regulation.—The relation of forest management to other forestry subjects. National, State, corporate, and private ownership as related to the management of forest property. Time to be arranged.
College of Agriculture

15. **Wood Technology.**—The common commercial woods classified as to their physical properties and their economic uses. Methods of identification other than microscopic. Mechanical, chemical, and other properties of wood. Elective for seniors majoring in Forestry and for other students who have taken Biology 1 and 10.


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**GEOLOGY**

_The courses in this subject are described with those in the department of Biological Chemistry._

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**HOME ECONOMICS**

**Associate Professor Comstock; Miss Palmer**

1. **Cookery.**—Lectures, recitations and laboratory practice. This course provides instruction in the general principles controlling the preparation of food with study of typical foods. It aims to develop fine technique in the use of materials and utensils. Lecture, *two hours a week*; laboratory, †*four hours a week.* Fall semester.

2. **Cookery.**—Continuation of course 1. The serving of simple meals with the study of dining room equipment and rules of table service are included in this course, as well as instruction in marketing and general household accounts. It is the aim of this course to familiarize the student with the business side of housekeeping. Open to students who have completed Course 1. Lecture, *two hours a week*; laboratory, †*four hours a week.* Spring semester.

3. **Dietetics.**—A general review of the principles of cookery with direct reference to diet. Special emphasis is placed upon diet for children both in health and disease. Open to students who have completed Courses 1 and 2. Lecture, *two hours a week*; laboratory, †*two hours a week.* Fall semester.

4. **Dietetics.**—Continuation of Course 3. Special consideration of food for sick and convalescent with a study of diseased conditions.
Home Economics

especially affected by the diet. Open to students who have completed Course 3. Lecture, two hours a week; laboratory, two hours a week. Spring semester.

5. ADVANCED COOKERY.—A return to general cookery is made through work in large quantities and the preparation and serving of meals. Canning and preserving are taken up and demonstrations given by the students. Open to students who have completed Course 4. Lecture, one hour a week; laboratory, three hours a week. Fall semester.

6. FANCY COOKERY AND FIELD WORK.—The preparation, garnishing, and decorating of the more elaborate dishes are taken up as well as the preparation and serving of a formal dinner. Wholesale and retail markets, factories, mills, and dairies are visited as opportunity offers. Open to students who have completed Courses 1 and 2. Three hours a week. Spring semester.

7. ADVANCED COOKERY.—This course embraces the principles of Course 5, and is required of students in the two years course. Prerequisites, Courses 1 and 2. Lecture, one hour a week; laboratory, four hours a week. Fall semester.

8. DIETETICS.—This course embraces the principles of Courses 3 and 4, and is required of students in the two years course. Prerequisite, Course 7. Lecture, one hour a week; laboratory, four hours a week. Spring semester.

9. PLAIN SEWING.—The fundamental principles of hand and machine sewing are taught in connection with the making of undergarments, towels, napkins, etc. Four hours a week. Fall semester.


11. FINE SEWING.—Fine hand and machine work, hemstitching, and simple embroidery. Courses 9 and 10 are prerequisites. Four hours a week. Fall semester.

12. HANDWORK.—Basketry and weaving. Four hours a week. Fall semester.

13. HANDWORK.—Knot and string work. Knitting and crocheting. Four hours a week. Spring semester.
14. **Advanced Handwork.**—Continuation of Courses 12 and 13. *† Four hours a week.* Spring semester.

15. **Art.**—A study of line, mass, and color. Lecture, *one hour a week*; laboratory, *† three hours a week.* Fall semester.

16. **Art.**—Continuation of course 15. Emphasis is placed upon design. Lecture, *one hour a week*; laboratory, *† three hours a week.* Spring semester.

17. **Construction.**—A study of the house and plans for its construction. Laboratory work in designing and executing ground floor plans for a modest home and plans for kitchen laboratories. Special attention given to details. Lecture, *one hour a week*; laboratory, *† two hours a week.* Fall semester.

18. **House Furnishing and Decoration.**—Study of textiles, source, nature, preparation, use, etc., and a study of color schemes especially adapted to use in house decoration. The special problem of decoration for the house planned in Course 17 is taken up and the color schemes worked out in actual materials. Course 17 is a prerequisite. Lecture, *one hour a week*; laboratory, *† two hours a week.* Spring semester.

19. **Household Economics.**—Lectures, recitations, and practice. The principles of housework examined. Methods studied and practical applications made. Lecture, *one hour a week*; laboratory, *† one hour a week.* Fall semester.

20. **Laundering.**—Principles and processes studied and practiced. Selection and care of equipment for both home and school work. Removal of stains, bluing, softening of water, soap making. Lecture, *one hour a week*; laboratory, *† two hours a week.* Spring semester.

21. **Practical Housework.**—A course affording opportunity for the student to show her power in managing a household and serving luncheons to twelve or more people in a specified time, and with a limited amount of money. Time to be arranged. *Two hours credit a week.* One semester. Senior year.

22. **Home Nursing.**—Consideration of the sick room and its appointment, emergencies, contagious diseases, bandaging, general care of the patient. *One hour a week.* Spring semester.
Home Economics

23. Seminar.—General discussion of articles relating to Home Economics appearing in the magazines. An effort is made to keep in touch with the literature of the subject, and be conversant with recent methods and developments. One hour a week. Spring semester.

24. Methods.—The particular methods applicable to teaching Home Economics are investigated. An effort is made to discover the means whereby a wholesome atmosphere may be secured in the class room, and how the independence and self-confidence of the pupils may be fostered. Courses of study are considered and outlined. One hour a week. Fall semester.

25. Practice Teaching.—Required of students in the senior year, and done under supervision. Two hours credit.

26. Thesis.—A thesis on a subject relating to Home Economics showing independent work is required of all students taking the four years course. Equivalent to three hours a week one semester. Senior year.

HORTICULTURE

Associate Professor Hitchings; Mr. Darrow

1. Principles of Fruit Growing.—A study of orchard sites and soils, methods of setting, cultivating, fertilizing, pruning, and spraying. Two hours a week in class room and four hours a week in the laboratory. Spring semester.

2. Fruit Handling.—A course in methods of picking, grading, packing, storing, and marketing fruit. The laboratory work of this course will acquaint the student with the more important varieties of fruit in this State. Two hours a week in class room and two hours a week in the laboratory. Fall semester.

3. Systematic Pomology.—A systematic study of the types and varieties of the leading groups of fruits, their evolution and adaptation to environment. Also distribution of varieties in the State. Open to students who have taken Courses 1 and 2. Two hours a week in class room and two hours a week in the laboratory. Fall semester.
College of Agriculture

4. Vegetable Gardening.—A course in practical vegetable gardening; grading, marketing and storing of vegetables, including the systematic study of varieties and types for home and commercial use. Two hours a week in the class room and two hours a week in the laboratory. Fall semester.

5. Small Fruit Culture.—A study of the bush and vine fruits, including strawberries; adapted varieties, with culture, picking, grading, packing, and marketing—home and commercial. Two hours a week in the class room and two hours a week in the laboratory. Spring semester.

6. Greenhouse Management and Construction.—A study of the different greenhouse crops, supplemented by practice in the regular greenhouse operations and including a study of the principles of greenhouse construction and heating. Two hours a week in the class room and two hours a week in the greenhouse. Spring semester.

7. Plant Breeding.—A course in plant breeding as applied to variation, selection, and hybridization as adapted to garden and fruit crops. Two hours a week. Spring semester.

8. Landscape Gardening.—A study of the principles of landscape art and of the materials used in making landscape pictures. Special attention is given to the improvement of the home grounds. Two hours a week in the class room and two hours a week in the laboratory. Fall semester.

10. Thesis.—Students specializing in Horticulture are required to prepare a thesis on some subject pertaining to Horticulture. Three hours a week. Fall and spring semester.

MILITARY SCIENCE AND TACTICS

The courses in this department are described on page 198.

PHYSICAL CULTURE AND ATHLETICS

The courses in this department are described on page 199.
COLLEGE OF ARTS AND SCIENCES

FACULTY OF INSTRUCTION

JAMES STACY STEVENS, M. S., LL. D.  Professor of Physics

DEAN

MERRITT CALDWELL FERNALD, Ph. D., LL. D.
Emeritus Professor of Philosophy

LUCIUS HERBERT MERRILL, Sc. D.
Professor of Biological Chemistry

JAMES NORRIS HART, C. E., M. S., Sc. D.
Professor of Mathematics and Astronomy

JOHN HOMER HUDDILSTON, Ph. D.
Professor of Greek and Classical Archaeology

JACOB BERNARD SEGALL, Ph. D.
Professor of Romance Languages

GEORGE DAVIS CHASE, Ph. D.
Professor of Latin

CAROLINE COLVIN, Ph. D.
Professor of History

WALLACE CRAIG, Ph. D.
Professor of Philosophy

ROLAND PALMER CRAY, M. A.
Professor of English

RALPH HARPER McKEE, Ph. D.
Professor of Chemistry

GARRETT WILLIAM THOMPSON, Ph. D.
Professor of German

GUY ANDREW THOMPSON, M. A.
Professor of English Literature

WINDSOR PRATT DAGGETT, Ph. B.
Professor of Public Speaking

MINTIN ASBURY CHRYSLER, Ph. D.
Professor of Biology

ARTHUR JULIUS JONES, Ph. D.
Professor of Education

GEORGE WARE STEPHENS, Ph. D.
Professor of Economics and Sociology

ARTHUR ADAMS, Ph. D.
Professor of English (Summer Term)

CHARLES WILSON EASLEY, Ph. D.
Associate Professor of Chemistry
College of Arts and Sciences

ANDREW PAUL RAGGIO, Ph. D.
Associate Professor of Romance Languages

LEON ELMER WOODMAN, Ph. D.
Associate Professor of Physics

HARLEY RICHARD WILLARD, Ph. D.
Assistant Professor of Mathematics

TRUMAN LEIGH HAMLIN, M. A.
Assistant Professor of Mathematics

ALICE MIDDLETON BORING, Ph. D.
Assistant Professor of Zoology

HARRY NEWTON CONSER, M. S., M. A.
Assistant Professor of Botany

LLOYD MEEKS BURGHART, M. A.
Assistant Professor of Chemistry

LOWELL JACOB REED, M. S.
Assistant Professor of Mathematics

ALBERT GUY DURGIN, M. S.
Instructor in Mathematics

ROBERT RUTHERFORD DRUMMOND, Ph. D.
Instructor in German

*SHERMAN DANIEL CHAMBERS, B. S.
Instructor in Mathematics

WALTER EDMOND WILBUR, B. S.
Instructor in Mathematics

ERNEST CLAUDE DREW, M. S.
Instructor in Physics

*VICTOR ALVIN KETCHAM, A. B., LL. B.
Instructor in English

EARLE OVANDO WHITTIER, B. S.
Instructor in Chemistry

CLAYTON ULREY, A. B.
Instructor in Physics

HOWARD MADISON PARSHEL, A. M.
Instructor in Zoology

EMILE SAM SAMRA, B. ès L.
Instructor in German

WEBSTER NEWTON JONES, M. A.
Instructor in Industrial Chemistry

HENRY ROBBINS BARROWS, A. B.
Instructor in English

JOHN HARRY PARRY, A. B.
Instructor in English

LEROY FRANKLIN BLISS, A. B.
Instructor in English

HELEN CHARLOTTE WORSTER, A. B.
Assistant in English

* Absent on leave from Sept. 1, 1912, to Sept. 1, 1913
General Information

GENERAL INFORMATION

The College of Arts and Sciences offers a course of liberal training equivalent to that of the standard New England college. It designs particularly to meet the needs of three classes of students:

1. Men and women who desire to pursue a cultural college course.

2. Men and women who desire to enter professional schools which require a collegiate degree.

3. Men and women who wish to fit themselves for the profession of teachers in secondary schools, or for school superintendencies.

ADMISSION

The requirements for admission are given in full on pages 49-63. They are practically the same as for other New England colleges and may be met by a four years preparatory course in a good high school or academy.

FRESHMAN STUDIES

The character of the work of the first year is conditional somewhat upon the subjects offered for admission.

It is recommended that all students in this College register for as much of the required work as practicable in their freshman year, and they are expected to complete the whole of this work by the end of their sophomore year.

MAJOR SUBJECT

Each student must select, in some one department, work to be pursued three or four years, on the average of five recitations a week. Any one of the following departments may be chosen for major work: Biology (including Zoology, Botany, Physiology, and Entomology), Chemistry, Economics and Sociology, Education, English, German, Greek, History, Latin, Mathematics and Astronomy, Philosophy, Physics, Romance Languages (including French, Spanish, and Italian).

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 Deans of the Colleges concerned; 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. In the case of departments in which less work is offered than amounts to six credits, this must be made up from such other related departments as the Professor under whose direction the major subject is taken may prescribe. The remainder of the student's work may be selected from any 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, and must bear some useful relation to his other work.

The head of the department in which the student has chosen his major subject becomes his Major Instructor, and during the remainder of the course this Instructor acts as chief adviser in all matters relating to the curriculum, and is a representative of the student before the Faculty.

BACHELOR OF ARTS CURRICULA

The work in the College of Arts and Sciences leads to the degree of Bachelor of Arts (B. A.). The curriculum demands a 25 credits course and is regularly completed in four years; but a student of exceptional preparation and application may complete the requirements in three years. Students fitting themselves for professional or technical schools are often encouraged to do this, but prospective teachers are recommended to spend four years on their college course.

No outline of the curricula in the College of Arts and Sciences is given on the catalog, but students may have such an outline presented to them by applying to the Professor in charge of the department in which they are interested. Groups of studies may be made up which would be desirable for students intending to prepare for teaching, or to enter upon the study of law, medicine, or theology. To meet the needs of students desiring a year of college work for admission to a medical school, a schedule of subjects has been outlined. These include: Biology 1; Chemistry 1, 2, 3, 4; English 4, 5; French or German 3a, 3b; Military Science 1; Physics 4, 5.

GRADUATE CURRICULA

A candidate for the degree of Master of Arts must have received the corresponding bachelor's degree from this institution or one granting a fully equivalent degree.

At least one year must elapse between the conferring of the bachelor's and the master's degrees.
General Information

No work done before the conferring of the bachelor's degree may be counted towards the master's degree.

The candidate shall devote at least one year to graduate resident study and shall complete work of the equivalent of six credits or fifteen hours per week throughout a college year.

The course of study shall be submitted to and approved by the committee on advanced degrees.

The course of study shall consist of work in one major department or subject in which the candidate has already pursued undergraduate study for at least two years, and work in not more than two minor subjects which bears a distinct relation to the general plan or purpose of the major subject.

At least three-fifths of the work must be done in the major subject.

All of the work must be of advanced grade and must be tested by examinations which the candidate must pass with distinction.

The candidate shall prepare as a part of his course of study a satisfactory thesis on some topic connected with his major subject.

GENERAL LECTURE COURSE

A course of weekly lectures is given in the College of Arts and Sciences each semester. Attendance is open to all and credit is granted to such students as meet the conditions imposed. During the present year, the lectures will be in charge of the departments of History, and Economics and Sociology in the fall semester, and the departments of Chemistry, Physics, and Mathematics in the spring semester.

DEPARTMENTS OF INSTRUCTION

Note:—The prefix of a star (*) before the time designated for a course usually indicates that three hours of actual work are required to obtain credit for one hour, while a dagger (†) indicates that two hours are required to obtain this credit. In certain cases two and one-half hours' work give credit for one hour. This system presupposes that one hour of recitation work requires an average of two hours of preparation.

ART

Professor Huddilton offers certain courses in art which are described in connection with the department of Greek.
College of Arts and Sciences

ASTRONOMY

Courses in astronomy are described under the department of Mathematics.

BIBLIOGRAPHY

Professor R. K. Jones

1. Bibliography.—Origin of the alphabet; development of writing; inscriptions; manuscripts; invention of printing; early printed books; modern bookmaking; bookbinding and the care of books; library processes and aids; public documents; periodicals; libraries, ancient and modern. A lecture course, with collateral reading and reference work. One hour a week. Spring semester.

Three lectures are given on The Library and Its Uses; Classification and the Catalog; and Reference Books and Their Use. Required of all freshmen. Fall semester.

BIOLOGICAL CHEMISTRY

The courses in this department are described under the College of Agriculture.

BIOLOGY

Professor Chrysler; Assistant Professor Boring; Assistant Professor Consor; Mr. Parshley

The course in general biology forms the basis for work in both zoology and botany. After the completion of this course, students may register for courses in either branch of the subject.

1. General Biology.—This course is designed to be part of the education of any college student and is open to all candidates for the B. A. degree, as well as to more special students. It is regarded as essential for all students in the College of Agriculture, including those taking the Forestry Curriculum, as well as those intending to take up the study of medicine or to follow any line of applied biology. It deals with the fundamental principles of biology and thus forms the basis for further work in either zoology or botany. In the laboratory each student studies with the microscope, or dissects selected animals and plants from the simpler forms, such as the Protozoa and Algae, to the complex, such as the frog and lily.
Biology

Class-room, *three hours a week*; laboratory, † *four hours a week*. Throughout the year.

18. **Principles of Breeding.**—A general review of the facts that form the basis of our knowledge of inheritance. General biology is required as a preparation for this course. *Two hours a week*. Fall semester.

19. **Sanitary Science.**—Attention is given to the conditions that influence individual and public health. This includes the nature of diseases, their transmission and control, and laws of personal and community sanitation that are often violated and should be understood. Open to any woman student who has taken general biology. *Two hours a week*. Spring semester.

Zoology

2. **Vertebrate Zoology.**—Types of the Vertebrata are studied and their structure compared. Careful dissections are made of representatives of the higher classes of animals, beginning with a fish and ending with a mammal. It must be preceded by general biology. Class-room, *two hours a week*; laboratory, † *four hours a week*. Fall semester.

3. **Animal Histology.**—The study of the microscopic structure of the higher animals. It consists of the comparative study of cells, the structure of tissues and organs and the methods of preparing them for microscopic study, students thus becoming familiar with hardening, embedding, sectioning, staining, and mounting. Vertebrate zoology is required as a preparation for this course. Class-room, *two hours a week*; laboratory, † *four hours a week*. Fall semester.

5. **Animal Physiology.**—Intended for those who already have an elementary knowledge of general biology and physiology. The course deals with the functions of the organs of the body and is accompanied by laboratory work to illustrate their activities. It should be preceded by animal histology. Class-room, *two hours a week*; laboratory, † *four hours a week*. Spring semester.

6. **Embryology.**—This course is intended to instruct students in the fundamental facts of the development of vertebrates. It includes lectures on the comparative embryology of vertebrates; and laboratory work on the fish, frog, and chick. Vertebrate zoology is required as a preparation. Class-room, *two hours a week*; laboratory, † *four hours a week*. Fall semester.
7. ADVANCED ZOOLOGY.—This course offers an opportunity for special zoological work along lines suited to the future plans of the student. It may consist of field work, laboratory work, or reading, or a combination of all three. In general each student is given a problem for investigation and encouraged to devise methods for its solution. The time varies and the work may be continued a number of semesters. Fall and Spring semesters.

8. ENTOMOLOGY.—This course opens with the study of the anatomy and development of insects, after which typical species of the Orders are studied with reference to their structure, habits, life-histories, and adaptations. Special attention is given to the economic problems. General biology is required as a preparation. Class-room, two hours a week; laboratory, four hours a week. Spring semester.

**Botany**

10. PLANT HISTOLOGY.—The microscopic structure of the higher plants: the cell; the various tissues; the root, stem, leaf, and spore-bearing organs; the adaptations of plants to external conditions, considered from the standpoint of structure; killing, sectioning, staining, and mounting of plant tissues. This course must be preceded by general biology. Class-room, two hours a week; laboratory, four hours a week. Fall semester.

11. PLANT PHYSIOLOGY.—The plant is considered from the standpoints of its activities; absorption and transport of raw material; manufacture, transport, and storage of food; growth; movement in response to stimuli. This course must be preceded by general biology, and should follow plant histology. Class-room, two hours a week; laboratory, four hours a week. Spring semester.

12. ADVANCED BOTANY.—This course offers an opportunity for special work in botany along the lines best suited to the future plans of the student. It may consist of laboratory work, field work, or reading, or a combination of all three. Courses which have recently been given under this caption include: Morphology of Pteridophytes; structure and technology of woods; structural and physiographic ecology; advanced plant physiology; special problems assigned to individuals. The time varies and the work may be continued a number of semesters. Fall and spring semesters.
Botany

13. **Elementary Botany.**—Studies in the structure and functions of the organs of plants; agents of pollination and the distribution of seeds and fruits; exercises in plant analysis and the identification of species in the field. Required of Two Years Pharmacy students. Class-room, one hour a week; laboratory, 4 hours a week. Spring semester.

14. **Pharmaceutical Histology.**—Exercises on the use of the microscope; the magnification of objects and microscopic measurements. A study of cells and tissues, and food products found in them; followed by exercises in the detection of the common adulterants of familiar drugs. Open to students who have taken elementary botany. Class-room, one hour a week; laboratory, 4 hours a week. Fall semester.

15. **Plant Ecology.**—Presents briefly two aspects of the subject: (1) Physiographic ecology studied in the field as far as the season permits; (2) Structural ecology, viz., the histological features characteristic of plants growing in extreme habitats, and of those having special modes of nutrition. The course must be preceded by plant histology. Class-room, one hour a week; laboratory, 4 hours a week. Spring semester of even years.

16. **Plant Pathology.**—The diseases of plants, especially those caused by fungi; destruction of timber by fungi; methods of combating plant diseases. This course must be preceded by general biology and may profitably be preceded by plant histology. Class-room, two hours a week; laboratory, 2 hours a week. Spring semester of odd years.

17. **Forest Botany.**—This course consists of a systematic study of trees and shrubs, particular attention being given to those of the eastern states, and the identification of them in summer and winter aspects. Special attention is given to the forest trees of commercial value and their geographical distribution. Field work in the identification of local species and preparation of a forest herbarium are required in the autumn and early winter months. The course includes dendrology and forest ecology. This course must be preceded by general biology. Class-room, two hours a week; laboratory, 4 hours a week. Throughout the year.

**CHEMISTRY**

The courses in this department are described under the College of Technology.
College of Arts and Sciences

ECONOMICS AND SOCIOLOGY

Professor Stephens

1a. Political Economy.—An introductory course dealing with the general principles and problems of modern economics, production, distribution and consumption, values, commerce, labor problems, and various other topics in this field of study. Required of junior engineers and of all who take Course 1b. Open to others by special permission. Textbook and general discussions. Two hours a week. Fall semester.

1b. Advanced Political Economy.—This course is devoted to a more exhaustive study of special subjects in the economic field, comprising labor unions, methods of arbitration, tariff history and problems, trusts and their regulation, railroads, insurance, business organizations, immigration, exhaustion of natural resources, and other special topics. This course is open to all who have had or are taking Course 1a. Lectures, readings, papers, and discussions. Three hours a week. Fall semester.

2a. Money and Banking.—An introductory course to the study of money, banking, and finance. The history of money and the principal forms of currency used in the leading countries; the principles and workings of the various banking systems of America and foreign countries; the monetary history of the United States. Required of junior engineers and all who take Course 2b. Open to others by special permission. Text-book and lectures. Two hours a week. Spring semester.

2b. Public Finance.—This course is devoted to an extended study of public financial problems. Taxation and various systems for the collection of public revenue in America and Europe will be studied in detail. Financial crises and depressions, their history and causes, will receive considerable attention. Open to all who have taken or are taking Course 1a, and to others only by special permission. Three hours a week. Spring semester.

3a. Sociology.—This course is devoted to the study of the evolution of society and social institutions, the family, religious organisms, the State and property, and such current social problems as divorce, criminality and prison reform, poverty and its relief, etc. This course is open to those who have taken Course 1a, and to others only by special permission. Lectures, readings, and discussions. Three hours a week. Fall semester.
Economics and Sociology

3b. **Anthropology.**—The evolutionary origin and history of man; characteristics of primitive man; departure from the animal status and beginnings of civilization; development of industries, arts, and sciences; growth of language, warfare, migrations, and social institutions. Open to all students. Students planning to specialize in Economics are advised to take this course before taking Course 3a. Text-book and lectures. *Two hours a week.* Given in the fall term of even years.

4a. **Social Reforms.**—Socialism, communism, and communistic settlements, anarchy, nihilism; European systems of workingmen's insurance; trade unions, relief associations, and other efforts providing against old age and misfortune. Lectures and readings. Open to those who have taken Course 3a and to others by special permission. *Three hours a week.* Spring semester.

4b. **Ethnology.**—Principles underlying racial distinctions; the origin and characteristics of races or general ethnic groups; the great migrations and changes worked by new environments and conflicts; modern racial problems in America, Europe, and Asia. Open to those who have taken Courses 3a or 3b. Lectures and discussions. *Two hours a week.* Given in the spring semester of odd years.

5. **International Law.**—The principles, history, and prominent "cases" of international law take up most of the course. Considerable attention will be given to American diplomacy and the most important foreign treaties. Text-book, lectures, and discussions. *Two hours a week.* Fall semester of odd years.

6. **Business Law.**—This course aims to acquaint the student with those legal principles and practices which are essential to a business life and with which every citizen should be familiar: rights; contracts, agency, partnerships and corporations, bailments, guaranty, insurance, etc. Text-book, readings, and discussions. Students electing this course are generally advised to take it in the senior year. *Three hours a week.* Spring semester.

7a. **Governments of Europe.**—A brief review of the ancient types of government followed by a detailed comparative study of modern European national governments. Political parties and current national problems will receive some attention. Lecture course with readings. *Two hours a week.* Fall semester.
7b. Municipal Government.—A study of the system of government and special problems of the leading European cities as compared with the same in American cities. New movements for civic and social betterment to meet the necessities of American urban life. Lectures and readings. Two hours a week. Given in the fall semester of even years.


9. Democracy, Its History and Institutions.—The class will study the beginnings and development of early forms of Democracy and trace the great world movement down through the ages to the present. The greater part of the time will be given to a study of the current democratic movements in Europe, Australasia, and the American states. Lectures and readings. Two hours a week. Given in the spring semester of even years.

10. Economic History.—The leading facts of the economic history of Europe and America, introducing the student to the fundamental causes which lie behind much of narrative history, and examining the material and industrial resources which make the wealth of nations. Lectures and readings. Open to all students. Recommended for students planning to take other economics courses. Two hours a week. Given in the fall semester of odd years.

Summer Term

Money and Banking.—An introductory course to the study of money, banking, and finance. The history of money and the principal forms of currency used in the leading countries; the principles and workings of the various banking systems of America and foreign countries; the monetary history of the United States. Text-book and lectures.

Sociology.—This course is devoted to the study of the evolution of society and social institutions, the family, religious organisms, the State and property; and such current social problems as divorce, criminality and prison reform, poverty and its relief, etc. Lectures, readings, and discussions.
Education

Business Law.—This course aims to acquaint the student with those legal principles and practices which are essential to a business life and with which every active citizen should be familiar: rights, contracts, agency, partnerships and corporations, bailments, guaranty, insurance, etc. Text-books, readings, and discussions.

EDUCATION

Professor A. J. Jones

1. History of Education.—From the Greeks to Rousseau; ideals of education at each stage of development; the educational purpose, the subject matter, the methods, and the organization of education of each people or period and the results obtained; point of view; the effect on present education. Three hours a week. Fall semester.

2. History of Education.—Course 1 continued. The development of education traced down to the present time with special reference to education in the United States. Three hours a week. Spring semester.

3. Organization and Administration.—Problems growing out of the establishment, support, and control of schools; the part taken by different agencies in solving these problems.—the Nation, the State, and the local community; typical states studied; a comparative study of the organization and administration of education in Prussia, France, and England. Special study of the school system of Maine. Three hours a week. Fall semester.

4. Organization and Administration Continued.—Problems within the State; town schools and city schools; duties of all officers; certification; teachers and supervision; financial support; defects and excellences of present organization; problems within the school; powers and duties of the teachers; programs and courses of study; government, and student activities; grading and backward pupils; class and individual instruction. Three hours a week. Spring semester.

5. Principles of Education.—The design of the course is to set forth (1) the meaning and aims of education as related to the individual and society; (2) the relative educational value of studies and their organization into the curriculum, as indicated by the recapitulation, culture epoch, formal discipline, and other theories; and (3) the meth-
College of Arts and Sciences

methods of teaching as determined by the mental processes involved, particularly, instinct, habit, attention, interest, apperception, induction, and deduction.

6. Methods of Teaching.—The general principles underlying method will be considered and the place and function of the different studies discussed. Those interested in the teaching of special subjects will be given opportunity to specialize in the methods applying to these subjects. Observation of classes in the Orono high school and the higher grammar grades will constitute a regular part of this course.

8. Child Study.—Studies of the child from birth to maturity; the physical child; the order of development of the mental powers; adolescence; adaptation of studies to the child. Open to those only who have taken Course 5. Three hours a week. Spring semester.

9. Applications of Educational Theory.—For advanced students only. Research and experiment in the application of educational theory to our public schools. Various problems will be investigated. Two hours a week. Fall semester.

10. Beginning Course in Education.—An introductory course in education. A general survey of the field of education, dealing with the aims of education, the applications of psychology to education, and some of the elementary principles of methods. Designed for those who are beginning the study of education or who cannot take the more specialized courses. Three hours a week. Spring semester.

11a and 12a. Practice Course.—Arrangements have been completed by which a limited number of students will be given the opportunity for practice work in the Orono high school. Careful supervision of the work will be made by the Professor in charge and by the Principal of the high school. Students who take this course will teach one period a day for a half year. During the year 1912-13 practice courses in English and mathematics are offered.

11b and 12b. Class Management.—General conduct of classes; art of questioning; oral and written tests; systems of marking; observation of classes. Required of all taking practice work. One hour a week.

Summer Term

1. Principles of Education.—This course deals with the fundamental basis, aims, and values of education; the relative educational
values of the different subjects both from the standpoint of the individual and that of society; and the principles underlying the course of study; it will also consider the psychological principles underlying the teaching process and determining the principles of method.

2. Methods of Teaching.—The general principles underlying method will be considered and the place and function of the different studies discussed. Those interested in the teaching of special subjects will be given opportunity to specialize in the methods applying to these subjects; reports will be made to the class and the methods discussed.

Many of the classes in other subjects will be thrown open to observation and a part of the time of this class will be spent in observing such work and in a discussion of the methods used.

3. School Problems.—This course is especially designed for principals and superintendents and any others who wish to make an intensive study of problems of school administration and school management. The topics discussed will depend on the needs of the class. The following topics are suggested: grading and promotion of pupils; the course of study; supervision; school finances; consolidation; reorganization of the high school; school programs; fatigue and school work; one session or two sessions; class management.

In addition to the regular courses, opportunity will be given for the investigation of special problems in education. Teachers, whether working for advanced degrees or not, will be given the advice and help necessary for such investigation. If teachers who wish to do work of this kind will consult with the instructor some weeks in advance, arrangements may be made by which special material for the study may be collected.

ENGLISH

PROFESSOR GRAY; PROFESSOR G. A. THOMPSON; PROFESSOR DAGGETT; MR. BARROWS; MR. PARRY; MR. BLISS; MISS WORSTER

Eight hours in English are required for the Bachelor of Arts, and ten hours for the Bachelor of Science degrees. These credits are obtained somewhat differently in the several colleges: (1) in the College of Arts and Sciences by taking, during the freshman year, Courses
College of Arts and Sciences

3, 4, 1a, and 1b; and during the sophomore year, Courses 2a and 2b, or 2c and 2d, or 8a and 8b: (2) in the College of Agriculture by taking, in the freshman year, Courses 3 and 4; in the sophomore year, Courses 1a and 1b; in the junior year, beginning with the fall semester of 1913, Courses 17 and 14: (3) in the College of Technology by taking 3, 4, and, for the present, 3b and 4b: and in the sophomore year, Courses 1a and 1b.

English 3 and 4 are pre-requisite, in all colleges, for courses of the sophomore year. The required courses of the freshman and sophomore years may not be postponed until the junior or senior year, without permission of the head of the department.

Elective courses in this department should be taken, so far as practicable, in the following order:

First year: Courses 6, 7.
Second year: Courses 6, 7, 8, perhaps 5a and 5b, 15, 25, 21, 31.
Third year: Courses 9, 10a and 10b, 11a and 11b, 12a and 12b, 13, 15, 16a and 16b, 18a and 18b, 19a and 19b, 20, 21, 23, 26.
Fourth year: Courses 10a and 10b, 12a and 12b, 13, 19a and 19b, 23, 26, 18a and 18b, perhaps 24, 25, 27, 30.

Students are expected to consult the head of the department, if they find it necessary to make a change.

Courses in Composition

3. English Composition and Rhetoric.—The object of this course is to give training in writing correct and clear English. One composition written outside of class and about two themes written in class are required each week. The theoretical work consists of the study of the fundamental principles of good usage in English writing; and of the narrative and descriptive forms of composition. In illustration of the theory many selections from literature are studied. This course is prescribed for freshmen. Each section is limited to twenty students. Two hours a week. Fall semester.

4. English Composition and Rhetoric.—The object of this course is the same as in Course 3. The theoretical work consists of a study of the more elementary principles of exposition and argumentation. Practice in making outlines and briefs: themes and fortnightly essays. This course is prescribed for freshmen. Each section is limited to twenty students. Two hours a week. Spring semester.
English

3p. Composition.—This course is open only to freshmen in the College of Technology. The object of the course is to give practice in certain practical forms of composition, such as note taking, business letters, reports of scientific data, etc. Part of the time at the outset is devoted to instruction in the use of the library and to bibliography. Some time is also spent on the fundamental principles of logic. Two hours a week. Fall semester.

2a and 2b. Expository Composition.—A lecture course of one hour on the theory of exposition. A second hour is devoted to writing in order to cultivate facility; monthly essays and conferences. Two hours a week. Fall semester. One hour a week. Spring semester.

2c and 2d. Argumentative Composition.—A lecture course of one hour on the theory of argumentation. A second hour is devoted to making briefs and writing short arguments in order to cultivate logical methods and facility; monthly essays and conferences. Two hours a week. Fall semester. One hour a week. Spring semester.

13. Advanced Composition.—Informal lectures on various literary forms and styles, with a large amount of writing. The object of the course is to cultivate clearness, facility, and individuality of style, and to train students to perceive and appreciate these qualities in the best books.

Students looking forward to newspaper or magazine work, to a literary career, or to teaching, will find this course especially helpful.

Prerequisites: English 3, 4, 2a, and 2b, or 2c and 2d, and S. Two hours a week. Fall semester.

17. Composition.—This course gives practice in technical journalism and news writing, in making reports and summaries of investigation, and in the preparation of theses. Open only to juniors in the College of Agriculture. Two hours a week. Fall semester.

Courses in Public Speaking

1a and 1b. Public Speaking.—The purpose of this course is to give the student a practical knowledge of the fundamental principles of effective public speaking. The work of the first semester consists in voice training by means of practice work in classes, pronunciation and enunciation, reading aloud for interpretation, and the acquirement of
ease in pose and gesture. During the second semester the training thus acquired will be applied to the delivery of model public orations, and especially to speeches of the students' own composition. Special attention will be given to the correction of individual faults. Provided their other work is satisfactory, the eight students obtaining the highest grades in this course are chosen to compete in the sophomore prize declamations. *Once a week* throughout the year. Open only to freshmen in the College of Arts and Sciences.

1a and 1b. **Public Speaking.**—This course is entirely practical; the formal discussion of the theory of elocution is excluded. The work consists in the writing and delivery of speeches upon subjects in which the student is interested and informed. Speeches, argumentative or otherwise, will be written and delivered as if before a business corporation, a grange, an electrical engineering, or other scientific society, a political organization, etc. Conferences will be held for criticism. Open only to freshmen in the Colleges of Agriculture and Technology. *One hour a week.* Fall and spring semesters.

18a and 18b. **Debating.**—Application, in this course, is made of the principles of argumentation. Briefs are prepared and the leading questions of the day debated. *Two hours a week.* Prerequisites, Courses 1a and 1b, or 1a and 1b, 3, 4, 2c, and 2d.

22. **Oral English.**—A fundamental course in voice production, dictation, and interpretation of literature. Practice in reading lyric, narrative, and dramatic forms with constant application to the requirements of public speech. *Two hours a week* throughout the year. Not given in 1912-13.

23a and 23b. **Public Speaking.**—Forms of address. A study of persuasion applied to letters, editorials, and speeches for various occasions. Preparation of public addresses, and practice in extempore speaking. *Two hours.* Fall semester. An elective course open to juniors in all colleges.

**Courses in Language and Literature**

4p. **Literature.**—The careful reading of a few masterpieces of prose and poetry. Open only to freshmen in the College of Technology. *Two hours a week.* Spring semester.
5a. **Old English (Anglo-Saxon).**—A first course, designed to introduce the student of English to the historical study of the language, and to the beginnings of English prose and poetry. 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. Lectures on the literature of the period 700-1000. This course is advised for those intending to teach English, and for all who wish a thorough knowledge of the language and literature. *Three hours a week.* Fall semester. Given in 1913-14 and alternate years.

5b. **Beowulf.**—This, the oldest English epic, is read with attention to text, metre, literary, and archaeological interests. *Three hours a week.* Spring semester. Prerequisites, Course 5a.

6. **English Prose in the Eighteenth Century.**—Among the writings studied will be selections from Addison, Swift, Johnson, Goldsmith, and Burke. *Two hours a week.* Fall semester.

7. **English Prose in the Nineteenth Century.**—Among the writings studied will be selections from Macaulay, Carlyle, Ruskin, Newman, Matthew Arnold, and Stevenson. *Two hours a week.* Spring semester.

8a. **History of English Literature.**—An outline course, extending to the close of the sixteenth century, including extensive reading in the English classics. Lectures, assigned reading, and reports. This course is introductory to all other courses in English literature, and should be taken in the freshman or sophomore year.

Those who can elect only one course in English will probably find this course best suited to their needs. *Three hours a week.* Fall semester.

8b. **History of English Literature.**—A continuation of Course 8a, covering the periods from the seventeenth century to the present day. *Three hours a week.* Spring semester.

9a. **Middle English Literature.**—Elements of the grammar of Middle English; reading of the texts in Emerson's Middle English Reader. Langland's *Piers Plowman* is read with attention to text, metre, and literary interests. *Three hours a week.* Fall semester. Prerequisite, Course 5a. Given in 1912-13 and alternate years.

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10b. **Chaucer.**—All of the Canterbury Tales and some of the Minor Poems are read with attention to language, metre, historical, and literary interests. *Three hours a week.* Spring semester. Given in 1912-13 and alternate years.

10c. **Shakspeare and the English Drama.**—A lecture course giving a brief historical survey of the origin and development of the English drama to the time of Shakspere, with assigned reading in the old dramatists. Introductory lectures on the life and art of Shakspere, with a study of an early and a late comedy, and an early and a late tragedy. *Two hours a week.* Fall semester. Given in 1913-14 and alternate years.

10d. **Shakspeare.**—A detailed study of three or four great tragedies of Shakspere. *Two hours a week.* Given in 1913-14 and alternate years.

11a. **American Literature.**—A lecture course giving an historical outline, with assigned reading. *Two hours a week.* Fall semester. Prerequisites, Courses 8a and 8b.

11b. **American Literature.**—A continuation of Course 11a. *Two hours a week.* Spring semester.

12a. **The Novel.**—A study of the development and technique of the English novel. At least eight of the greatest English and American novels will be read. *Two hours a week.* Fall semester. Given in 1913-14 and alternate years.


14. **Literary Types.**—Great books, typical of the several forms of literature, will be read. An endeavor will be made to cultivate an appreciation of the best, both in prose and poetry, and to acquire critical knowledge of what constitutes a great drama, a great epic, a great lyric, a great novel, etc. Open only to juniors in the College of Agriculture. *Two hours a week.* Spring semester.

15. **Victorian Poets.**—Tennyson, Browning, Rossetti, and Arnold. A study of selected poems, with additional assigned reading in the poets. Special attention is given to the art of Tennyson and Browning. *Two hours a week.* Fall and spring semesters.
English

16a. History of English Literature.—A lecture course giving a brief survey of the development of English literature, extending to the close of the sixteenth century. Assigned reading and reports. Two hours a week. Fall semester. Open to technical students only.

16b. History of English Literature.—This course continues the work of 16a, covering the periods from the sixteenth century to the present time. Two hours a week. Spring semester. Open to technical students only.

19a. Elizabethan Poetry.—A study of Elizabethan non-dramatic poetry, showing its rise and development, its dominant forms and characteristics, and its relations to the life and thought of the age. Two hours a week. Fall semester. Given in 1913-14 and alternate years.

19b. Elizabethan Poetry and Prose.—A continuation of course 19a. The study of Elizabethan poetry will be completed, and the larger part of the semester given to the study of the prose of the period. Two hours a week. Spring semester. Given in 1913-14 and alternate years.

20. English Romantic Poets.—A general view of the English Romantic Movement, with some attention to the characteristics of the poetry that preceded this movement; a study of selected poems from the writings of Thomson, Collins, Gray, Cowper, and Burns. Two hours a week. Fall semester. Given in 1912-13 and alternate years.


5a and 5b. See corresponding numbers under courses in language and literature. These courses are open to graduate students who did not take them as undergraduates.

22. Cynwulf.—Reading of The Christ, and The Elene; and possibly some of the poems attributed to Cynwulf, as the Phoenix, and the Juliana, with attention to text, metre, historical and literary interests. Prerequisite, Courses 5a and 5b. Three hours a week. Fall semester.

9a and 9b. See corresponding numbers under courses in language and literature. These courses are open to graduate students who did not take them as undergraduates. Prerequisites, Courses 5a and 5b.
27. **The Eighteenth Century (1700-1770).**—A study of the rise of prose, the essay, the magazine, the novel, and the beginnings of romanticism, with special attention to Addison, Steele, Swift, Defoe, Pope, Johnson, Goldsmith, Gray. Lectures, assigned reading, and reports. *Two hours a week.* Fall and spring semesters.

24. **The Victorian Period (1830-1900).**—A study of the literary, social, and scientific movements in England and America; the rise of periodical literature, tractarianism, Pre-Raphaelitism, with special attention to Carlyle, Emerson, Newman, Matthew Arnold, Ruskin, Tennyson, Clough, Robert Browning, D. G. Rossetti, Dickens, Thackeray, George Eliot, Jane Austen, and the Brontes. *Two hours a week.* Fall and spring semester.

25. **Poetics and Prosody.**—A study of the various poetic forms, as lyric, epic, drama, and the English metres. *One hour a week.* Spring semester.

26. **History of the English Drama.**—Especially attention is given to the immediate predecessors and the contemporaries of Shakspere. *Two hours a week.* Given in 1912-13 and alternate years. Fall and spring semesters.

27. **Teachers' Course in English.**—This course is conducted in cooperation with the department of Education. It is open only to major students in English, and of these only, as a rule, to seniors and graduate students. The work is mainly practical with some theory.


**SUMMER TERM**

**Professor Adams; Mr. Ketcham; Miss Coffin**

1. **Courses in Preparatory English.**—The work is designed for those who have entrance credits to make in this department.

   a. **English Composition.**—The purpose of this course is to give a thorough drill in correct writing. Special attention will be given to spelling, grammar, punctuation, sentence, and paragraph formation. *Three times a week.*
English

b. **English Literature.**—A careful, yet necessarily rapid study of Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Washington's Farewell Address; Webster's First Bunker Hill Oration; and Macaulay's Life of Johnson.

2. **Composition for Teachers of English.**—This course includes the theory and practice of both oral and written composition. Problems connected with the teaching of composition in the schools will be discussed. Particular attention will be given to methods of conducting debates in high schools.

3. **English Composition and Rhetoric.**—The work in this course is similar to that of the fall semester of the freshman year in the University. It consists of the study of text-books, discussions of principles and methods, and practice in writing. The written work, which is based largely upon the personal observations and experiences of the student, is discussed before the class in order to give practical illustration of principles and methods. Teachers will obtain from this course a familiarity with the methods of teaching English composition followed in the University, and special effort will be made to meet their needs. The text-books used will be Woolley's Hand-book of Composition, Nason's Theme Writing, Gray's College Theme Tablet.

5. **Expository and Argumentative Writing.**—This course is similar to that of the spring semester of the freshman year. The basis of the theoretical work is an analysis of prose selections in Percival and Jelliffe's Selections of Exposition and Argument. Essays and conferences.

5. **Teachers' Course in Literature.**—Certain books chosen by the class from the A and B lists of books required for admission to college will be studied, and the methods of teaching them discussed.

6. **English Literature in the Time of Shakspere.**

7. **English Prose of the 19th Century.**—Lectures and considerable reading. Especial attention will be given to the appreciation of the higher qualities of style.

**GEOLOGY**

_The courses in this subject are described with those in the department of Biological Chemistry._
College of Arts and Sciences

GERMAN

Professor G. W. Thompson; Doctor Drummond; Mr. Samka

1 and 2. First Year German.—A course for beginners. German composition; numerous texts read; conversation. *Five hours a week throughout the year.*

3a, 3b. Second Year German.—A course for students who have had Courses 1, 2, or equivalent. The grammar study, composition, and text reading are progressively advanced from Courses 1, 2. *Three hours a week.* Fall semester. *Two hours a week.* Spring semester.

4a, 4b. Third Year German.—A course for students who have had Courses 1 and 2 and 3a, 3b or equivalent. Texts include 18th century literature; advanced composition; lectures on the history of German literature. *Three hours a week throughout the year.*

5a, 5b. Fourth Year German.—An advanced course for students who have had Courses 1, 2, 3a, 3b and 4a, 4b, or equivalent. Texts include 19th century literature; advanced composition with original themes; lectures on history of German literature completed. *Three hours a week throughout the year.*

These courses are carefully graded in difficulty and are to be taken in the order named.

Courses 1 and 2 are open only to students who are registered in the College of Arts and Sciences.

For the convenience of other students who wish to begin the study of German the following courses are offered:

Courses 1 and 2. A separate division for those who desire to pursue beginners German five hours a week, or Courses 1a, 1b and 2a, 2b in which the work of Courses 1 and 2 may be completed in two years.

1a, 1b. Elementary German.—Study of grammar, composition, and easy texts which contain a practical vocabulary. *Three hours a week.* Fall semester. *Two hours a week.* Spring semester.

2a, 2b. Continuation of Course 1a, 1b.—More advanced study of grammar, composition and texts. Open to students who have completed Courses 1a, 1b, or equivalent. *Three hours a week.* Fall semester. *Two hours a week.* Spring semester.

Note.—Course 2a, 2b is not equivalent for Course 3a, 3b.
German

6a, 6b. German Conversation.—Two hours a week throughout the year.

7a, 7b. Advanced Conversation and Composition. Two hours a week throughout the year.

8a, 8b. History of German Literature—Lectures with assigned readings. One hour a week throughout the year.

9a, 9b. History of the German Novel.—Lectures given in even years. Two hours a week throughout the year.

10a, 10b. History of the German Drama.—Lectures given in odd years. Two hours a week throughout the year.

11a, 11b. Scientific German.—Open only to students whose previous study of German will enable them to read scientific German with profit. Two hours a week throughout the year.

12a, 12b. History of German Education.—Lectures. One hour a week throughout the year.

13a, 13b. Old High German.—Wright's Old High German Primer; whose major subject is German. Two hours a week throughout the year.

14. Gothic.—Conditions for electing this course are the same as for Course 12 and 13. Wright's Gothic Primer. Two hours a week. Fall semester.

15. Middle High German.—The conditions for electing this course are the same as for Course 12 and 13. Wright's Middle High German Primer; translation of Middle High German texts. Two hours a week.

Collateral reading is a part of all the German courses, in which the reading of simple texts is designed to increase the vocabulary and cultivate fluency of translation.

The abundance of texts now available offers so wide a choice and variation that it is deemed inexpedient to name a list of books which will be read.
College of Arts and Sciences

SUMMER TERM

PROFESSOR G. W. THOMPSON

1. ELEMENTARY COURSE.—For those who wish to acquire or review the essentials of German grammar and the foundations of a German vocabulary.

2. SECOND YEAR GERMAN.—This course is designed for students who have completed a year's work in German or for such teachers as may wish to review their work in this department.

3. CONVERSATIONAL GERMAN.—For those who have taken at least one year of German and wish to get practice in speaking and hearing German. German stories will be reproduced orally and in writing. There will also be German dictation and memorizing of German songs. Twice a week.

4. GERMAN LITERATURE.—A brief course of lectures covering a period of German literature. This course is designed for advanced students. Three times a week.

Other advanced courses in German may be substituted for Courses 2 and 4 if they seem better adapted to the needs of the students.

GREEK AND CLASSICAL ARCHAEOLOGY

PROFESSOR HUDDILSTON

The department of Greek is arranged with the idea of presenting to the student an opportunity of becoming acquainted with several phases of Hellenic civilization and such courses are offered as will prove serviceable not only to those pursuing the classical languages but to the student of average interests who, not having studied Greek in the fitting school, may desire to include in his college curriculum some work bearing on the permanent literary and art values contributed by the ancient Greeks to the civilization of both ancient and modern times.

Courses 1-10 cover the field of Greek language in its several periods of poetry and prose and assume the usual preparatory work in Greek.

1. Xenophon.—Hellenica, Books I-IV. Study of syntax, and daily exercises in writing Greek. Four hours a week. Fall semester.
Greek and Classical Archaeology

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 semester.

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 semester.

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 semester.

5. **Thucydides.**—Books II-III. Assigned reading in Herodotus, and a comparative study of the three great historians of Greece. *Three hours a week.* Fall semester. Open to students who have taken Courses 1 and 3.

6. **Aristophanes.**—The Clouds and The Knights; lectures and collateral reading on the development of Greek comedy. Open to students who have taken Courses 2 and 4. *Two hours a week.* Spring semester.

7. **Plato.**—Selected dialogues. Lectures on the history of Greek philosophy with special reference to Plato and Aristotle. Open to students who have taken Courses 3 and 5. *Two hours a week.* Fall semester.

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

9. **Greek Prose Composition.**—A course in writing Greek, intended to continue the work begun in Course 1. *One hour a week.* Spring semester.

10. **Greek Prose Composition.**—An advanced course consisting of the translation into Greek of narrative and rhetorical passages. *One hour a week.* Fall semester.
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Courses 11-16 offer an introduction to the literature, religion, customs, art, and history, and are adapted to the needs of students who may wish to devote only a year or two to Greek subjects.

11. ELEMENTARY GREEK.—The declensions, conjugations; Xenophon's Anabasis, Books I-II, and daily writing of Greek based on the text. Five hours a week. Fall semester.

12. XENOPHON AND HOMER.—Anabasis, Books III-IV; sight reading in Attic prose selections from Homer's Iliad. Five hours a week. Spring semester.

13. GREEK PRIVATE LIFE.—Lectures, illustrated with lantern slides and photographs; assigned reading. Two hours a week. Fall semester.

14. GREEK RELIGION.—A study of the chief divinities in ancient Greek religion, and their relation to art and literature; lectures and assigned reading; investigation of special topics by members of the class. Two hours a week. Spring semester.

15. GREEK LITERATURE.—A general view of the rise and development of the literature of ancient Greece with special emphasis upon the literary standards established by the Greeks; assigned readings in translation and investigation of special topics supplemented by lectures. Three hours a week. Fall semester of odd years.

16. GREEK HISTORY.—A brief survey of the Pre-Greek nations with reference to their legacies to civilization, followed by the history of Greece from the earliest times down to the absorption of Greece by Rome. The development of political ideals, and the forces that were basal in Greek civic life and government will be kept to the front. Oman's History of Greece will be used, accompanied by collateral reading and lectures. Open to all students. Three hours per week. Fall semester of even years.

17. HISTORY OF OLD TESTAMENT LITERATURE.—This course will cover the rise and development of the Bible as a piece of literature: the vicissitudes of the written and the printed texts: and the various English translations. As far as time permits the development of the Old and New Testament Canons will be included in the work. Lectures and assigned topics. Open to all students. One hour a week. Fall semester. Given in 1913-14 and alternate years.
Greek and Classical Archaeology


For several years there has been a three hour course in Greek Fine Arts during the spring semester, and four courses on the history of Italian Painting given one hour per week through a period of four semesters.

Beginning with the fall semester of 1913 instruction in the history of the Fine Arts will be materially enlarged.

Under the new plan, there will be two three hour courses extending through two semesters each, thus presenting an opportunity for the student to cover the entire field of ancient and modern art history in its various bearings on the history of Europe down to the close of the 18th century.

Oriental, Greek, and Roman art will be given in a three hour course extending through the year and Medieval and Modern art will follow this for two semesters for the same number of periods.

While it is not absolutely essential that a student should have taken Courses 1 and 2 in order to be admitted to 3 and 4 it is highly desirable that a sequence should be observed and that the historical evolution of the great art epochs should be approached in such a manner as to contribute the largest educational values.

1. Art.—The history of art in ancient Egypt and western Asia with special reference to the buildings of the Egyptians as exhibiting the best index to the history of that remarkable race. This chapter will be a fore-word to the beginnings of art in south-eastern Europe; the Cretan and Mycenaean periods preceding the early Greek period. The history of Greek architecture and sculpture will be given down to the beginning of Athenian supremacy. The extant monuments will be studied in photographs and with the aid of the stereopticon. Lectures, note-books, text-book, and discussions. Three hours per week. Fall semester, 1913-14.

2. Art—Greek and Roman art in its broad relations to the public life of Classical times: the influence and force of art culture as a dominant force in Greece and the effects of Greek culture upon Rome. Emphasis will fall upon the existing remains in the great European collections, and these museums as well as the monuments still in situ in Italy, Sicily, Greece, and Asia Minor will be gone over in detail with the photographs.
Each student will be expected to acquire some ability in independent estimate of the styles of the various epochs: Lectures. *Three hours per week.* Spring semester, 1913-14.

3. Art.—The history of art as influenced and modified by Christianity: Romanesque architecture in the South and the new Gothic in the North; the early centuries of painting in Italy and the influence of The Fine Arts in the 14th and 15th centuries, particularly in Florence, Siena, Ravenna, Venice and Rome; the spirit of the Renaissance in Italy, France, and Germany under the domination of Italy. Lectures, study of photographs and investigation of various topics by each member of the class. *Three hours per week.* Fall semester, 1914-15.

4. Art.—Art in the north of Europe and in Spain, particularly the schools of painting and palace architecture in France. The great age of Louis XIV reflected at Versailles and in the Louvre; the new importance of artists as international factors at Madrid, Paris, and London; social evolution and contemporary history reflected in the successive schools of artists with the gradual ascendency of France until the time of the French Revolution. Lectures, text-book, study of pictures, special subjects for individual investigation. *Three hours per week.* Spring semester, 1914-15.

5. Architecture.—A chronological survey of the development of ancient and modern architecture down to 1600 A.D. Greek and Roman architecture, their modifications in the Renaissance, and the various cathedral styles, represent the field covered in the course. Lectures, outside reading, and detailed study of the reproductions in the Art Collection. Open to all students. *Two hours per week for the year.* Given in 1912-13.


**HISTORY**

**Professor Colvin**

*Greek History and Roman History are given in the departments of Greek and Latin.*

1. **Medieval History.**—A general course covering the period from 305 to 1500 A.D. The disintegration of the Roman Empire: ecclesiast...
History

tical institutions; feudalism; struggle between the papacy and the empire; rise of modern nations. Required of major students in history. Open to all students. *Three hours a week.* Fall semester.

2. MODERN HISTORY.—Continuation of Course 1 to the present time. A rapid survey of the Reformation; the absolute monarchy in France; the French Revolution; the Napoleonic era; Europe in the nineteenth century. Open to all students. *Three hours a week.* Spring semester.

Courses 1 and 2 are given in 1912-13 and alternate years.

3. HISTORY OF ENGLAND.—From early times to the beginning of the Stuart period. Especial attention is given to social and industrial conditions. Open to all students. *Three hours a week.* Fall semester.

4. HISTORY OF ENGLAND.—Continuation of Course 3. From the beginning of the Stuart period to the present. Open to all students. *Three hours a week.* Spring semester. Courses 3 and 4 will be given in 1913-14.

5. HISTORY OF THE UNITED STATES.—A general course from the present time. Open to technical students only. *Two hours a week.* Fall semester.

6. HISTORY OF THE UNITED STATES.—The period from the reign of the great

This course will begin with a brief study of Colonial history of odd years. Open to all students. *Three hours a week.* Fall semester.

Catullus, Tibullus, from Cicero's philosophical writings; a choice of one of six courses of collateral

8. INDUSTRIAL AND SOCIAL HISTORY. — From manor town, guild, and foreign rebellion; breaking up of the medieval industrial revolution; government. *Three hours a week.* Given in the fall semester of even years.

The following courses "—General introduction to the subject: illus-

9. THE RENAISSANCE, BORS. Open to students who have taken Courses to 1658 A. D. *Two hours a week.* Given in the fall semester of even years.

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10. The Renaissance and the Reformation.—A continuation of Course 9. Two hours a week.

11. Modern Continental Europe.—The period from the Peace of Utrecht to 1789. Three hours a week.

12. Modern Continental Europe.—Period of the French Revolution and Napoleon I. Three hours a week.

13. Modern Continental Europe.—The period since 1815. Three hours a week.

14. Historical Construction and Criticism.—One hour a week.

SUMMER TERM

5. United States History.—A brief course of two recitation periods per week, reviewing the work done in preparatory school. This course is intended to prepare a student who has taken the course in United States History for the entrance examinations of the University.


Greeks and Romans

Professor Colvile. Livy, History of Rome.

Greek History and Roman History are given four hours a week. Fall semester.

1. Medieval History.—A general course covering Horace, Odes and 305 to 1500 A.D. The disintegration of the Roman Empire.
Latin

Courses 1 and 2 are required of candidates for the Bachelor of Arts degree who elect Latin.

3. Tacitus.—Reading and discussion of the Agricola and Germania. *Three hours a week.* Fall semester.

4. Terence and Plautus.—The Phormio of Terence; the Captivi and Trinummus of Plautus; study of early Latin and the development of Roman comedy. *Three hours a week.* Spring semester.

5. Latin Composition.—Practice in writing Latin; study of Latin syntax. *One hour a week.* Fall semester.


7. The Younger Pliny.—Reading of selected letters of Pliny; the Roman Empire. *Three hours a week.* Given in the fall semester of even years.

8. Horace and Juvenal.—Reading of selections from the great satirists; study of Roman satire and social life. *Three times a week.* Given in the spring semester of odd years.

*The following may be counted toward the Master's degree:*

9. Tacitus.—Reading of the Annales and study of the reign of Tiberius. *Three hours a week.* Given in the fall semester of odd years.

10. The Roman Elegiac Poets.—Selections from Catullus, Tibullus, Propertius, and Ovid; study of elegiac poetry. *Three hours a week.* Given in the spring semester of even years.

11. Roman Philosophy.—Reading from Cicero's philosophical writings and from Lucretius; discussion of the leading schools of ancient philosophy. *Three hours a week.* Given in the fall semester of even years.


13. Roman Literature.—General introduction to the subject; illustrative classroom readings; a choice of one of six courses of collateral reading of Roman authors. Open to students who have taken Courses 1-4. *Three hours a week.* Given in the fall semester of even years.
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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. Open to students who have taken Courses 1-4. *Three hours a week.* Given in the fall semester of odd years.

16. **Roman Rhetoric and Oratory.**—A continuation of Course 15. *Three hours a week.* Given in the spring semester of even years.

18. **Roman Private Life.**—Text-book work, supplemented by collateral reading and lectures upon some of the more important and interesting customs and institutions of Roman every-day life. Open to students who have taken Courses 1-4. *One hour a week.* Given in the fall semester of odd years.

19a. **The Latin Language.**—A discussion of the fundamental principles of linguistic growth and change and of the relationship of Latin to other languages; Latin phonetics; development of inflectional forms in Latin. Lectures and recitations. *One hour a week.* Given in the fall semester of odd years.

19b. **The Latin Language.**—A continuation of 19a. *One hour a week.* Given in the spring semester of even years.

20. **Roman Epigraphy.**—The principles of the science, and the interpretation of selected inscriptions. *One hour a week.* Given in the spring semester of even years.

21. **Teachers' Course.**—Discussion of topics connected with the teaching of Latin in secondary schools. Study of selected passages of Caesar, Cicero, and Vergil. *One hour a week.* Fall semester.

22. **Sanskrit.**—An elementary course in the classical language of India, with especial reference to the light it throws upon the history and grammar of the languages of Europe. *Two hours a week.* Given when asked for by a sufficient number of students.

23. **Sanskrit.**—A continuation of Course 22, with more attention to the classical literature of India. *Two hours a week.*
Latin

24. Roman Numismatics.—Practice in the use of coins as original sources for the study of history, mythology, archaeology, etc. One hour a week. Given in the fall semester of even years.

25. Roman History.—The development of Rome to the time of Augustus. Lectures, reading, and recitations. Three hours a week. Given in the fall semester of odd years.

26. Roman History.—The Roman Empire. A continuation of Course 25. Three hours a week. Given in the spring semester of even years.

Summer Term

The Latin department offers three distinctly different lines of study, intended to meet the needs of three classes of students.

1. For teachers of Latin, and for students wishing to gain entrance credits in Latin. One course is offered in Cicero’s Speeches and one in Caesar’s Gallic War. In these two courses various questions connected with the teaching of Latin will be discussed, such as questions of spelling and pronunciation, of grammatical forms and inflections, of syntax, prosody, etc.; also questions of bibliography, methods of translation, history, mythology, literature, and the various aids to the elucidation of the authors studied, together with the fundamental principles of the Latin language.

2. For students who desire college credits looking to the B. A. degree. It is the plan of the department to offer a double course that shall cover the work of an entire college semester and be equivalent to that required for one college credit, and to vary this course from year to year so that a student in a few summers may complete a fairly comprehensive course of college study in Latin. The choice of subject will rest partly with the class. We call the especial attention of secondary school teachers who have not had the advantage of complete college training in Latin to these courses, as we believe they afford an unusual opportunity to them to increase their equipment.

MATHEMATICS AND ASTRONOMY

Professor Hart; Assistant Professor Willard; Assistant Professor Hamlin; Mr. Reed; Mr. Wilbur

Students electing Mathematics as a major subject should expect to take Courses 1, 2, 6, 7, 8, 11, 12, 13, 15, 19, 20, 21 and either Courses 9 and 10 or Mechanics 7 and 8. They are also advised to take several courses in Physics.
1. **Solid Geometry.**—Solid and spherical geometry, including original demonstrations and the solution of numerical problems. The text-book is Stone and Millis's Solid Geometry. *Three hours a week.* Spring semester. Open to all freshmen who did not offer it for admission.

2. **Algebra and Trigonometry.**—A brief review of radicals, the theory of exponents, quadratic equations, and the binominal theorem; logarithms, including practice in the solution of numerical exercises; the trigonometric functions; radian measure; functions of several angles; solution of right and of oblique triangles; trigonometric equations; inverse functions; determinants; theory of equations. The text-book is Brenke's Advanced Algebra and Trigonometry. *Five hours a week.* Fall semester.

3. **Applications of Trigonometry.**—A course given for students in Agriculture and Forestry, and open to others who have taken Course 2. Further practice in the solution of problems with application to plane surveying. *Two hours a week.* Spring semester.

4. **Analytic Geometry.**—The point, line, circle, and conic sections; higher plane curves; elements of solid analytic geometry. The text-book is Riggs's Analytic Geometry. *Five hours a week.* Spring semester. Open to students who have had Course 2 and the equivalent of Course 1.

5. **Calculus.**—Differentiation of the elementary forms of algebraic and transcendental functions; successive differentiation; differentials; maxima and minima. Open to students who have taken Courses 1, 2, and 6. The text-book is Osborne's Differential and Integral Calculus. *Five hours a week.* Fall semester.

6. **Calculus.**—A continuation of Course 7. Integration of the elementary forms; integration between limits; integration as a summation; various methods of integration. Applications of differential and integral calculus. *Five hours a week.* Spring semester.

7. **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 who have taken Courses 1, 2 and, preferably, Physics 1 and Physics 5. The text-book is Young's Manual of Astronomy. *Three hours a week.* Spring semester.
10. **Practical Astronomy.**—A course arranged to meet the needs of engineering students, and consisting mainly 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, vertical circle, astronomical transit, and zenith telescope. Open to students who have taken Courses 9, 2, and 19. *Two hours of recitations or lectures and two hours of observatory work a week.* Fall semester.

11. **Advanced Algebra.**—Determinants and the solution of higher equations. Open to students who have taken Courses 1 and 2. *Three hours a week.* Fall semester.

12. **Advanced Calculus.**—This course is varied from time to time by using different texts. Open to students who have taken Courses 6, 7, and 8. *Three hours a week.* Given in the fall semester of odd years.

13. **Advanced Integral Calculus.**—A continuation of Course 12. *Three hours a week.* Given in the spring semester of even years.

15. **Differential Equations.**—The textbook is Murray's Differential Equations. Open to students who have taken Courses 7 and 8. *Two hours a week.* Spring semester.

16. **Practical Astronomy.**—The theory and use of the sextant, universal instrument, transit, and equatorial. Open to students who have taken Courses 6, 7, 8, 9, 10, and, preferably, 10. *Three hours a week.* Fall semester.


19. **Spherical Trigonometry.**—The elements of this subject with problems and applications to spherical astronomy. *Two hours a week.* Spring semester.

20a. **Advanced Analytic Geometry.**—A course for students who have completed Courses 6, 7, 8 and 11. *Three hours a week.* Given in the fall semester of even years.
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20b. **Solid Analytic Geometry.**—A course based upon C. Smith's Solid Geometry. *Three hours a week.* Given in the spring semester of odd years.

21a. **History of Mathematics.**—Lectures and recitations. *Two hours a week.* Given in the fall semester of even years.

21b. **History of Astronomy.**—Lectures and recitations. *Two hours a week.* Given in the spring semester of odd years.

22a. **Differential and Integral Calculus.**—A course given for students in Chemistry and for those in the College of Arts and Sciences who desire only a brief course in these subjects. *Three hours a week.* Fall semester.

23a. **Theory of Functions of a Complex Variable.**—*Three hours a week.* Fall semester.


Courses 23a and 23b are for graduate students. Other advanced courses will be given when called for.

For courses in mechanics and in descriptive geometry refer to the department of Mechanics and Drawing, and for courses in surveying refer to the department of Civil Engineering, in the College of Technology.

**Summer Term**

**Professor Hart; Assistant Professor Hamlin; Mr. Reed**

1. **High School Algebra.**—A course intended for teachers in preparatory schools, covering the second year's work. Special attention will be given to the methods of presenting this subject and those topics will be emphasized that are most important in preparation for college work. Candidates for admission to the University who are deficient in a part of their preparation in algebra are advised to take this course.

2. **Plane Geometry.**—A review of the more important theorems with practice in the demonstration of original propositions and in the solution of numerical exercises. For teachers in preparatory schools, and for candidates for admission who are slightly deficient in geometry.
Mathematics and Astronomy

3. **Solid Geometry.**—This course is offered especially for the benefit of students who intend to enter college, but who have not been able to complete the requirements in solid geometry. Bush and Clarke's Solid Geometry will probably be used as the text-book, but Phillips and Fisher's, Well's, and other books will be used for reference.

4. **Plane Trigonometry.**—A brief course including the solution of right and oblique plane triangles, and of problems in surveying, together with the use of surveying instruments. No text-book will be required for this course, but those having logarithmic tables should bring them, and also any modern text-book on trigonometry, which may be useful for reference.

5. **College Algebra.**—The theory of quadratic equations, the binomial theorem, and so much of the regular freshman course in algebra as time will permit. Text-book to be selected at the opening of the term.

6. **Analytic Geometry.**—A brief course covering the elements of this subject.

7. **Differential and Integral Calculus.**—A course intended for teachers in preparatory schools who desire to gain a knowledge of the elements of this subject.

8. **Descriptive Astronomy.**—Lectures accompanied by work in the observatory.

9. **Calculus.**—The equivalent of Mathematics 8.

10. **Mechanics.**—The equivalent of Mechanics 5.


**Note.**—Nine of the above courses will be given, the choice to be determined by the number of students electing.

Courses 9, 10, 11, and 12, being review courses, may be taken only by those who have previously pursued the subject.

**MILITARY SCIENCE AND TACTICS**

*The courses in this department are described in page 198.*
PHILOSOPHY

Professor Craig

Students intending to major in this department should begin with Courses 1 and 10. Those wishing only a minor amount of work in Philosophy may begin with any course except 1b, 8, 9, and, unless by permission of the instructor, 12.

Course 5b is open to freshmen. All other courses in this department are not usually elected by freshmen.

1a. Psychology.—The subjects treated in this course are the anatomy and physiology of the nervous system and sense-organs, and the psychology of sensation, perception, instinct, habit, and memory. The methods used are recitation, discussion, introspection (self-observation), observation of others, experiment, and demonstration. Students electing this course are advised to precede or accompany it with Biology 1; or if this be impossible, to read some good, recent book on evolution, and a similar work on human physiology. Two text-books: James's Psychology (Briefe r Course): Pillsbury's Essentials of Psychology. 

Three hours a week. Fall semester.

1b. Psychology.—A continuation of Course 1, dealing especially with the higher psychic functions, such as imagination, conception, emotion, and will. All students who have taken Course 1a are advised to follow it with 1b. Three hours a week. Spring semester.

3. Morals.—A course designed to give the student practical aid in his or her life. A study of those qualities which chiefly contribute to success, as, honesty, industry, thrift, system, tact, sympathy, etc. No text-book. The students will write short accounts of their own experiences in the matters studied. Two hours a week. Fall semester.

4. Social Psychology.—A study of the social aspects of the individual mind; of the instincts which underly all social life; of social influence and social control; of fashion, convention, and custom; of the crowd, the mob, the public, and the deliberative assembly. The text-book is McDougall's Introduction to Social Psychology. Two hours a week. Spring semester.

Philosophy

5b. Deductive Logic.—The purpose of this course is to develop clear thinking and the precise expression of thought in words. This is done largely by exercise in the solution of logical problems. Textbook: Creighton's Logic. Two hours a week. Spring semester. Courses 5a and 5b are independent of each other.

6. History of Ancient Philosophy.—Designed to give an insight into Greek and Roman thought as related to the life of the Greeks and Romans, and also to lay the foundation for a study of modern thought. Rogers's A Student's History of Philosophy is used as a text-book. Three hours a week. Fall semester of even years.

7. History of Modern Philosophy.—Continuation of the preceding course, but may be taken separately, having different interests; connected with modern history and modern thought in literature, science, art, and politics. Text-book as in the preceding course. Three hours a week. Spring semester of odd years.

8. Seminar.—For advanced students. Reviews of recent literature, both philosophical and psychological. The student may select literature on a topic in which he is especially interested. The work may be continued a number of semesters. One hour a week. Fall or spring semester.

9. Research.—Primarily for graduate students. The number of hours a week is not fixed, but must be arranged at the time of registration. Fall or spring semester.

10. Evolution.—The idea of evolution dominates all thought in our era. This course gives a broad and rapid survey of evolution in all its phases,—cosmic, geologic, organic, psychic, and social. Lectures and collateral reading. Two hours a week. Fall semester.

11. Problems of Philosophy.—Discussion of the bearing of philosophy upon science and upon life; materialism versus idealism; the relation of mind to matter; the nature of reality; the validity of knowledge; and similar fundamental problems. Text-book, Fullerton's Introduction to Philosophy. Two hours a week. Spring semester.

12. Readings in Modern Philosophy.—For students who are especially interested in the study of life, whether in psychology, child
College of Arts and Sciences

study, animal behavior, sociology, history, biography, or allied fields. The works are different each time the course is given, and are adapted to the personnel of the class. Those read last year were Baldwin's Mental Development in the Child and the Race, especially the volume on Social and Ethical Interpretations, King's Psychology of Child Development, and Dewey's How We Think. Three hours a week. Fall semester of odd years and spring semester of even years.

PHYSICAL CULTURE AND ATHLETICS

The courses in this department are described on page 199.

PHYSICS

Professor Stevens; Associate Professor Woodman; Mr. Drew; Mr. Ulrey

Note.—For students who are specializing in this department, the time indicated for the various laboratory courses may be extended. Two and one-half hours of laboratory work give 1 credit of one hour.

1. General Physics.—Recitations and lectures on the dynamics of solids, liquids, and gases; sound and light; experiments before the class; problems. Open to students who have taken Mathematics 2. Five hours a week. Fall semester.


3. Qualitative Laboratory Work.—A course in which students who are preparing to become teachers of physics are given the opportunity of performing the various class-room experiments which accompany the lectures in Courses 1 and 2. * Five hours a week. Fall semester.

4. 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 Crew and Jones's Elements of Physics. Five hours a week. Fall semester.
Physics

5. **Laboratory Physics.**—The subjects usually included in an undergraduate course. Especial attention is given to the reduction of observations and the tabulation of results. Open to students who have taken either Course 1 or Course 4. *Five hours a week.* Spring semester.

6. **Meteorology.**—A course covering the essential principles of the subject of meteorology, including a study of meteorological instruments and weather predictions. Milham's *Meteorology* is used as a text-book. *Two hours a week.* Spring semester.

6a. **Meteorology.**—A continuation of Course 6, dealing with special topics, and a discussion of the results obtained at the meteorological observatory. *One hour a week recitation, †two hours a week.* Fall semester.

7. **Optics.**—Lectures and recitations in continuation of Course 1, based chiefly upon Edser's *Light*. Open to students who have taken Mathematics 8. *Three hours a week.* Spring semester of 1913-14 and alternate years.

8. **Optics.**—Advanced laboratory work in continuation of Course 5. *Seven and one-half hours a week, or five hours a week.* Spring semester.

9. **Mechanics and Heat.**—Advanced laboratory work in continuation of Course 5. *Seven and one-half hours a week, or five hours a week.* Fall semester.

10. **Theory of Electricity and Magnetism.**—Lectures and recitations on the mathematical theory of potential, capacity, and inductance, with applications to direct current phenomena. Hadley's *Magnetism and Electricity for Students* is used as a text-book. *Three hours a week.* Fall semester of 1912-13 and alternate years.

11. **Electrical Measurements.**—Advanced laboratory work in continuation of Course 5. *Seven and one-half hours a week.* Fall semester.

12. **Theory of Electricity and Magnetism.**—Continuation of Course 10, with applications to alternating current phenomena. *Three hours a week.* Spring semester of 1912-13 and alternate years.
College of Arts and Sciences


13b. **Heat.**—A continuation of 13a. Given in the spring semester of 1913-14 and alternate years. *Three hours a week.*


15. **Special Laboratory Course.**—A course open to students who have completed Courses 8, 9, and 11. A subject is assigned for original investigation, or the work of a published research is repeated. *Five hours a week.* Fall semester.

16. **Special Laboratory Course.**—A continuation of Course 15. *Seven and one-half hours a week.* Spring semester.

17. **Radiation.**—This course will include lectures and outside reading on the following topics: the electromagnetic theory of light; the development of Maxwell's equations; the application of Maxwell's equations to the reflection, refraction, and polarization of light, the radiation and absorption of a theoretical black body; the theories of emission and absorption; electric waves and light pressure. *Two hours a week.* Fall semester 1912-13 and alternate years.

18. **Electricity and Optics.**—Advanced laboratory work in continuation of Course 5. *Five hours a week.* Fall semester.

19. **Least Squares.**—A course of lectures covering the more important topics treated in this subject. Required of juniors in Civil Engineering and elective for others who have taken Physics 1 and 2 and Mathematics 8. *One hour a week.* Fall semester.

**Summer Term**

Professor Stevens; Associate Professor Woodman

1. **An Elementary Course.**—This includes the list of experiments adopted by the Maine colleges for admission in physics.
Physics

2. Advanced Laboratory Course.—Work in any laboratory course offered in the University may be taken by students in the Summer Term who are properly qualified.

3. College Physics.—A course based upon those parts of the textbook in physics which treat of mechanics, light, and sound. This course may be taken for credit only by students who have pursued the subject for a regular semester at the University.

4. College Physics.—A course based upon those parts of the textbook in physics which treat of electricity and heat. This course may be taken for credit only by students who have pursued the subject for a regular semester at the University.

5. High School Physics.—A rapid survey of the ground covered in high school, based upon Millikan and Cale's textbook. This course is designed to meet the needs of teachers in high schools and it may be taken as a rapid review by students who have covered the ground in high school but have failed to pass college entrance examinations.

ROMANCE LANGUAGES

Professor Segall; Associate Professor Raggio

French

1. Elementary French.—Fraser and Squair, Abridged French Grammar; Matzke, Primer of French Pronunciation. Five hours a week. Fall semester.

2. Elementary French.—A continuation of Course 1. Fraser and Squair, Abridged French Grammar; Matzke, Primer of French Pronunciation; Rambeau, French Reader; Newson's First French Book; Bruno, Le tour de la France. Five hours a week. Spring semester.

3a. Intermediate French.—Fraser and Squair, Abridged French Grammar; Lamartine, Histoire des Girondins (selections). About 250 pages of collateral reading will be assigned. Open to students who have taken Courses 1 and 2, or an equivalent. Three hours a week. Fall semester.

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3b. **Intermediate French.**—A continuation of Course 3a. Fraser and Squair, Abridged French Grammar; Sand, La Mare au Diable. About 175 pages of collateral reading will be assigned. **Two hours a week.** Spring semester.

4a. **Advanced French.**—Anatole France, le Crime de Sylvestre Bonnard; collateral reading; composition. Open to students who have taken Courses 3a and 3b, or an equivalent. **Three hours a week.** Fall semester.

4b. **Advanced French.**—A continuation of Course 4a. Pierre Loti, Pêcheur d’Islande; Edmond About, le Roi des montagnes; collateral reading; composition. **Two hours a week.** Spring semester.

5a. **Elementary French Composition and Conversation.**—Open to students who have taken Courses 1 and 2, or an equivalent. **Two hours a week.** Fall semester.

5b. **Elementary French Composition and Conversation.**—A continuation of Courses 5a. **Two hours a week.** Spring semester.

6a. **Introduction to the History of French Literature.**—Lectures, recitations, reports. Open to students who have taken Courses 4a and 4b. **Three hours a week.** Fall semester. Given in 1914-15.


7a. **Advanced French Composition and Conversation.**—Open to students who have taken Courses 5a and 5b, or an equivalent. **Two hours a week.** Fall semester.

7b. **Advanced French Composition and Conversation.**—A continuation of course 7a. **Two hours a week.** Spring semester.

12a. **French Literature in the Eighteenth Century.**—Lectures, recitations, reports. Open to students who have taken Courses 4a and 4b. **Three hours a week.** Fall semester. Given in 1912-13.

Romance Languages

13a. French Literature in the Nineteenth Century.—Lectures, recitations, reports. Open to students who have taken Courses 4a and 4b. Three hours a week. Fall semester. Given in 1913-14.


Spanish

9a. Elementary Spanish.—Hills and Ford, A Spanish Grammar. Three hours a week. Fall semester.


10a. Intermediate Spanish.—Hills and Ford, A Spanish Grammar; Pérez Escrich, Fortuna; Alarcón, El Capitán Veneno; Moratin, El si de las niñas. About 250 pages of collateral reading will be assigned. Open to students who have taken Courses 9a and 9b, or an equivalent. Three hours a week. Fall semester.

10b. Intermediate Spanish.—A continuation of Course 10a. Pereda, Pedro Sánchez. About 175 pages of collateral reading will be assigned. Two hours a week. Spring semester.

Italian

11a. Elementary Italian.—Sauer, Italian Conversation-Grammar; Bowen, First Italian Readings. Three hours a week. Fall semester.


14a. Italian Classical Literature.—In this course the whole of Dante's Inferno and parts of the Purgatorio and Paradiso, will be translated. Selections from Pulci's Morgante, Boiardo's Orlando Innamorato, Ariosto's Orlando Furioso, and Tasso's Gerusalemme li-
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berata will also be studied. The following texts will be used: D'Ancona and Bacci's Manuale della letteratura italiana, Vol. II (Firenze, Barbera); Ferrari's edition of Tasso's Gerusalemme liberata (Firenze, Sansoni); Scartazzini's edition of Dante's La Divina Commedia (Milano, Hoepli). The following books will be read as collateral reading: Snell's Primer of Italian Literature (Oxford, Clarendon Press); Gardner's Dante (London, J. M. Dent & Co.). Open to students who have taken Courses 11a and 11b or an equivalent. *Three hours a week.* Fall semester. (Not given in 1912-13).


Romance Philology

15a. **OLD FRENCH.**—This course is intended for students who wish to acquire a reading knowledge of Old French. The laws governing the development of Popular Latin to French will also be studied. The books used will be Bourciez' Phonétique française (Paris, Klincksieck); Paris's Extraits de la Chanson de Roland (Hachette et Cie); Cledat's edition of the Chanson de Roland (Garnier frères). Students will be expected to read outside the class during the fall and spring semesters. Paris's *La littérature française au moyen âge* (Hachette et Cie). *Three hours a week.* Fall semester.

15b. **OLD FRENCH.**—A continuation of Course 15a. Suchier's edition of Aucassin et Nicolette (Paderborn, Schoningh); Paris and Langlois' Chrestomathie du moyen âge (Hachette et Cie). *Two hours a week.* Spring semester.

**Summer Term**

**Professor Segall; Associate Professor Raggio**

1a. **ELEMENTARY COURSE.**—This course is intended for beginners. The text-book used will be Fraser and Squair's Abridged French Grammar (D. C. Heath & Co.), pp. 1-73.
Romance Languages

1b. Continuation of Course 1a.†—The text-book used will be Fraser and Squair's Abridged French Grammar (D. C. Heath & Co.), pp. 73-128; Rambeau's French Reader (Henry Holt & Co.).

1c. Continuation of Course 1b.†—The text-books used will be Fraser and Squair's Abridged French Grammar (D. C. Heath & Co.), pp. 337-344; Rambeau's French Reader (Henry Holt & Co.).

2. Intermediate Course.—This course is intended for those who have already the required number of points for entrance French, and who wish a course in French that may be counted towards a bachelor's degree. The text-books used will be Augier and Sandeau, le Gendre de M. Poirier (American Book Co.); France, le Livre de mon ami (Henry Holt & Co.); Gasc's Concise Dictionary of the French and English Languages (Henry Holt & Co.), or Clifton & McLaughlin's New Dictionary of the French and English Language (Wm. R. Jenkins Co.) Students should bring with them their grammars.

3. Elementary French Composition and Conversation.—Open to students who have taken Courses 1a, 1b and 1c, or an equivalent.

4. Advanced French Composition and Conversation.—Open to those who have taken Course 3 or an equivalent.

* The requirements for entrance French may be met by taking Courses 1a, 1b, and 1c on consecutive years.
† Students who already have one of the two units required for entrance French may complete their requirements during one Summer Term by taking Courses 1b and 1c.
COLLEGE OF LAW

FACULTY OF INSTRUCTION

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

EDGAR MYRICK SIMPSON, A. B.  
Professor of Law

GEORGE HENRY WORSTER, LL. M.  
Associate Professor of Law

BARTLETT BROOKS, A. B., LL. B.  
Assistant Professor of Law

EVERETT HARLOW BOWEN, A. B., LL. B.  
Instructor in Common Law Pleading

LUCILIUS ALONZO EMERY, A. M., LL. D., Ex-Chief Justice of the Supreme Judicial Court of Maine  
Lecturer on Roman Law and Probate Law

LOUIS CARVER SOUTHARD, M. S., LL. D., Member of the Massachusetts Bar and of the United States Supreme Court Bar  
Lecturer on Medico-Legal Relations

EDWARD HARWARD BLAKE, LL. B., LL. D.  
Lecturer on Admiralty Law

ISAAC WATSON DYER, A. B.  
Lecturer on Federal Jurisdiction and Procedure, and on Private Corporations

JOHN ROGERS MASON, A. M., LL. B.  
Lecturer on Bankruptcy Law
GENERAL INFORMATION

The College of Law was opened to students in 1898. It occupies the Isaac H. Merrill building, purchased by the University in 1911, corner Union and State 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 over 3,500 volumes, including the reports of the Federal Courts and of the Supreme Courts of the United States, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, 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 National Reporter System, the Lawyers' Reports Annotated, all the important law encyclopedias, and a considerable number of text-books, as also the English Reports, full verbatim reprint, the English Ruling Cases, and the American Digest.

ADMISSION

The College of Law admits college graduates and such graduates of secondary institutions as are able to fulfill the general admission requirements of the University described on page 49.

INTENDED INCREASE OF ENTRANCE REQUIREMENTS

In harmony with the greater demands made by the legal profession and the public, and in recognition of the fact that university standards throughout the country are being gradually raised, it is intended in course of time to go beyond these requirements, and, in addition to the high school education prescribed, two years college work may be required as a preliminary preparation of all candidates for the law degree.

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 of good standing 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 otherwise qualified are admitted to advanced standing upon passing a satisfactory examination upon the earlier subjects of the curriculum.
College of Law

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, on presentation of their certificates of admission to the bar at the beginning of the fall term, while graduate students may take the curriculum leading to the degree of Master of Laws.

Methods of Instruction

The College is not committed exclusively to any one method of instruction. It 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 College 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.

Curriculum

The curriculum 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 $70, $23.33 at the beginning of each term, payable in advance. Of this sum $10 is a library charge. 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. It is believed that expenses in this College are lower than in any other New England University.
Courses of Instruction

Degrees

At the completion of the three years curriculum the degree of Bachelor of Laws is conferred. Upon the completion of one year's prescribed work in residence including the presentation of a satisfactory thesis and examination at the College the degree of Master of Laws is granted.

Attorneys at law who have been actively engaged in practice at the bar for not less than five years, and attorneys who hold a college degree and have practised for not less than two years, may, on presentation of a recommendation from one of the justices of the highest court of their state, be also admitted to the curriculum leading to the Master's degree.

COURSES OF INSTRUCTION

1. Admiralty.—A course of lectures. One hour a week. Spring term. Mr. Blake.


3. Bankruptcy.—Lectures. Two hours a week. Winter term. Mr. Mason.


9. **Conflict of Laws.**—Dwyer's Cases. *Three hours a week.* Spring term. **Professor Simpson.**

10. **Constitutional Law.**—Boyd's Cases. *Two hours a week.* Spring term. **Associate Professor Worster.**

11. **Contracts.**—Keener's Cases on Contracts. *Four hours a week.* Fall term. **Assistant Professor Brooks.**

12. **Contracts.**—A continuation of course 11. *Three hours a week.* Winter term. **Assistant Professor Brooks.**

13. **Contracts.**—A continuation of course 12. *Two hours a week.* Spring term. **Assistant Professor Brooks.**

14. **Criminal Law.**—Beale's Cases on Criminal Law. *Two hours a week.* Winter term. **Professor Simpson.**

15. **Criminal Law.**—A continuation of course 14. *Three hours a week.* Spring term. **Professor Simpson.**

16. **Cross-Examination.**—Lectures. Mr. ———

17. **Damages.**—Beale's Cases on Damages. *Three hours a week.* Winter term. **Associate Professor Worster.**

18. **Domestic Relations.**—Smith's Cases on Persons. *Three hours a week.* Fall term. **Professor Simpson.**

19. **Equity Jurisprudence.**—Bispham on Equity Jurisprudence and Shepard's Cases on Equity. *Four hours a week.* Fall term. **Professor Walz.**

20. **Equity Jurisprudence.**—A continuation of course 19. *Three hours a week.* Winter term. **Professor Walz.**

21. **Equity Pleading.**—Shipman on Equity Pleading. *Two hours a week.* Spring term. **Assistant Professor Brooks.**

22. **Evidence.**—Thayer's Cases. *Four hours a week.* Fall term. **Professor Simpson.**
Courses of Instruction


30. **History of Law.**—Lectures. *One hour a week.* Fall term. Professor Walz.


32. **International Law.**—Lectures. *One hour a week.* Fall term. Professor Walz.


34. **Maine Practice.**—Lectures. *One hour a week.* Spring term. Mr. Dunn.

35. **Medico-Legel Relations.**—Lectures. *About six hours.* Spring term. Mr. Southard.


40. Private Corporations.—Wilgus's Cases. *Four hours a week.* Fall term. Associate Professor Worster.

41. Private Corporations.—A continuation of course 40. *Three hours a week.* Winter term. Associate Professor Worster.

42. Private Corporations.—Lectures. Mr. Dyer.


44. Real Property.—Tiffany on Real Property. *Four hours a week.* Fall term. Professor Simpson.

45. Real Property.—A continuation of course 44. *Three hours a week.* Winter term. Professor Simpson.


48. Sales—Burdick's Cases. *Two hours a week.* Fall term. Associate Professor Worcester.

49. Sales.—A continuation of course 48. *Two hours a week.* Winter term. Associate Professor Worster.

50. Suretyship.—Ames's Cases. *Two hours a week.* Fall term. Associate Professor Worster.

51. Suretyship.—A continuation of course 50. *Two hours a week.* Winter term. Associate Professor Worster.

52. Torts.—Ames and Smith's Cases. *Four hours a week.* Fall term. Professor Walz.
Courses of Instruction


55. What to do in Court.—Lectures. *About ten hours*. Fall or spring term. Ex-Chief Justice Emery.

56. Wills.—Chaplin’s Cases. *Three hours a week*. Spring term. Associate Professor Worster.
THE COLLEGE OF TECHNOLOGY

FACULTY OF INSTRUCTION

HAROLD SHERBURNE BOARDMAN, C. E.
Professor of Civil Engineering

DEAN
WILBUR FISKE JACKMAN, B. S., Ph. C. Professor of Pharmacy
ARTHUR CRAWFORD JEWETT, S. B.
Professor of Mechanical Engineering
CHARLES PARTRIDGE WESTON, C. E., M. A.
Professor of Mechanics and Drawing
CHARLES BARTO BROWN, C. E.
Professor of Railroad Engineering
RALPH HARPER McKEE, Ph. D. Professor of Chemistry
WILLIAM EDWARD BARROWS, E. E.
Professor of Electrical Engineering
CHARLES WILSON EASLEY, Ph. D.
Associate Professor of Chemistry
PAUL LEONARD BEAN, B. S.
Associate Professor of Civil Engineering
ALBERT THEODORE CHILDS, B. S., E. E.
Associate Professor of Electrical Engineering
WINSLOW HOBART HERSCHEL, A. B.
Associate Professor of Mechanical Engineering
ARCHER LEWIS GROVER, B. S. Assistant Professor of Drawing
LLOYD MEEKS BURCHART, M. A.
Assistant Professor of Chemistry
JULIUS ERNEST KAULFUSS, B. S.
Assistant Professor of Civil Engineering
EVERETT WILLARD DAVEE Instructor in Wood and Iron Work
CHARLES JENKINS CARTER Instructor in Machine Tool Work
General Information

ALBERT GUY DURGIN, M. S.  
WALTER ELWOOD FARNHAM  
*ERNEST CONANT CHESWELL  
CARL HENRY LEKBERG, B. S.  
EARLE OVANDO WHITTIER, B. S.  
WEBSTER NEWTON JONES, M. A.  
ALPHEUS CROSBY LYON, B. S.  
CHARLES ANSON NASH, B. S.  
BENJAMIN CALVIN KENT, B. S.  

*Absent on leave from Sept. 1, 1912, to Sept. 1, 1913

GENERAL INFORMATION

The College of Technology provides technical instruction in chemistry, in various branches of engineering, and in pharmacy. The number of hours required for graduation in this college is one hundred and fifty. In such technical curricula it is necessary to prescribe a large proportion of the work; but some elective studies may be chosen in the junior and senior years. Under each of the curricula described below is given a tabulated statement of the subjects pursued and the amount of work required. The College comprises:

Chemical Engineering Curriculum  
Chemistry Curriculum  
Civil Engineering Curriculum  
Electrical Engineering Curriculum  
Mechanical Engineering Curriculum  
Pharmacy Curriculum  

At graduation in any of these curricula the student receives the degree of Bachelor of Science. The diploma indicates which curriculum has been completed.

Chemical Engineering Curriculum

In view of the rapid development of the application of chemistry in manufacturing, this curriculum is offered to furnish training in engi-
College of Technology

Engineering together with specialization in chemistry. The first two years are almost identical with those under the chemical curriculum, but in the junior and senior years the student takes the fundamental courses in mechanical and electrical engineering, where, in the other curriculum, the student takes subjects having a biological aspect. The training is thus essentially chemical, and the graduates are primarily chemists having a good knowledge of mechanical and electrical engineering. Such students will be prepared to enter the profession of chemical engineering and as such occupy positions in the manufacturing establishments which involve chemical processes, such, for example, as metallurgical works, bleacheries, dye houses, chemical plants, gas works, sugar refineries, pulp and paper mills, etc.

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<tr>
<th>FRESHMAN YEAR</th>
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<td>or French 3a</td>
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162
The College Curricula

**JUNIOR YEAR**

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<td>Chemistry 26, †6</td>
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**SENIOR YEAR**

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<td>Electrical Engineering 11a, †4</td>
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</table>

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, including the presentation of a satisfactory thesis, 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 Chemical Engineer.

**CHEMISTRY CURRICULUM**

This curriculum is designed to give the student not only a thorough technical training, but also the broadness of education which will enable him readily to undertake the great variety of problems which naturally present themselves to a chemist. It differs from the chemical engineering curriculum in that in the last two years the student takes courses having a biological aspect (bacteriology, biological chemistry, and agricultural analysis) rather than those of an engineering type.
College of Technology

The curriculum is a broad one and when completed it prepares the student to teach, or for the profession of chemist in experiment stations, food laboratories, chemical, fertilizer and tanning plants; metallurgical, rubber and electrical machinery manufactories; and the general consulting and analytical work of a professional chemist.

**FRESHMAN YEAR**

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<th>Subject</th>
<th>Hours</th>
<th>Subject</th>
<th>Hours</th>
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<td>3</td>
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<td>Drawing 1, *6</td>
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<td>Drawing 2, *6</td>
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<td>English 4 and 4p</td>
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**SOPHOMORE YEAR**

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<tr>
<td>Chemistry 14, †10</td>
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<td>Chemistry 16, †10</td>
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<td>English 1b</td>
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<td>Physics 1</td>
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**JUNIOR YEAR**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Biological Chemistry 1</td>
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<td>Bacteriology 1, †6</td>
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<td>Chemistry 32a</td>
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<td>Chemistry 26, †6</td>
<td>3</td>
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<td>Chemistry 29a</td>
<td>2</td>
<td>Chemistry 32b</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry 18, †8</td>
<td>4</td>
<td>Modern Language</td>
<td>2</td>
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<tr>
<td>Modern Language</td>
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<td>Elective</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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</table>
## The College Curricula

### Senior Year

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>Chemistry 12, 1</td>
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<td>Chemistry 23</td>
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<td>Chemistry 19, 8</td>
<td>4</td>
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<td>Geology 6</td>
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<td>Chemistry 29b</td>
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<td>Chemistry 28, 1</td>
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<td>Chemistry 25, 1</td>
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<tr>
<td>Elective</td>
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</tbody>
</table>

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, including the presentation of a satisfactory thesis, 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 Chemical Engineer.

### Civil Engineering Curriculum

The object of the curriculum in Civil Engineering is to give the student as thorough a knowledge as possible of the principles underlying the profession. It is not possible in the time usually devoted to a college curriculum to take up more than the most important technical subjects, hence the time devoted to those subjects designed to cultivate and broaden the mind is necessarily small. The attempt is made, however, to give the student not only a technical education, but to form the basis for a liberal one as well.

The attention of the student is directed to the fact that the scope of civil engineering is so broad that he may never expect to become expert in all of its branches, and that on the completion of his curriculum he should obtain employment in that branch for which he seems best adapted.

It is impressed upon his mind that the granting of his bachelor's degree does not make him an engineer. It simply indicates that he has received the technical mental training which will fit him to follow the profession, and that he must begin at the bottom of the ladder of practice in order to obtain experience and judgment, without which he can never become successful.

The methods of instruction are recitations, lectures, original problems, work in the testing laboratories, field practice, and designing. Effort is made to acquaint the student with the best engineering practice and
College of Technology

with the standard engineering literature. During each year it is the practice to have several lectures by engineers from other institutions and those engaged in practical work. These lectures tend to increase the interest of the student and to bring him in touch with men outside of his own institution.

Wingate Hall, in which the department of Civil Engineering is located, contains recitation rooms, designing rooms, testing laboratories, drawing rooms, instrument rooms, and a filing and reference room, and is well equipped with apparatus.

The work of the first year is the same for all engineering students, especial attention being paid to mathematics and English. The technical work begins in the fall semester of the second year with field work and the study of surveying. This technical work is gradually increased, until the last year when it is nearly all professional. In the spring semester of the third year the student is required to choose between two optional lines of study. Option 1 consists of work in hydraulic engineering, while Option 2 consists of work in railroad engineering. The time devoted to each option is the same. Owing to the available facilities of the department, not more than sixty per cent of the number of students in a class are allowed to select either option. A written statement is required from each student before the close of the fall semester giving his reasons for his selection. The head of the department reserves the right to make the final decision.

The following outline constitutes the regular four years curriculum. Certain general subjects which are given as requirements may, on presentation of reasons satisfactory to the head of the department, be omitted and others substituted.

### Requirements for Graduation

#### Freshman Year

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<tr>
<th>Fall Semester</th>
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<td>Subject</td>
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<td>English 3 and 3p</td>
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<td>Mathematics 2</td>
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<td>Military 1, 3</td>
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<td>Modern Language</td>
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19½ 20
### SOPHOMORE YEAR

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### JUNIOR YEAR

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<td>Economics 6</td>
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### SENIOR YEAR

<table>
<thead>
<tr>
<th>Subject</th>
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<tbody>
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<tr>
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</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Civil Engineering 11a, †4</td>
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</tr>
<tr>
<td>Civil Engineering 11b, †2</td>
<td>1</td>
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<td>History 5</td>
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<tr>
<td></td>
<td><strong>17</strong></td>
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<td>Civil Engineering 13a</td>
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<td>Civil Engineering 13b</td>
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<tr>
<td>Civil Engineering 15, †6</td>
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<td>Civil Engineering 17 and</td>
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<td>Civil Engineering 24 and</td>
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<td>Civil Engineering 24 and</td>
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<tr>
<td>Electrical Engineering 12b</td>
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167
At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, including the presentation of a satisfactory thesis, 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.

**Electrical Engineering Curriculum**

This curriculum is intended to provide the student with a thorough understanding of the underlying principles of electrical engineering and to develop an ability to solve problems of an engineering nature from commercial as well as technical premises. To accomplish this, the student first studies the various electrical laws and methods of electrical measurements and correlates them with various laws previously assimilated in the study of physics and mathematics. These studies are followed by more advanced courses involving the fundamental electrical laws and theories and showing their application to the design, operation, and performance of electrical apparatus such as is used in the generation of electrical energy or in transforming electrical energy into mechanical energy for the various commercial requirements.

The methods of instruction consist of recitations, lectures, problems, laboratory tests, and drawing room work in design. It is the endeavor of the curriculum to acquaint the student with contemporary engineering practice and, by persistent association of abstract analysis with practical problems, to equip him with the fundamentals of a successful career. Stress is laid upon the systematic reading of technical periodicals and the acquirement of a reference library. Effort is made to have lectures by active engineers and alumni following their profession, thus bringing the student into more intimate contact with the engineering world.

In addition to the purely electrical subjects, the student takes the customary work in mathematics, physics, mechanics, shop, drawing, and allied engineering courses, together with the cultural subjects enumerated below.

Two options are offered in the junior and senior years, one of which is required for a degree.

** Taken after Commencement.
† By special arrangement. Physics 8, given in the spring semester, may be substituted for Physics 9.
The College Curricula

Option 1 consists of

Ee 13b. Electrical Railway Engineering ......................... 2
Ee 14a. Illuminating Engineering .................................... 2
Ee 15b. Telephone Engineering ................................. 2

Option 2 consists of

Ps 10. Theory of Electricity and Magnetism ....................... 3
Ps 12. Theory of Electricity and Magnetism ....................... 3

The equipment in the electrical laboratory has been developed to parallel practical conditions as far as possible, and consists essentially of a 20 kilowatt electrical substation, converting from a three phase, 60 cycle, 115 volt, alternating current system, to direct current, by means of rotary converters and belt driven alternating current motors driving direct current generators. In addition to voltmeters, ammeters, and wattmeters for both direct and alternating current, the equipment includes circuit breakers, various types of transformers, three 7-1/2 kilowatt special auto-transformers giving variable pressure for experimental work, and voltages for operating two and three-phase rotary converters, a self-starting rotary converter, a three-phase generator, a three-phase revolving field synchronous motor, a three-phase variable speed induction motor, a single-phase synchronous motor, a single-phase self-starting induction motor, direct current generators and motors, and laboratory telephone equipment.

Requirements for Graduation

Freshman Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours</td>
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</tr>
<tr>
<td>Chemistry 3, 4</td>
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<td>Chemistry 4, 4</td>
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<td>Drawing 2, 6</td>
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<td>English 4 and 4p</td>
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<td>5</td>
<td>Mathematics 6</td>
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<td>Military 1, 3</td>
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<tr>
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</tr>
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# College of Technology

## Sophomore Year

<table>
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<td>Drawing 4, *6</td>
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<td>English 1b</td>
<td>1</td>
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<td>Mathematics 7</td>
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<td>1.5</td>
</tr>
<tr>
<td>Military 1, *3</td>
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</tr>
<tr>
<td>Mechanical Engineering 4</td>
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<td>Modern Language</td>
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<td>Civil Engineering 1b and 2a</td>
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<tr>
<td>Mechanics 5</td>
<td>5</td>
</tr>
<tr>
<td>Physics 11, *7.5</td>
<td>3</td>
</tr>
<tr>
<td>Economics 1a</td>
<td>2</td>
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<tr>
<td>Electrical Engineering 14a</td>
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<tr>
<td>Theory of Electricity and Magnetism Ps 10</td>
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## Senior Year

<table>
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<tr>
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<tr>
<td>Electrical Engineering 4a</td>
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<td>1</td>
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<tr>
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</table>

**Total Credits:** 20

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The College Curricula

At graduation the students receives the degree of Bachelor of Science. Upon the completion of one year's prescribed graduate work in residence, including the presentation of a satisfactory thesis, 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.

Mechanical Engineering Curriculum

The field of the mechanical engineer embraces all works involving the design, construction, or installation of machinery, either for manufacturing, transportation, or power generation; the design, manufacture, and installation of heating and ventilating or refrigerating equipment; the superintendence or management of factories, power plants, and motive power; and equipment of railways, and similar work.

The Mechanical Engineering curriculum is arranged to fit men as well as possible in four years' time to enter any of these lines of work. It is not possible to develop the student into an expert engineer in any branch of the profession. It is also not possible, in general, to foresee what will be his ultimate occupation. Accordingly, those subjects which are fundamental to all engineering work and which may best be learned in college are most emphasized in the required courses, while those subjects which are best acquired in practical work are left for the engineer graduate to obtain in actual practice. An endeavor is made, however, to give the more advanced technical courses such a trend as to make the period of adjustment of the graduate to practical engineering conditions short and his acquirement of the knowledge necessary for advancement rapid.

The theoretical work is taught mainly by recitation based upon carefully chosen texts which is supplemented or brought down to date, where necessary, by explanations or illustrative examples on the part of the instructor. Numerous problems are assigned for work outside the class-room to make sure the student can apply the principles learned.

Courses in the shops and laboratories illustrate the application of matter learned in the recitation work, and also teach methods of construction, operation, and testing of apparatus by direct contact with it. In the drawing rooms application of theories to work in design is taught, together with methods and requirements for the production of neat and accurate engineering drawings.

Thorough instruction is given in the theory and operation of both direct and alternating current electrical machinery, with ample practice
in the electrical laboratory. Sufficient time is devoted to recitation and field work in surveying to give familiarity with instruments and methods. Lectures by practical engineers and trips of inspection to engineering works help to bring before the student the conditions existing in practice.

Of the one hundred and fifty semester hours required for graduation thirty-three are devoted to instruction in English composition and literature, modern language, economics, business law, and history. Opportunity to take additional work along general lines is offered and recommended to those who can readily carry it.

**Requirements for Graduation**

**Freshman Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hours</th>
<th>Spring Semester</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Chemistry 1</td>
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<td>Chemistry 2</td>
<td>3</td>
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<tr>
<td>Chemistry 3, †4</td>
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<tr>
<td>English 3 and 3p</td>
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<td>English 4 and 4p</td>
<td>4</td>
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<tr>
<td>Mathematics 2</td>
<td>5</td>
<td>Mathematics 6</td>
<td>5</td>
</tr>
<tr>
<td>Military 1, *3</td>
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<td>Military 1, *3</td>
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<tr>
<td>Modern Language</td>
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**Sophomore Year**

<table>
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### The College Curricula

#### JUNIOR YEAR

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<td>Mechanical Engineering 5a, *6</td>
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<td>Mechanics 5</td>
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<td>Physics 9, *5</td>
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<td>Economics 1a</td>
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**Total Credits:** 18

#### SENIOR YEAR

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<td>Mechanical Engineering 18, 6b</td>
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**Total Credits:** 18½

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one year's prescribed work in residence, including the presentation of a satisfactory thesis, 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.

### Pharmacy Curricula

The Department of Pharmacy comprises two curricula, one of four years and one of two years.

**Substitution may be offered for this course if approved by the major instructor.**

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College of Technology

The four years curriculum is offered in response to a demand for a combined collegiate and technical training for those who design to practice pharmacy. It aims therefore to combine general culture studies with a training in those sciences fundamental to technical pharmacy, to the end that the pharmacist may be equipped culturally and technically amply to fulfill the increased demands and responsibilities of his exacting calling. Hence, while this curriculum includes the appropriate sciences and laboratory courses, it also includes cultural courses in modern languages, history, philosophy, and economics. While in the latter three subjects particular courses are not specified, a minimum number and proper sequence of such courses are required.

Those who intend to prepare for pharmaceutical work are urged to consider carefully the superior advantages of this curriculum. The increasing importance of the chemical, biological, and sanitary sciences, and of the pharmacist's relation to them, emphasized by the era of food and drug legislation now upon us, points out at once the path of new duty and of enlarged opportunity to those fitted to enter. To the unfit, the new duty remains, without the enlarged opportunity.

Instruction in pharmaceutical studies is given by lectures, recitations, and tests, supplemented by work in the laboratories of chemistry, biology, and pharmacy. Thirty credits are required for graduation.

The library contains valuable reference literature in chemistry, pharmacy, and allied sciences, and the leading scientific and technical journals.

Requirements for Graduation, Four Years Curriculum

Freshman Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Full Semester</th>
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<th>Subject</th>
<th>Spring Semester</th>
<th>Hours</th>
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<tbody>
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<td>English 3 and 3p</td>
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17\(\frac{1}{2}\) 18
## The College Curricula

### SOPHOMORE YEAR

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<td>Modern Language</td>
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<td>Physics 1</td>
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<table>
<thead>
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<td>Chemistry 7</td>
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<td>Physics 5, *5</td>
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### JUNIOR YEAR

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### SENIOR YEAR

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From courses in history, philosophy, and economics, a total of at least five hours must be chosen.

At graduation the student receives the degree of Bachelor of Science. Upon the completion of one additional year's prescribed work in residence, including the presentation of a satisfactory thesis, he receives the degree of Master of Science.
College of Technology

TWO YEARS CURRICULUM

This curriculum is designed for those who, for lack of time or for other reasons, are unable to take the curriculum of four years. The more general educational studies of the full curriculum are omitted, but as broad a range of subjects is offered as can be undertaken without sacrifice of thoroughness in the technical work. The curriculum corresponds, in general, to the usual full curriculum of pharmacy colleges. 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 curriculum does not warrant extending to other than advanced students the privilege of electives.

REQUIREMENTS FOR GRADUATION

FIRST YEAR

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<td>Chemistry 14, † 16</td>
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<td>Pharmacy 1</td>
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SECOND YEAR

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<td>Chemistry 8</td>
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<td>Bacteriology 1, † 6</td>
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<td>Pharmaceut. Histol. 14</td>
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Students who satisfactorily complete this curriculum receive the degree of Pharmaceutical Chemist.
DEPARTMENTS OF INSTRUCTION

Note:—The prefix of a star (*) before the time designated for a course usually indicates that three hours of actual work are required to obtain credit for one hour, while a dagger (†) indicates that two hours are required to obtain this credit. In certain cases two and one-half hours' work give credit for one hour. This system presupposes that one hour of recitation work requires an average of two hours of preparation.

CHEMISTRY

Professor McKee; Associate Professor Easley; Assistant Professor Burghart; Mr.urgin; Mr. Whittier; Mr. W. N. Jones

1. General Chemistry.—This course deals with the general principles of the science. Lectures and recitations. Open to all students. Two hours a week. Fall semester.

2. General Chemistry.—This course is a continuation of Course 1. It is mainly devoted to a study of the metallic elements, their classification, compounds, and chemical properties. Lectures and recitations. Three hours a week. Spring semester.

3. Laboratory Chemistry.—Laboratory work to accompany Course 1. †Four hours a week. Fall semester.

4. Laboratory Chemistry.—A continuation of Course 3 to accompany Course 2. †Four hours a week. Spring semester.

6. Organic Chemistry.—An elementary course giving in one semester a rapid view of the subject. Students who have sufficient time
College of Technology

available are advised to take Courses 7 and 8 instead of this course. No prerequisite other than general chemistry. Three hours class room and four hours laboratory work a week. Spring semester.

7. Organic Chemistry.—The work is principally with the compounds of the aliphatic series. Lectures, recitations, and laboratory work. The text followed is Holleman's Text-book of Organic Chemistry. Jones's Laboratory Outline of Organic Chemistry is used for the experimental work. Open to those who have taken qualitative analysis (Course 14). Three hours class room and four hours laboratory work a week. Spring semester.

8. Organic Chemistry.—A continuation of Course 7. The work is chiefly in the aromatic series. Three hours a week. Fall semester.

9. Gas and Fuel Analysis.—The work consists in the analysis of fuel and flue gases and the determinations of the proximate constituents and heating values of peat, fuel oils, and the common coals. Four hours a week. Fall semester.

12. Organic Preparations.—The work consists in the preparation and study of typical organic compounds. This course must be preceded by Courses 7 and 8. Six hours a week. Fall semester.

13. Descriptive Mineralogy.—The text-book is Moses and Parsons's Elements of Mineralogy. Three hours a week. Spring semester.

14. Qualitative Analysis.—This course includes the general reactions of the metals and acids with their qualitative separation. The subject is studied from the standpoint of the law of mass action and the ionic theory. Ten to sixteen hours a week. Fall semester.

15. Qualitative Analysis.—This course is similar to Course 14 but deals with organic compounds. It must be preceded by Courses 7 and 8. Noyes and Mulliken's Class Reactions and Identification of Organic Substances is used as a guide. Four hours a week. Fall semester.

16. Elementary Quantitative Analysis.—An introductory course illustrating the fundamental principles of gravimetric and volumetric methods. The text-book is Fouk's Quantitative Chemical Analysis. Open to students who have had Course 14. Ten hours a week. Fall semester.
Chemistry

18. Quantitative Analysis.—Analysis of alloys, minerals, etc. Both gravimetric and volumetric methods are used. Open to students who have taken Course 16. *Eight hours a week.* Fall semester.

19. Special Quantitative Methods.—Open to students who have completed Course 16. (a) Water analysis; (b) electroanalysis; (c) assaying; (d) special volumetric analysis; (e) organic analysis; (f) toxicology and urinalysis. Subdivisions a, b, c, and d each require *four hours a week.* Subdivisions e and f each require *two hours a week.* Fall and spring semesters.

22. Thesis Work.—The thesis will embody the result of the study of a special problem in the laboratory. This problem will partake of the nature of original research and will ordinarily require *not less than ten hours a week* for its completion. Spring semester.

23. Advanced Organic Chemistry.—A series of lectures on special topics in organic chemistry. Open to students who have completed Courses 7 and 8. *Three hours a week.* Fall semester.

24a. Industrial Chemistry.—General processes of technical chemistry, and selected topics, including the principal manufactured products of special interest. Lectures and recitations. The text-book is Thorp’s Outlines of Industrial Chemistry. Open to students who have Completed Courses 7, 8, 14, and 16. *Two hours a week.* Fall semester.

24b. Industrial Chemistry.—A continuation of Course 24a. *Two hours a week.* Spring semester.

25. Technical Analysis.—An advanced course in the analysis of ores and industrial products. Open to students who have completed Courses 16 and 18. *Eight hours a week.* Spring semester.

26. Physical-Chemical Methods.—The course will include: determination of molecular weights; the study of solutions through conductivity and other methods; rate of reaction and chemical equilibrium; potential and electromotive force; calorimetry; and the use of the more important instruments such as the refractometer, polariscope, and spectroscope. *Six hours a week.* Spring semester.

28. Dyeing.—The practical application of dyes to cotton, wool, and silk. *Fifteen hours a week for two weeks.*
College of Technology

29a. Metallurgy of Iron and Steel.—The occurrence, methods of extraction, properties, and alloys of iron. Open to students who have completed Courses 1, 2, 3, and 4. Two hours per week. Fall semester.

29b. Metallurgy of the Metals other than Iron.—A course similar to 29a. The metals other than iron and steel are studied. Open to students who have completed Course 14. Two hours a week. Spring semester.

31. Chemical Reactions.—Principles governing chemical reactions; their application to equations; oxidation and reduction. Two hours a week. Spring semester.

32a. Physical Chemistry.—This course is devoted to the study of some of the more important principles and methods of physical chemistry in its several branches. Lectures and recitations. Open to students who have completed Ch. 10, Ms. 22, and Ps. 1, 2, and 5. Three hours a week. Fall semester.

32b. Physical Chemistry.—A continuation of Course 32a. Two hours a week. Spring semester.

33. Electrochemistry.—A lecture course on the general principles of the subject and its applications in industrial work. Open to students who have completed Courses 32a and 32b. Two hours a week. Fall semester.

Laboratory fees covering general chemicals, gas, etc., are as follows: Courses 3, 4, 14, 16, and 22, $5; Courses 6, 7, 12, and 18, $3; Courses 13, 15, 25, 26, 28, and each part of 19, $2.

Broken apparatus and special chemicals are paid for at the chemical supply room by use of a “breakage card” obtained from the university cashier. The portion of this card which has not been used will be redeemed at the end of the semester by the Cashier.

For courses in biological and agricultural chemistry see the description of courses given by the department of Biological and Agricultural Chemistry.
Chemistry

Summer Term

Professor McKee; Associate Professor Easley; Assistant Professor Burghart


2. Inorganic Preparations.—A laboratory course in the purification and preparation of typical inorganic compounds. Ten hours of laboratory work a week.

3. Methods of Laboratory Manipulation.—Glass bending, blowing, cutting, boring and annealing; sealing of wires into glass and repair of glass apparatus; soldering of the more common metals; methods of labeling; stains, varnishes, and lacquers for wood and metal apparatus; setting up of apparatus. Six hours of laboratory work a week.

4. Physical Chemistry.—Lectures on selected chapters of the subject touching upon the following phases: molecular structure, the mass law, the theories of solution and their applications, especially along the line of electro-chemistry. Given in 1913.

5. Organic Chemistry.—This is a general introductory course in the subject open to those who have had the freshman course in general chemistry or its equivalent.

6. Laboratory work in general, analytic, and organic chemistry will be arranged according to the needs of those attending the Summer Term.

Attention should be called to the courses that can be taken as graduate work by those who already have a bachelor's degree. It is the intention of the department to vary from year to year the courses offered so that a student attending several successive summers will be able to take a considerable variety of chemical courses.
College of Technology

CIVIL ENGINEERING

Professor Boardman; Professor Brown; Associate Professor Bean; Assistant Professor Kaulfuss; Mr. Lyon

1a. Plane Surveying.—A course on the general principles of plane surveying; instruments, their adjustments and uses; the variation of the magnetic needle and the determination of the true north; direct leveling; land survey computations. The text-book used is Breed and Hosmer's Principles and Practice of Surveying, Vol. I. *Three hours a week.* Last nine weeks. Fall semester.

1b. Plane Surveying.—A course similar to 1a, given to students in the Mechanical and Electrical Engineering curricula. *Two hours a week.* Fall semester.

2a. Field Work in Surveying.—The use of the chain, compass, transit, and level. This course is given before the student has received class-room instruction, and is designed to make him familiar with the uses of the instruments, such as running lines, turning angles, reading verniers and rods, etc. *Six hours a week.* First nine weeks. Fall semester.

2b. Plotting.—This course consists chiefly of map drawing from field notes, by the different methods in common use. Course 2a is prerequisite. *Four hours a week.* First twelve weeks. Spring semester.

2c. Field Work in Surveying.—A continuation of Course 2a. This course consists of original surveys, problem work, adjustment of instruments, note keeping, etc. The text-book used is Pence and Ketchum's Surveying Manual. Course 2a is prerequisite. *Six hours a week.* Last six weeks. Spring semester.

3a. Railroad Curves.—The geometry of railroad curves, switches and turnouts. The text-book used is Allen's Railroad Curves and Earthwork, together with Field and Office Tables by the same author. Course 1a or 1b is prerequisite. *Three hours a week.* First twelve weeks. Spring semester.

3b. Earthwork.—Recitations and lectures on the various methods of setting slope stakes and of calculating earthwork. Course 3a is prerequisite. *One hour a week.* Fall semester.
Civil Engineering

4a. Railroad Field Work.—This course consists of practice in running in railroad curves and turnouts. A general application of the theories of Course 3a. Courses 2a and 3a are prerequisite. *Six hours a week. Last six weeks. Spring semester.

4b. Railroad Field Work. The survey of a railroad about three miles in length. The preliminary and location surveys are made, including running in the curves, obtaining the topography, establishing the grade, and setting the slope stakes. Courses 2c, 3a, and 4a, or Courses 2c and 27 are prerequisite. *Six hours a week. First nine weeks. Fall semester.

4c. Railroad Office Work.—The office work of mapping the notes taken in Course 4b, including the calculation of the earth work. Courses 2b and 4b are prerequisite. *Six hours a week. Last nine weeks. Fall semester.

5. Highway Engineering.—The location, construction, and improvement of country roads under different conditions of soil, climate, and traffic; the construction and maintenance of the different pavements on city streets. Lectures and recitations. (Course 1a or 1b is prerequisite). Two hours a week. Fall semester.

6. Drawing.—This course includes topographical drawing, lettering and tracing; stereotomy, giving the application of the methods of descriptive geometry to the preparation of drawings for arches, retaining walls, abutments, bridge piers, etc. *Six hours a week. Spring semester.

7. Thesis Work.—The result of some original investigation, or design. Time to be arranged. See regulations regarding degrees.

8. Sanitary Engineering.—Sewerage systems; drainage and sewerage of towns; sewage disposal; sewage treatment; water purification; sanitation and the public health. Required of students electing Option 1. Course 1a or 1b is prerequisite. Two hours a week. Spring semester.

9a. Advanced Surveying.—This course consists of lectures and readings on the theory of base line measurement, triangulation, precise leveling, topographical surveying, and the use of the plane table, and is
a preparation for Course 9b. The text-book is Breed and Hosmer's Principles and Practice of Surveying, Vol. II. Course 4b is prerequisite. One hour a week. Spring semester.

9b. ADVANCED SURVEYING.—This course consists of the practical application in the field of the principles given in Course 9a. The work is given during the two weeks following Commencement. Course 9a is prerequisite.

10. HYDRAULICS.—Fundamental data; hydrostatics; theoretical hydraulics; instruments and observation; theoretical and actual flow through orifices, weirs, tubes, pipes, and conduits; dynamic pressure of water. The text-book used is Russell's Hydraulics. Three hours a week. Spring semester.

11a. HYDRAULIC FIELD WORK.—The measurement of the flow of rivers is illustrated by the use of the current meter. Trips are made to the United States Geological Survey gaging station, located on the Penobscot River between Howland and West Enfield, where discharge measurements are made. The data thus obtained is used, together with that obtained from the Survey, to plot the rating curve, etc. The measurements taken are reported to the Survey. The expenses of this course are paid by the students. Required of students taking Option 1. Course 10 is prerequisite. †Four hours a week. Fall semester.

11b. HYDRAULIC FIELD WORK.—A short course similar to Course 11a. Required of students taking Option 2. Course 10 is prerequisite. †Two hours a week. Fall semester.

12. STRUCTURES.—A continuation of Course 21. The theory of stresses in framed structures, including the plate girder, bridge trusses, and roof trusses; reinforced concrete; the principles of designing. The object of this course is to train the student in the application of the principles of mechanics to the design of structures. Three hours a week. Fall semester.

13a. STRUCTURES.—A continuation of Course 12. This course includes a study of the higher types of structures. Three hours a week. Spring semester.
Civil Engineering

13b. Graphic Statics.—This course consists of class and drawing room work in the graphical determination of shear and bending moment, and the analysis of bridge and roof trusses by the graphical method. Course 12 is prerequisite. Two hours a week. Spring semester.

14. Designing.—This course takes up the design for some of the common types of steel structures, and the preparation of the shop drawings. Course 21 is prerequisite. Twelve hours a week. Fall semester.


16. Hydraulic Engineering.—Rainfall, evaporation, and stream flow; the development and utilization of water power; the development of the modern turbine. This course is given by lectures and recitations. Required of students electing Option 1. Course 10 is prerequisite. Two hours a week. Fall semester.


19. Railroad Engineering.—Lectures and recitations on the methods and materials of railroad construction. Subgrade; roadbed; trestles; culverts; track; street crossings; yards and terminals, signals and interlocking; track work and maintenance. Required of students electing Option 2. Courses 3b and 4b are prerequisite. Two hours a week. Spring semester.

20. Masonry Construction.—A course including the discussion of building stone, cements and their tests, mortar, concrete, piles, foundations, pneumatic caissons, open caissons, bridge piers, and abutments. Lectures and recitations. The text-book used is Baker's Treatise on Masonry Construction. Two hours a week. Fall semester.

21. Structures.—The theory of the simple beam; loads and reactions; vertical shear; bending moment; influence lines. The object of this course is to give the student a drill in finding vertical shear and bending moment under different systems of loadings, and to familiarize him with the use of steel hand books, various tables, and the slide rule. The text-book used is Grover and Boardman's Notes on Beams and Simple Framed Structures. Two hours a week. Spring semester.
22. **Foundations.**—Building stones; manufacture of cement; tests of cement; mortar; concrete, both plain and reinforced. This is a course of lectures given to students in the Mechanical and Electrical Engineering curricula. *One hour a week.* Fall semester.

23. **Hydraulics.**—A short course which includes the main principles given in Course 10. Given to students in the Mechanical and Electrical Engineering curricula. The text-book is the same as that used in Course 10. *Two hours a week.* Fall semester.

24. **Railroad Engineering.**—A course in railroad design. A map reconnaissance for a railroad about twelve to fifteen miles in length is made, applying the theories of Course 25a. The final line is located, profile made, grades established, and drainage areas and culverts calculated. The rails, switch points, frogs, and ties for a turnout are designed. A railroad yard layout is computed and plotted. Required of students electing Option 2. *Six hours a week.* Spring semester.

25a. **Railroad Engineering.**—A course discussing the economics of railroad location and operation. The railroad corporation, its rights and limitations; traffic; operating expenses; the locomotive and its work; distance; curves; grades. Required of students electing Option 2. *Three hours a week.* Fall semester.

25b. **Railroad Engineering.**—A course of lectures and recitations taking up the work of maintenance and betterments. Required of students electing Option 2. *One hour a week.* Spring semester.

26. **Cement Testing.**—This course consists of laboratory work for the purpose of making the regulation commercial tests upon different samples of cement. A laboratory fee sufficient to cover the cost of materials used is charged. This course is required of students in Mechanical Engineering in the fall semester and of students in Civil Engineering in the spring semester. *Course 20 is prerequisite for spring semester course. The time varies.*

27. **Simple Curves and Earthwork.**—A lecture course on the theory and practice of simple railroad curves, and on the field and office practice of staking out and computing earthwork. Given to students outside of the curriculum in Civil Engineering who desire to take Courses 4b and 4c. *One hour a week.* Spring semester.
Electrical Engineering

ELECTRICAL ENGINEERING

Professor Barrows; Associate Professor Childs; Mr. Nash

1a. Elements of Electrical Engineering.—This course takes up the practical application of laws studied in physics and the fundamental principles of electrical engineering. The work is of the nature of a text-book course, consisting of recitations and problems. Required of juniors in Electrical Engineering. Three hours a week. Fall semester.

1b. Elements of Electrical Engineering.—A continuation of Course 1a, showing the application of the fundamental principles to the construction, operation, and testing of direct current generators and motors and to general engineering problems. Required of juniors in Electrical Engineering. Three hours a week. Spring semester.

2b. Laboratory Work.—Electrical measurements, and the operation and testing of direct current generators and motors. This course illustrates the practical application of the work given in Courses 1a and 1b. Required of juniors in Electrical Engineering. The charge for this course is $2.00. * Three hours a week. Spring semester.

3a. Elements of Alternating Currents.—A study of the effect of alternating currents upon various electrical circuits; voltage, current, and wattage relations in inductive and capacity circuits; calculations and problems. Required of seniors in Electrical Engineering. Three hours a week. Fall semester.

3b. Alternating Current Machinery.—A continuation of Course 3a, taking up the application of the fundamental elements of alternating currents to the design, construction, and operation of apparatus and machinery; the study of polyphase apparatus in the generation, transmission, distribution, and utilization of power. Required of seniors in Electrical Engineering. Four hours a week for the first nine weeks. Spring semester.

4a. Electrical Development.—A course on the design, construction, and cost of electro-magnets and clutches, electric heating apparatus, direct current generators and motors, and the general features of the design of alternating current machinery; the study of the insulation problem to meet the requirements of high electric pressures is also taken up, together with the discussion of modern electrical development. Required of seniors in Electrical Engineering. Two hours a week. Fall semester.
College of Technology

4b. Technical Reviews.—Special subjects are assigned to each student, which he investigates with the aid of library books and current literature, and presents the results of such investigation to the class; also the discussion of the design and construction of electrical instruments and special forms of apparatus of interest in scientific development, and of possible practical application. Required of seniors in Electrical Engineering. One hour a week. Spring semester.

5a. Design of Electrical Machinery.—This course is given in the drawing room, and is the practical application of the work in Course 4a. Calculations are made for electro-magnetic devices and for direct current generators, involving a knowledge of the fundamental electrical principles of design, the principles of mechanical design, cost of materials and cost of labor, and the use of the student's judgment to fit particular circumstances and financial conditions. Required of seniors in Electrical Engineering. Four hours a week. Fall semester.

6a. Laboratory Work.—A continuation of Course 2b, taking up the testing of direct current apparatus and machinery, and alternating current measurements; investigation of power plant equipment and electric lighting. Required of seniors in Electrical Engineering. The charge for this course is $3.00. Four hours a week. Fall semester.

6b. Laboratory Work.—A course showing the practical application of the work done in Courses 3a and 3b, and continuing the laboratory work of Course 6a, including the operating, testing, and experimental work with alternating current instruments, generators, motors, transformers, rotary converters, and polyphase power measurements. Required of seniors in Electrical Engineering. The charge for this course is $3.00. Four hours a week. Spring semester.

7b. Electrical Engineering.—A course in general engineering applications and practical problems, such as will be met with after the student leaves college, applying all the work and training of the course and the technical ability of the student. Required of seniors in Electrical Engineering. Four hours a week, second nine weeks. Spring semester.

8b. Electrical Engineering Practice.—A course given for the expansion of laboratory work into the construction of laboratory apparatus and development of original ideas of the student; also for testing,
Electrical Engineering

repairing, or adjusting commercial electric plants. This course is designed and will be expanded to give the student an opportunity to apply his technical training and ability to actual engineering problems and difficulties. Required of seniors in Electrical Engineering. *Seventy-two hours during the senior year.*

9a. **Thesis Work.**—The designing of electrical apparatus or original research work in which the student is particularly interested; and a clear, complete report of what has been accomplished. The organization of the work and the carrying out of the same is left almost entirely to the student, and is a measure of his energy and ability as an engineer. Required of seniors in Electrical Engineering. *Fall semester and through the senior year, as arranged.*

10a. **Alternating Current Development and Application.**—A required course for seniors in Mechanical and Chemical Engineering which continues the work taken up in Course 10b. The fundamental elements of alternating current measurements and calculations are studied; also the operation of alternating current generators, motors, and polyphase apparatus is treated from the operating engineer’s point of view. *Two hours a week. Fall semester.*

10b. **Electrical Development and Application.**—A course dealing with the fundamental electrical principles and their application to the production, distribution, and utilization of power from the standpoint of a mechanical engineer. Required of seniors in Mechanical and Chemical Engineering. *Two hours a week. Spring semester.*

11a. **Laboratory Work.**—For Mechanical and Chemical Engineers. Electrical measurements, and the operating and testing of direct current generators and motors, showing the practical application of the work taken up in Courses 10b and 10a. The work is arranged for the particular needs of the mechanical engineer. This course is open to civil engineering students who have previously elected one of the preliminary electrical courses. It may be followed by Courses 6a and 6b, by those wishing to become familiar with alternating current machinery. Required of seniors in Mechanical and Chemical Engineering. The charge for this course is $3.00. *Four hours a week. Spring semester.*

12b. **Electrical Transmission and Distribution of Power.**—A required course for seniors in Option 1 in Civil Engineering, taking up
College of Technology

the elements of electrical measurements, the generation, transmission, and utilization of power, covering the electrical future of water power development. \textit{Two hours a week.} Spring semester.

13b. \textbf{Electrical Railway Engineering}.—A study of the preliminary steps taken in electric railway engineering; the selection of the proper motor equipment for a given class of service; car, bond, and transmission testing. Optional to seniors in Electrical Engineering. \textit{Two hours a week.} Spring semester.

14a. \textbf{Illuminating Engineering}.—A course devoted to the study of the different types of lamps, light, photometry, illumination calculations, and the problems of interior and exterior illumination. Optional to juniors in Electrical Engineering. \textit{Two hours a week.} Fall semester.

15b. \textbf{Telephone Engineering}.—A course dealing with the principles of telephone apparatus and circuits. The different telephone systems, together with party lines, trunk lines, and central station problems are given due consideration. Optional to juniors in Electrical Engineering. \textit{Two hours a week.} Spring semester.

16b. \textbf{Electrical Power Plants}.—This course covers the electrical equipment of the power plant. Particular attention is given to the methods of control, circuit interrupting devices, lightning arresters, and methods of arranging station and substation switch boards. Required of seniors in Electrical Engineering. \textit{Two hours a week.} Spring semester.

\textbf{MATHEMATICS}

\textit{The courses in this department are described under the College of Arts and Sciences.}

\textbf{MECHANICAL ENGINEERING}

\textbf{Professor Jewett; Associate Professor Herschel; Mr. Davee; Mr. Carter; Mr. Lekberg; Mr. Kent}

1a. \textbf{Woodworking}.—A number of graded exercises in woodworking designed to give the student familiarity with the tools used in modern woodworking practice, and also teach him to work from dimensioned
Mechanical Engineering

drawings. These exercises lead up to pattern-making. The pattern work consists of making complete patterns and core boxes from drawings. Required of students in Mechanical Engineering. Charge for materials, $4.00. *Six hours a week. Fall semester.

1b. Woodworking.—A shorter course than 1a, arranged for students in Electrical Engineering. Required. Charges for materials, $4.00. *Four hours a week. Fall semester.

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. Required of students in Mechanical and Electrical Engineering. Charge for material, $5.00. *Four hours a week. Spring semester.

3. Kinematical Drawing.—This course supplements 4. The drawings are of cams and gear teeth and graphical studies of kinematic problems. Required of students in Mechanical Engineering. *Four hours a week. Fall semester.

4. Kinematics.—A study of motion in machine construction and of the elements of machines; links, gears, cams, etc. Required of students in Mechanical and Electrical Engineering. Three hours a week. Spring semester.

5a. Machine Work.—Exercises in chipping and filing; lathe work; exercises on planer, shaper, and milling machines; making cut gears, machinists taps, etc. Required of students in Mechanical Engineering. Charge for materials, $5.00. *Six hours a week. Fall and spring semesters.

5b. Machine Work.—A shorter course than 5a and 5b, required of students in Electrical Engineering. Charge for material $5.00. *Four hours a week. Fall and spring semester.

6. Foundry Work.—Foundry instruction is given in molding, mixing of materials, operation of cupolas, etc. The work is assigned in connection with Course 5, ten per cent. of the hours registered for under Course 5 being applied to foundry work.

7. Valve Gears.—The principal steam engine valve motions are studied in order to enable the student to gain a knowledge of the method of designing valve mechanisms; the Zeuner, Bilgram, and other
valve-diagrams are made use of in this connection; this course is given in conjunction with 17; practical problems are solved in the drawing room. Required of students in Mechanical Engineering. **Two hours a week.** Spring semester.

8. **Machine Design.**—A study of the designing of machines, proportioning of parts for strength and rigidity, etc. Required of students in Mechanical and Electrical Engineering. **Three hours a week.** Spring semester.


10. **Steam Engineering.**—This course deals with the fundamental theories of gases and steam, illustrated by problems of practical form. The laws of thermodynamics; laws of gases; characteristic equations for gases; kinds of expansion and compression; Carnot's cycle; heat quantities in steam; use of the steam tables; steam equations; quality of steam; calorimeters; entropy. Required of students in Mechanical and Electrical Engineering. **Two hours a week.** Spring semester.

11. **Steam Engineering.**—Types and details of steam boilers, engines, and auxiliary machinery. A consideration of fuels and the chemistry of combustion; efficiency factors of the steam boiler plant; heat losses in steam engines; compound steam engines; refrigeration; gas engine cycles and gas-producer principles. For students in Electrical Engineering valve gears is included. Required of students in Mechanical and Electrical Engineering. **Course 10 is a prerequisite. Three hours a week.** Fall semester.

12. **Steam Boiler Design.**—A study of the important points affecting the design of fire-tube and water-tube boilers, including the complete design of a boiler in the drawing-room. Required of students in Mechanical Engineering. **Six hours a week.** Fall semester.

13. **Hydraulic Machinery.**—A study of hydraulic turbines, water wheels, and other features of hydraulic power plant development. **Two hours a week.** Spring semester.
Mechanical Engineering

15a. Mechanical Laboratory.—The calibration of instruments used in engineering testing, followed by the more elementary experimental work. Required of juniors in Mechanical Engineering. The charge for the course is $2.00. † Two hours a week. Spring semester.

15b. Mechanical Laboratory.—Tests of materials, hydraulic testing, injectors, use of calorimeters, valve settings, etc. Required of seniors in Mechanical Engineering. The charge for the course is $3.00. † Two hours a week. Fall semester.

15c. Mechanical Laboratory.—Tests of steam engines and boilers, gasoline engines, etc. Required of seniors in Mechanical Engineering. The charge for the course is $3.00. † Four hours a week. Spring semester.

16. Steam Engineering.—A continuation of Courses 10 and 11, dealing with steam engines, steam turbines, air compressors, refrigerating machines, and gas engines; considerations affecting the design and efficiency of operation of heat motors, the lay-out of power plants, and power plant economics; organization and management of manufacturing plants. Required of students in Mechanical Engineering. Two hours a week. Spring semester.

17. Steam Engine Design.—A study of problems affecting the design of the steam engine with regard to their bearing on general machine design; a steam engine is partially designed in the drawing room. Required of students in Mechanical Engineering. * Six hours a week. Spring semester.

18. Machine Design.—A continuation of Course 8, including the execution of the design of some typical machines. Required of students in Mechanical Engineering. * Six hours a week. Fall semester.


College of Technology

21. Seminary.—General discussion of leading articles appearing in current engineering literature. Elective. One hour a week. Fall and spring semesters.

22. Thesis.—The results of some original investigation or design presented in proper form. The subject should be selected early in the fall semester of the senior year. See regulations regarding degrees.

24. Mechanism of Machines.—Lectures supplementing Course 4. Required of students in Mechanical Engineering. One hour a week. Fall semester.

25. Strength of Materials by Test.—A course in the mechanical laboratory for students in Civil Engineering. The charge for the course is $2.00. † Two hours a week. Spring semester.

26. Mechanical Laboratory.—A course of experiments in the laboratory especially arranged to meet the needs of the students in Electrical Engineering. The charge for the course is $2.00. † Three hours a week. Fall semester.

MECHANICS AND DRAWING

Professor Weston; Assistant Professor Grover: Mr. Farnham

1. Drawing.—Instruction and practice in technical freehand drawing and lettering, in the care of drawing instruments and their use in elementary problems involving right lines, circles, conic sections, and orthographic projections. * Six hours a week. Fall semester.


3. Drawing.—The elementary principles and problems of descriptive geometry including intersections and developments. * Six hours a week. Fall semester.

4. Drawing.—A continued study of the making of working drawings of simple machines, together with instruction and practice in making titles for the same. * Six hours a week. Spring semester.
Mechanics and Drawing

5. Mechanics.—The fundamental principles of statics, kinematics, and kinetics, with applications to practical problems; exercises in finding centre of gravity and moment of inertia; the study of stresses and strains in bodies subject to tension, compression, and shearing; the common theory of beams, including shearing force, bending moment, and elastic curves; torsional stresses and theories of stress in long columns. *Five hours a week. Fall semester.


7. Advanced Mechanics.—General principles of kinematics, statics, and kinetics; the mathematical theory of elasticity; the theory of the potential function, with applications to problems in gravitation, hydromechanics, etc. *Two hours a week. Fall semester.


10. Drawing.—A course designed especially for students in Agriculture and non-engineers. It combines the fundamental principles of Course 1 and Course 2. *Six hours a week. Fall semester.

MILITARY SCIENCE AND TACTICS

The courses in this department are described on page 198.

PHARMACY

Professor Jackman

1. Pharmaceutical Chemistry.—Chemical formulae; principles; chemical reactions; chemical equations, with special reference to pharmaceutical processes. The text-book is Prescott and Johnson’s Qualitative Chemical Analysis. *Five hours a week. Fall semester.

2. Pharmacy.—Pharmacopoeias, dispensatories, etc.; weights and measures; specific gravity; pharmaceutical uses of heat; pharmaceutical arithmetic and problems; the chemical elements, official salts, their preparations; organic compounds, their official preparations; official drugs,
their preparations; animal preparations; extemporaneous pharmacy; the principles of dispensing, etc. The text-book is Caspari's Pharmacy. *Five hours a week.* Fall semester.

3. **Laboratory Pharmacy.**—Official and National Formulary 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 for identity, strength, and adulteration; drug assaying. The text-books are Caspari's Pharmacy and the U. S. Pharmacopoeia. *†Twelve hours a week.* Fall semester.

4. **Pharmacopoeia.**—A complete review of the pharmacopoeia, 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. Pharmacopoeia. *Five hours a week.* Spring semester.

5. **Inorganic Pharmacognosy.**—Nomenclature; practical exercises in the identification of specimens. The text-book is the U. S. Pharmacopoeia. *Two hours a week.* Fall semester.

6. **Organic Pharmacognosy.**—Nomenclature; habitat, etc.; practical exercises. The text-books are the U. S. Pharmacopoeia and Culbreth's Materia Medica. *Four hours a week.* Spring semester.

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 semester.

9. **Pharmacy Readings.**—Current pharmacy literature; research and reference readings; abstracting; reports. *†Three hours a week.* Spring semester.

10. **Laboratory Pharmacy.**—A continuation of Course 3. *†Ten hours a week.* Spring semester.

11. **Prescriptions.**—Critical examination of prescriptions from actual files, with reference to principles, and to 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 semester.
Physical Training

PHYSICAL CULTURE AND ATHLETICS

The courses in this department are described on page 199.

PHYSICS

The courses in this department are described under the College of Arts and Sciences.
REQUIRED COURSES

Work in the departments of Military Science and Tactics and Physical Training is required of all men students with certain exceptions noted elsewhere.

MILITARY SCIENCE AND TACTICS

PROFESSOR GLASS

1. MILITARY, FIRST YEAR COURSE
   (a) PRACTICAL
       1—U. S. Infantry Drill Regulations, to include the School of the Battalion, Advance and Rear Guards, Outposts, Marches, and Ceremonies
       2—Infantry Target Practice
       3—Field Service Regulations
       4—Guard Duty
   (b) THEORETICAL
       1—U. S. Infantry Drill Regulations, to include the School of the Company
       2—Manual of Guard Duty
       3—Field Service Regulations
       4—Small Arms Firing Regulations

Required of all students with the exceptions noted elsewhere. *Three hours, or the equivalent, a week for the freshman year, counting one-fifth credit.*

2. MILITARY, SECOND YEAR COURSE
   (a) PRACTICAL
       The same as Course 1(a)
   (b) THEORETICAL
       1—U. S. Infantry Drill Regulations, School of the Battalion, Advance and Rear Guards, Outposts, Marches, and Ceremonies

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Required Courses

2—Records and Official Papers
3—Small Arms Firing Regulations
4—Field Service Regulations

Required of all students with the exceptions noted elsewhere. *Three hours, or the equivalent, a week for the sophomore year, counting one-fifth credit.*

3. MILITARY, THIRD YEAR COURSE
   (a) PRACTICAL
       Duties consistent with rank in carrying out (a) in Courses 1 and 2
   (b) THEORETICAL
       Assistant instructors over those taking Course 1(b)
       Open to all who have completed Course 2. *Three hours, or the equivalent, a week, counting one-fifth credit*

4. MILITARY, FOURTH YEAR COURSE
   (a) PRACTICAL
       The same as for Course 3(a)
   (b) THEORETICAL
       Assistant instructors over those taking Course 2(b)
       Open to all who have completed course 3. *Three hours or the equivalent, a week, counting one-fifth credit.*

PHYSICAL CULTURE AND ATHLETICS

PROFESSOR WINGARD

1. PHYSICAL TRAINING.—Class formation and figure marching; setting-up drills; free-arm and calisthenics movements; elementary dumbbell, wand, and apparatus exercises. *One hour lecture and *two hours practice a week.* Fall semester.

2. PHYSICAL TRAINING.—Intermediate and advanced class exercises and combination apparatus work. *One hour lecture and *two hours practice a week.* Spring semester.
MAINE AGRICULTURAL EXPERIMENT STATION

STATION STAFF

CHARLES DAYTON WOODS, Sc. D.  Director
JAMES MONROE BARTLETT, M. S.  Chemist
WARNER JACKSON MORSE, Ph. D.  Plant Pathologist
RAYMOND PEARL, Ph. D.  Biologist
OSKAR AUGUSTUS JOHANNSEN, Ph. D.  Entomologist
EDITH MARION PATCH, Ph. D.  Associate Entomologist
HERMAN HERBERT HANSON, M. S.  Associate Chemist
CHARLES EDWARD LEWIS, Ph. D.  Associate Plant Pathologist
MAYNE ROSE CURTIS, M. A.  Assistant Biologist
ALBERT VERRILL, B. S.  Assistant Chemist
EDWARD EUGENE SAWYER, B. S.  Assistant Chemist
HELEN WILLARD AVERILL, B. A.  Assistant Chemist
ROYDEN LINDSAY HAMMOND  Seed Analyst and Photographer
WALTER ANDERSON  Poultryman
WELLINGTON SINCLAIR  Superintendent of Highmoor Farm
CLARENCE WALLACE BARBER, B. S.  Assistant Biologist
GEORGE ALBERT YEATON  Orchardist at Highmoor Farm
ELMER ROBERT TOBIE, B. S.  Inspector
EDGAR ALBERT WHITE  Inspector
ALICE WOOD AVERILL  Laboratory Assistant
HARRY ALEXANDER  Laboratory Assistant
VERNOM FOLSON  Laboratory Assistant
CHARLES INMAN  Computer
ESTELLA MORRISON  Clerk and Stenographer
BLANCHE FOLSOM POOLER  Stenographer
GEM COOMBS
GOVERNMENT OF THE STATION

By authority of the Trustees the affairs of the Station are considered by the Station Council, (see page 8) composed of the President of the University, three members of the Board of Trustees, the Director of the Station, the heads of the various departments of the Station, the Commissioner of Agriculture, and one member each from the State Pomological Society, the State Grange, the State Dairymen's Association, the Maine Live Stock Breeders Association, and the Maine Seed Association. The recommendations of the Council are referred to the Trustees for final action. The Director is the executive officer of the Station, and the other members of the staff carry out the lines of research that naturally come under their departments.

INCOME

The income of the Station for 1911-12 was about $65,000; $15,000 of which came from the Hatch fund; $15,000 from the Adams fund; $20,000 from State appropriations and fees from feeding stuff inspection, fertilizer inspection, food and drug inspection, fungicide and insecticide inspection, and seed inspection; $4,500 from State appropriation for printing; $1,000 from the United States Department of Agriculture for carrying on cooperative experiments with poultry; and about $8,500 from the sale of produce and miscellaneous sources.

THE OBJECT

The purpose of the experiment stations is defined in the Act of Congress establishing them as follows:

"It shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural and artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition
Experiment Station

and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states or territories.

The work that the Station can undertake from the Adams Act fund is more restricted as the fund can “be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States, having due regard to the varying conditions and needs of the respective states and territories.”

Any resident of Maine concerned in agriculture has the right to apply to the Station for any assistance that comes within its province.

EQUIPMENT

Most of the Station offices and laboratories are in Holmes Hall, described on page 24. The Station is well equipped in laboratories and apparatus, particularly in the lines of chemical, entomological, horticultural, pomological, vegetable pathological, and poultry investigations. Its poultry plant is probably the most complete of that of any experiment station in the country. It has extensive collections illustrating the botany and entomology of the State. It has a library of over 3,500 volumes, chiefly agricultural and biological journals and publications of the various experiment stations.

HIGHMOOR FARM

The State Legislature of 1909 purchased a farm upon which the Maine Agricultural Experiment Station “shall conduct scientific investigations in orcharding, corn, and other farm crops.” The farm is situated in the counties of Kennebec and Androscoggin, largely in the town of Monmouth. It is on the Farmington Branch of the Maine Central Railroad, two miles from Leeds Junction. A flag station, “Highmoor,” is on the farm.

The farm contains 225 acres, about 200 of which are in orchards, fields and pastures. There are in the neighborhood of 3,000 apple trees upon the place which have been set from 10 to 20 years. Fields that are not
in orchards are well adapted to experiments with corn, potatoes, and similar general farm crops. The house has two stories with a large wing, and contains about 15 rooms. It is well arranged for the Station offices and for the home of the farm superintendent. The barn is large, affording storage for hay and grain. The basement affords limited storage for apples, potatoes, and roots.

INVESTIGATIONS

The Station continues to restrict its work to a few important lines, believing that it is better for the agriculture of the State to study thoroughly a few problems than to spread over the whole field of agricultural science. It has continued to improve its facilities and segregate its work in such a way as to make it an effective agency for research in agriculture. Prominent among the lines of investigation are studies upon the food of man and animals, the diseases of plants and animals, breeding of plants and animals, orchard and field experiments, poultry investigations, and entomological research. Some of these are in cooperation with bureaus of the United States Department of Agriculture.

INSPECTIONS

The inspection of agricultural seeds, the inspection of concentrated feeding stuffs, the inspection of commercial fertilizers, the inspection of food and drugs, the inspection of fungicides and insecticides, 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 cost of the inspections is borne by a State appropriation and by fees.

PUBLICATIONS

The Station issues three series of publications: Bulletins, Official Inspections, and Miscellaneous Publications.

The results of the work of investigation are printed as Bulletins. The Bulletins for a year form a volume of 300 to 400 pages and together make up the annual report. Bulletins are sent to the press of the State, to exchanges, libraries, and scientific workers. Bulletins which contain
Experiment Station

matter of immediate value to practical agriculture are sent free to residents of Maine whose names are on the permanent mailing list.

The results of the work of inspection are printed in pamphlet form and are termed Official Inspections. About twelve such pamphlets, aggregating 150 to 200 pages, are printed annually, and are bound as an appendix with the annual report. Official Inspections are sent to dealers within the State; those that have to do with fertilizers, feeding stuffs, and seeds are sent to farmers, and those reporting food and drugs are sent to a list of several thousand women within the State.

The Miscellaneous Publications consist of newspaper bulletins, circulars, and similar fleeting publications. From twenty to thirty are published each year and are sent to different addresses according to the nature of the subject matter.

On request, the name of any resident of Maine will be placed on the permanent mailing list to receive either or both the Bulletins and Official Inspections as they are published.
SUMMER TERM

The Summer Term of the University of Maine is not a summer school, but so far as practicable the work is coordinate with that of the remainder of the year. The majority of the courses offered are of college grade and, when completed, entitle the student to full credit on the university books. There are no examinations for admission, and students are permitted to enter any class in which they can satisfactorily carry on the work. Before counting this work toward a collegiate degree, the entrance conditions must be met.

Three classes of students may be benefited by the work of this term:

1. Teachers in the high schools and grammar schools who wish to fit themselves for more advanced positions. A small expenditure of time and money in the summer vacation may be the means of securing a more desirable position. School superintendents are coming to discriminate in favor of those teachers who advance in their work.

2. Students who desire to anticipate work in their curricula, or who may have work in arrears. A student should be able to make one credit, the equivalent of a five hours' subject for eighteen weeks, during the Summer Term.

3. Courses in physics, chemistry, mathematics, Latin, and other subjects are offered covering the work of the high school. In this way a student who is slightly deficient at the end of the school year may prepare himself for college. These courses give no credit on the university books.

COURSES OF STUDY

During the summer of 1912 courses were offered in the following subjects: Botany, Chemistry, Home Economics, Education, English, French, German, History, Horticulture, Latin, Mathematics, Mechanics, Physics, and Woodwork. These courses are described in connection with the courses offered at the University during the remainder of the year.
Summer Term

LECTURES 1912

Professor G. D. Chase, American Dialect
Professor L. E. Woodman, The Ether
Professor G. W. Thompson, (Organ Recital)
Professor J. J. Jones, Measuring Results in Education
President R. J. Aley,
The Recent Meeting of the National Education Association

VESPER SERVICES

A brief religious service is conducted each Sunday afternoon at 4.00 p. m. in the Library. This consists of a song service and a brief address.

LIBRARY

Throughout the Summer Term the university library, containing over 48,000 volumes and having about three hundred periodicals and the Maine daily papers, is open from 9.00 a. m. to 12 m., and from 2.00 to 5.00 p. m. daily, except Saturday afternoon and Sunday.

The library privileges ordinarily accorded to university students, including the home use of books, are extended to students in the summer courses.

LABORATORIES, MUSEUMS, AND OBSERVATORY

The laboratories belonging to the departments of Physics, Chemistry, and Botany are available for use of the students. In the physical and chemical laboratories there is ample provision for carrying on the various courses from the preparatory work to that of the graduate student in the University.

The botanical laboratory is in charge of the Professor of Biology. The student is furnished with microscope, specimens, and preparations for advanced work.

The museum is illustrative of the rocks and fauna of Maine, and is open at stated periods for the use of the students.

The observatory contains an eight-inch telescope, vertical circle, and other instruments of precision. The observatory will be open to the students of the Summer Term one evening each week.

TEACHERS' AGENCY

The authorities of the Summer Term have made arrangements with a Teachers' Agency whereby the students in attendance may secure the benefits of the agency without paying the usual registration fee. Fre-
Summer Term

quent calls are received each year for teachers, the demand greatly exceeding the supply. Every effort will be made to secure satisfactory positions for properly qualified teachers.

EXPENSES

Tuition for the term of six weeks, covering all charges for instruction for a registration of fifteen hours a week, and use of library and laboratories, except a small additional fee covering cost of materials used in the laboratories is as follows:

For residents of Maine, $12.00.
For residents of other states, $18.00.

Board and room in the university buildings, including light and the necessary furniture, $30.00 for the term. The charge for room alone is $1.00 per week, and for board alone $4.00 per week. Men should bring sheets, pillow cases, and towels.

RECREATION

Most of the class work is held during the forenoon, leaving the afternoon and evening free for study and recreation.

On the campus are several excellent tennis courts. The neighboring country affords many attractive excursions, on foot, by bicycle, carriage, automobile, or electric cars. Maine's famous seaside resort, Bar Harbor, is but one and one-half hours distant by rail, while Mount Kineo and Moosehead Lake are at only a slightly greater distance and easily accessible.

Within easy riding or wheeling distance are Lakes Pushaw and Chemo, as well as several attractive mountains.

IN GENERAL

Prospective students are invited to consult the President, or any of the instructors, for further details regarding any of the courses, or upon any subject relating to the work. It is the wish of the authorities to offer such courses as will best appeal to the teachers of Maine, and others who desire to avail themselves of these privileges.

If there should be a considerable demand for other studies than those named, arrangements will be made to provide for them as far as practicable. In case the registration for any course offered falls below a certain minimum, it may be withdrawn. The list of instructors and the courses outlined in this catalog were for the summer of 1912. Unimportant changes are likely to be made in 1913.
ALUMNI ASSOCIATIONS

These associations have been organized for the purpose of extending the influence of the University, and keeping alive its spirit in various sections of the country. They have rendered efficient service in promoting the interests of the University.

GENERAL ASSOCIATION

President, Charles W. Mullen, 1883, Bangor
Vice-President, Edson F. Hitchings, 1885, Orono
Recording Secretary, Fremont L. Russell, 1885, Orono
Corresponding Secretary, Ralph K. Jones, 1886, Orono
Treasurer, James A. Gannett, 1908, Orono
Necrologist, James N. Hart, 1885, Orono

ADVISORY COUNCIL

Members at Large

Albert H. Brown, B. S., 1880, Old Town Maine......................... 1912
George H. Hamlin, C. E., 1873, Orono, Maine......................... 1912
Louis C. Southard, M. S., LL. D., 1875, Boston, Mass............. 1913
Charles E. Oak, M. E., 1876, Bangor Maine............................ 1913
Perley B. Palmer, B. C. E., 1896, Orono Maine..................... 1914
Jeremiah S. Ferguson, M. S., M. D., 1889, New York City........ 1914
Charles S. Bickford, B. S., 1882, Belfast, Maine.................. 1915
George E. Thompson, B. C. E., 1891, Bangor, Maine.............. 1915
Edward H. Kelley, B. S., 1890, Bangor, Maine....................... 1916
C. Parker Crowell, B. M. E., 1898, Bangor, Maine................. 1916

Representing the College of Agriculture

Alumni Associations

Representing the College of Arts and Sciences
DeForest H. Perkins, M. A., LL. B., 1900, Portland, Maine........... 1912

Representing the College of Law
Frank D. Fenderson, LL. B., 1899 Law, Limerick, Maine.......... 1916

Representing the College of Technology
George F. Black, C. E., 1886, Portland, Maine...................... 1913

The West Maine Association
President, S. W. Bates, 1875, First National Bank Building, Portland
Secretary and Treasurer, S. E. Patrick, 1903, Gorham

The Boston Association
President, S. P. Graves, 1903, 30 Court St., Boston, Mass.
Vice-President, E. E. Palmer, 1899,
Secretary and Treasurer, H. E. Sutton, 1909, 319 Washington St., Boston, Mass.

The New York Association
President, C. P. Gray, 1900, 60 West 58th St., New York City
Vice-President, J. R. Boardman, 1888, 90 West Broadway, New York City
Secretary and Treasurer, A. W. Stephens, 1899, 160 Rutledge Ave.,
East Orange, N. J.
Assistant Secretary, R. E. Lord, 1906, 1 Gramercy Park, New York City

The Western Association
President, Carlos Dorticos, 1903, 1311 East 51st St., Chicago, Ill.
Secretary and Treasurer, H. L. Nash, 1900, 327 Marion St., Oak Park, Ill.
Executive Committee, William Webber, 1884, W. O. Weston, 1900,

The Washington (D. C.) Association
President, L. A. Rogers, 1896, 3735 Oliver St.
Vice-President, C. W. Weeks, 1905, 621 Hillsboro Street, Raleigh, N. C.
Secretary and Treasurer, H. W. Bearce, 1906, Bureau of Standards

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Alumni Associations

THE PENOBSCOT ASSOCIATION

President, C. P. Crowell, 1898, 16 Broad St., Bangor
Vice-President, D. W. A. Bumps, 1875, Dexter
Secretary and Treasurer, J. H. McClure, 1905, 42 Hammond St., Bangor
Executive Committee, A. W. Sprague, 1905, Bangor, E. Lisherness, 1906,
Bangor, H. S. Boardman, 1895, Orono

THE PITTSBURG ASSOCIATION

Secretary and Treasurer, B. F. Faunce, 1901, Pittsburg, Pa.
Executive Committee, C. D. Smith, 1905, H. E. Cole, 1902, J. G. Scales,
1910

THE KENNEBEC VALLEY ASSOCIATION

President, Harold E. Cook, 1900, Waterville
Secretary, Ernest C. Butler, 1901, Skowhegan
Treasurer, Samuel J. Foster, 1903, Oakland
Executive Committee, J. H. Burleigh, 1897, E. C. Butler, 1901, H. E.
Cook, 1900

THE COLLEGE OF LAW ALUMNI ASSOCIATION

President, F. D. Fenderson, 1899, Limerick
Vice-President, A. A. Lang, 1904, Gloucester, Mass.
Corresponding Secretary, G. H. Worster, 1905, 20 Hammond St., Bangor
Financial Secretary, N. V. MacLean, 1905, Bangor
Treasurer, B. W. Blanchard, 1904, Bangor

ALUMNI OF THE SCHOOL AND TEACHERS' COURSES IN AGRICULTURE

President, Ralph L. Smith, 1912, Kennebunkport
Vice-Presidents, Walter S. Jones, 1912, Somerville, Mass., Roy E. Jones,
1912, Pelham, N. H.
Secretary and Treasurer, Perley F. Smith, 1912, East Brownfield
Executive Committee, Walter S. Jones, 1912, Roy E. Jones, 1912, and
George Wentworth, 1912.
APPOINTMENTS

Speakers at the Junior Exhibition

Forest Bertram Ames, Bangor; Alice Josephine Harvey, Bangor; John Walter Hart, Holden; Mac Evelyn Crossman, Claremont, N. H.; George Clarence Clark, Portland; Antoinette Treat Webb, Bangor.

Speakers at the Sophomore Prize Declamation Contest

Joseph Lewis Brown, Bar Harbor; Hermon Richard Clark, Townsend, Mass.; William Earle Kimball, South Paris; Edward Michael Loftus, Bangor; Preston Hussey Martin, Fort Fairfield; Paul Wheeler Monohon, Biddeford; Anna Belle Perkins, Skowhegan; Wayland Dean Towner, Bangor.

Members of Phi Kappa Phi

Helen Willard Averill, Milltown; Everett Harlow Bowen, Bangor; Charles Brown Cleaves, Portland; Fred Enoch Fish, Farmington; Clifford Henry George, East Orrington; Lillian Curtis Jones, Bangor; Margaret June Kelley, Bangor; Oscar William Mountfort, Nashua, N. H.; Ralph Woodbury Redman, Orono; Thomas Edward Sullivan, Lubec; Carrie Luella Woodman, Claremont, N. H.; Karl Douglas Woodward, Kingston, Mass.; Helen Charlotte Worster, Bangor.

Members of Tau Beta Pi

1912

Appointments

1913

Burleigh Ansel Annable, Lynn, Mass.; George Freeman Clark, Tremont; Mark Dennis Cronan, Middletown, Mass.; Raymond Olden Jackson, Harrison; Allan Francis McAlary, Lewiston; Robert Arthur Pinkham, Farmington.

General Honors

Clarence Wallace Barber, Yarmouth; Everett Harlow Bowen, Bangor; Charles Brown Cleave, Portland; Fred Enoch Fish, Farmington; Clifford Henry George, East Orrington; Fred Ruel Jones, Mercer; Lillian Curtis Jones, Bangor; William Mullins, Cambridge, Mass.; Oscar William Mountfort, Nashua, N. H.; Ralph Woodbury Redman, Orono; Thomas Edward Sullivan, Lubec; Carrie Luella Woodman, Claremont, N. H.; Helen Charlotte Worster, Bangor.

Honors in the College of Law

Everett Harlow Bowen, Bangor; Thomas Edward Sullivan, Lubec.

Reported to the Adjutant General, U. S. Army, for Publication in the U. S. Army Register, and to the Adjutant General of the State of Maine

Benjamin Calvin Kent, Bangor; William Rice Ballou, Bath.

Prizes Awarded

Kidder Scholarship, Fred Justin Lewis, Springfield, Mass.
Western Alumni Association Scholarship, Forrest Reuben Treworgy, Ellsworth
New York Alumni Association Scholarship, Paul Wheeler Monohon, Biddeford
Junior Exhibition Prize, Forrest Bertram Ames, Bangor
Sophomore Declamation Prize, Paul Wheeler Monohon, Biddeford
Franklin Danforth Prize, Clarence Wallace Barber, Yarmouth
Pittsburg Alumni Association Scholarship, Raymond Olden Jackson, Harrison
Kennebec County Prize, Clifford Henry George, East Orrington
Walter Balentine Prize, Donald Wing Sawtelle, Orono
Wingard Cup, Arthur Warren Abbott, Portland
Prizes Awarded

Holt Prizes, William Emery Parker, Harrington; Leon Walter Smiley, Skowhegan; George Lawrence Hosmer, Rockland
L. C. Bateman Prize, Everett Burton Harvey, Bar Harbor
Lewiston Journal Prize, William Henry Nason, Calais
American Pharmaceutical Association Prize, William Osborne, Jr., Bangor
Father Harrington Prize, Elizabeth Hanly, Thomaston

The highest standing obtained by a member of the class of 1912 in the four years curriculum was made by Carrie Luella Woodman, Claremont, N. H.

The Class of 1908 Commencement Cup, which is awarded each year to the class having the largest percentage of its membership present at Commencement, was won in 1909 by the classes of 1872 and 1873; in 1910 the cup was won by the class of 1875; in 1911 it was won by the class of 1875; and in 1912 by the class of 1872.

The cup presented by the Senior Skulls to that Fraternity which has during the year maintained the highest average in scholarship was awarded in 1910 to Beta Theta Pi, in 1911 to Alpha Tau Omega, and in 1912 to Phi Gamma Delta.
COMMENCEMENT

The Commencement exercises of 1912 were as follows:
Saturday, June 8: Phi Kappa Phi Initiation and banquet, in the evening.
Monday, June 10: Class Day Exercises; President's Reception.
Tuesday, June 11: Commencement Dinner; Meeting of Law Alumni; Alumni Lunch; Alumnae Lunch; Meeting of the General Alumni Association; Class reunions.
Wednesday, June 12: Commencement Address, by Rev. M. Joseph Twomey, Pastor of the First Baptist Church, Portland; Announcement of Honors; Conferring of Degrees; Commencement Ball.

DEGREES CONFERRED

COLLEGE OF AGRICULTURE
Bachelor of Science

Clarence Wallace Barber .................. Yarmouth
Charles Alton Cavanaugh .................. Portland
Arthur Lowell Deering .................. Bridgton
Clarence Dunlap ......................... Farmington
Marion Corthell Estabrooke ............. Orono
William Melvin Gray ..................... Bucksport
Harrison Morton Hatch .................. West Groton, Mass.
Austin Whittier Jones .................. Bangor
Fred Ruel Jones ........................ Mercer
Maurice Daniel Jones .................... Unity
Degrees Conferred

Ellis Wyman McKeen .................................................Fryeburg
George Leavitt Parker .............................................Skowhegan
Ralph Woodbury Redman ........................................Orono
Charles Winfield Rowe .........................................South Paris
Luther Sampson Russell .........................................Orono
Arthur Leroy Sturtevant ..........................................Milo

Bachelor of Science in Forestry

Lloyd Everett Houghton ..............................................Lee
Philip Rodney Hussey ..............................................Patten
William James Henry Miller ......................................South Berwick
James Plummer Poole...........................................Gloucester, Mass.
Harlan Hayes Sweetser ...........................................Cumberland Center
Lynwood Burkett Thompson .....................................Belfast

College of Arts and Sciences

Bachelor of Arts in Economics

William Rice Ballou ....................................................Bath
Robert Loring Buzzell ...............................................Old Town
William Mullins .........................................................Cambridge, Mass.
Dana Peabody Washburn .........................................Calais
George Roundy Woodbury .......................................Beverly, Mass.

Bachelor of Arts in English

Celia May Coffin ............................................................Bangor
Carl Bertram Estabrooke ..............................................Orono
Hazel Folsom Mariner ...............................................Milford
Helen Charlotte Worster ...........................................Bangor

Bachelor of Arts in German

Margaret June Kelley ....................................................Bangor

Bachelor of Arts in History

Ruth Merrill .................................................................Auburn

Bachelor of Arts in Latin

Marjorie Adell White ..................................................Danforth
Esther Margaret Dixon ..................................................Calais
Degrees Conferred

**Bachelor of Arts in Mathematics**

Alma Eliza Clapp ................................................................. Brewer
Lillian Curtis Jones .............................................................. Bangor
Carrie Luella Woodman ........................................................ Claremont, N. H.

**Bachelor of Arts in Physics**

Fred Enoch Fish ................................................................. Farmington
William Everett Hebard ....................................................... Southbridge, Mass.

**Bachelor of Arts in Romance Languages**

Edward Frazier Carleton ...................................................... South Groveland, Mass.

**Bachelor of Arts in Chemistry**

Helen Willard Averill ........................................................... Milltown
Edward Eugene Sawyer ......................................................... Old Town

**Bachelor of Arts in Biology**

Emily Mary Bartlett ............................................................. Orono

**College of Law**

**Bachelor of Laws**

Frederick Prescott Adams ..................................................... Cherryfield
Everett Harlow Bowen, B. A. (Colgate University, 1903); M. S. (1905) ......................................................... Bangor
James Louis Boyle, B. A. (St. Joseph’s College, 1906) .............. Calais
Percy Truman Clarke ............................................................ Franklin
Albert Fremont Cook ............................................................ Bangor
Arthur Albert Greene ............................................................ Highgate Center, Vt.
Leigh Irving Harvey ............................................................... Bangor
Ralph Morrill Ingalls ............................................................ Bridgton
Ballard Freese Keith, B. A., (1908) (Oxford University, 1911) ........ Old Town
Howard Benjamin Rand ......................................................... Haverhill, Mass.
Henry Waide Sawyer ............................................................ Milbridge
Thomas Edward Sullivan ....................................................... Lubec
Harry Alonzo Thompson ....................................................... Jackson, N. H.
Harold Edward Weeks, B. A. (Bowdoin College, 1906) .............. Fairfield
Degrees Conferred

COLLEGE OF TECHNOLOGY

Bachelor of Science in Chemistry

Charles Smith Benjamin ................................................. Old Town
Robert Elliott Hussey .................................................. Portland

Bachelor of Science in Civil Engineering

Harry Poole Burden ...................................................... Lynn, Mass.
Carl Schurz Cleaves ........................................................ Bar Harbor
Harry Lawrence Crosby ................................................ Portland
Franklin Lloyd Darrell ................................................... Brooklyn, N. Y.
David Ray Duran .......................................................... Westbrook
Samuel Dyer ................................................................. Attleboro, Mass.
Henry Harlan Eastman .................................................. Limerick
Herbert Levi Fisher ........................................................ Charlotte
Lester Warner Jacobs .................................................... Rockland, Mass.
George Edward King, Jr. ................................................ Bethel
Frank Hodgkins Lancaster ............................................. Presque Isle
Walter Harrison Lilly ..................................................... Woolwich
Roger Winchester Macdonald ........................................ Peabody, Mass.
Warren McDonald ........................................................ Portland
Oscar William Mountfort .............................................. Nashua, N. H.
Atlee Burpee Osborne .................................................. Fort Fairfield
Walter Ezra Perkins ...................................................... Old Town
Lynne Thomas Rand ..................................................... Unity
Leon Walter Smiley ...................................................... Skowhegan
Oscar Abel Wakefield .................................................. Andover
Frank William Winchester ............................................ Nahant, Mass.
Walter Remick Witham ............................................... Madison

Bachelor of Science in Electrical Engineering

John Emmons Ash .......................................................... Bar Harbor
Charles Brown Cleaves ................................................ Portland
Nathan Clifford Cummings .......................................... Gorham
Clifford Henry George ................................................ East Orrington
Leo Melville Gerrish .................................................. Berlin, N. H.
Robert James Gordon .................................................. Bangor
Degrees Conferred

Maynard Sumner Gould .........................................................Camden
Benjamin Haskell .............................................................Westbrook
James Foster Jackson ......................................................Jefferson
Charles William Newell ..................................................Houlton
William Emery Parker ....................................................Harrington
Ralph Benjamin Pond .....................................................Eau Claire, Wis.
Montelle Chester Smith ..................................................Old Town
William Alfred Southwick ..............................................West Peabody, Mass.

Bachelor of Science in Mechanical Engineering
Irving Emory Center .........................................................Kingston, Mass.
Walter Bradbury Emerson ..............................................Biddeford
Philip Garland .................................................................Old Town
George Lawrence Hosmer ..............................................Rockland
Leslie Mansfield Huggins ...............................................Malden, Mass.
Benjamin Calvin Kent .....................................................Bangor
Albert Mortimer Nickels ...............................................Cherryfield
Charles Eugene Sullivan ...............................................Gorham, N. H.

Pharmaceutical Chemist
Victor Hugo Hinckley .....................................................West Jonesport
Fred Clook Johnson .........................................................Princeton
Lloyd Dodge Nugent ......................................................North Lubec
William Osborne, Jr. .......................................................Bangor
Fred Thomas Stewart .....................................................Linneus

Advanced Degrees
in Course
Master of Arts in Chemistry
Arthur Moses Buswell, B. A. (University of Minnesota, 1910) ....Orono

Master of Science in Mathematics
Lowell Jacob Reed, B. S. (1907) ...........................................Orono

Master of Science in Physics
Ernest Claude Drew, B. S. (University of Vermont) 1909 .......Orono

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Degrees Conferred

MASTER OF LAWS
Benjamin Willis Blanchard, LL. B. (1904) ..........Bangor

PROFESSIONAL DEGREES

CIVIL ENGINEER
Amon Benjamin Brown, B. S. (1907) ...............Rupert, Idaho
Ernest Osgood Sweetser, B. S. (1905) ...............St. Louis, Mo

ELECTRICAL ENGINEERING
Winfield Dexter Beare, B. S. (1906) ...............Schrack, N. Y.

CERTIFICATES IN THE SCHOOL COURSE IN AGRICULTURE
Everett Webber Bartlett ....................................Monroe
Francis Everest Clancy ....................................Orono
Henry Tewksbury Covell ....................................Farmington
Roger Eveleth ..................................................Auburn
Howard Freeman Goodwin ................................Marlboro, Mass.
Willis Crosby Hamilton ....................................West Scrboro
Roy Edwin Jones ...............................................Pelham, N. H.
Walter Scott Jones ............................................Somerville, Mass.
Charles Carlyle Larrabee ....................................Old Town
William Henry Nason .......................................Calais
Peter Andrew Pearson .......................................Calais
Wilfred Sherman Rowe .....................................Auburn
Perley Foster Smith .......................................East Brownfield
Ralph Lord Smith ........................................Kennebunkport
Cleba Charles Taylor ......................................Skowhegan
John William Wadsworth ................................Cornish
Wilfred Allen Waterman ....................................Auburn

CERTIFICATE IN THE TEACHER'S COURSE IN AGRICULTURE
George Francis Wentworth ................................Woodman, N. H.

CERTIFICATE IN TWO YEARS COURSE IN DOMESTIC SCIENCE
Rebecca Chilcott ........................................Bangor
Degrees Conferred

DEGREES OUT OF COURSES

BACHELOR OF SCIENCE

Edward Sewall Abbott (as of the Class of 1884) ................ Bridgton
James Martin Nowland (as of the Class of 1887) .......... Quincy, Mass.
William Robinson Pattangall (as of the Class of 1884) .... Waterville

BACHELOR OF CIVIL ENGINEERING

Charles Clement Elwell (as of the Class of 1878) ..... New Haven, Conn.
Elmer Ellsworth Greenwood (as of the Class of 1889) .... Skowhegan
William Franklin Robinson (as of the Class of 1876) .. Arlington, Mass.
Ambrose Harding White (as of the Class of 1886) .... New York, N. Y.

BACHELOR OF MECHANICAL ENGINEERING

Charles Henry Benjamin (as of the Class of 1878) .... Lafayette, Ind.
Austin Dinsmore Houghton (as of the Class of 1887) .. Santa Cruz, Cal.

PHARMACEUTICAL CHEMIST

Charles Simming Bartlett (as of the Class of 1897) .... Auburn
James Alfred Bird (as of the Class of 1897) ........ Cambridge, Mass.
Daniel Lunt Cleaves (as of the Class of 1898) .......... Portland
William Henry Crowell (as of the Class of 1900) ... New Britain, Conn.
Fred Elmer Hall (as of the Class of 1898) ........ Houlton
Alvin Willard Keirstead (as of the Class of 1897) .... Wiscasset
Ernest Julian McCrillis (as of the Class of 1897) .. Franklin, N. H.
William George McCrillis (as of the Class of 1897) .. Bristol, N. H.
Willbur George MacDougal (as of the Class of 1898) .. East Millinocket
Curtis Boyce Mitchell (as of the Class of 1898) ........ Unity
Russell Davenport Walton (as of the Class of 1898) .... Frankfort
Charles Harry White (as of the Class of 1897) .......... Orono
Catalog of Students

CATALOG OF STUDENTS


GRADUATE STUDENTS

Barber, Clarence Wallace, B. S., Ag. Orono
University of Maine, 1912

Cleaves, Charles Brown, B. S., Ce. Portland
University of Maine, 1912

* Cousins, Irene B. A., Hy. Old Town
University of Maine, 1911

Darrow, William Hinds, B. A., M. A., Ht.
Middlebury College, 1911. Cornell University, 1912

* Day, George Willis, B. S., Ch. East Waterboro
Dartmouth College, 1895

Day, Letitia Elizabeth, B. A., Lt.
University of Maine, 1911

Drew, Ernest Claude, B. S., M. S., Ps.
Orono

Durgin, Albert Guy, B. S., M. S., Ch.
University of Maine, 1908, 1909

Ewer, Louise Frances, B. A., Ec. Bangor
Mt. Holyoke College, 1912.

* Gilbert, William Henry, B. A., Ch. Millinocket
University of Maine, 1909

* Summer Term. 221
Catalog of Students

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<th>Name</th>
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<th>Degree(s)</th>
<th>Location</th>
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<td>Glover, Philip Holden</td>
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<td>Shepherd, Thomas Dudley</td>
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<td>Smith, Harry Woodbury</td>
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<td>Worster, Helen Charlotte</td>
<td>University of Maine</td>
<td>B.A., E.</td>
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SENIORS

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<td>Ackley, Edward Preble</td>
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<td>Ahrens, Bernard Alexander</td>
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<td>Amadon, Arthur Franklin</td>
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<td>Ames, Forrest Bertram</td>
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<td>Annable, Burleigh Ansel</td>
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<td>Lynn, Mass.</td>
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<td>Ayer, Harold Francis</td>
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<td>Haverhill, Mass.</td>
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<td>Bird, Maurice Cobb</td>
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<td>Blanchard, Ralph Childs</td>
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<td>Cumberland Ctr.</td>
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<td>Bolton, Philip Sumner</td>
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<td>Borden, Marion Wilhelmina</td>
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<td>Providence, R.I.</td>
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<td>Brewer, Warren Grant</td>
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<td>Peaks Island</td>
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<td>Burgess, Howard, Ee.</td>
<td>University of Maine</td>
<td>China</td>
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<td>Burns, William Hugh</td>
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<td>Dennysville</td>
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<td>Buzzell, Ralph Waldo</td>
<td>University of Maine</td>
<td>Camden</td>
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* Summer Term.
## Catalog of Students

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<tr>
<th>Name</th>
<th>Address</th>
<th>Building</th>
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<tr>
<td>Cannon, Arthur Hildreth, Me.</td>
<td>Orono</td>
<td>Myrtle St.</td>
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<td>Carleton, John Harvey, Ce.</td>
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<td>Chandler, Clifton Edward, Ec.</td>
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<td>Cobb, Frank Collins, Ee.</td>
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<td>202 H. H. Hall</td>
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<td>100 Main St.</td>
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<td>New Bedford, Mass.</td>
<td>Δ K House</td>
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Catalog of Students

Murray, Walter Edward, Ee.          Lynn, Mass.  Θ X House
Norton, Carlos Everett, An.         Cumberland Ctr.  Δ K House
Ober, John Larcom, Ee.              Beverly Farms, Mass.  Σ A E House
Page, Edwin Richard, Ee.            Winterport    205 Oak Hall
Pinkham, Robert Arthur, Ee.         Farmington    202 H. H. Hall
Quarmby, George Henry, Ee.          Bangor        Κ Σ House
Richards, Harold Albion, Ee.        Belfast       Δ K House
Richardson, Carroll Raymond, Ee.     Oakland       202 H. H. Hall
Ricker, Elwyn Tristram, Ce.         Orono         Campus
Rogers, Luther Barker, Ee.          Bangor        B Θ Π House
Russell, Mary Etta, He.             Orono         Forest St.
Savage, Ernest Thompson, Fy.        Skowhegan     Κ Σ House
Sawtelle, Donald Wing, An.          Old Town       Old Town
Seckins, Leon Elroy, Ec.            Foxcroft      Stillwater
Severance, Amanda Bailey, Lt.       Marlboro, Mass.  Θ E House
Shorey, Ralph Oscar, Ce.             Belfast       Δ K House
Simpson, George Stevens, Ch.        Bangor        Bangor
Small, Nathan Houston, Ec.          Clinton, Mass.  University Inn
Smith, Oscar Samuel, Pl.            Corinna       Φ H K House
Stone, Walter Christopher, Ch.       Ashland       Λ Τ Ω House
Tabor, James Atwood, Jr., Ch.        East Dover    Stillwater
Tilley, Glenwood Coding, Ee.         Lee           302 H. H. Hall
Towne, Harland Eugene, Ce.          Portland      B Θ Π House
Tuck, Leon Sylvester, Ce.            Newport       Φ Η K House
Wallace, John Clyde, Ce.             Farmington    Σ X House
Wardwell, Herbert Maurice, Jr., Ms.  Bangor        Mt. Vernon House
Webb, Antoinette Treat, Eh.         Patten        Κ Σ House
Webster, Ernest John, Fy.            Rumford       Φ Π Δ House
Wescott, Clifford Walker, An.       Portland      Δ Α E House
Wetherbee, Ralph Wilbur, Ee.        Mt. Vernon     University Inn

Juniors

Adams, Archie Asbury, Me.           LaGrange      Maine St.
Adams, Harold Purington, Ht.        Bowdoinham    Φ K Σ House
Allen, Clifton Lowery, Ce.           Mt. Vernon    University Inn
Andrews, Robert Wilbur, Ce.         West Pembroke B Θ Π House
Anthony, Benjamin Bennett, Fy.      Wakefield, Mass.  Σ X House
Atwood, Charles Raymond, Fy.        Rumford       Σ A E House
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## Catalog of Students

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## SOPHOMORES

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Catalog of Students

Brewster, Joseph Evan, Fy.
Brockway, Earle Maurice, Fy.
Brown, Arline Leora, Lt.
Browning, Neva Lenora, Rm.
Bryant, Robert Hampden, Ec.
Caswell, Lester Woodsum, Hy.
Clark, Robert Pinkham, Ec.
Close, Roland Edgerly, Ec.
Coombs, Olive Erdine, Lt.
Crandall, James Stuart, Ce.
Creighton, Maynard Joshua, Ch.
Eng.
Crimmin, Erlon Victor, Ec.
Crosby, Carie Byron, Ec.
Davis, Lucretia Almira, Rm.
Dolan, Walter James, Ch.
Dole, Margaret, Gm.
Donahue, Norman Sylvester, Ag.
Dorsey, Llewellyn Morse, Ec.
Douglas, Charney Hazon, Fy.
Douglass, Raymond Donald, Me.
Doyle, Joseph Edward, Fy.
Eales, Frank Henry, Ce.
Eason, Ralph Barrows, Ht.
Edminster, Winfred Herbert, Pm.
Elliott, Park, Ee.
Emmons, Norman Eudell, Ee.
Fickett, Ernest Leslie, Me.
Fish, Harold Mahlon, Ce.
Fletcher, Maurice Arthur, Pm.
Fletcher, Roland Ezra, Fy.
Fogg, Harry Willard, Fy.
Fogler, Raymond Henry, Ag.
Fowler, Henry Winslow, Fy.
Freese, Frank Drummond, Ec.
Gerhardtts, Emma, He.
Gilman, Madison Leavitt, Ec.
Goldsmith, Chester Hamlin, Ch.
Goodwin, Alleyn Maurice, Ec.
Goodwin, Earl Corson, Ec.

Utica, N. Y.
Dexter
Old Town
Oroko
Biddeford
Harrison
Lincoln
Bangor
N. Islesboro
Malden, Mass.

H K House
311 H. H. Hall
Old Town
Oroko
Φ K Σ House
Δ K House
Φ K Σ House
College St.
Σ X House

Thomaston
Winterport
Bangor
Old Town
Bangor
Luthersburg, Pa.
Augusta
Peabody, Mass.
Gorham
Dawers, Mass.
Vanceboro
So. Paris

Φ Τ Σ House

Dixmont, R. F. D. No. 1

Dover
Chester, Conn.
Portland
Farmington
Wilton
Madison
Hull's Cove
West Rockport
Berlin, N. H.
Bangor
Westbrook

310 H. H. Hall
Σ Λ E House
109 H. H. Hall
Θ X House
Δ K House
Campus
Θ E House
Θ E House
Σ X House
Θ X House
K Σ House
Mt. Vernon House
B Θ Π House
Σ X House
K Σ House
Α Τ Ω House
Catalog of Students

Gordon, Forest Chandler, Ch. Eng.
Gowen, John Whittemore, Ag.
Graves, Justin Dwight, Ce.
Gray, Ethel Mae, Lt.
Hall, Preston Martin, Ch.
Hanly, Elizabeth Fitzgerald, Eh.
Haskell, Laurence Herbert, Ce.
Higgins, Oswald Burnett, Me.
Hight, Vernon Ivan, Ce.
Hill, William Barlow, Fy.
Hines, Mary Elizabeth Burns, Lt.
Hodkins, Harold Eugene, Ec.
Hodgins, Laura Pearl, Lt.
Holyoke, Margaret Lillis, Bl.
Howland, Edgar Gordon, Ec.
Hoyt, Ralph William, Ag.
Hutchinson, Albert Fletcher, Ch.
Ingalls, Everett Palmer, Ce.
Jones, Harold Libby, Ce.
Kimball, Roland Gerry, Pm.
Leavitt, Harold Walter, Ce.
Lewis, James Henry, Ag.
Lindgren, Ray Harrison, Ce.
Luther, Harris Gates, Me.
Lyon, Clement Ames, Ag.
McKenney, Maurice Roy, Ec.
Mace, Asa Russell, Ce.
Magnus, Carl, Ch. Eng.
Martin, William Hope, Fy.
Mathews, Norman Lyle, Ag.
Merrill, Gladys Helen, Rm.
Moore, Robert McGregor, Me.
Norton, Chester Harold, Fy.
Oak, Malcolm Hayford, Ch. Eng.
O'Brien, Edward Francis, Ee.
Parker, Joseph Batchelder, Ag.
Parks, David Weaver, Ps.
Patten, Mountford Elmes, Fy.
Peters, Shenton Ashley, Ec.

Auburn 403 H. H. Hall
Arlington, Mass. 301 H. H. Hall
Oroko B Θ Π House
Penobscot Mt. Vernon House
Taunton, Mass. Φ Π Δ House
Thomaston 76 Main St.
Lynn, Mass. 406 H. H. Hall
Searcy, N. J. K Σ House
Caribou 368 H. H. Hall
Gorham K Σ House

Middleton, Conn.
Waterville Mt. Vernon House
Calais Mt. Vernon House
Brewer Mt. Vernon House
Plymouth, Mass. K Σ House
Waterville Φ Π Δ House

No. Dexter 311 H. H. Hall
Bridgton B Θ Π House
Corinna Φ Π Κ House
Norseay Φ Σ Κ House
Monmouth 211 H. H. Hall
Eastport Φ Π Κ House
Belfast Φ Σ Κ House
Hadlyme, Conn. 109 H. H. Hall
East Bridgewater, Mass. Θ Ε House
Stillwater Stillwater
Aurora Φ Σ Κ House
Biddeford Θ Ε House
Carlisle, Pa. Σ X House
Waterville Θ X House
Oroko Campus
Biddeford Φ Σ Κ House
Chelsea, Mass. Θ X House
Caribou B Θ Π House
Lawrence, Mass. B Θ Π House
Bangor Bangor

Mt. H. H. Hall

Pier. Fairfield 211 H. H. Hall
Carmel, R. F. D., No. 3 Α Τ Ω House
Bangor Bangor
Catalog of Students

Pettey, Willis Thurston, Ag.
Philips, Donald Walker, Ag.
Philbrick, John Harvey, Ag.
Philbrook, Walker Merrim, Ee.
Pierce, Raymond Trussell, Ee.
Pinkham, Lloyd Francis, Ee.
Poore, Alice Mildred, Lt.
Randall, Harry Algernon, Ee.
Randall, James Stuart, Ce.
Redman, William Wason, Ag.
Rhind, Ethel Knowlton, Lt.
Richardson, Edward Clinton, Ce.
Sawyer, Grace Ruth, Lt.
Sawyer, Leon George, Ee.
Schwey, Abraham Ira, Fy.
Scarle, Irvin Karsner, Ch.
Shaw, Merle Branard, Ch. Eng.
Sheridan, Philip Brinsley, Ee.
Sleeper, Harvey Prescott, Ee.
Slocum, Paul Frederick, Ce.
Smart, Frances Gertrude, Rm.
Stewart, Loren Prescott, Ce.
Thurrell, Robert Freeman, Ee.
Titcomb, Harry Alton, Me.
Tolman, Lewis Brewster, Ec.
Towle, Horace Hamblen, Jr., Ag.
Treworgy, Forrest Reuben, Ee.
Triplett, Gertrude, He.
Varney, Arthur Freeman, Ce.
Varney, Ross Harold, Ag.
Walters, Philip Harris, Ag.
Warke, William Lucas, Me.
Warren, Paul Alanson, Ag.
Weeks, Jedediah Earle, Ce.
Welch, Gerald Cushman, Ce.
White, Harold Chandler, Ch. Eng.
Whitney, Thomas Boardman, Ch. Eng.
Willbur, Oscar Milton, Ag.
Williams, Harry Duncan, Ce.
Winship, Rachel Helene, He.

Dartmouth, Mass. Δ T Δ House
Robbinston

Phillips
Ag.

Banger

Rockport

Bangor

Haverhill, Mass. Φ K Σ House
Haverhill

Roadfield

Cumberland Mills

Dover

Wells

Oakland

Bangor

Caribou

Pembroke

No. Easton

Auburn

Mt. Vernon House

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Catalog of Students

**Woodbury.** Newell Brown, Me.
**Woodward.** George Thomas, Me.
**Worcester.** Henry Franklin, Ag.
**York.** Harry Alfred, Ec.
**Young.** Mildred May

**Beverly, Mass.**
- **Woodbury.** Newell Brown, Me.  Σ X House
- **Woodward.** George Thomas, Me.  Φ H K House
- **Worcester.** Henry Franklin, Ag.  Σ X House
- **York.** Harry Alfred, Ec.  Β Θ Π House
- **Young.** Mildred May  Mt. Vernon House

**Worcester, Mass.**
- **Beverly.** Newell Brown, Me.
- **Woodward.** George Thomas, Me.
- **Worcester.** Henry Franklin, Ag.
- **York.** Harry Alfred, Ec.
- **Young.** Mildred May

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Eddy, Emery Davis, Fy.
Edes, Omar Kelsey, Eng.
Eldridge, Charles Wilson, Ag.
Elliott, James Carroll, Ag.
Emerson, Walter Davis, Me.
Emery, Charles Irving, Fy.
Emery, Clarence Fairfield, Ag.
Evans, James Alfred, Ch. Eng.
Fairchild, Thomas Everett, Ag.
Falvey, John Michael, Fy.
Farnham, Frank Paine, Ee.
Fish, Francis Burnell, Ch.
Fiske, Howard Vaughn, Ag.
*Fletcher, Chester Emery, Ag.
Folsom Charles Herbert, Ce.
Foss, Eugene McAllister, Fy.
Foster, Arthur Leo Livingston, Ch. Eng.
Foster, Marie Fredrika, Rm.
Fox, Clyde Calvin, Ag.
Fraser, Elwood Stuart, Ag.
*Frawley, Isabel Frances, Rm.
Fricke, Albert Theodore, Fy.
Garrison, George Harrison, Ec.
Gentliner, Roy Harland, Ec.
Gerry, Laurel Osgood, Ec.
Glover, John White, Mc.
Goodwin, Lillian Bina, Eh.
Gordon, Augustine Felix, Ce.
Gowell, Roger Locke, Ag.
Grant, Albert John Minto, Ce.
Grant, Benjamin Elwell, Ch. Eng.
Grant, Philip Burr, Lt.
Greenleaf, Florence Evelyn, He.
Grindle, Maynard Charles, Ag.
Gulliver, James Lucius, Ec.
Hall, Edward True, Jr., Ec.
*Hall, Robert Holyoke, Ag.
Hallowell, Melville, Ch.
Ham, Everett Coss, Ch.
Hamblen, Archelaus Lewis, Ec.
*In partial standing

Bangor
Dexter
Foxcroft
No. Rumford
Orono
Salisbury Cove
Salisbury Cove
Bangor
Livermore Falls
South Berwick
New Gloucester
Concord, N.
Rowley, Mass.
Dryden
Dexter
Weston
Lillsworth Falls
Bar Harbor
Wilkes Barre, Pa.
Peaak's Island
Bangor
Bridgeport, Conn.
Portland
Bangor
Bridgeport, Conn.
Glendon
Bangor
Bangor
Brownsville
Rockland
East Corinth
Port-au-Prince, Hayti
Auburn, R. F. D. 7
Waldoboro
Cumberland Mills
Bangor
Auburn
Surry, R. F. D. No. 2
Auburn
St. George
Brewer
Peabody, Mass.
Foxcroft
Gorham
Bangor
Bangor
Bangor
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300 Oak Hall
K Σ House
201 H. H. Hall
403 H. H. Hall
110 H. H. Hall
Oak Hall
211 H. H. Hall
312 Oak Hall
Veazie
310 Oak Hall
302 Oak Hall
University Inn
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Park St.
Bangor
Φ Γ Δ House
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Λ T Ω House
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<td>Morris, Lester George, Ag.</td>
<td>Bingham</td>
<td>Θ E House</td>
</tr>
<tr>
<td>Morrison, Mildred Cora</td>
<td>Bar Harbor</td>
<td>Campus</td>
</tr>
<tr>
<td>Moulton, George Albert, Ce.</td>
<td>East Bromfield,</td>
<td>University Inn</td>
</tr>
<tr>
<td>Murray, Lewis Pope, Ch.</td>
<td>Berlin Mills N. H.</td>
<td>204 Oak Hall</td>
</tr>
<tr>
<td>Myrick, Leroy Henry, C.e.</td>
<td>East Machias</td>
<td>Φ Γ Δ House</td>
</tr>
<tr>
<td>Norris, Helen Mary, He.</td>
<td>Auburn</td>
<td>303 H. H. Hall</td>
</tr>
<tr>
<td>Noyes, Elwood Austin, Ag.</td>
<td>Limestone</td>
<td>Mt. Vernon House</td>
</tr>
<tr>
<td>Noyes, Garth Albert, Ee.</td>
<td>Orono</td>
<td>Σ X House</td>
</tr>
<tr>
<td>*O'Neil, Harry Dennis, Ce.</td>
<td>Bangor</td>
<td>401 H. H. Hall</td>
</tr>
<tr>
<td>O'Rouke, Francis, Ag.</td>
<td>Saco</td>
<td>Bangor</td>
</tr>
<tr>
<td>*In partial standing</td>
<td></td>
<td>Bemnoch St.</td>
</tr>
</tbody>
</table>
Catalog of Students

Packard, Ansel Alba, Ec.
Packard, Marlborough, Cc.
Palmer, Guy Casley, Ag.
Patten, Harvan Burr, Ce.
Peabody, Myron Columbus, Ag.
Perkins, Edward Adolphus, Ee.
Perkins, Herman Grenville, Pm.
Perry, Earle Francis, Ag.
Philbrook, Lawrence Eugene, Ag.
Pierson, Howard Lester, Me.
Plummer, Marion Elizabeth, He.
Potter, Elmer Deming, Eh.
Prentice, William Henry, Jr., Me.
Purinton, Clinton Everett, Ag.
Reynolds, Phillip Morton, Fy.
Ripley, Stanley Eddy, Ec.
Robie, Frederick, Ag.
Robinson, Albert Lealand, Ag.
Robinson, Lewis Avary, Ec.
Robinson, Madeleine Frances, Rm.
Roderick, Thaddeus Louis, Ch. Eng.
Rolfe, Clifford Merrill, Fy.
Rollins, Harry Elwood, Ag.
Rudman, Benjamin William, Ch. Eng.
Rudman, Samuel, Ce.
Reifner, Charles William, Ag.
Russell, Sibyl Lois, Bl.
Sanborn, Oscar Harold, Ag.
Sargent, Gooch, Ce.
Sawyer, Dwight Leland, Ag.
Sawyer, James Milton, Ce.
Schneider, Anthony P., Jr., Ag.
Shaw, Earle Eaton, Fy.
Sherman, Albion Franklin, Ec.
Sherman, Clifford Parker, Jr., Ag.
Silva, Richard Leslie, Ec.
Skillin, Clifford Augustus, Me.
Small, Norman Clifford, Ed.
Smith, George Edwin, Ag.

*In partial standing

Belfast
Sebec Lake
Patten
Camden
Exeter, R. F. D. No. 1

Oak Hall
404 H. H. Hall
No. Main St.
A T O House

410 H. H. Hall

Old Orchard
Madison
Bangor
Sheburne, N. H.
Lisbon Falls
Old Town

210 H. H. Hall

Round Pond
Mt. Vernon House

305 Oak Hall

Portland
K Σ House
101 H. H. Hall

Bangor
Colby College St.

Campus

200 H. H. Hall

Bangor
401 H. H. Hall

Bangor
401 H. H. Hall

Bangor
K Σ House

Campus

Farm House

Newburyport, Mass
365 H. H. Hall

Saco
212 Oak Hall

Cumberland Center
Δ K House

Jersey City, N. J.
H. H. Hall

Oro
College St.

Bar Harbor
K Σ House

New Bedford, Mass.
Φ Γ Δ House

Provincetown, Mass.
Θ E House

So. Portland
Θ X House

Peters St.

Hanover
403 H. H. Hall
Catalog of Students

Somes, Raymond Percival, Fy.
Spear, Harold Farrand, Ag.
Stevens, Guy Herbert, Ag.
Stone, Harry Edward, Ee.
Storer, Clayton Alton, Me.
Tarr, Omar Fred, Ch.
Thompson, Dorothy, Gm.
Thompson, Frederick Mosher, Fy.
*Thompson, Frederick William, Hy.
*Titcomb, Alton Crosby, Fy.
Tobie, Fenton William, Me.
Toole, Harry Sylvester, Ch. Eng.
Totman, James Emmons, Ag.
Trimm, Hattie Mae, Eh.
Tufts, Orren, Ee.
Vickery, Earle Wendell, Fy.

Vickery, Emily Josephine, Bl.
Ward, John Patrick, Ag.
Webber, Walter Waitstill, Ch. Eng.
Welch, Donald Stuart, Ag.
Weymouth, Currier, Ee.
Whitney, Raymond Lee, Ag.
Whittier, John Lowell, Ag.
*Whittemore, James Arthur, Fy.
Wilbur, Elwood Morton, Ce.
Wilkins, Clyde Lamkin, Ag.
*Willett, Alfred P., Rm.
Winship, Evelyn, He.
Woodbury, Doris Hall, Rm.
Woods, Basil G., Ch Eng.
*In partial standing

Southwest Harbor 204 H. H. Hall
Rockland Φ Γ Δ House
Auburn Θ Χ House
Cornish Main St.
Weld 400 H. H. Hall
Auburn 207 H. H. Hall
Augusta Myrtle St.
Orono Main St.
Portland 103 Oak Hall
Orono Main St.
Monticello Λ Τ Ω House
Lisbon Falls 407 H. H. Hall
Bangor Bangor
Providence, R. I Φ Η Κ House
East Corinth Mill St.
Kingfield Peters St.
Bangor, R. F. D. No. 1

Brewer 212 H. H. Hall
Seawall Brewer
Auburn Stillwater
Norway 402 H. H. Hall
Kingfield 309 H. H. Hall
N. Anson Peters St.
Biddeford Φ Κ Σ House
Bangor Bangor
Sorrento Λ Κ House
Notch 400 H. H. Hall
Orono Hamlin St.
Auburn Mt. Vernon House
Brewer Brewer
Bangor, R. F. D. No. 7 Bangor

SPECIALS

Andrews, Langdon Farrington, Ag.
Bagdoyan, Baysar Manoog, Ag.
Bigelow, Ralph Burrill, An.
Boynton, Guy Leslie, Ag.
Brown, Olin Chellis, Ee.

N. Fryeburg 0 Χ House
Aintab, Turkey Campus
Orono 0 Δ K House
Waltham, Mass. Crosby St.
Bar Harbor 0 Η K House

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Catalog of Students

Chapman, Chauncey Wallace Lord, Fy.
Cottle, Alfred George, Ag.
Doure, George Stanley, Fy.
Dunn, Marietta Hoover, Eh.
Erswell, Charles Sherman, Ch.
Fiske, Raymond Houghton, Fy.
Goodwin, Eugene Wiley, Me.
Heath, Herbert Milton, Me.
Higgins, Daniel Ernest, Ht.
Kimball, Everett Augustus, Ht.
Leach, Luther Adelbert, Ee.
McGinnis, Henry James, Ch. Eng.
McLaughlin, Percy Daniel, Ag.
Marsh, Philip Merrill, Ag.
Masterson, James Edward, Ag.
Mclncoff, John Henry, Fy.
Milliken, William Lawrence, Ec.
Mullaney, James Edward, Ce.
Newcomb, Erwin Barrett, Ce.
Nickerson, Arno Wilbur, Ch.
Oakes, Lyndon Clare, Eng.
OLeary, Madeleine Dolan, Rm.
Phelps, Ferdinand Zanoni, Ch.
Pierce, Clarence Cheney, Ce.
Reilly, Charles Frederick, Ce.
Richardson, Douglass Leffingwell, Ec.
Richardson, Howard Byron, Ce.
Russell, Asenath Helen, He.
Shaw, Everett Osborne, An.
Smith, Royal Howard Gould, Ec.
Studer, John Frederick, ENG.
Williams, Harry Roscoe, Ag.
York, George James, Hy.

Old Town
Houlton
Dover
Brunswick
Lincoln
Augusta
Morrill
So. Lawrence, Mass.
Bar Harbor
Waterville
Costigan
Farmington
Lancernce, Mass.
Bridgewater
Somerville, Mass.
Cambridge Mills
Newport
Bangor
Foxboro, Mass.
Berlin, N. H.
Calgary, Alta, Canada
McKinley
Southwest Harbor
Orono
Winterport
Gorham
Ellsworth
Hodgdon
Yarmouthville

Δ T Δ House
Δ T O House
Δ T Δ House
Mt. Vernon House
Θ X House
302 H. H. Hall
301 H. H. Hall
Σ A E House
Farm House
Σ A E House
Δ T Δ House
K Σ House
K Σ House
29 Crosby St.
Σ A F House
412 H. H. Hall
Δ T O House
B Θ Π House
Σ X House
Brewer
Brewer
110 H. H. Hall
Bangor
Σ X House
Θ X House
K Σ House
Φ K Σ House
Campus
MT House
H. H. Hall
Oak Hall
112 Oak Hall
Θ X House

THE COLLEGE OF LAW

GRADUATE STUDENTS

Allen, George Herman, B. S.
B. S., University of Maine, 1884
Catalog of Students

Bass, Frank Lyman, B. A., LL. B. Bangor
Bowdoin College, 1907. University of Maine, 1910

Bowen, Everett Harlow, B. A., M. S., LL. B.
Bangor
Colgate University, 1903. University of Maine, 1905. University of Maine, 1912

Boyle, James Louis, B. A., LL. B.

Bridges, Corril Ellsworth, LL. B.
Albany Law School, 1887

Brown, Leon Gilman Carleton, LL. B.
Milo
University of Maine, 1905

Cartier, Arthur Jean Baptiste, LL. B.
Biddeford
University of Maine, 1909

Clough, George Edwin, LL. B.
University of Maine, 1904

Cotton, Carl, B. A., LL. B.
Colby College, 1900. University of Maine, 1906

Davis, Waldo Trevor, B. A., LL. B.
Dartmouth College, 1901. University of Maine, 1905

Dudley, John Perley, LL. B.
Houlton
Colby College. University of Maine, 1908

Foster, Walter Herbert, LL. B.
Boston, Mass.
University of Maine, 1905

Frederici, Edmund, LL. B., LL. M.
DuBois, Pa.
Southern Normal University College of Law

Graton, Claude Dewing, LL. B.
Burlington, Vt.
University of Maine, 1900

Juchhoff, Frederick, A. M., Ph. D., LL. B., LL. D.
Chicago, Ill.
Kansas City University. Ohio Northern University. Greer College, Illinois

Lemaire, Charles Wendell, LL. B.
University of Maine, 1910

Linehan, Daniel Joseph, LL. B.
Haverhill, Mass.
University of Maine, 1905

Lord, Harry, LL. B.
Bangor
University of Maine, 1902

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Catalog of Students

Merrill, Wilbur Frances, LL. B.  
Wiscasset  
University of Maine, 1911

Monroe, Edward Roy, LL. B.  
Portland  
University of Maine, 1907

Noble, Ernest Eugene, B. A., LL. B.  
Portland  
Colby College, 1897. University of Maine, 1903

Perkins, DeForest Henry, Ph. B., M. A., LL. B.  
Portland  
University of Maine, 1900, 1905. Illinois College of Law, 1906

Record, Lewis Stillman, Ph. B., LL. B.  
Newport, N. H.  
Brown University, 1902. University of Maine, 1905

Reid, Charles Hickson, LL. B.  
Bangor  
60 Lincoln St.  
University of Maine, 1903

Robinson, Curville Charles, LL. B.  
New York City  
University of Maine, 1905

Seavey, Ernest Linwood, LL. B.  
Lemongrove, Cal.  
University of Maine, 1908

Tertzag, Jacob Kevork, A. B.  
Lynn, Mass.  
Euphrates, 1902. University of Maine, 1911

Toole, Christopher, LL. B.  
Hartford, Conn.  
University of Maine, 1910.

Warren, John Clifford, B. S., LL. B.  
Portland  
University of Maine, 1902. Boston University, 1905

SENIORS

Adams, Charles Bayley  
Randolph, Vt.  
265 Main St.  
Member of the Maine State Bar

Adams, Edward Haven Judge  
Portsmouth, N. H.  
166 Union St.  
Member of the New Hampshire State Bar

Aiken, Percy Lewis  
Sorrento  
25 Spring St.

Barwise, Mark Alton  
Bangor  
101 Third St.

Beck, Andrew Jackson  
Deer Isle  
265 Main St.

Boye, Bernard Anthony, B. A.  
Portland  
124 Third St.

Van Buren College, 1906

Brown, Royden Valentine  
Clinton  
396 Hammond St.  
Colby College. Member of the Maine State Bar

Chien, Yill C.  
Changchou, China 112 Sanford St.

Bates College

Corliss, Edgar Francis Jr.  
Cumberland  
79 Summer St.
Catalog of Students

Cowan, Walter Albion
Bates College
Winterport
166 Hammond St.

Doten, Max Vincent
Calais
16 Hudson St.

Dwyer, William Henry
Biddeford
25 Spring St.

University of Maine

Eaton, Horace Emerson
Bangor
16 Hudson St.

Colgate University. Harvard University

Gardner, Phillips Brooks
Machias
183 Cedar St.

Member of the Maine State Bar

Gillin, James McKinnon
Bangor
119 Pine St.

Member of the Maine State Bar

Kennedy, Michael James
Woodland
112 Sanford St.

University of Maine 1909

Roberts, Christopher Shirley
Vinal Haven
116 Exchange St.

University of Maine

Rollins, Kenneth Albert, B. A.
Farmington Falls
7 Boynton St.

Studley, Ernest Allen
Augusta
166 Essex St.

Dartmouth College

Turner Erldon Blaisdell

Westgate, Harry Block
Taunton, Mass.
28 Second St.

Juniors

Bartlett, Charles Drummond
Bangor
58 Cedar St.

Harvard University

Bird, Walter Judson
Rockland
173 Ohio St.

University of Maine

Blackington, Carl Adams
Rockland
64 Center St.

University of Maine

Brown, Lester Edward
Cape Elizabeth
306 Hammond St.

University of Chicago, 1912

Cohen, Samuel
Bangor
305 Essex St.

Driscoll, Frank Gerald
Pentacook, N. H.
112 Sanford St.

Fisher, Franklin, Ph. B.
Lewiston
113 Jackson St.

Gleszer, Edward Isaac
Hartford, Conn.
70 Sanford St.

Trinity College. New York University Law School

Goodspeed, Ernest Leroy, B. A.
Randolph
71 Summer St.

Bowdoin College 1909

Hoar, Ellen Morancy Mary
Barre, Vt.
24 Ohio St.

University of Maine

Jewett, Donald Campbell
Cherryfield
316 Hammond St.

Amherst College

241
Catalog of Students

Leonard, Charles Edward
Libby, Frank Milton
Macdonald, Edward Reginald
Mountain, James Barry
Niles, Gladys Madeline
O’Leary, Cornelius Joseph
Patterson, Arthur Willis
University of Maine
Pease, Harvey Roscoe
Small, Fred Wakefield
Towle, James Roby
Walker, Fred Dudley, Jr.
Weick, Carl Alfred
Whitney, Clarence Alden
University of Maine

Haverhill, Mass. 18 Middle St.
Portland 112 Sanford St.
Portland 316 Hammond St.
Bangor 21 Adams St.
Bangor 56 Madison St.
Bangor 96 First St.
Castine 176 Court St.

Pease, Harvey Roscoe
Small, Fred Wakefield
Towle, James Roby
Walker, Fred Dudley, Jr.
Weick, Carl Alfred
Whitney, Clarence Alden
University of Maine

Cornish 40 Court St.
Springfield Falls 40 Court St.
Montpelier, Vt. 176 Court St
Springfield 166 Union St.
Springfield 85 Grant St.
Portland Sigma Chi House, Orono

FIRST YEAR

Cohen, Ada Migowski
Donahue, Neal Arland
Douglas, Harry Lawton

Bangor 43 East Summer St.
Dead River 25 Spring St.
Wimbledon, North Dakota 166 Union St.

Farr, Bernard Elmer
Frost, Clark Bradley
Gerrish, Maurice Sylvester
University of Maine

Haverhill, Mass. 265 Main St.
Mexico 265 Main St.
Melrose, Mass. 230 Cedar St.

Glass, Ralph Rigby
West Point, 1904

Bangor 14 Fifth St.

Isaacson, Benjamin
Moody, Howard Clifton
Pettingill, Lawrence Adlai
Shaw, Harry Maitland
Sleeper, Roger Davis
Southard, Frank Elwyn, A. B.
University of Maine, 1912

South Berwick 101 Sanford St.

Auburn 25 Essex St.
North Monmouth Y. M. C. A. Bldg.
Enfield, N. H. 265 Main St.
South Paris 70 Sanford St.

South Berwick 101 Sanford St.

Auburn 148 Kenduskeag Ave.

Ft. Fairfield

Sigma Chi House, Orono

Sukethor, Raymond Oscar
University of Maine
Taylor, Charles Sumner
Tirrill, Frank Adams, Jr.
Torrey, Merrill Edson
Welch, Herbert John

Deer Isle 261 Grove St.
Quincy, Mass. 265 Main St.
Easthampton, Mass. 166 Union St.
Portland 26 Cedar St.
Catalog of Students

Williams, William Earl
Brown University
Woolson, Raymond Trevena

Blackington, Mass. 112 Sanford St.
Lisbon, N. H. 10 Hudson St

SPECIALS

Ashworth, George Robert
Bowdoin College
Waldoboro 139 Center St.

Burns, Joseph Leo
Taunton, Mass. 176 Court St.

Cyr, John Alphonse
Bangor 243 Center St.

Davis, John Bradford
Bradford, Mass. 230 Cedar St.

Dodd, Frederick Beaton
Bangor 5 Broadway

Epstein, Myer Wilfred
Bangor 303 Essex St.

Ferry, John Timothy
Bangor 36 Walter St.

Geary, Milton Roscoe
Marlboro, Mass. 12 Carroll St.

Hurley, Martin Francis
Bangor 50 Walter St.

Keegan, George Joseph
St. Mary’s College
Van Buren 71 Summer St.

Levi, Simon
Portland 176 Court St.

McDonald, Peter
Runford 139 Center St.

O’Connor, James Corman
Taunton, Mass. 396 Hammond St.

O’Hear, Hugh Joseph
Thompsonville, Conn.

Seery, William Albert
Southport, Conn.

Thayer, Arthur Linwood, B. A.
Harvard College, 1904. Harvard Law School
Bangor 13 Hayward St.

Whitney, Albert Edward
Jonesboro

Wood, Ralph Kimball
Randolph, Vt. 145 Center St.

Wood, Walter Shurtleff
Randolph, Vt. 145 Center St.

TWO YEARS PHARMACY
SECOND YEAR

Barakat, Zaheeyeh Naoum
Bangor

Barrett, Woodbury Gates
Gorham, N. H.

Brewster, Hugh Maynard
Dexter

Chandler, Sidney Hobart
Caribou

Daviau, Omar
Waterville

Gallagher, Wilfred Michael
Caribou

Redman, Edward Sanderson
Corinna

Σ X House

311 H. H. Hall

308 H. H. Hall

Δ K House

410 H. H. Hall

Φ H K House
Catalog of Students

Rogers, Walter Henry
Seales, Harold Henry
Turmelle, Wilfred Joseph

First Year

Baldwin, Arthur George
Bellows, Orin Kelley
Follett, Earl Christie
Fortier, Francis Edward
Freeman, Harley Donnell
Gerry, Bernard Eugene
Hillberg, Walter Reynold
Houdlette, Edwin Murray
Lynch, Thomas Augustine
Ouilette, Paul
Rich, William Raymond
Rowe, George Eugene
Tibbetts, Harold Merrili

Reading, Mass.
Barre Plains, Mass.
Orono
Orono
Cape Neddick
Millinocket
Brockton, Mass.
Dresden Mills
Bangor
Caribou
Gorham
Milo
Bangor

SECOND YEAR

Barkley, Emma Elizabeth
Jackman, Ruth
Stearns, Luzetta Allen

Carlyle, Ill.
Vanceboro
Millinocket

Mt. Vernon House
Mt. Vernon House
Mt. Vernon House

FIRST YEAR

Clapp, Grace Elizabeth
Dugan, Frances Edith
Dunning, Eva Belle
Flint, Edith
Goss, Myrtle Sara
Harrigan, Ethel
Leonard, Mary Frey
Lewis, Alice Marguerite
Niles, Eunice Hale
Park, Minnie May
Ring, Louise Moore
Smith, Evelyn Akers

Winslow
Bangor
Old Town
West Baldwin
East Corinth
Bangor
Lewiston
Gardiner
Hallowell
Orono
Orono

Main St.
Bangor
Old Town
Mt. Vernon House
College St.
Bangor
University Inn
Mt. Vernon House
Pine St.
Main St.

Andover

University Inn
Catalog of Students

SCHOOL OF AGRICULTURE

SECOND YEAR

Barford, John Wallace  East Chatham, N. Y.  Park St.
Berce, Woodbury Lee  Caribou  410 H. H. Hall
Boothby, Harold Floyd Maplewood  Campus
Carle, Leon Percy  No. Raymond  Φ Γ  Δ House
Dodge, Leon Augustine  So. Newcastle  Park St.
Farrar, Carl DeWees  Lynn, Mass.  406 H. H. Hall
Fuller, Nelson Edward Livermore Falls  Campus
Gray, George Edwin Anson  Campus
Jones, Martin Ernest Nashua, N. H., R. F. D. No. 3  Campus

Leary, James Augustus East Hampden  Campus
Leusher, Herbert Lockwood Cambridge, Mass.  Oak Hall
McCloy, Robert Bruerton Eden Center, N. Y  Φ Γ  Δ House
Merrill, Lawrence Otho Mechanic Falls  109 H. H. Hall
Morse, Leppien William Upton  Park St.
Morrison, Walter Ellis Braintree, Mass.  402 H. H. Hall
Murphy, Alonzo Michael Sandwich, Mass.  Α Τ Ω House
Richardson, Arthur Waterhouse Old Orchard  Main St.
St. Clair, Melvin Henry Owl's Head  Park St.
Sawyer, Elmer Frederick North Saco  212 Oak Hall
Snow, Albert Henry Bucksport  Θ X House
Snow, Everett Aaron Lawrence, Mass.  Σ Α Ε House
Tarbox, Earle Wentworth Saco  Campus
Wadsworth, Carroll Benton Cornish  Park St.
West, Thomas Rose Saco, R. F. D.  Campus
Woodman, Philip Furness Biddeford  201 Oak Hall

FIRST YEAR

Berry, Arnold Parker  Portsmouth, N. H.  202 Oak Hall
Bradford, Alden Western Sebec Station  Park St.
Burke, Albert Francis Millinocket  111 H. H. Hall
Gray, Frank William, Jr. Jacksonville  303 H. H. Hall
Greger, Max Charles Port-au-Prince, Hayti Farm House
Hawkes, John Carroll  South Windham  303 Oak Hall
Hill, Harold Merrill Garland  Penobscot St.
Johnson, Joseph Henry Waltham, Mass.  Main St.
Johnston, William Staples Washington  206 Oak Hall
Catalog of Students

Kendrick, Frank Carroll  
Lincoln, Lionel Gilman

MacIntire, Donald Josiah  
Shaw, Harold Joseph  
Small, Sylvanus Cobb  
Talbot, Jones Harold  
Thomas, George Elliott  
Verrill, Floyd  
Ward, Linton Bartlett  
Wells, Clayton Meader  
Wilcox, Carroll Eugene  
Wilcox, Clyde Sumner

Biddeford  
Charleston, R. F. D. No. 1

Biddeford  
Sanford  
Charleston  
East Machias  
Lynn, Mass.  
Brunswick  
Shirley, Mass.  
Shirley, Mass.

H. H. Hall  
Penobscot St.  
Farm House  
209 Oak Hall  
H. H. Hall  
Crosby St.  
411 H. H. Hall  
411 H. H. Hall  
203 Oak Hall

SUMMER TERM

Ackley, Edward Preble  
Aldrich, Bertha Evelyn, A. B.  
Alister, Lillian Elizabeth  
Lowell University

Banfield, Stanley Mirick  
Barker, Corinne Maude  
Beale, Douglas Marsh  
Bickford, Miretta Lydia  
Boothby, Everett Osgood  
Boothby, Horace Everett, Jr.  
Brackett, Ruth Frances  
Brooks, James Strothard  
Burgess, Howard  
Burghart, Lloyd Meeks, B. A.  
Lake Forest College

Cannon, Arthur Hildreth  
Clement, Esther Racide  
Connors, Edward Warren  
Cottle, Alfred George  
Coughlin, Edward Thomas  
Cousins, Irene, B. A.  
University of Maine, 1911

Cushman, William Parsons  
Danforth, Earle Herrick  
Day, George Willis, B. S.  
Dartmouth College, 1895

Peaks Island  
Westboro, Mass.  
Lowell, Mass.

Bangor  
Orono  
Skowhegan  
Gorham

Reading, Mass.  
Warren, R. F. D.  
So. Brewer  
No. Vassalboro  
Orono

Orono  
Milford  
Great Works  
Houlton  
Holyoke, Mass.  
Old Town

West Pownal  
Bangor  
East Waterboro

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Catalog of Students

Dolan, Walter James
Dole, Charles Edmund
Bangor
Dorsey, Llewellyn Morse
Augusta
Dunn, Marietta Hoover
Orono
Dyer, Guy Valentine
Calais
Fickett, Ernest Leslie
Brewer
Fillmore, Annie May
South Cushing
Fisher, Arthur LeRoy
Winchester, N. H.
Franklin, Isabel Wood
Philadelphia, Penna.
Geary, Milton Roscoe
Marlboro, Mass.
Gilbert, William Henry, B. A.
Milo
University of Maine, 1909

Goodwin, Fred Gilman
Charleston
Gowen, John Whittemore
Arlington, Mass.
Grant, Imogene Earle
Sedgewick
Gray, Ernest Linwood
Mars Hill
Groves, Walter Clyde
Camden
Gulliver, James Lucius
Auburn
Hamlin, George Harold
Orono
Haskell, Clara Louise
Steuben
Haskell, Weston Bradford
Auburn
Heath, Herbert Milton
Augusta
Herrick, Amelia
Charleston
Herschel, Winslow Hobart, A. B.
Orono
Harvard University, 1896

Hersey, Thayer Frye
Patten
Hettinger, Frederick Carl
Rosindale, Mass.
Hobart, Aileen Browne
Milford
Hodgdon, Gladys Louise
Bangor
Hodges, Ralph Condon
Richmond
Holmes, Adrian Emery
Buckfield
Holt, Frank Ashley
Bangor
Holway, Charles Josiah
Madison
Hopkinson, Ralph Stimson
Saco
Huggins, Leslie Mansfield
Malden, Mass.
Huntington, Richard Thomas
Augusta
Johnson, Seth Allen
East Sullivan
Jones, Gertrude May, B. S.
Corinna
University of Maine, 1906
Jose, Frances Elizabeth, A. B., A. M.
Dexter
Maine Wesleyan College, 1893, 1897.
<table>
<thead>
<tr>
<th>Name</th>
<th>Town</th>
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SHORT COURSES

DAIRYING AND GENERAL AGRICULTURE

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HORTICULTURE

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Catalog of Students

Boynton, E. W. North Berwick
Chase, T. E. Auburn
Colby, J. W. S. South Paris
Conant, W. H. Buckfield
Cummings, R. L. West Paris
Davis, H. W. Oxford
Day, C. A. Presque Isle
Foss, H. C. Mapleton
Fowler, E. W. South Brewer
Gardiner, R. H. Gardiner
Gee, A. H. Lewiston
Hardy, W. M. Brewer
Heath, G. K. Readfield
Herschel, C. A. F. Orono

Page, E. E. East Corinth
Palmer, G. L. Kents Hill
Peters, A. B. Bangor
Potter, H. A. Calais
Prescott, V. L. Rockland
Rogers, J. S. North Newburgh
Sanborn, H. I. Wilton
Searles, J. M. Brownville
Smith, G. P. Bangor
Taylor, L. L. Presque Isle
Wheeler, C. E. Chesterville
Wyman, J. M. Farmington

POULTRY HUSBANDRY

Abbott, G. H. Brookline, Mass. Longfellow, L. N. Orono
Birtwell, W. M. Danforth Milliken, F. P. Peterboro, N. H.
Chalmers, C. N. Albion Peters, W. C. Bangor
Frost, W. P. Dorchester, Mass. Taylor, L. L. Presque Isle
Gee, A. H. Lewiston Thomas, C. S. North Islesboro
Hurley, J. C. Fall River, Mass. Thompson, W. E. Howland
Hutchinsen, H. F. Buxton Center Weston, V. A. J. Farmington
Jones, L. B. Bangor Young, M. D. Manchester
Leighton, M. Calais

AGRICULTURE, RURAL AND SOCIAL ECONOMICS

Ames, L. W. Newport Pratt, W. L. Brewer
Cousins, E. M. Old Town Purdy, C. A. Orrington
Coy, J. B. Harrison Sauer, G. C. Bangor
Harbutt, C. M. Portland Smith, C. V. Bradley
Harris, J. W. Augusta Snow, F. A. Old Town
Harvey, O. M. Kenduskeag Spear, S. G. Dexter
Heald, A. A. Waterville Thomas, A. M. Farmington
Johnson, S. A. E. Sullivan Webber, E. H. Mt. Vernon
Jose, F. E. Dexter Welch, H. W. Bucksport
Lyman, J. B. Orono Whitcomb, S. C. Bangor
McClure, R. W. Veazie Wilson, D. L. Belfast
Catalog of Students

Mower, I. B.  Waterville  Young, C. E.  W. Enfield
Perkins, D. H.  Portland

Enrolled after 1911-1912 catalog was printed:

**SENIORS**

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**JUNIORS**

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### General Summary

#### Faculty

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| Other Officers                        | 24       |
| College of Agriculture                | 21       |
| College of Arts and Sciences          | 42       |
| Agricultural Experiment Station       | 14       |
| College of Law                        | 10       |
| College of Technology                 | 24       |
| Officers common to all Colleges       | 7        |
| **Total**                             | **118**  |

| Duplicated                            | 11       |
| **Total**                             | **107**  |

#### Students

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CLASSIFICATION BY COLLEGES

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CLASSIFICATION OF CANDIDATES FOR DEGREES

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