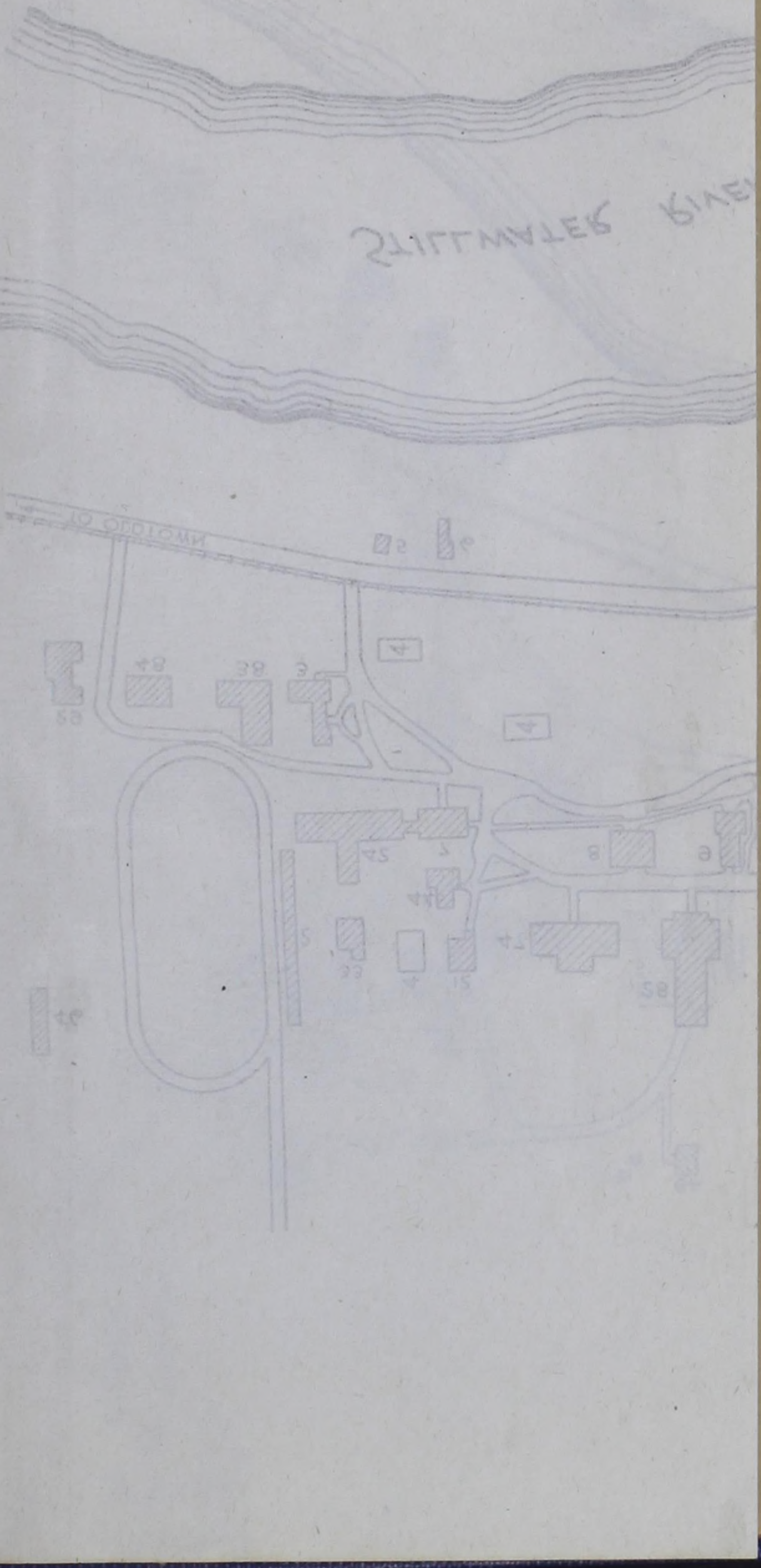
1922

Catalog of the University of Maine, 1922-1923, part 1

University of Maine, Office of Student Records



CATALOG OF THE

UNIVERSITY OF MAINE

1922-23

ORONO, MAINE

THE UNIVERSITY PRESS
ORONO, MAINE
1922

1922

JULY

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1923

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1923

JULY

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OCTOBER

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NOVEMBER

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DECEMBER

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1924

JANUARY

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FEBRUARY

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MARCH

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APRIL

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MAY

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JUNE

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Calendar

FALL SEMESTER, 1922

September 15-19, Arrearage and entrance examinations.
September 19, Tuesday, Registration 8 A. M. to 5 P. M.
September 20, Wednesday, Registration 8 A. M. to 5 P. M. First Chapel, 11 A. M.
September 21, Thursday, Classes begin 8 A. M.
November 30, Thursday, Thanksgiving Day, a holiday.
December 19, Tuesday, Christmas Recess begins 5.05 P. M.

1923

January 2, Tuesday, Christmas Recess ends 8 A. M.
January 26, Friday, Fall Semester ends 5.05 P. M.

SPRING SEMESTER, 1923

January 27, Saturday, Registration 8 A. M. to 5 P. M.
January 29, Monday, Spring Semester begins 8 A. M.
February 22, Thursday, Washington's Birthday, a holiday.
March 23, Friday, Spring Recess begins 5.05 P. M.
April 2, Monday, Spring Recess ends 8 A. M.
April 19, Thursday, Patriot's Day, a holiday.
May 30, Wednesday, Memorial Day, a holiday.
June 5-8, Entrance Examinations.
June 9, Saturday, Alumni Day, Class Day.
June 10, Sunday, Baccalaureate Address.
June 11, Monday, Commencement, 9.30 A. M.

FALL SEMESTER, 1923

September 18, Tuesday, Registration 8 A. M. to 5 P. M.
September 19, Wednesday, Registration 8 A. M. to 5 P. M. First Chapel, 11 A. M.

Board of Trustees

Col. Frederic Hastings Strickland, M. A., President	Bangor
Term expires April 28, 1929	
Thomas Edward Houghton, Clerk	Fort Fairfield
Term expires April 28, 1927	
Hon. Frank Edward Guernsey	Dover
Term expires May 31, 1924	
Ora Gilpatrick	Houlton
Term expires June 19, 1925	
Charles Swan Bickford, B. S.	Belfast
Term expires October 1, 1926	
Hosea Ballou Buck, C. E.	Bangor
Term expires June 17, 1924	
Rex Wilder Dodge, B. S.	Portland
Term expires September 30, 1928	
Edward Bailey Draper, B. A., LL. B.	Bangor
Term expires April 22, 1928	

Executive Committee: Strickland, Buck, Draper

Farm Committee: Guernsey, Gilpatrick, Houghton

Officers of Administration

OF THE UNIVERSITY

CLARENCE COOK LITTLE, President. 2A Alumni Hall; Campus*
JAMES NORRIS HART, Dean. 5 Alumni Hall; 123 Main Street
CHARLES JOHN DUNN, Treasurer. 4 Alumni Hall; 51 Bennoch Street
JAMES ADRIAN GANNETT, Registrar. 2 Alumni Hall; 166 Main Street
ADDIE MATILDA WEED, Assistant Registrar. 2 Alumni Hall; Veazie

*Offices and residences

OF THE COLLEGES AND EXPERIMENT STATION

JAMES STACY STEVENS, Dean of the College of Arts and Sciences. 200 Aubert Hall, 175 Main Street
HAROLD SHERBURNE BOARDMAN, Dean of the College of Technology. 12 Wingate Hall, 172 Main Street
LEON STEPHEN MERRILL, Dean of the College of Agriculture. 16 Winslow Hall, Campus
WARNER JACKSON MORSE, Director of the Maine Agricultural Experiment Station. Holmes Hall, 51 North Main St.

OF THE DEPARTMENTS

AGRONOMY. Professor Simmons, 26 Winslow Hall, 4 Gilbert Street
AGRICULTURAL EDUCATION. Professor Hill, 38 Winslow Hall, 162 College Road
ANIMAL INDUSTRY. Professor Corbett, 14 Winslow Hall, Campus
BACTERIOLOGY AND VETERINARY SCIENCE. Professor Russell, 13 Winslow Hall, 85 Main Street
BIOLOGICAL AND AGRICULTURAL CHEMISTRY. Professor Merrill, 15 Winslow Hall, 178 Main Street
BIOLOGY. Professor Chrysler, 24 Coburn Hall, 370 College Road
BIOLOGY (AGRICULTURAL EXPERIMENT STATION). Professor Gowen, Holmes Hall, 33 Mill Street
CHEMISTRY. Professor Brautlecht, 211 Aubert Hall, 167 Main Street
CHEMISTRY (AGRICUTURAL EXPERIMENT STATION). Professor Bartlett, Holmes Hall, 148 College Road
CIVIL ENGINEERING. Professor Sprague, 25 Wingate Hall, University Inn
ECONOMICS AND SOCIOLOGY. Professor Ashworth, 10 Coburn Hall, 94 North Main Street

EDUCATION. Professor Pollard, 28 Fernald Hall, 12 Park Street
ELECTRICAL ENGINEERING. Professor Barrows, 21 Lord Hall, 36 Myrtle Street
ENGINEERING DRAWING. Professor Grover, 38 Wingate Hall, 22 Myrtle Street
ENGLISH. Professor Ellis, 10 Estabrooke Hall, 29 Park Street
ENTOMOLOGY (AGRICULTURAL EXPERIMENT STATION). Professor Patch, Holmes Hall, College Road
FARM MANAGEMENT. Professor Simmons, 26 Winslow Hall, 4 Gilbert Street
FORESTRY. Professor Briscoe, 24 Winslow Hall, 380 College Road
FRENCH. Professor Segall, 14 Fernald Hall, 50 Main Street
GEOLOGY. Professor Merrill, 15 Winslow Hall, 178 Main Street
GERMAN. Professor Drummond, 14 Fernald Hall, 61 Bennoch Street
GREEK LANGUAGE AND LITERATURE. Professor Huddilston, 28 Library, 193 Main Street
HISTORY. Professor Colvin, 11 Coburn Hall, University Inn
HOME ECONOMICS. Professor Freeman, 4 The Maples, North Hall
HORTICULTURE. Professor Sweetser, 34 Winslow Hall, 80 Forest Avenue
LATIN. Professor Chase, 15 Wingate Hall, 143 Main Street
MATHEMATICS AND ASTRONOMY. Professor Hart, 5 Alumni Hall, 123 Main Street
MECHANICAL ENGINEERING. Professor Sweetser, 20 Lord Hall, 109 Main Street
MECHANICS AND DRAWING. Professor Weston, 15 Wingate Hall, College Road
MILITARY SCIENCE. Major James, Alumni Hall, 54 Forest Avenue, Bangor
MUSIC. Director Sprague, 15 Wingate Hall, 217 Union Street, Bangor
PLANT PATHOLOGY (AGRICULTURAL EXPERIMENT STATION). Professor Morse, Holmes Hall, 51 North Main Street
PHYSICAL EDUCATION. Assistant Professor Schenkel, Alumni Hall, 120 Main Street
PHYSICS. Professor Stevens, 200 Aubert Hall, 175 Main Street
POULTRY HUSBANDRY. Professor Corbett, 14 Winslow Hall, Campus
PSYCHOLOGY. Professor Halverson, 23 Wingate Hall, 104 North Main Street
PUBLIC SPEAKING. Associate Professor Bailey, 1 Estabrooke Hall, 39 Mill Street
SPANISH AND ITALIAN. Professor Peterson, 23 Fernald Hall, 35 Park Street

OF THE DORMITORIES

KATE CLARK ESTABROOKE, Superintendent of Mt. Vernon House
LOUISE HENDRICKSON, Superintendent of Balentine Hall
MATTIE ALLEN MUNSON, Superintendent of Balentine Annex

*Faculty of Instruction

CLARENCE COOK LITTLE, President
B.A., Harvard, 1910; M.S., 1912; S.D., 1914

LUCIUS HERBERT MERRILL, Professor of Biological and Agricultural Chemistry.
B.S., Maine, 1883; Sc.D., 1908

JAMES NORRIS HART, Dean of the University and Professor of Mathematics and Astronomy.
B.C.E., Maine, 1885; C.E., 1890; M.S., Chicago, 1897; Sc.D., Maine, 1908; Ph.D., 1922

FREMONT LINCOLN RUSSELL, Professor of Bacteriology and Veterinary Science.
B.S., Maine, 1885; V.S., New York College of Veterinary Surgeons, 1886

JAMES STACY STEVENS, Dean of the College of Arts and Sciences, Professor of Physics, and Director of the Summer Term.
B.S., Rochester, 1885; M.S., 1888, and Syracuse, 1889; LL.D., Rochester, 1907; Litt. D., Maine, 1922

JOHN HOMER HUDDILSTON, Professor of the Greek Language and Literature, and Lecturer on Art History.
A.B., Baldwin, 1890, and Harvard, 1893; Ph.D., Munich, 1897

JACOB BERNARD SEGALL, Professor of French.
B.S., and B.L., Jassy, 1884; Ph.D., Columbia, 1893

HAROLD SHERBURNE BOARDMAN, Dean of the College of Technology and Head of the Department of Civil Engineering.
B.C.E., Maine, 1895; C.E., 1898; D.Eng., 1922

GEORGE DAVIS CHASE, Professor of Latin.
A.B., Harvard, 1889; A.M., 1895; Ph.D., 1897

CAROLINE COLVIN, Professor of History.
A.B., Indiana, 1893; Ph.D., Pennsylvania, 1901

CHARLES PARTRIDGE WESTON, Professor of Mechanics and Drawing.
B.C.E., Maine, 1896; C.E., 1899; A.M., Columbia, 1902

MINTIN ASBURY CHRYSLER, Professor of Biology.
B.A., Toronto, 1894; Ph.D., Chicago, 1904

JOHN MANVERS BRISCOE, Professor of Forestry.
M.F., Yale, 1909

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*Arranged in groups in order of seniority of appointment

LEON STEPHEN MERRILL, Dean of the College of Agriculture and Director of Agricultural Extension Service.
M.D., Bowdoin, 1889; Sc.D., Maine, 1922

GEORGE EDWARD SIMMONS, Professor of Agronomy.
B.S., Ohio Northern, 1902; M.S., 1905; B.Sc., Ohio State, 1909; D.Sc., Ohio Northern, 1922

WILLIAM EDWARD BARROWS, Jr., Professor of Electrical Engineering.
B.S., Maine, 1902; E.E., 1908

LAMERT SEYMOUR CORBETT, Professor of Animal Industry.
B.Sc., Massachusetts Agricultural College, 1909; M.S., Kentucky, 1913

FRANCES ROWLAND FREEMAN, Professor of Home Economics.
B.Sc., Ohio State, 1910; M.Sc., 1911

WILLIAM JORDAN SWEETSER, Professor of Mechanical Engineering.
S.B., Massachusetts Institute of Technology, 1901

ROY MERLE PETERSON, Professor of Spanish and Italian.
A.B., Coe College, 1906; A.M., Harvard, 1910; Ph.D., 1912; F.A.A.R.

ROBERT RUTHERFORD DRUMMOND, Professor of German.
B.S., Maine, 1905; Ph.D., Pennsylvania, 1909

HERBERT STAPLES HILL, Professor of Agricultural Education.
A.B., Bowdoin, 1905

HARLEY RICHARD WILLARD, Professor of Mathematics.
B.A., Dartmouth, 1899; M.A., 1902 and Yale, 1910; Ph.D., 1912

JOHN H ASHWORTH, Professor of Economics and Sociology.
B.A., Emory and Henry College, 1906; Ph.D., Johns Hopkins, 1914

CHARLES ANDREW BRAUTLECHT, Professor of Chemistry.
Ph.B., Yale, 1906; Ph.D., 1912

HAROLD MILTON ELLIS, Professor of English.
B.A., Maine, 1907; M.A., 1908 and Harvard, 1909; Ph.D., 1913

LUTHER RICE JAMES, Professor of Military Science and Tactics.
Major, United States Army

HERMAN PITTEE SWEETSER, Professor of Horticulture.
B.S., Maine, 1910

RAYMOND LOWREY WALKLEY, Librarian.
B.A., Yale, 1909; M.A., 1910; B.L.S., New York State Library School, 1913

ARCHER LEWIS GROVER, Professor of Engineering Drawing.
B.M.E., Maine, 1899; B.S., 1902

EMBERT HIRAM SPRAGUE, Professor of Civil Engineering.
B.S., Dartmouth, 1900

ALBERT LEWIS FITCH, Professor of Physics.
A.B., Albion College, 1911; M.A., 1912; Ph.D., Michigan, 1916

LUTHER JOHN POLLARD, Professor of Education.
B.A., Lawrence College, 1910; M.A., Wisconsin, 1915

WALTER FRANK ADAMS, Professor of Military Science and Tactics.
B.S. in E.E., Norwich, 1912
Captain of Infantry, U. S. Army

ANDREW JACKSON NICHOLS, Professor of Military Science and Tactics.
First Lieutenant of Infantry, U. S. Army.

HENRY MARC HALVERSON, Professor of Psychology.
Ph.B., Wisconsin, 1915; A.M., Iowa, 1918; Ph.D., Clark, 1922

JAMES ADRIAN GANNETT, Registrar.
B.S., Maine, 1908

IRVING HILL BLAKE, Associate Professor of Biology.
A.B., Bates, 1911; A.M., Brown, 1912

BENJAMIN CALVIN KENT, Associate Professor of Mechanical Engineering.
B.S., Maine, 1912

ARTHUR ST. JOHN HILL, Associate Professor of Electrical Engineering.
E.E., Polytechnic Institute of Brooklyn, 1911

ALPHEUS CROSBY LYON, Associate Professor of Civil Engineering.
B.S., Maine, 1902; S.B., Massachusetts Institute of Technology, 1904; C.E., Maine, 1913

BERTRAND FRENCH BRANN, Associate Professor of Chemistry.
B.S., Maine, 1909; M.S., 1911; M.S., Massachusetts Institute of Technology, 1912

AVA HARRIET CHADBOURNE, Associate Professor of Education.
B.A., Maine, 1915; M.A., 1918; Columbia, 1919

J HOWARD TOELLE, Associate Professor of Economics and Sociology.
A.B., Indiana, 1913; LL.B., 1914; A.M., 1916

FRANÇOIS JOSEPH KUENY, Associate Professor of French.
B. ès L., University of Paris, 1897; L. ès L., Besançon, 1901

CHARLES HOWARD BATCHELDER, Associate Professor of Biology.
A.B., New Hampshire State College, 1913; M.S., 1915

MARK BAILEY, Associate Professor of Public Speaking.
A.B., Yale, 1915; A.M., Michigan, 1917

HOWARD WATSON FLACK, Associate Professor of Physical Education.
A.B., Syracuse, 1914

JASON LESLIE MERRILL, Associate Professor of Chemistry.
Ph.B., Colby, 1901; B.S., Massachusetts Institute of Technology, 1905

HAROLD WALTER LEAVITT, Associate Professor of Civil Engineering.
B.S., Maine, 1915; C.E., 1918; M.S., Maine, 1921

ROBERT HAMPDEN BRYANT, Graduate Manager of Athletics.

*LESTER SAUNDERS HILL, Associate Professor of Mathematics.
B.A., Columbia, 1911; M.A., 1913

ALBERT AMES WHITMORE, Associate Professor of History.
B.S., Maine, 1906; M.A., 1917

HERBERT DEWITT CARRINGTON, Associate Professor of German.
Ph.B., Yale, 1884; Ph.D., Heidelberg, 1897

JOHN WILLIAM DRAPER, Associate Professor of English.
B.A., New York University, 1914; M.A., 1915; M.A., Harvard, 1918; Ph.D., 1920

NOAH ROSENBERGER BRYAN, Associate Professor of Mathematics.
A.B., Pennsylvania State, 1913; A.M., Pennsylvania, 1918; Ph.D., Columbia, 1921

HARRY WOODBURY SMITH, Assistant Professor of Biological and Agricultural Chemistry.
B.S., Maine, 1909; M.S., 1922

ADELBERT WELLS SPRAGUE, Director of Music.
B.S., Maine, 1905; A.M., Harvard, 1907

LLEWELLYN MORSE DORSEY, Assistant Professor of Animal Industry.
B.S., Maine, 1916

BENJAMIN COE HELMICK, Assistant Professor of Agronomy.
B.S., Iowa, 1914; M.S., Cornell, 1915

ESTHER MCGINNIS, Assistant Professor of Home Economics.
B.Sc., Ohio State, 1915

WALTER DAVIS EMERSON, Assistant Professor of Mechanical Engineering.
B.S., Maine, 1916; M.E., 1920

LEO HENRY DAWSON, Assistant Professor of Physics.
A.B., Clark College, 1912; A.M., Clark University, 1914

RUFUS WILLIAM MCCULLOCH, Assistant Professor of English.
A.B., North Carolina, 1906; A.M., 1911 and Harvard, 1913

INEZ BOWLER, Assistant Librarian.
A.B., Colby, 1907; B.S., Simmons, 1910

BERTHA JOSEPHINE HOWARD, Assistant Professor of Economics and Sociology.
B. A., Mount Holyoke, 1910; M.A., University of Michigan, 1917

JOHN HENRY KIDNEY, Assistant Professor of Military Science and Tactics.
Warrant Officer, U. S. Army.

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*On leave of absence

WALTER JOSEPH CREAMER, Assistant Professor of Electrical Engineering.
B.S., Maine, 1918; E.E., Maine, 1921

PLATT ASHLEY PEARSALL, Assistant Professor of Chemistry.
B.S., Virginia Polytechnic Institute, 1915

LOUISE BANCROFT, Assistant Professor of Home Economics.
B.S., Simmons, 1920

ALBERT MORTON BIERSTADT, Assistant Professor of English.
A.B., Harvard, 1912; A.M., 1914; Ph.D., 1920

ELMER REEVE HITCHNER, Assistant Professor of Bacteriology.
B.S., Pennsylvania State, 1915; M.S., 1916

STANLEY WALLACE, Assistant Professor of Physical Training and Councilor of Freshmen.

HAROLD FRANCIS WATSON, Assistant Professor of English.
B.A., New York University, 1918; M.A., 1920

EVERETT WILLARD DAVEE, Instructor in Mechanical Engineering.

MARION STEPHANIE BUZZELL, Instructor in French.
B.A., Maine, 1914; M.A., 1916

CHAUNCEY WALLACE LORD CHAPMAN, Instructor in Forestry.
B.S., Maine, 1914; M.S., 1921

FRANCES ELIZABETH ARNOLD, Instructor in Spanish and Italian.
B.A., Maine, 1910

AARON BLESS, Instructor in Physics.
B.S., Temple University, 1918; M.A., Maine, 1921

JAMES STROTHARD BROOKS, Instructor in Engineering Drawing.

ISRAEL CHASMAN, Instructor in English.
A.B., Texas, 1916; A.M., 1918

ROBERT DOUGALL, Instructor in History.
B.S., McGill, 1915

WESTON SUMNER EVANS, Instructor in Civil Engineering.
B.S., Maine, 1918

EVERETT JOSHUA FELKER, Instructor in Civil Engineering.

LEIGH PHILBROOK GARDNER, Instructor in Animal Industry.
B.S., Maine, 1920

SHERMAN JEWETT GOULD, Instructor in Physics.
B.S., Bates, 1916

WARREN STANHOPE LUCAS, Instructor in Mathematics.
B.A., Maine, 1914; M.A., 1922

HARRY ROY PERKINS, Instructor in Mechanical Engineering.

JOHN ANTHONY STRAUSBAUGH, Instructor in Spanish and Italian.
A.B., Dickinson, 1919

HAROLD CLAYTON SWIFT, Instructor in Agronomy.
B.S., Maine, 1918

HARRY DEXTER WATSON, Instructor in Mechanical Engineering.
B.S., Maine, 1920

CHARLES FLOYD WHITCOMB, Instructor in French.

HAROLD CHANDLER WHITE, Instructor in Chemistry.
B.S., Maine, 1915; C.E., Maine, 1921

MARK BRADEN ASHLEY, Instructor in Military Science and Tactics.
Sergeant, U. S. Army.

FRANK SWAN BEALE, Instructor in Mathematics.
B.S., Maine, 1921

MARION KATHARYN BRAGG, Instructor in English.
B.A., Maine, 1921

EDWARD CHOATE BROWN, Instructor in Mathematics.
A.B., Harvard, 1918

HOWARD LLOYD FLEWELLING, Instructor in English.
B.A., Dartmouth, 1921

THELMA LOUISE KELLOGG, Instructor in English.
B.A., Maine, 1918

WARREN EDWARD LORING, Instructor in Mathematics.
B.S., Tufts, 1918

WALTER WILLIAM PURDY, Instructor in Chemistry.
B.S., Akron, 1919

EVERETT LOUIS ROBERTS, Instructor in Electrical Engineering.
B.S., Maine, 1920

GEORGE MERVIL SEELEY, Instructor in Chemistry.
A.B., Bates, 1913

WALTER WENTWORTH WIGGIN, Instructor in Horticulture.
B.S., New Hampshire State, 1921

IRVING TREFETHEN RICHARDS, Instructor in English.
A.B., Bowdoin, 1920

WALTER WHITMORE CHADBOURNE, Instructor in Economics and Sociology.
A.B., Maine, 1920; M.B.A., Harvard, 1922

RICHARD EUGENE DOWNING, Instructor in Electrical Engineering.
S.B., Massachusetts Institute of Technology, 1922

EDWIN DILLMON HULL, Instructor in Biology.
B.S., Chicago, 1914; M.S., Chicago, 1916

LESLIE GEORGE JENNESS, Instructor in Mathematics.
B.S., New Hampshire State, 1920

FRED EUGENE JEWETT, Instructor in Economics and Sociology.
B.S., Middlebury, 1921

ALBERT EDWIN JOHNSON, Instructor in Engineering Drawing.
B.S., Maine, 1922

EDWIN JAY LYONS, Instructor in Military Science and Tactics.
Sergeant, U. S. Army.

KENNETH GERALD MERRIAM, Instructor in Mechanical Engineering.
S.B., Massachusetts Institute of Technology, 1922

FLORENCE JULIA MORRILL, Instructor in Home Economics.
B.S., Maine, 1921

FLOYD FRANCIS OPLINGER, Instructor in Chemistry.
B.S., Franklin and Marshall, 1919; M.S., Rochester, 1922

FRANCIS DOOLITTLE WALLACE, Instructor in Public Speaking.
A.B., Cornell, 1921

RALPH ALLEN WILKINS, Instructor in Chemistry.
B.S., Maine, 1919

NORMAN EMME WOLDMAN, Instructor in Chemistry.
B.S., Case School of Applied Science, 1921; M.S., Ohio State, 1922

HELEN WOODBRIDGE, Instructor in Biology.
B.A., Mount Holyoke, 1920; M.S., Washington, 1922

TERESA HUESMAN, Instructor in Physical Training for Women.

MADELINE MOORE, Assistant in the Library.

HERBERT BURR ABBOTT, Mechanician in the Mechanical Engineering Department.

DAVID GROSS, Assistant in Spanish.

LEO DAY, Assistant in State Highway Laboratory.

Faculty of Extension Service

(COLLEGE OF AGRICULTURE)

LEON STEPHEN MERRILL, Director.
M.D., Bowdoin, 1889; D.Sc., Maine, 1922

RAYMON NEALE ATHERTON, County Agricultural Agent, Androscoggin and Sagadahoc Counties.
B.S., Maine, 1920

IVA VIOLA BARKER, Home Demonstration Agent, Penobscot County.
B.S., Maine, 1921

HARRY ELMER BICKFORD, County Agricultural Agent, Hancock County.

EDNA MANSFIELD COBB, Clothing Specialist.

HELEN LOUISE CLARK, Home Demonstration Agent, Kennebec County.
B.S., Connecticut State, 1919

HELEN PACKARD COOPER, Home Demonstration Agent, Androscoggin and Sagadahoc Counties.

CHARLES EDWARD CROSSLAND, Executive Secretary to Director of Extension Service.
B.S., Maine, 1917

ABRAHAM LINCOLN TASKER CUMMINGS, Agricultural Editor.

CLARENCE ALBERT DAY, County Agricultural Agent, Kennebec County.

ARTHUR LOWELL DEERING, County Agent Leader.
B.S., Maine, 1912

RICHARD BOULSBY DODGE, County Agricultural Agent, Penobscot County.
B.S., Maine, 1917

NORMAN SYLVESTER DONAHUE, County Agricultural Agent, Waldo County.
B.S., Maine, 1915

MARY GILMORE FLINT, Home Demonstration Agent, Washington County.
B.S., Columbia, 1920

ALBERT KINSMAN GARDNER, Crops Specialist.
B.S., Maine, 1910

WILLIAM MELVIN GRAY, County Agricultural Agent, York County.
B.S., Maine, 1912

MARION GRACE HARE, Home Demonstration Agent, Somerset County.

CLAIRE HERRICK, Home Demonstration Agent, Knox-Lincoln Counties.
B.S., Simmons, 1921

FLORA ADELAIDE HOWARD, Home Demonstration Agent, Piscataquis County.
B.S., Maine, 1917

ALICE EVELYN HOWE, Home Demonstration Agent, Hancock County.

DELLA MAY INGERSON, Home Demonstration Agent, Cumberland County.

MARY ELEANOR JACKSON, Home Economics Extension Specialist.
B.S., Maine, 1920

ROSALIND MAY JEWETT, Home Demonstration Agent Leader.
B.S., Colby, 1910

MAURICE DANIEL JONES, Farm Management Demonstrator.
B.S., Maine, 1912

CHARLES CARLYLE LARRABEE, County Agricultural Agent, Piscataquis County.

RAYMOND HARWOOD LOVEJOY, County Agricultural Agent, Oxford County.
B.S., Maine, 1921

EDWARD WATTS MORTON, County Agricultural Agent, Aroostook County.
B.S., Maine, 1909

ARRA SUTTON MIXTER, Assistant State Club Leader.

ESTELLE NASON, Home Demonstration Agent, Waldo County.
B.S., Maine, 1922

ANITA NICHOLSON, Home Demonstration Agent, Oxford County.

JOHN HARVEY PHILBRICK, Assistant County Agricultural Agent, Aroostook County.
B.S., Maine, 1915

JAMES HAYES PULSIFER, County Agricultural Agent, Franklin County.

DONALD WINSLOW REED, County Agricultural Agent, Washington County.
B.S., Maine, 1922

WILFRED SHERMAN ROWE, County Agricultural Agent, Cumberland County.

LESTER HALE SHIBLES, State Club Leader.
A.B., Colby, 1915

HELEN SPAULDING, Home Demonstration Agent, York County.
B.S., Simmons, 1913

CLAYTON ALTON STORER, County Agricultural Agent, Somerset County.
B.S., Maine, 1918

MARJORIE PRINCE SYMONDS, Home Demonstration Agent, Franklin County.

RICHARD FOSTER TALBOT, Specialist in Dairy Husbandry.
B.S., Maine, 1907

RALPH CARLTON WENTWORTH, County Agricultural Agent, Knox and Lincoln Counties.
B.S., Maine, 1918

OSCAR MILTON WILBUR, Specialist in Poultry Husbandry.
M.S., Maine, 1917

Faculty of Investigation

(THE MAINE AGRICULTURAL EXPERIMENT STATION)

WARNER JACKSON MORSE, Director and Plant Pathologist.
B.S., Vermont, 1898; M.S., 1903; Ph.D., Wisconsin, 1912

ALICE WOODS AVERILL, Laboratory Assistant.

JAMES MONROE BARTLETT, Chemist.
B.S., Maine, 1880; M.S., 1883

MILDRED REBECCA COVELL, Clerk in Biology.

PERLEY DOWNING, Superintendent of Aroostook Farm.

DONALD FOLSOM, Associate Plant Pathologist.
A.B., Nebraska, 1912; A.M., Minnesota, 1914; Ph.D., 1917

MARJORIE EUNICE GOOCH, Scientific Aid.
B.S., Maine, 1919; M.S., 1922

JOHN WHITTEMORE GOWEN, Biologist.
B.S., Maine, 1914; M.S., 1915; Ph.D., Columbia, 1917

CHARLES CLYDE INMAN, Clerk.

VIOLA LOUISE MORRIS, Seed Analyst.

MARY LEONICE NORTON, Clerk.

EDITH MARION PATCH, Entomologist.
B.S., Minnesota, 1901; M.S., Maine, 1910; Ph.D., Cornell, 1911

KARL SAX, Biologist.
B.S., Washington State, 1916; M.S., Harvard, 1917; Sc.D., 1922

WELLINGTON SINCLAIR, Superintendent of Highmoor Farm.

ELMER ROBERT TOBEY, Associate Chemist.
B.S., Maine, 1911; M.S., 1917; Ch.E., 1920

BEATRICE GOODINE WEBSTER, Laboratory Assistant.

CHARLES HARRY WHITE, Assistant Chemist.
Ph.C., Maine, 1897

ILA KATHLEEN WHITE, Clerk.

Committees of the Faculty

ADMINISTRATION—The President and the Deans

ALUMNI RELATIONS—Gannett, Emerson, Hart, Towner

ATHLETICS—Grover, Halverson, Lyon, Pollard, Sprague, E. H.

AUDITING—Merrill, L. H., Helmick, Kueny

CHAPEL—Ellis, Buzzell, Cummings, Peterson, Sprague

GRADUATE STUDY—Chase, Brautlecht, Colvin, Corbett, Ellis, Merrill, L. H., Morse, Peterson, Willard

HEALTH—Chrysler, Freeman, James, Russell

HONORS—Sweetser, H. P., Carrington, Draper, Kent, Merrill, J. L.

LIBRARY—Walkley, Ashworth, Draper, Huddilston, Segall, Simmons, Weston

MILITARY—James, Boardman, Dorsey, Wallace, S.

PUBLICITY—Gannett, Cummings, Towner

RULES—Peterson, Fitch, Smith

SCHEDULE—Weston, Gannett, the Deans

SECONDARY-SCHOOL RELATIONS—Hart, Chase, Ellis, Freeman, Hill, H. S., Pollard

SOCIAL AFFAIRS—Toelle, Buzzell, Carrington, Huesman, Sweetser, H. P., Towner, Wallace, S.

STUDENT ACTIVITIES—(NON-ATHLETIC)—Sweetser, W. J., Bailey, Colvin, Ellis, Huesman, Pollard, Sprague, A. W., Towner, Walkley, Wallace, S., Weston

General Information

HISTORY

The University of Maine is a part of the public educational system of the State. It was established as a result of the Morrill Act approved by President Lincoln, July 2, 1862. The State of Maine accepted the conditions of this act in 1863. In 1865 the State created a corporation to administer the affairs of the college. The original name of the institution was the State College of Agriculture and the Mechanic Arts. The name was changed to the University of Maine in 1897.

The first Board of Trustees was composed of 16 members, each county delegation in the Legislature selecting one member. Various changes have occurred in the appointment of Board members. At the present time seven members of the Board are appointed by the Governor of the State, with the advice and consent of the Council, for a term of seven years. One member is appointed for three years by the Governor upon the nomination of the Alumni Association.

The institution opened September 21, 1868, with a class of 12 members and a faculty of two teachers. By 1871 four curricula had been arranged,—Agriculture, Civil Engineering, Mechanical Engineering, and Elective. By gradual growth these curricula developed into the College of Agriculture, the College of Technology, and the College of Arts and Sciences.

The Maine Agricultural Experiment Station was established as a division of the university by act of the Legislature of 1887, as a result of the passage by Congress of the Hatch Act. It succeeded the Maine Fertilizer Control and Agricultural Experiment Station which had been established in 1885.

The College of Law was opened in 1898. It was an integral part of the institution and until the year 1917 occupied quarters at the corner of Union and Second streets in Bangor. Since that time it has been located on the campus at Orono. It was abolished in 1920.

Graduate instruction has been given by various departments for many years. The first Master's degree was conferred in 1881. There is no provision for graduate work in advance of that required for the Master's degrees.

Beginning with 1902, a Summer Term has been held annually, consisting at 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. The departments usually offering courses are Biology, Chemistry, Economics and Sociology, Education, English, French, German, History, Latin, Mathematics and Astronomy, Physics, and Spanish.

The university is coeducational, women having been admitted since 1872, in compliance with special legal enactment.

LOCATION

The university is located in Orono, an attractive town of 3,500 population, with good schools and three churches. The campus of 370 acres borders the Stillwater River, a branch of the Penobscot, and is of great beauty.

Orono is on the main line of the Maine Central Railroad, eight miles east of Bangor, half way between Kittery, the most southerly town in the State on the Maine Central Railroad, and Fort Kent, the most northerly town in the State on the Bangor and Aroostook Railroad. It is not far from the center of population of the State. In addition to steam railroad connection, there is half-hour trolley service to Bangor, nine miles, and Old Town, three miles from the campus. Bangor is the third city of the State in population and an important business center. The location of the university gives students who care to do so an opportunity to avail themselves of its social, religious, and other advantages. Old Town is a prosperous manufacturing city with about 7,000 inhabitants.

BUILDINGS AND THEIR EQUIPMENT

Balentine Hall.—The Legislature of 1913 made an appropriation for the erection of one wing of a women's dormitory. This was completed September 1, 1914. The Legislature of 1915 made an appropriation for completing the building. The name was given in honor of Elizabeth Abbott Balentine, Secretary and Registrar of the university from 1895 to 1913. It contains accommodations for 110 women.

Hannibal Hamlin Hall.—This is a men's dormitory completed in 1911. It contains four stories and a concrete basement. It was named for the Honorable Hannibal Hamlin, of Hampden and Bangor, the first president of the Board of Trustees. It will accommodate 156 students.

Mount Vernon House.—This is a wooden building, remodeled in 1898, and is a dormitory for women. It is a three story building and will accommodate 36 students.

North Hall.—This building is used by the Home Economics Department for a Practice House as required under the Smith-Hughes law for teacher training. It is a two story frame house located on the cam-

pus. The faculty and seniors of the department reside here during the academic year.

Oak Hall.—This building was named for the Honorable Lyndon Oak, of Garland, a long-time member and president of the Board of Trustees. It is a four story building, erected in 1871, and has 48 rooms for students.

University Inn.—This is a wooden building, located in the village of Orono, which the university has leased for a term of years. It is occupied chiefly by instructors and has accommodations for fifty persons.

Alumni Hall.—This building was erected in 1900 and was given its name because part of the funds required for its erection were subscribed by the alumni of the university. It contains the gymnasium, chapel, and administrative offices.

Aubert Hall.—This is a four story building including a high basement. It was named in honor of the late Alfred Bellamy Aubert, Professor of Chemistry from 1874 to 1910. It is used by the Departments of Chemistry and Physics.

Coburn Hall.—This building contains the Department of Biology and the museum and has recitation rooms for the Departments of History and Economics and Sociology. It was named for ex-Governor Abner Coburn, of Skowhegan, a former president of the Board of Trustees, and benefactor of the university.

Estabrooke Hall.—This building is used for the Departments of English and Public Speaking, and was named for the late Horace Melvyn Estabrooke, Professor of English from 1891 to 1908. It contains four recitation rooms, rooms for consultation purposes, and offices for the members of the departments.

Fernald Hall.—This is the oldest building on the campus and was erected for the Department of Chemistry. It now contains the Departments of French, Spanish and Italian, Education, Mathematics, and the University Store. It was named in honor of ex-President Merritt C. Fernald.

Holmes Hall.—This building contains the offices and laboratories of the Maine Agricultural Experiment Station. It is a two story building in addition to a basement. It was named for Dr. Ezekiel Holmes, of Winthrop.

Library Building.—The Library Building is of stone, two stories above a basement, and surmounted by a dome. For its erection 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 stacks, which are in the rear of the main building, contain shelf room for 60,000 volumes.

LORD HALL.—This building was erected for the Departments of Electrical Engineering and Mechanical Engineering. It is two stories in height and contains recitation rooms, laboratories, shops, drawing rooms, and offices for the members of these departments. It was named for the Honorable Henry Lord, of Bangor, a former president of the Board of Trustees.

STEWART HALL.—This building is situated in Bangor and contains offices and recitation rooms of the College of Law. It is three stories in height and was named for Honorable D. D. Stewart, of St. Albans, Maine, who has been a generous benefactor of this college.

WINGATE HALL.—This building contains three stories and a basement. It is used by the Departments of Civil Engineering and Mechanics and Drawing, and includes recitation rooms and offices for the Departments of Latin, Psychology, and Music.

WINSLOW HALL.—This is a four story building including the basement. It contains offices, laboratories, and recitation rooms for the various departments of the College of Agriculture. It was named in honor of Honorable Edward B. Winslow, of Portland, a former president of the Board of Trustees. In the rear of this building is located the stock judging pavilion, which is an octagonal structure, having a seating capacity of 600.

DAIRY BUILDING.—This building contains various rooms appropriate for the Department of Dairy Husbandry. It is supplied with necessary appliances for teaching methods of handling milk, cream, butter, and cheese.

FARM BUILDINGS.—These comprise two large dairy barns, a horse barn, a hay storage barn, two tool houses, and a piggery. The farm of the university is composed of parcels of land aggregating 473 acres, of which 120 acres are under cultivation.

HORTICULTURAL BUILDING.—This includes a set of greenhouses east of Holmes Hall and furinishes opportunity for demonstration of the practical culture of flowers and vegetables under glass.

INFIRMARY.—This building is used in caring for cases of infectious diseases that may appear among the students. It is located in the rear of Hannibal Hamlin Hall.

OBSERVATORY.—The astronomical observatory stands on a slight elevation east oi Alumni Hall. It contains equipment for work in descriptive and practical astronomy.

POULTRY PLANT.—The part of the plant that belongs to the College of Agriculture consists of a two and one-half story building to which

of the faculty may borrow any reasonable number of volumes without time limit, but all books must be returned nine days before Commencement. Books will be loaned to other libraries, to schools, and to residents of the State when it can be done without interference with local needs, the borrower paying transportation charges in both directions.

MUSEUM OF NATURAL HISTORY

MINTIN ASBURY CHRYSLER

Curator of the Botanical and Zoological Collections

LUCIUS HERBERT MERRILL

Curator of the Geological Collections

The museum occupies the wing of Coburn Hall and adjoining rooms in the main part of the building.

ZOOLOGICAL COLLECTIONS.—These collections occupy the lower floor of the wing of Coburn Hall. Some of the alcoholic and formalin 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. The herbarium includes several collections of considerable value, the most important of which is the one made by the late Rev. Joseph Blake and presented to the university by Mr. Jonathan G. Clark, of Bangor. 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 F. L. 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 Hepaticae, 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 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. A valuable collection of fossil plants was presented by Professor Harvey.

GEOLOGICAL COLLECTIONS.—These collections, occupying the upper floor 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 the 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.

ART COLLECTION

This 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 lecture room, and a seminar room. In the latter is a specially constructed cabinet for mounted photographs.

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 possesses 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 lecture room in the Library building contains examples of the work of the chief Florentine and Umbrian masters of the 14th and 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 university possesses a large collection of photographs and lantern slides.

ORGANIZATIONS

AGRICULTURAL CLUB.—This organization is composed of students taking agricultural courses. Meetings are held thruout 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.

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.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—This is an organization for the promotion of the students' 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 Institute.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—A regularly organized branch of this society holds regular meetings for the presentation and discussion of engineering papers by members and by visiting engineers.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—This branch of the society is composed of the students 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 this and other institutions and by practicing engineers. The affairs of the branch are controlled by the students under the advice of the department.

CONTRIBUTORS' CLUB.—This organization, composed of students and members of the faculty who have shown ability in writing, has as its object the cultivation of the literary talents of its members and the general encouragement of literary effort in the university community. Meetings are held twice monthly, at which original stories, essays, and poems are read and criticized by the club members.

CERCLE FRANÇAIS.—The object of the Cercle Français is to cultivate the spoken French language and arouse and stimulate an interest in the intellectual life of France. 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 meets once in two weeks.

CIRCULO ESPANOL.—This organization was established in 1921 to afford additional practice in the use of the Spanish language, and to promote a knowledge of the culture of Spain as well as of the Spanish American nations. Meetings with programs in Spanish are held every three weeks. Majors in the Department of Spanish and other properly qualified students are eligible for membership.

ENGLISH CLUB.—All major and minor students in English, and such other teachers and students as may be elected to membership by reason of their known interest in the study of English. Meetings are held monthly at which addresses or other programs of value are given.

FORESTRY CLUB.—All students majoring in the curriculum in Forestry are eligible for membership in the Forestry Club. The purpose of the club is to give an opportunity for presenting informal discussions and technical papers on forestry subjects, and to promote cooperation and general good fellowship among the forestry students. The meetings are held monthly.

HOME ECONOMICS CLUB.—This organization is composed of students majoring in Home Economics. Meetings are held regularly once a month at North Hall, the practice house. The object of the society is to keep in touch with current problems in Home Economics, the programs being conducted primarily by the students themselves. The organization also aims to promote cooperation and interest between students and graduates, by the appoinment of an alumnae representative for the purpose of sending news to the club from those engaged in the various lines of work.

MATHEMATICS CLUB.—All students majoring in mathematics and others who are interested in the study of the subject are eligible for membership in the Mathematics Club. The purpose of this club is to stimulate interest in the study of mathematics and to give to mathematics students the opportunity to present papers and take part in discussions. Meetings are held monthly.

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 men undergraduates are eligible.

MENORAH ASSOCIATION.—An intercollegiate organization for the study and advancement of Jewish culture and ideals.

PHYSICS CLUB.—Members of the faculty and students who are taking courses in physics or allied subjects are eligible to membership in this organization. Meetings are held every two weeks at which papers are presented and current topics are discussed.

PRESS CLUB.—This organization, comprising the press correspondents for the chief newspapers of the state and New England, meets weekly for

the purpose of gathering and disseminating news of interest and value to the university.

SPEAKERS' CLUB.—A local honorary society, open to all students who acquire a sufficiently high standing in public debate and oratory. The object of the club is to promote interest in public speaking at the university. It is in active cooperation with the Department of Public Speaking, and superintends some of the minor activities in oratory and debate.

MAINE CHRISTIAN ASSOCIATION.—The Maine Christian Association, composed of men students, has for its object the promotion of Christian fellowship and aggressive Christian work. Classes for the study of the Bible are conducted during the week.

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

ALPHA CHI SIGMA.—Alpha Chi Sigma is a professional fraternity with chapters in various American colleges and universities. The members are elected from those whose major work is in the Department of Chemistry.

ALPHA ZETA.—The Maine chapter of Alpha Zeta, the national agricultural fraternity, was organized at the university in 1905. Chapters exist in twenty-seven other universities. Membership is honorary and is restricted to students attaining high class standing or to graduates who have shown marked ability along the lines of agricultural study and research.

PHI KAPPA PHI.—The Phi Kappa Phi, founded at the University of Maine, is an honor society. Early in the fall semester of the senior year the seven members of the class having the highest standing are elected members, and during the spring semester the ten next highest may be elected.

SCABBARD AND BLADE.—Scabbard and Blade is an honorary military fraternity. Active membership is restricted to cadet officers of high moral and scholastic standing. Honorary members may be elected from commissioned officers of the United States Army; also non-military persons deemed worthy of the honor. The University of Maine company (Co. D., 2nd Reg't.) was organized in 1916. Companies exist in seventeen other colleges and universities.

SIGMA DELTA CHI.—This is an honor fraternity open to sophomores, juniors, and seniors who have shown unusual ability in the various courses in journalism, and who propose to enter upon journalism as a profession.

TAU BETA PI.—Tau Beta Pi is an honor fraternity for engineers and has chapters in leading universities and technical schools. Elections are

ade from those juniors and seniors in engineering who have shown high ental and moral qualifications.

UNIVERSITY BAND.—This is a military and concert organization at- ıched to the Cadet Corps. It is composed of students in the Military epartment, and rehearsals are conducted by the director of music as egular class work, for which the men receive credit. The band plays or various university functions and games and makes concert trips to earby cities and towns.

UNIVERSITY CHORUS AND ORCHESTRA.—These bodies are organized rom students, faculty, and outside assisting talent, and are conducted y the director of music. A varied repertoire of classic and lighter num- ers are studied and performed at concerts and other occasions. Chorus nembers are admitted to the Maine Festival Chorus, and orchestra mem- ers of talent and proper training are given consideration whenever acancies occur in the Bangor Symphony Orchestra, a semi-professional rganization.

MUSICAL CLUBS.—Glee and mandolin clubs are maintained by both nen and women students and concert trips are taken at intervals during he college year.

UNIVERSITY PUBLICATIONS

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. It includes the Annual Report and the Annual Catalog.

THE MAINE ALUMNUS.—This is published five times during the academic year by the General Alumni Association and is sent free to all former students of the university.

ANNUAL REPORT OF THE AGRICULTURAL EXPERIMENT STATION AND THE AGRICULTURAL EXPERIMENT STATION BULLETINS.—These give complete results of the work of investigation of the station. The Bulletins and Official Inspections are sent free on request to any resident of Maine.

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

Extension Bulletins and Extension News Letters.—These publications are issued by the Agricultural Extension Department. A limited supply of the bulletins is available for distribution and will be forwarded on application. The News Letters are distributed to newspapers and persons whose names are on the classified mailing lists.

Maine Campus.—This is a paper published weekly during the academic year by an association of the students.

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

The Maine-Spring.—This is a literary magazine published four times a year. It is under the supervision of the Contributors' Club.

Practical Husbandry.—This is a monthly magazine published under the direction of the Agricultural Club. It is devoted to practical and technical agriculture.

PUBLIC WORSHIP

A short service of a religious character is held in the chapel four days in the week. Students receive a cordial welcome at all services in the churches of Orono. Voluntary religious services are held each week under the direction of the Maine Christian Association and the Young Women's Christian Association.

STUDENT REGULATIONS

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 special information for the guidance of students 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 eighteen hours in the College of Arts and Sciences, and from a minimum of seventeen hours to a maximum of twenty-two hours in the College of Agriculture and the College of Technology. 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.

SCHOLARSHIP HONORS

Scholarship honors are awarded to seniors whose scholarship places them in the first 15 per cent. of their class. The names of students winning these honors are printed in the 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.

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 Colleges of Agriculture or Technology.

The degree of Bachelor of Pedagogy (B. Pd.) is conferred upon students in the College of Arts and Sciences who have completed a course in an approved high school, a course in a normal school, and two years under prescribed conditions at the university.

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 summer term. They must have their course of study approved by the Committee on Graduate Study at the beginning of their work. Those entering the university after that date must obtain the consent of the Committee on Graduate Study before they can count a full year's work.

Each candidate for the master's degree shall report before registering at the beginning of each semester or the summer term to the chairman of the committee or to some member representing a field of work nearly related to his own. Candidates for the degree of Master of Arts or Master of Science, must have received the corresponding bachelor's degree from this institution or from one granting a fully equivalent degree.

Candidates who are graduates of other institutions are required to present at registration credentials covering the courses pursued and the standing attained.

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

No work done before the recommending of the bachelor's degree shall be counted towards the master's degree.

The candidate shall devote at least one year to graduate resident study and shall complete work amounting to fifteen hours per week thruout the college year.

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

A fee of $5.00 is required at the time of registration for a professional degree, and a fee of $10.00 is required upon the presentation of the thesis.

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. Final written examinations for all regular courses completed, together with a copy of the questions set, shall be deposited with the secretary of the committee.

The candidate shall prepare as a part of his currriculum a satisfactory thesis on some topic connected with the major subject. The thesis must be deposited in completed form with the Dean of the University on or before the date set for the oral examination.

At the end of the course of study for the master's degree, the candidate will be required to pass an oral examination covering his work, including the thesis work. This examination shall be open to all voting members of the faculty of the university. The time for such examinations will be arranged by the Dean of the University to accord, so far as possible, with the convenience of the candidate and the major instructor, between the dates of May 15 and June 1; but no student will be admitted to an oral examination until his thesis has been accepted. On May 15, the Dean of the University will notify the heads of all departments of the university of the dates set for the public oral examinations of all candidates of the year. While the examination will in each case, as a matter of course, be conducted chiefly by the members of the department in which the work has been done, any member of the faculty present at the examination has the privilege of questioning the candidate. The Committee on Graduate Study will be represented at each examination.

The professional degrees of Chemical Engineer (C. E.), Civil Engineer (C. E.), Electrical Engineer (E. E.), and Mechanical Engineer (M. E.) may be conferred upon graduates in the curricula in Chemistry, Chemical Engineering, Electrical Engineering, and Mechanical Engineering, respectively, upon the presentation of satisfactory theses, 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. Candidates are expected to be present in person to receive their degrees.

THESES

Theses shall be printed, or typewritten in black record, unless the subject matter prevents, and the paper used shall be a standard thesis paper, 8 x 10 1-2 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 accompany the thesis, they may be bound in with the rest of the pages or placed in a pocket on the inside of the book cover; or if too many for this, they may be bound separately according to personal instructions of the head of the department.

A draft of all undergraduate theses must be passed to the major instructor before May 1.

Complete instructions may be found in a pamphlet entitled "Degrees and Theses."

STUDENT EXPENSES

The estimates are prepared upon the basis of students living in university halls.

Estimate of Annual Expenses

	Students from within the State	Students from without the State
Tuition	$125 00	$195 00
Text-books	10 00 to 50 00	10 00 to 50 00
Board 36 weeks @ $5.00	180 00	180 00
Room in a dormitory	36 00	36 00
	$351 00 to $391 00	$421 00 to $461 00

Special Charges

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

Students registering after the prescribed day of registration for the fall or spring semester shall pay an additional fee of two dollars.

No laboratory fees are charged in any department.

Rooms

The rooms in the Mt. Vernon House, Balentine Hall, 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 lights. The rooms in the dormitories for men are furnished with beds, mattresses, chiffoniers, desks, and chairs. Each resident in the dormitory has bed linen and three towels laundered each week without extra charge. Students furnish pillows, bed linen, and blankets.

Women students not living at home are required to live in one of the women's dormitories. 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 to the Registrar.

Deposits to Cover Expenses

The University requires all students to pay in advance. The payments indicated below are required at the beginning of each semester.

	Residents of Maine	Non-Residents of Maine
Tuition	62.50	97.50
Board and Room	108.00	108.00
Key Deposit (men only)	5.00	5.00
Total	175.50	210.50

For students who do not room and board in university halls the above amounts are reduced by $113.00.

All men taking military are required to make a deposit of $25.00 to cover cost of equipment.

Communications

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

KITTREDGE LOAN FUND

This fund, amounting to nearly one thousand dollars, was established by Nehemiah Kittredge, of Bangor. It is in the control of the

President and 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 be paid promptly, and that the principal be returned from the first earnings after graduation. Individual loans are limited to $50.00.

SCHOLARSHIPS AND PRIZES

THE KIDDER SCHOLARSHIP, thirty dollars, was endowed by Frank E. Kidder, Ph. D., Denver, Colorado, a graduate of the university in the class of 1879. This scholarship is awarded to a student whose rank excels in his junior year. The selection is made by the President and the Faculty.

NEW YORK ALUMNI ASSOCIATION SCHOLARSHIPS.—SCHOLARSHIP No. 1, fifty dollars, is offered for excellence in debating. In case the effort in debating does not justify this award in any year or years the amount shall be accumulative.

SCHOLARSHIP No. 2, fifty dollars, is offered annually to encourage advancement and proficiency in English, particularly along the lines which will assist toward facility in correct, clear, direct, and efficient written and oral expression in later professional, commercial, and civil life.

The candidates for this scholarship shall be juniors in the College of Technology. They shall assemble on an announced date and each one shall be required to compose an essay on a subject selected from a list of ten, of which five are chosen by the Department of English and five by the College of Technology. The award will be based upon the quality of the essay and the advancement which is indicated by the student's grade in courses in English. There shall be three judges one of whom shall represent the College of Technology and the other two shall be selected by the Department of English.

PITTSBURG ALUMNI ASSOCIATION SCHOLARSHIP, thirty dollars, awarded to a member of the junior class in the College of Technology. The ability of the student and his needs are considered in making this award. The selection is made by the President and the professors of the College of Technology.

PRIZE OF THE CLASS OF 1873. The late Russell W. Eaton, of Brunswick, a member of the class of 1873, deposited with the university treasurer a $1000 Liberty Bond, the income of which shall be awarded annually to that member of the sophomore class who is able to show the greatest improvement in mechanical drawing during the first two years of his college course.

It is expected that candidates for this prize shall have had no training in mechanical drawing previous to entering the university.

WESTERN ALUMNI ASSOCIATION SCHOLARSHIP, thirty dollars, is awarded to a sophomore pursuing a regular curriculum whose deportment is satisfactory and who attains the highest rank of his class during the freshman year.

THE ELIZABETH ABBOTT BALENTINE SCHOLARSHIP was endowed by the Gamma chapter of Alpha Omicron Pi for a woman member of the sophomore class to be determined by the President and the faculty. This scholarship will be at least thirty dollars. Both scholarship and individual need are to be considered in the award.

THE PHI MU SCHOLARSHIP, thirty dollars, will be awarded each year to a woman student whose scholarship and conduct are deserving and who is in need of financial assistance. The selection will be made by the President of the university, the President of the sorority, and the faculty Committee on Honors.

THE JOSEPH RIDER FARRINGTON SCHOLARSHIP, a gift of Arthur M., Edward H., Oliver C., Horace P., and Wallace R. Farrington, all graduates of the University of Maine and sons of Mr. and Mrs. Joseph Rider Farrington. The gift amounts to $1000 and provides a scholarship under conditions mentioned by the donors. The following order of preference is considered in awarding this scholarship: (a) To any direct decendant of Joseph Rider and Ellen Holyoke Farrington, or any one whom three of such descendants may select; (b) To any student bearing the surname Farrington or Holyoke; (c) To the student in the junior class of the College of Agriculture who attains the highest rank in studies and deportment during that year and who shall make application for the scholarship. Further details concerning this scholarship may be secured by consulting the Dean of the College of Agriculture.

STANLEY PLUMMER SCHOLARSHIP, Colonel Stanley Plummer of Dexter, Maine, provided a scholarship as set forth in the following paragraph from his will: I give and bequeath to the corporation of the University of Maine, Orono, Maine, the sum of One Thousand Dollars, the income thereof to be given to needy and deserving students in said University, to be selected by the Trustees of the university, who shall have full control of said fund, which shall be known as the *"Stanley Plummer Scholarship."* Students born in Dexter, Maine, shall have the preference; but, if there are none such, any needy and deserving students may be selected.

WALTER BALENTINE PRIZE, fifteen dollars, the gift of Whitman H. Jordan, Sc.D., LL.D., Orono, Maine, a graduate of the university of the class of 1875, is awarded to that student who excels in biological chemistry.

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 an agricultural curriculum who attains the highest standing.

THE WASHINGTON ALUMNI ASSOCIATION WATCH is presented to the member of the graduating class, who, in the opinion of the faculty and students, has done the most for the university during his course.

This award is made as the result of a secret ballot by the students and passed upon by the President and the faculty.

THE PENOBSCOT VALLEY ALUMNI ASSOCIATION SCHOLARSHIP, fifty dollars, is given to a student preferably from the Penobscot Valley whose college record is worthy of recognition and who needs some financial assistance.

THE TRACK CLUB SCHOLARSHIP, fifty dollars, is given by the Track Club to some member of the freshman class who needs financial help. He must be a man interested in track athletics but need not necessarily make his "M" in his freshman year. His scholarship must be satisfactory.

The awarding of this scholarship will be in the hands of a committee composed of the President of the Track Club, the Coach of the Track Team, and the Chairman of the faculty Committee on Honors. The winner will be given the scholarship upon his return to college at the beginning of his sophomore year. Applications for this scholarship must be made in writing and sent to the President of the Track Club before May 1.

THE ALPHA OMICRON PI ALUMNAE PRIZE, ten dollars, given by the Bangor Alumnae Chapter of Alpha Omicron Pi. The award is made to a woman student showing the greatest improvement in her work during her freshman year. The record at the Registrar's office showing the comparison of grades of the fall semester as compared with that of the spring semester will furnish the basis of award.

THE MENORAH PRIZE, ten dollars, the gift of the Maine Menorah Association, is awarded to the student who presents the best essay on any Jewish subject.

These essays should be presented to the Head of the Department of English previous to May 1.

JUNIOR EXHIBITION PRIZES, fifteen dollars each, are awarded to the members of the junior class who deliver the best orations at the junior exhibition. One prize is awarded to the man receiving the first rank in competition with the men of the junior class, and one prize awarded to the woman receiving first rank in competition with the women of the junior class. In the award of these prizes regard is given to thought, style, and delivery. Copies of these orations must be deposited with the Registrar before February 1.

SOPHOMORE ESSAY PRIZES, two of fifteen dollars each, one for men and one for women, are awarded to members of the sophomore class for excellence in composition. These essays must be presented by May 1.

CLASS OF 1908 COMMENCEMENT CUP is awarded to the class, the largest percentage of whose members register during Commencement week.

FRATERNITY SCHOLARSHIP CUP, presented to the university by the 1910 Senior Skull Society in 1910, and renewed in 1921 by the 1921 Skulls, 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, 1921 to 1931 inclusive, and the fraternity to which it is awarded the greatest number of times is to be its permanent owner.

FRESHMAN SCHOLARSHIP CUP, presented by the Junior Mask Society, is awarded at Commencement to the fraternity whose freshman delegation has the highest standing in scholarship for the first semester.

AGRICULTURAL CLUB MEMBERSHIP CUP is furnished by the Agricultural Club to be engraved each year with the numerals of that class which can show the best record of membership in the club.

THE CHARLES RICE CUP, presented by the Kappa Sigma Fraternity in honor of the late Charles Anthony Rice who was killed in service, is held for one year by the team winning the Intra-Mural Track Championship.

UNIVERSITY OF MAINE HONORARY SOCIETY SCHOLARSHIP, one hundred dollars, is to be contributed pro rata by the individual members of the Senior Skulls, Junior Masks, and Sophomore Owls.

1. This scholarship is to be awarded jointly by the Athletic Board of the University of Maine and the faculty committee on Honors.

2. The scholarship is to be awarded to some needy student who in the opinion of the Athletic Board is the best athlete making his "M" during his freshman year, and who is eligible upon his return to college the following semester.

3. The award will be announced at Commencement and the scholarship paid to the winner upon his return to college in the following September.

ADMISSION

GENERAL REQUIREMENTS.—Candidates for admission should apply to the Registrar for an application card. They must present satisfactory certificates of fitness, or pass the required examinations, and make a cash deposit covering the bills of one semester. 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. 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. Students transferring from another college must present a letter of honorable dismissal.

SPECIAL STUDENTS.—Persons 21 years of age, not candidates for a degree, may be admitted as special students if they give satisfactory evidence that they are prepared to take the desired subjects.

ADMISSION TO SHORT COURSES

Candidates for admission to the two-year SCHOOL COURSE IN AGRICULTURE must be over fifteen years of age and prepared for advanced grammar or high school work.

ADMISSION BY EXAMINATIONS

Entrance examinations are held at Orono, beginning four days before the opening of the fall semester, and on Tuesday, Wednesday, Thursday, and Friday preceding Commencement. Candidates for admission by examination, 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 18-23, 1923. All applications for these examinations 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. Applications must be made before May 31 and must be accompanied by the examination fee of $9.00.

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 has completed not less than one-half of his preparatory work. 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 from 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 including all the subjects required for admission to the curriculum that they propose to follow and a sufficient number of the elective subjects to make a total of fourteen and a half units.

In 1922 candidates whose school grades averaged less than five units above their school pass-mark were not admitted on their record, and those

whose averages were five units and less than ten above the pass-mark were admitted on trial. It is expected that similar and possibly further limitations will be made in 1923. If further change is found necessary early notice will be given to secondary school principals.

The school record of the candidates must be certified by the principal, upon blanks furnished by the university, and should be submitted before August 1.

Admission by Certificate From Schools Outside of Maine

Principals of schools situated outside of Maine who desire the certificate privilege must make application to the Dean of the University, and must furnish satisfactory evidence that the course of study in the school meets the requirements for admission. Blank forms for this purpose will be supplied on request.

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.

Certificates issued by the Regents of the University of the State of New York are accepted for any of the subjects in which we give admission credit and which are certified as having been passed with a satisfactory grade.

REQUIRED SUBJECTS

College of Arts and Sciences

English	3	units
Foreign languages (four years in one or two in each of two)	4	"
History	1	"
Mathematics (Algebra and Plane Geometry)	2	"
Total	10	units

College of Agriculture

English	3	units
*Algebra	1	"
*Plane Geometry	1	"
Science (including laboratory note-book)	1	"
History	1	"
Total	7	units

*For admission to the Home Economics curriculum, two units in mathematics acceptable to the Committee on Admission are required.

College of Technology

English	3 units
Foreign languages (three years in one or two in each of two)	3 or 4 units
Algebra	2 "
Plane and Solid Geometry	1½ "
History	1 "
Science	1 "
Total	10½ units

ELECTIVE SUBJECTS

A total of fourteen and one-half units is required for admission to any four year curriculum. The units not named above under required subjects may be selected as shown in the following table. Subjects not listed may be accepted among the electives, provided they represent a satisfactory equivalent for those listed.

The required units and the units that may be accepted in various subjects in the respective colleges are shown in tabular form.

Subjects	Units		Units required and units accepted in the several colleges					
			Arts and Sciences		Agriculture		Technoiogy	
	Min.	Max.	Req.	Acc.	Req.	Acc.	Req.	Acc.
English	3	3	3	3	3	3	3	3
French	*2	4	Four units in one language or two in each of two	2, 3, or 4		1, 2, 3, or 4	††	1, 2, 3, or 4
German	2	4		2, 3, or 4		1, 2, 3, or 4		1, 2, 3, or 4
Greek	2	3		2 or 3		1, 2, or 3		1, 2, or 3
Latin	2	4		2, 3, or 4		1, 2, 3, or 4		1, 2, 3, or 4
Spanish	2	3		2 or 3		1, 2, or 3		1, 2, or 3
Algebra (Elem.)	1	**2	1	2	§1	2	2	2
Plane geometry	1	1	1	1	§1	1	1	1
Solid geometry	½	½		½		½	½	½
Trigonometry	½	½		½		½		½
Algebra (Adv.)	½	½		½		½		½
History	1	4	1	1, 2, 3, or 4	1	1, 2, 3, or 4	1	1, 2, 3, or 4
Civics	½	1		½ or 1		½ or 1		½ or 1
Economics	½	1		½ or 1		½ or 1		½ or 1
Biology	†1	1	One unit in Science	1	One unit in Science	1	One unit in Science	1
Botany	†1	1		1		1		1
Chemistry	†1	2		1 or 2		1 or 2		1 or 2
Physics	†1	2		1 or 2		1 or 2		1 or 2
Physiography	½	1		½ or 1		½ or 1		½ or 1
Physiology	½	1		½ or 1		½ or 1		½ or 1
Zoology	†1	1		1		1		1
Agriculture	1	4	Not over two units in all of these		Not over four units in all of these		Not over four units in all of these	
Domestic Science and Art	1	4						
Drawing	‡½	2						
Manual Training	‡½	2						
Commercial Subjects	½	4						
Music	½	1		½ or 1		½ or 1		½ or 1
Bible Study	½	1		½ or 1				

*Candidates for Technology who meet the requirement in one language may have credit for a single year of another language.

**To receive two units credit in elementary algebra, the candidate must have two full years including senior review.

†The work in these subjects must include laboratory work with notebook, as specified in the detailed statement.

‡Credit for these subjects and for bookkeeping and typewriting is at the rate of one-half unit for a subject taken five forty-five minute periods per week for a year.

§See foot-note on bottom of page 40.

††Three units in one modern foreign language, or two units in each of two foreign languages (Latin and French preferred).

REQUIREMENTS IN DETAIL

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 less time. Progress in composition particularly is of slow growth and requires almost daily cultivation during a long period of time. Books, to be thoroly enjoyed and appreciated, should be read at leisure and under favorable circumstances.

Rhetoric.—Candidates are expected to have had practice in composition for at least two 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 Hitchcock's or Brook's rhetorics.

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

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

Subjects.—Subjects for short compositions will be taken from a prescribed 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. There is a list for general reading and a list for study. They will be furnished upon application to the Registrar.

FRENCH.—The admission requirements in elementary and intermediate 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 pronouns, common adverbs, prepositions, and conjunctions; order of words in the sentences, 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, novels; Foa, *Contes biographiques* and *le Petit Robinson de Paris;* Foncin, *le Pays de France;* Labiche et Martin, *la Poudre aux yeux* and *le Voyage de M. Perrichon;* Legouvé et Labiche, *la Cigale chez les fourmis;* Malot, *Sans famille;* Mairet, *la Tâche du petit Pierre;* Mérimée, *Colomba;* extracts from Michelet; Sarcey, *le Siège de Paris;* Jules Verne's stories.

II. *Intermediate 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 thoro 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 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, novels; Augier et Sandeau, *le Gendre de M. Poirier;* Béranger, *poems;* Corneille, *le Cid* and *Horace;* Coppée, poems; Daudet, *la Belle Nivernaise;* La Brète, *Mon oncle et mon curé;* Madame de Sévigné, letters; Victor Hugo, *Hernani* and *la Chute;* Labiche, plays; Loti, *Pêcheur d'Islande;* Mignet, historical writings; Racine, *Andromaque* and *Esther;* George Sand, novels; Sandeau, *Mademoiselle de la Seiglière;* Scribe, plays; Thierry, *Récits;* Vigny, *la Canne de jonc;* Voltaire, 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, *le Barbier de Séville;* Corneille, dramas; Dumas père, prose writings; Dumas fils, *la Question d'argent;* Victor Hugo, *Ruy Blas,* lyrics, and novels; La Fontaine, *Fables;* Larmartine, *Graziella;* Marivaux, plays; Molière, plays; Musset, plays and poems; Pellissier, *le Mouvement littéraire au XIX^e^ siècle;* Renan, *Souvenirs d'enfance et de jeunesse;* Rousseau, writings; Sainte-Beuve, essays; selections from Zola, Maupassant, and Balzac.

The examination of the College Entrance Certificate Board in elementary French will be accepted for two units, and that in intermediate 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 years' 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 adjectives, pronouns, weak verbs, and the more unusual 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 reproductions, 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 secondly, 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;* Baumbach, *Die Nonna* and *Der Schwiegersohn;* Gerstäcker, *Germelshausen; Heyse, L'Arrabbiata, Das Mädchen von Treppi,* and *Anfang und Ende;* Hillern, *Höher als die Kirche;* Jensen, *Die braune Erica;* Leander, *Träumercien* and *Kleine Geschichten;* Seidel, *Märchen;* Stokl, *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;* Wichert, *An der Majorsecke;* Wilhelmi, *Einer muss heiraten.* Only one of these plays needs be read and the narrative style should predominate. A good selection of reading matter for the second year would be Andersen, *Märchen* or *Bilderbuch,* or Leander, *Träumerein,* 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.

Suitable reading matter for the third year may be selected from such work as the following: Ebner-Eschenbach, *Die Frieherren von Gemperlein;* Freytag, *Die Journalisten* and *Bilder aus der deutschen Ver-*

gangenheit, Karl der Grosse, Aus den Kreuzzügen, Doktor Luther, Aus dem Staat Friedrichs des Grossen; Fouqeé, *Undine;* Gerstäcker, *Irrfahrten;* Goethe, *Hermann und Dorothea* and *Iphigenie;* Heine's Poems and *Reisebilder;* Hoffman, *Historische Erzählungen;* Lessing, *Minna von Barnhelm;* Meyer, *Gustav Adolphs Page;* Moser, *Der Bibliothekar;* Riehl, *Novellen, Burg Neideck, Der Fluch der Schönheit, Der Stumme Ratsherr, Das Spielmanskind;* Rosegger, *Waldheimat;* Schiller, *Der Neffe als Onkel, Der Geistersehr, Wilhelm Tell, Die Jungfrau von Orleans, Das Lied von der Glocke, Balladen;* Scheffel, *Der Trompeter von Säkkingen;* Uhland's Poems; *Wildenbruch, Das edle Blut.* A good selection would be: (1) one of Riehl's novelettes; (2) one of Freytag's "pictures;" (3) part of *Undine* or *Der Geisterseher;* (4) a short course of reading in lyrics and ballads; (5) a classical play by Schiller, Lessing, or Goethe.

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.

SPANISH.—The admission requirements in Spanish are those of the College Entrance Examination Board.

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

The first year's work should comprise: (1) Careful drill in pronunciation; (2) the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; (3) exercises containing illustrations of the principles of grammar; (4) the careful reading and accurate rendering into good English of about 100 pages of easy prose and verse, with translation into Spanish of easy variations of the sentences read; (5) writing Spanish from dictation.

The second year's work should comprise: (1) The reading of about 200 pages of prose and verse; (2) practice in translating Spanish into English, and English variations of the text into Spanish; (3) continued study of the elements of grammar and syntax; (4) mastery of all but the rare irregular verb forms and of the simpler uses of the modes and the tenses; (5) writing Spanish from dictation; (6) memorizing of easy short poems.

The emphasis should be placed on careful thoro work with much repetition rather than upon rapid reading. The reading should be selected from the following: A collection of easy short stories and lyrics, carefully graded; Marmol, *Amalia;* Pérez Escrich *Fortuna;* Ramos Carrión and Vital Aza, *Zaragüeta;* Palacio Valdés, *José;* Pedro de Alarcón, *El Capi-*

tán Veneno; Selgas, *La mariposa blanca;* Altamirano, *La navidad en las montañas;* the selected short stories of Pedro de Alarcón or Antonio de Trueba.

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.

2a. An examination in sight translation of Latin prose suited to test the ability of a candidate who has read from Cæsar (Gallic War and Civil War) and Nepos (Lives) an amount not less than Cæsar, Gallic War, I-IV.

b. Questions on the ordinary forms and constructions of Latin grammar and the translation of easy English sentences into Latin.

3a. An examination on Cicero, speech for the Manilian Law, and the fourth speech against Catiline, 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 thoro knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school.

4a. An examination on Vergil, Æneid, I and IV, and Ovid, Metamorphoses, Bk. III, 1-137 (Cadmus), IV, 55-166 (Pyramus and Thisbe), and 663-764 (Perseus and Andromeda), VI, 165-312 (Niobe), VIII, 183-235 (Daedalus and Icarus), X, 1-77 (Orpheus and Eurydice), XI, 85-145 (Midas), 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 Æneid) and Ovid (Metamorphoses, Fasti, and Tristia) an amount not less than Vergil, Æneid, I-VI.

A candidate may obtain separate credit for each part except in the College of Arts and Sciences. Each represents a year's work and entrance credit for one unit.

In parts 3 and 4 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

United States History.—A year's work as given in the average high school.

Ancient History.—A year's work as given in the average high school.

English History.—A year's work as given in the average high school.

Medieval and Modern.—A year's work as given in the average high school.

Mathematics

Algebra.—The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest 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 fractional and negative; quadratic equations, both numerical and literal; simple cases of equations with one or more unknown quantities, that may 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 *n*th term and the sum of the terms of arithmetical and geometrical progressions, with applications.

It is assumed that pupils are required thruout the course to solve numerous problems which involve putting questions into equations. Some of the 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 measurements 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.

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.

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 text-books: Brownlee and others, Hessler and Smith, McPherson and Henderson, Newell.

PHYSICAL GEOGRAPHY (PHYSIOGRAPHY).—A satisfactory preparation may be obtained from either Appleton's or Tarr's Physical Geography.

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

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*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-book rather than send them to the university.

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 labeled 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.

Organization of the University

The university is divided for purposes of administration into the Colleges of Agriculture, Arts and Sciences, 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

Curricula in Agronomy, Agricultural Education, Animal Husbandry, Biology, Dairy Husbandry, Forestry, Home Economics, Horticulture, and Poultry Husbandry.

School Course in Agriculture (two years).

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

College of Arts and Sciences

Major subjects may be selected in Biology, Chemistry, Economics and Sociology, Education, English, French, History, Latin, Mathematics and Astronomy, Physics, Psychology, and Spanish and Italian.

College of Technology

Curricula in Chemical Engineering, Chemistry, Civil Engineering, Electrical Engineering, and Mechanical Engineering.

Maine Agricultural Experiment Station

Offices and principal laboratories at Orono; Highmoor Farm at Monmouth; Aroostook Farm at Presque Isle.

Graduate Courses leading to the Master's degree have been organized. These courses are administered by the Committee on Graduate Study.

A Summer Term of six weeks is maintained by the university.

The college year is divided equally into a fall semester and a spring semester. The minimum regular work for a semester in the College of Arts and Sciences is fourteen hours a week. In the College of Agriculture and the College of Technology the minimum is seventeen hours a week. Thirty hours in the major subject represent the minimum requirement for a degree.

College of Agriculture

FACULTY OF INSTRUCTION

LEON STEPHEN MERRILL, M.D., Sc.D., *Dean and Director of Agricultural Extension Service*
LUCIUS HERBERT MERRILL, Sc.D., *Professor of Biological and Agricultural Chemistry*
FREMONT LINCOLN RUSSELL, B.S., V.S., *Professor of Bacteriology and Veterinary Science*
MINTIN ASBURY CHRYSLER, Ph.D., *Professor of Biology*
JOHN MANVERS BRISCOE, M.F., *Professor of Forestry*
GEORGE EDWARD SIMMONS, M.S., D.Sc., *Professor of Agronomy*
LAMERT SEYMOUR CORBETT, M.S., *Professor of Animal Industry*
FRANCES ROWLAND FREEMAN, M.S., *Professor of Home Economics*
HERBERT STAPLES HILL, A.B., *Professor of Agricultural Education*
HERMAN PITTEE SWEETSER, B.S., *Professor of Horticulture*
IRVING HILL BLAKE, A.M., *Associate Professor of Biology*
CHARLES HOWARD BATCHELDER, A.B., M.S., *Associate Professor of Zoology*
HARRY WOODBURY SMITH, M.S., *Assistant Professor of Biological and Agricultural Chemistry*
LLEWELLYN MORSE DORSEY, B.S., *Assistant Professor of Animal Husbandry*
BENJAMIN COE HELMICK, M.S., *Assistant Professor of Agronomy*
ESTHER MCGINNIS, B.Sc., *Assistant Professor of Home Economics*
LOUISE BANCROFT, B.S., *Assistant Professor of Home Economics*
ELMER REEVE HITCHNER, M.S., *Assistant Professor of Bacteriology*
CHAUNCEY WALLACE LORD CHAPMAN, M.S., *Instructor in Forestry*
LEIGH PHILBROOK GARDNER, B.S., *Instructor in Animal Industry*
HAROLD CLAYTON SWIFT, B.S., *Instructor in Agronomy*
WALTER WENTWORTH WIGGIN, B.S., *Instructor in Horticulture*
EDWIN DILLMON HULL, M.S., *Instructor in Biology*
FLORENCE JULIA MORRILL, B.S., *Instructor in Home Economics*
HELEN WOODBRIDGE, M.S., *Instructor in Biology*

GENERAL INFORMATION

The College of Agriculture comprises the departments of Agricultural Education, Agronomy, Animal Industry, Biological and Agricultural Chemistry, Biology, Farm Management and Agricultural Engineering, Forestry, Home Economics, Horticulture, Veterinary Science and

Bacteriology, and Agricultural Extension. The aim of this college is to train young men for service as farmers, teachers of agriculture and the allied sciences in schools and colleges, investigators in 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-year curriculum or the two-year 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 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 station work, biological chemistry, bacteriology and veterinary science, biology, farm management, and forestry either as a business or as a profession.

The courses of instruction are organized as follows:

1. Regular Curricula

   The four-year general curricula in Agricultural Education.
   Agronomy, Animal Husbandry, Biology, Dairy Husbandry, Forestry, Home Economics, Horticulture, and Poultry Husbandry
   The two-year School Course in Agriculture

2. Short Courses

   The short winter courses in General Agriculture, Dairying, Horticulture, and Poultry Management
   Farmers' Week

3. Extension Courses

   The correspondence courses
   The lecture courses
   Movable or extension schools

CURRICULA IN AGRICULTURE

Certain studies are fundamental to all work in agricultural lines. As many as possible of these subjects are offered in the first two years, during which 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 Agricultural Education, 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. They should also elect a preparatory course in quantitative chemical analysis.

The elective subjects are selected with the advice of the major instructor.

Before receiving their degrees candidates must satisfy the faculty that they are familiar with the methods of conducting operations incident to general farming. This does not apply to students who major in Biology, Forestry, and Home Economics.

One of the following curricula, embracing 150 college hours each, is required for the students pursuing a four-year curriculum in the College of Agriculture. On completion of such a curriculum, the student will receive the degree of Bachelor of Science (B.S.).

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

FRESHMAN YEAR

Fall Semester

Subject	Hours
Agronomy 11, 2 †2	3
Chemistry 1 or 3	2
Chemistry 5 or 7, †2	1
Drawing 9, *3	1
English 1	3
Military 1, *3	1½
Physical Training 1	½
Poultry Husbandry 1, 2 †2	3
Zoology 1, 2 †4	4

Spring Semester

Subject	Hours
Animal Industry 2	2
Animal Industry 4, †2	1
Botany 2, 2 †4	4
Chemistry 2 or 4	2
Chemistry 6 or 8, †4	2
Drawing 10, *3	1
English 2	3
Military 2, *3	1½
Physical Training 2	1
Poultry Husbandry 2, 1 †2	2

SOPHOMORE YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Agronomy 1, 2 *3	3	Agronomy 12, †4	2
Animal Industry 3	2	Biochemistry 2, 3 †4	5
Animal Industry 5, †2	1	Biology 8, 2 †4	4
Biochemistry 1	2	Horticulture 2, 2 *3	3
Biochemistry 9, 2 †2	3	Mathematics 12	2
Biology 7	2	Military 2, *3	2
Mathematics 11	3	Options:	
Military 1, *3	2	Agricultural Chemistry 6	2
Options:		or	
Animal Industry 7, 2 †4	4	Horticulture 20, 2 †2	3
or			
Horticulture 1, 2 †2	3		

Curriculum for Students Specializing in Agricultural Education

JUNIOR YEAR

Agronomy 13, 1 †2	2	Agricultural Chemistry 6	2
Animal Industry 7, 2 †4	4	or	
or		Horticulture 20, 2 †2	3
Horticulture 1, 2 †2	3	Animal Industry 6	2
Bacteriology 1, †6	3	Education 78	3
Bacteriology 3	2	Farm Management 72, 2 *3	3
Education 55	3	Forestry 2	2
English 5	2	Mechanical Engineering 6 *3	1
Horticulture 9, 2 †2	3	Veterinary Science 14	3
		Veterinary Science 16	1

SENIOR YEAR

Agricultural Education 3, 2 †2	3	Agricultural Education 4	4
Agronomy 3	2	Agricultural Education 6	2
Farm Management 71, 2 *3	3	Farm Management 2, †4	2
Farm Management 73, 2 †2	3	Farm Management 74, 2 *3	3
Mechanical Engineering 5, *3	1	Rural Sociology 82	2
Elective	7	Elective	3

Curriculum for Students Specializing in Agronomy

JUNIOR YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Agronomy 15, 1 †2	2	*Agricultural Chemistry 6	2
*Animal Industry 7, 2 †4	4	Agronomy 14, 1 †2	2
Bacteriology 1, †6	3	Agronomy 16, 1 †2	2
Bacteriology 3	2	Agronomy 18	2
Biology 9, 2 †6	5	Animal Industry 6	2
English 5	2	Biology 10, 2 †6	5
Elective	2	Elective	5

SENIOR YEAR

Agronomy 3	2	Farm Management 2, †4	2
Agronomy 13, 1 †2	2	Farm Management 72, 2 *3	3
Farm Management 71, 2 *3	3	Farm Management 74, 2 *3	3
Elective	10	Elective	9

Curriculum for Students Specializing in Animal Industry

ANIMAL HUSBANDRY

JUNIOR YEAR

*Animal Industry 7, 2 †4	4	*Agricultural Chemistry 6	2
Bacteriology 1, †6	3	Animal Industry 6	2
Bacteriology 3	2	Animal Industry 52, †2	1
Biology 51, 2 †4	4	Bacteriology 52, 1 †4	3
English 5	2	Biology 52, 2 †4	4
Elective	4	Veterinary Science 14	3
		Veterinary Science 16	1
		Elective	3

SENIOR YEAR

Agronomy 3	2	Animal Industry 54	2
Animal Industry 53	2	Farm Management 2, †4	2
Farm Management 71, 2 *3	3	Farm Management 72, 2 *3	3
Veterinary Science 15	2	Elective	1
Veterinary Science 17	1		
Veterinary Science 19	2		
Elective	6		

*If not already taken in the sophomore year.

DAIRY HUSBANDRY

JUNIOR YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
*Animal Industry 7, 2 †4	4	*Agricultural Chemistry 6	2
Bacteriology 1, †6	3	Animal Industry 6	2
Bacteriology 3	2	Animal Industry 8, 1 *6	3
English 5	2	Bacteriology 52, 1 †4	3
Elective	8	Veterinary Science 14	3
		Veterinary Science 16	1
		Elective	6

SENIOR YEAR

Agronomy 3	2	Bacteriology 54, †4 or †6	2 or 3
Animal Industry 9, 2 *6	4	Farm Management 2, †4	2
Animal Industry 51	3	Farm Management 72, 2 *3	3
Farm Management 71, 2 *3	3	Elective	10 or 9
Veterinary Science 15	2		
Veterinary Science 17	1		
Elective	3		

POULTRY HUSBANDRY

JUNIOR YEAR

*Animal Industry 7, 2 †4	4	*Agricultural Chemistry 6	2
Bacteriology 1, †6	3	Animal Industry 6	2
Bacteriology 3	2	Biology 52, 2 †4	4
Biology 51, 2 †4	4	Poultry Husbandry 4	2
English 5	2	Elective	9
Poultry Husbandry 3, 1 †2	2		
Elective	2		

SENIOR YEAR

Agronomy 3	2	Farm Management 2, †4	2
Farm Management 71, 2 *3	3	Farm Management 72, 2 *3	3
Poultry Husbandry 5	2	Poultry Husbandry 6, 3 †2	4
Poultry Husbandry 7, 2 †2	3	Veterinary Science 12	2
Elective	8	Elective	7

*If not already taken in the sophomore year.

Curriculum for Students Specializing in Horticulture

JUNIOR YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Bacteriology 3	2	Agricultural Chemistry 6	2
Biology 9, 2 †6	5	Animal Industry 6	2
English 5	2	Bacteriology 2, †6	3
*Horticulture 1, 2 †2	3	Biology 10, 2 †6	5
**Horticulture 21, 2 †2	3	*Horticulture 20	3
Horticulture 9, 2 †2	3	Elective	7 or 6
Elective	1 or 4		

SENIOR YEAR

Agronomy 3	2	Farm Management 2, †4	2
Farm Management 71, 2 *3	3	Horticulture 50	2
Horticulture 3, 2 †2	3	Horticulture 8, 2 †2	3
Horticulture 5, 2 †2	3	Horticulture 52	1
Horticulture 7, 2 †2	3	Elective	10
Horticulture 51	1		
Elective	3 or 6		

Curriculum in Biology

JUNIOR YEAR

Bacteriology 3	2	Bacteriology 2, †6	3
English 5	2	English 10	2
Geology 5	3	Modern Language	2
Modern Language	3	Animal Embryology 52 or Plant Physiology 62	4
Plant Histology 61 or Vertebrate Morphology 51	4	Forest Pathology 66 or Elective	3
Elective	3	Elective	4

*If not already taken in the sophomore year.
**Must be taken following Horticulture 20.

SENIOR YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Animal Physiology 53..... or Plant Taxonomy and Morphology 63.....	4	Animal Embryology..... or Plant Physiology.....	4
Biology Seminar.....	1	Animal Histology 54.... or Forest Pathology 66 or Elective	3 or 4
Thesis or Elective.....	3	Biology Seminar.....	1
Vertebrate Morphology 51 or Plant Histology 61.....	4	Thesis or Elective.....	3
Elective	6½	Elective.....6 or 7	

CURRICULUM IN FORESTRY

Only the four year undergraduate course is offered in Forestry. The curriculum for this course follows. It is arranged to meet the requirements of the National Committee of the Conference of Forest Schools, on Standardization of Instruction in Forestry. Completion of the curriculum leads to the degree of Bachelor of Science in Forestry. It will enable the graduate to qualify for technical and administrative positions in professional forestry work, and will admit to advanced standing in post-graduate schools of forestry of high standing, if further and more advanced work is desired.

It will also make a student eligible for the Civil Service examinations for the position of Forest Assistant in the United States Forest Service.

Owing to the wide field covered by the curriculum both in arts and sciences, as well as in technology, it offers an excellent basis for a broad and liberal education.

The first two years are given very largely to fundamental and auxiliary subjects, which are basic for a proper understanding of the more highly specialized work in technical forestry in the last two years.

Instruction in the 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.

FRESHMAN YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Chemistry 1 or 3	3	Botany 2, 2 †4	4
Chemistry 5 or 7, †2	1	Chemistry 2 or 4	2
Drawing 1, *6	2	Chemistry 6 or 8, †4	2
English 1	3	Drawing 2, *6	2
Forestry 1	2	English 2	3
Mathematics 11	3	Mathematics 2	2
Military 1, *3	1½	Mathematics 12	2
Zoology 1, 2 †4	4	Military 2, *3	1½
Physical Training	½	Physical Training	1

SOPHOMORE YEAR

Agronomy 1, 2 *3	3	Biology 8, 2 †4	4
Biology 67, 2 †4	4	Biology 68, 2 †4	4
Civil Engineering 1 and 7	3½	Civil Engineering 2	1
Economics 1b	2	Civil Engineering 4	1½
English 5	2	Economics 2b	2
Military 1, *3	2	English 10	2
Elective	3	Forestry 10	1
		Military 2, *3	2
		Elective	3

JUNIOR YEAR

Biology 61, 2 †4	4	Biology 62, 2 †4	4
Civil Engineering 21	1	Civil Engineering 22	1
Civil Engineering 23	1	Civil Engineering 24	1
Civil Engineering 27	1	Forestry 4	1
Forestry 11	2	Forestry 6	2
Forestry 13, *6	2	Forestry 8, *6	2
Geology 5	3	Forestry 28	1
Horticulture 5, 2 †2	3	Physics 10	3
Elective	2	Elective	4

SENIOR YEAR

Forestry 3	2	Biology 66, 2 †2	3
Forestry 5	1	Forestry 12	2
Forestry 9	1	Forestry 14, *6	2
Forestry 15	2	Forestry 16	2
Forestry 17, *6	2	Forestry 18, *6	2
Forestry 19	2	Forestry 20	2
Forestry 21, *6	2	Forestry 22	1
Elective	5	Elective	3

CURRICULUM IN HOME ECONOMICS

This curriculum leads to the degree of Bachelor of Science (in Home Economics). In addition to the prescribed studies, elective courses are offered for those who plan to teach.

Students desiring to follow this curriculum must meet the regular university requirements.

Students taking courses 5, 6, 10, and 11 are required to wear in the laboratory white waists, washable ties, shoes with rubber heels, and white aprons with bibs. They must also be provided with small white hand towels and holders.

FRESHMAN YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Chemistry 1 or 3	3	Chemistry 2 or 4	2
Chemistry 5 or 7, †2	1	Chemistry 6 or 8, †4	2
English 1	3	English 2	3
History 7	3	History 8	3
Home Economics 1, 2 †4	4	Home Economics 2, 2 †4	4
Home Economics 3, 1 †2	2	Home Economics 4, 1 †4	3
Home Economics 13, †4	2	Physical Training 2, †2	1
Physical Training 1, †2	½		

SOPHOMORE YEAR

Art 11	2	Art 12	2
Biochemistry 9, 2 †2	3	Food Analysis 8, †6	3
Physiology 5, 2 †4	4	Botany 2, 2 †4	4
English 3	3	English 4	3
Home Economics 5, 2 †4	4	Home Economics 6, 2 †4	4
Psychology 49	3	Psychology 50	3

JUNIOR YEAR

Bacteriology 1, †6	3	Physics 8, 4 †2	5
Bacteriology 3	2	Home Economics 8, †6	3
Biochemistry 7, 3 †4	5	Home Economics 10, 3 †4	5
Home Economics 7, 2 †4	4	Home Economics 14	3
Home Economics 9	3	Elective	3
Elective	3		

SENIOR YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Home Economics 17, 1 †4....	3	Home Economics 12.....	4
Sociology 55.....	3	Home Economics 18, 1 †4..	3
Economics 1b.....	2	Sociology 56.....	3

Home Economics 21 or 22, *9—3 credit hours required in either fall or spring semester.

Electives 16 credit hours for the year.

Students desiring to secure the Professional Secondary Certificate must complete 6 hours of psychology and 12 hours of education as follows: Ed 51 or 52, 77 or 78, and 6 hours elective. All work must be of grade C or above.

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 desire to take special studies may be permitted to do so, if, upon examination, they give satisfactory evidence that they are prepared to pursue them. 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-year curricula.

Two-year 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.

The same equipment is used as in the four-year curricula, but the work is of a more elementary nature. All the classes are separate and distinct from the four-year 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.

The practical side of this work is strongly emphasized, and since students are expected to be able to do work and handle men, 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.

FIRST YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
Animal Husbandry, 3 †2.....	4	Dairy Husbandry, 3 *3.....	4
Business Arithmetic and Farm Accounts.....	2	English	3
Forge Work, *3.....	1	Farm Botany.....	2
English	3	Carpentry, *3.....	1
Farm Crops, 3 *3.....	4	Fruit Growing, 3 *3.....	4
Fruit Handling, 3 *3.....	4	Poultry Husbandry, 2 †2....	3
Poultry Husbandry, 2 †2.....	3	Soils and Fertilizers, 3 *3..	4

SECOND YEAR

Animal Husbandry, 3 †2.....	4	Animal Husbandry, 3 †2....	4
English	2	English	2
Farm Chemistry.....	3	Farm Management, 3 *3....	4
Farm Crops.....	2	Forestry	2
Farm Engineering and Mechanics, 1 *3.....	2	Insects	2
Poultry Husbandry.....	2	Poultry Husbandry.....	2
Vegetable Gardening, 3 *3....	4	Small Fruit Culture and Plant Propagation, 3 *3...	4
Veterinary Science.....	3	Veterinary Science.....	3

Short Winter Courses in General Agriculture, Dairying, Horticulture, and Poultry Management

The short courses in general agriculture deal especially with farm crops. Special attention is given to the potato, corn, oat, and hay crops,—the preparation of 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 grain judging is made a prominent feature.

The short course in dairying 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.

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. For purposes of instruction the College of Agriculture keeps representatives of 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 or more sessions are 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 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 instructions in practical agri-

culture, animal and dairy husbandry, poultry husbandry, home economics, forestry, and horticulture. It supplements the teaching and experimenting of the College of Agriculture and the Agricultural 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.

Correspondence Courses

These courses are given by means of text-books and publications of the college, the U. S. Department of Agriculture, or 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 7—Elementary Agriculture
Course 8—Home Economics
Course 9—Vegetable Gardening
Course 10—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.

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-day schools in various parts of the State.

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 "Extension Bulletin," dealing with agricultural and home economics subjects, is issued at frequent intervals thruout the year. This bulletin is sent to all persons whose names appear on the bulletin mailing list and to such other persons as may apply for it.

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

Departments of Instruction

NOTE.—A star (*) before the time designated for a course indicates that three hours of actual work are required to obtain credit for one hour; a dagger (†) indicates that two hours are required to obtain this credit. *Courses having an odd number are given in the fall semester and those having an even number in the spring semester.*

If the student so elects, he may prepare a thesis upon some subject related to his major work. The subject should be selected and approved by the head of the department before the close of the junior year.

Courses numbered 1-50 are for undergraduates only; courses numbered 50-100 are for graduates and undergraduates; courses numbered 100 and above are primarily for graduates.

AGRICULTURAL EDUCATION

PROFESSOR HILL

NOTE.—The passage of the Smith-Hughes bill has greatly stimulated the introduction of agricultural courses in secondary schools. No one is eligible to teach these courses unless he has taken an approved teacher-training course. There are two such teacher-training courses in the College of Agriculture.

The first course is designed for those who wish to specialize in agricultural education. It leads to the degree of B. S. in Agricultural Education. The curriculum for agricultural education may be found on a preceding page, along with the other curricula.

The second course is designed for those who wish to specialize in some other line than agricultural education. Such students will major in another department, but will take their electives from the curriculum in Agricultural Education. The following electives must be taken by all students regardless of their major subject: Education 55, Education 78, Agricultural Education 3, Agricultural Education 4, Agricultural Education 8, Mechanical Engineering 5, Mechanical Engineering 6, Rural Sociology 82, Forestry 2, Horticulture 1, Horticulture 9, Horticulture 20, Farm Management 74, Animal Industry 7.

Students who elect either of the teacher-training courses must have had at least two years of practical farm work since their fourteenth birthday. One of these years must include all the year round experience. Experience on the home farm while attending school satisfies the requirement. Those who do not meet this requirement of practical experience

will be allowed to take the course only with the understanding that they will be expected to get this experience before they will be allowed to teach.

3. Special Methods in Teaching Agriculture.—The following topics are given consideration: The Smith-Hughes Act; the agricultural curriculum; seasonal sequence of topics; lesson plans; supervised study; laboratory work; field trips; room and equipment; supervised practical work; records. Class room, *two hours a week;* laboratory, †*two hours a week.*

4. Practice Teaching.—During the first six weeks of the spring semester the seniors will be expected to do directed teaching in an approved school. They will hand in daily lesson plans and will report on how these work out. While engaged in this work they will be given an allowance to pay for their traveling expenses and board. *Four hours credit.*

6. Principles of Agricultural Education.—This course deals with the history of agricultural education; a study of the purposes of agricultural education; types of schools; the rural school; consolidation of schools; the agricultural college; the extension service; prevocational agriculture, etc. Class room, *two hours a week.*

8. Practice Teaching.—This course is for those who are majoring in other departments. It calls for observation of teaching and also for directed teaching in an approved school. *Two hours credit.*

AGRONOMY

Professor Simmons; Assistant Professor Helmick; Mr. Swift

Soils

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. Class room, *two hours a week;* laboratory, **three hours a week.*

3. Soil Fertility.—This course deals with stable manures, green manures, commercial fertilizers, and soil amendments; also a study of soil organisms as affecting the plant food in the soil. *Two hours a week.*

52. Soil Surveying and Mapping.—A study is made of soil types, the principles of correlation and methods of soil surveying and mapping. Class room, *two hours a week;* laboratory, **three hours a week.*

54. Soil Fertility.—Soil improvement investigation. A review of the experimental work in this country and abroad. The application of these results to soil improvement and crop production problems. Prerequisites, Courses 1 and 3. *Two hours a week.*

Crops

11. Field Crops.—A general course including a study of the most important cereal, grass, forage, and root crops, their adaptation to systems of rotation, culture and uses, with special reference to New England conditions. Class room, *two hours a week;* laboratory, †*two hours a week.*

12. Field Crops.—A laboratory course in seed and grain identification, improvement by grading, testing, selecting, and preparing seed for planting. A collection of weeds and their seeds will be required. †*Four hours a week.*

13. Field Crops. Judging and Commercial Grading.—Comparative judging of corn, small grains, and potatoes, according to standards. A study of market grade requirements. Class room, *one hour a week;* laboratory, †*two hours a week.*

14. Field Crops. Corn.—A course dealing with the production of corn and the care and marketing of the crop. Types and varieties of both field and sweet corn will be considered in this course. Class room, *one hour a week;* laboratory, †*two hours a week.*

15. Field Crops. Roots and Tubers.—A course dealing with the production, storage, and marketing of roots and tubers. Class room, *one hour a week;* laboratory, †*two hours a week.*

16. Field Crops. Grasses and Forage Crops.—Lectures and laboratory work dealing with the grasses and forage plants. A study of the hay crop and markets; soiling systems, and their adaptation to local conditions. Class room, *one hour a week;* laboratory, †*two hours a week.*

18. 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, Courses 11 and 12. *Two hours a week.*

62. Systematic Field Crops.—A course designed for advanced or graduate students preparing for experimental work, teaching, or plant breeding. Students will be expected to grow and collect material under the supervision of the department during the summer months. Prerequisite, adequate training in botany and field crops. Time must be arranged with the instructor not later than the middle of the junior year. *Two or more hours a week.*

63. Systematic Field Crops.—A continuation of Course 62. *Two or more hours a week.*

65. Seminar.—A study of recent literature, problems, and experiments pertaining to agronomy and farm management. *One hour a week.*

66. Seminar.—A continuation of Course 65. *One hour a week.*

67, 68. Thesis.—*Three hours a week.*

ANIMAL INDUSTRY

PROFESSOR CORBETT; ASSISTANT PROFESSOR DORSEY; MR. GARDNER

Animal and Dairy Husbandry

2. TYPES AND BREEDS OF FARM ANIMALS.—A study of the types and breeds of farm animals. A course covering the history, development, and characteristics of farm animals. *Two hours a week.*

3. CARE, FEED, AND MANAGEMENT OF LIVE STOCK.—A course dealing with the selection, breeding, growing, and maintenance of horses, cattle, sheep, and swine. Prerequisites, Courses 2 and 4. *Two hours a week.*

4. LIVE STOCK JUDGING.—This course is designed to acquaint the students with the types and breed characteristics of farm animals, by use of the score card, comparative judging, and the selection of breeding stock. To be taken in connection with Course 2. †*Two hours a week.*

5. LIVE STOCK JUDGING.—A continuation of Course 4. †*Two hours a week.*

6. LIVE STOCK FEEDING.—A study of the general principles of nutrition as applied to live stock, composition of feed stuffs, comparison and use of feeding standards, calculating rations, methods of feeding for economic production. Prerequisites, Course 3, Biochemistry 1 and 2. *Two hours a week.*

7. GENERAL DAIRYING.—Given by lectures, assigned reading, recitations, and laboratory practice. Milk; its secretion, composition, properties, pasteurization, separation; dairy practices in handling milk and cream, dairy equipment, use of common dairy machinery; preparation of starters; test of dairy products for fat (Babcock method), acidity, total solids, common adulterations, and preservatives. Class room, *two hours a week;* laboratory, †*four hours a week.*

8. BUTTER MAKING.—Lectures and laboratory practice in starter making, cream ripening, churning, and preparing butter for market. Prerequisite, Course 7. Class room, *one hour a week;* laboratory, †*six hours a week.*

9. CHEESE MAKING.—Lectures, recitations, and laboratory practice in the manufacture and curing of various types of cheese, including Cheddar and soft cheeses adapted to the New England trade. The laboratory work requires six consecutive hours. Prerequisite, Course 7. Class room, *two hours a week;* laboratory, **six hours a week.*

51. DAIRY TECHNOLOGY.—A study of dairy products; dairy by-products; factory machinery and operations; certified milk; markets and marketing; educational work with dairymen. Given by lectures, recita-

tions, assigned readings, and round table conferences. Prerequisite, Course 7. *Three hours a week.*

52. Advanced Live Stock Judging and Management.—A laboratory course in which the individual student gets experience in handling live stock and preparation of stock for the show ring and market. As far as possible, visits will be made to live stock farms. †*Two hours a week.*

53. Advanced Live Stock Feeding and Management.—Nutrition and feeding experiments, as well as the methods and practices of the most successful feeders in the production of milk, meat, and the rearing of horses, are studied. *Two hours a week.*

54. Advanced Animal Breeding.—Principles and theories of breeding as applied to the live stock industry; study of pedigrees and records by the use of the different herd books; an economic study of the generative systems of domestic animals. Prerequisites, Course 3, and Veterinary Science 6. *Two hours a week.*

55, 56. Thesis.—*Three hours a week.*

58. Ice Cream Making.—Lectures and recitations on the history and methods of the manufacture of ice cream and ices. Laboratory practice in the manufacture of ice cream and ices. Prerequisite, Course 51. Class room, *one hour a week;* laboratory, *three hours a week.*

Poultry Husbandry

1. Types, Breeds, and Management of Poultry.—Lectures and recitations on the origin and development of the types, breeds, and varieties of fowl, ducks, geese, and turkeys; the general care, feed, and management of farm poultry; and the marketing of poultry products. Laboratory exercises include practice in poultry management, poultry judging, and the preparation of poultry products for market. Class room, *two hours a week;* laboratory, †*two hours a week.*

2. Types, Breeds, and Management of Poultry.—A continuation of Course 1. Class room, *one hour a week;* laboratory, †*two hours a week.*

3. Commercial Poultry Farming.—Lectures and recitations on the business of poultry farming; the systems and operations in use on large poultry farms; the planning of specialized poultry farms. Class room, *one hour a week;* laboratory, †*two hours a week.*

4. Poultry Feeding.—Lectures and recitations on the general principles of nutrition as applied to poultry; poultry feeds; calculating rations; estimating cost of feeds and feeding, and methods of feeding for economical production. Prerequisites, Courses 1 and 2. Class room, *two hours a week.*

5. Poultry Literature.—A study of experimental data on poultry management. Prerequisites, Courses 1, 2, and 4. Class room, *two hours a week.*

6. Incubation and Brooding.—Lectures and recitations on the principles of incubation and brooding. Laboratory practice in incubator and brooder management. Prerequisites, Courses 1 and 2. Class room, *three hours a week;* laboratory, †*two hours a week.*

7. Poultry Breeding.—Lectures and recitations on the principles of breeding as applied to poultry; the inheritance of egg productivity; systems of breeding; mating of utility and exhibition poultry and care of breeding stock. Prerequisites, Courses 1, 2, and 4. Class room, *two hours a week;* laboratory, †*two hours a week.*

51, 52. Thesis.—*Three hours a week.*

BACTERIOLOGY AND VETERINARY SCIENCE

Professor Russell; Assistant Professor Hitchner

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. Required of students taking major work in Agriculture. †*Six hours a week.*

2. Bacteriology.—Similar to Bacteriology 1. Offered for students in the College of Technology and others who may elect it. †*Six hours a week.*

3. Bacteriology.—A lecture course open to all students. It should be elected by students taking Course 1 as well as by students not taking a laboratory course. Subjects considered will include the 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. *Two hours a week.*

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

14. 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.*

15. Veterinary Science.—A continuation of Course 14. Prerequisite, Course 14. *Two hours a week.*

16, 17. Veterinary Science.—A clinic open to all students studying veterinary science. *One hour a week.*

19. Veterinary Science.—Veterinary materia medica and pharmacy. *Two hours a week.*

52. Bacteriology.—A study of the physiology of bacteria; bacteriological analysis of water; and investigation into the sources of milk bacteria. Prerequisite, Course 1 or 2. Class room, *one hour a week;* laboratory, †*four hours a week.*

53. Bacteriology.—A study of the physiology of bacteria; bacteriological analysis of water; and a study of soil bacteria. Prerequisite, Course 1 or 2. Class room, *one hour a week;* laboratory, †*four hours a week.*

54. Bacteriology.—A course which will consider such dairy experiments as the effect of pasturization on milk bacteria; quantitative bacterial determination of butter and cheese; study of typical milk bacteria; use of special biochemic tests for quality of milk; study of effect of separators, clarifiers, coolers, etc., on the bacterial content of milk and cream. Prerequisite, Course 52. †*Four to six hours a week.*

55. Bacteriology.—An experimental consideration of ammonification, nitrification, and denitrification in the soil; study of relation of bacteria to soil fertility; symbiosis. Prerequisite, Course 52. †*Four to six hours a week.*

56. Bacteriology.—Lectures and reference work upon various problems, relating to different phases of sanitary milk production; relation of microorganisms to butter and cheese; discussion of the effect of various dairy operations upon quality of dairy products. Open only to students taking Course 54. Prerequisite, Course 52. *Two hours a week.*

57. Bacteriology.—Lectures and reference work upon various problems relating to bacteria and soil fertility; discussion of ammonification, nitrification, and denitrification in the soil; a consideration of symbiosis. Open only to students taking Course 55. Prerequisite, Course 53. *Two hours a week.*

101, 102. 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.

BIOLOGICAL AND AGRICULTURAL CHEMISTRY

Professor Merrill; Assistant Professor Smith

1. Biochemistry.—Lectures and recitations on the composition of the plant; the source, nature, and assimilation of plant food; fermentation, its nature, effects, and control. *Two hours a week.*

2. Biochemistry.—A continuation of Course 1. The composition of the animal body and of food materials; the adaptation of food to animal requirements; the chemical changes involved in the digestion and

assimilation of foods; respiration; absorption and liberation of energy. Class room, *three hours a week;* laboratory, †*four hours a week.*

3. 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 nonmetalic 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.*

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

6. 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 composition of insecticides and fungicides; the chemistry of milk and other dairy products. Prerequisite, Course 1. *Two hours a week.*

7. Biochemistry.—An abridged course, including a study of the protein, fats, and carbohydrates, the digestive enzymes and processes, the tissues and secretions of the body. Class room, *three hours a week;* laboratory, †*four hours a week.*

8. Food Analysis.—A brief introduction to quantitative analysis, with laboratory practice in the analysis of foods; lectures on food adulteration and methods for its detection. Laboratory, †*six hours a week.*

9. Organic Chemistry.—A brief course designed for students in Agriculture and Home Economics. Class room, *two hours a week;* laboratory, †*two hours a week.*

51. Biochemistry.—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. Prerequisites, Chemistry 51 and 52. *Three hours a week.*

52. Laboratory Biochemistry.—A study of the carbohydrates, fats, and protein bodies; the digestive enzymes; the blood, muscles, bones, and other tissues of the body; milk, bile, and other secretions. A continuation of the preceding course. †*Four hours a week.*

60. Agricultural Analysis.—A course in the qualitative 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. Prerequisites, Chemistry 51, 52, and 61. †*Eight hours a week.*

BIOLOGY

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

FARM MANAGEMENT AND AGRICULTURAL ENGINEERING

PROFESSOR SIMMONS

2. 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, crop yields, milk production in the dairy, etc., a system of accounts showing the receipts and expenditures of the farm. †*Four hours a week.*

71. AGRICULTURAL ENGINEERING AND RURAL ARCHITECTURE.

(a) AGRICULTURAL ENGINEERING.—Farm surveying and leveling; the plotting of farms and measurements of land; a study of drainage; estimating the investment and returns from a system of drainage; the making of roads; road materials.

(b) RURAL ARCHITECTURE.—The planning, designing, location, and construction of farm buildings, water systems, sewerage, and concrete construction. Class room, *two hours a week;* laboratory, **three hours a week.*

72. FARM MECHANICS AND 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. Class room, *two hours a week;* laboratory, **three hours a week.*

73. 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 development of farm machinery; progress in agricultural education. Lectures supplemented by illustrative material and slides.

(b) Economics.—The factors of agricultural production, and economic properties; organization of the farm; rent of farm land and the law of diminishing returns from the land; systems of distribution; a study of life in the rural communities; schools and other rural organizations. Class room, *two hours a week;* laboratory, †*two hours a week.*

74. Farm Management.—A study of the various types of farming, with comparison of investment and returns from 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 rotations 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 condition on different farms, will be made. Farm plans will be outlined to suit various conditions. Class room, *two hours a week;* laboratory, **three hours a week.*

76. Farm Management.—Economic study of marketing. A course that deals with the problems in the distribution of farm products which have to do with the creating of place, form, time, and possession utilities. A study is made of the share of the returns to the different factors and forces rendering service in creating these utilities. Lectures, *three hours a week.*

FORESTRY

Professor Briscoe; Mr. Chapman

1. Economics of Forestry.—The importance and scope of the subject; the influence of forests on the conservation and distribution of water; influence on soils, topography, and public health; the relation to agriculture, stock raising, mining, railroads, manufactures, and industries in general; the character, extent and distribution of forest resources, national, state and private. Required of all freshmen majoring in forestry, and open to all students. *Two hours a week.*

2. Woodlot Forestry.—The general principles of forestry, with special reference and application to the farm woodlands, particularly in this region. Lectures and text book work in elementary systems of cutting, estimating, protection and reforestation. Especially for agricultural students. Open to all students. *Two hours a week.*

3. Wood Identification and Uses.—The identification and classification of the economic woods of the United States, based on simple lens inspection; the technical qualities of various species and their uses in the arts and trades; their commercial production. Prerequisite, General Botany 2. *Two hours a week.*

4. Wood Preservation.—The durability and seasoning of native woods; preservatives in commercial use; methods of operation and equip-

ment of preserving plants. Special attention given to posts, ties, poles, paving-blocks and structural timbers. First half of semester. *Two hours a week.*

5. History of Forestry.—The development of forestry in European countries and in the United States. Second half of semester. *Two hours a week.*

6. Forest Mensuration.—Lectures and recitations. Instruction in the theory and application of forest measurements. Calculation and computations from data obtained in the field work. Course 8 to accompany this course. *Two hours a week.*

8. Forest Mensuration Field Work.—Practical field work to be taken in connection with Course 6. The use of instruments, scaling and estimating. **Six hours a week.*

9. Forest Products.—Dealing with forest products other than logs and lumber, such as pulp-wood, veneers, shingles, lath, tight and slack cooperage, hoops and headings, excelsior, vehicle woods, spool stock, turpentine, tannin, gums, syrups, dye-woods, and charcoal. Methods of utilization, markets and values. First half of semester. *Two hours a week.*

10. Forest Protection.—Systems of fire protection practiced by the federal and state governments, and by individuals and associations; protection against other natural enemies of the forest such as insects, fungi, wind, animals and weed growth. First half of semester. *Two hours a week.*

11. Forest Mensuration.—A continuation of Course 6, taking up the study of age, growth, taper, form-factors, yield and volume tables. *Two hours a week.*

12. Practice of Forestry.—Applied systems of silviculture and management considered in relation to the commercially important species and types of forest in the United States; discussions of management as practiced in Europe, and of the application of such systems to forest conditions in this country. Forestry seniors only. *Two hours a week.*

13. Forest Mensuration Field Work.—To be taken in connection with Course 11. Collection of data for making a map of an assigned tract; studies of age, growth and yield under different conditions and in various types; determination of form factors; construction of volume tables. **Six hours a week.*

14. Forest Management.—Construction of a working plan for an assigned tract of forest land; map making for forestry work with a complete report and plans for the management of the same. Forestry seniors only. **Six hours a week.*

15. Silviculture.—A study of silvics, the life factors determining the character and form of forest vegetation. The development of forest

types and the silvical characteristics of stands. Cultural measures in the forest; the forest regions of the United States. Prerequisites, Biology 67 and 68. *Two hours a week.*

16. SILVICULTURE.—A continuation of Course 15, with special attention to the silvicultural systems of management; the application of thinnings, methods of reproduction both natural and artificial. *Two hours a week.*

17. SILVICULTURE FIELD WORK.—Assigned problems in connection with Course 15. Studies of tolerance. Special studies and practical work in the forest; the preparation of a type map and detailed silvicultural report. **Six hours a week.*

18. NURSERY PRACTICE.—To be taken in connection with Course 15. Tests of the germinating qualities of seeds of forest trees, and a study of seeds and seedlings. Planting and transplanting in the State Forest Nursery (a minimum of 72 hours actual time regardless of schedule changes on account of weather); practice in field planting. **Six hours a week.*

19. LUMBERING.—The lumber industry in the United States considered from the economic standpoint; an account of the methods of logging and manufacture in different regions. Textbook and lectures. Forestry seniors only. *Two hours a week.*

20. FOREST FINANCE.—Business principles applied to forest management. Forest valuation; the theory of the normal forest; calculations for sustained yield and continuous revenue from forest resources; forms for accounts and cost keeping; preparation of reports for federal income tax on timber lands. Forestry seniors only. *Two hours a week.*

21. LUMBERING FIELD WORK.—To be taken in connection with Course 19. Inspection of pulp mills and lumbering operations, during the first half of the semester. Inspection, detailed study and report of an assigned typical logging operation. For credit a student must spend at least six ten hour days in a lumber camp. **Six hours a week.*

22. FOREST POLICY.—National and state forest policy and administration; relation of government, corporations and individuals in regard to forest policies and applied forest management. Forestry seniors only. First half of semester. *Two hours a week.*

23. CURRENT FORESTRY LITERATURE.—Reviews of periodicals, books and current forestry literature; preparation of a card index under subject and author headings. Forestry seniors only. *One hour a week.*

24. CURRENT FORESTRY LITERATURE.—A continuation of Course 23. *One hour a week.*

25, 26. THESIS.—Credits of from 2 to 6 hours will be allowed students desiring to elect thesis work in forestry. Work on original problems and investigations may be undertaken with the approval of the department. *Time to be arranged.*

28. FORESTRY LAWS.—Laws of the federal government and of the several states concerning forests and forestry. Forestry students only. Second half of semester. *Two hours a week.*

HOME ECONOMICS

PROFESSOR FREEMAN; ASSISTANT PROFESSOR MCGINNIS; ASSISTANT PROFESSOR BANCROFT; MISS MORRILL

1, 2. TEXTILES AND CLOTHING.—A study of fibers and fabrics from a historic, economic, and social standpoint. The laboratory work consists of the making of plain garments, involving drafting and design, and selection of materials. Recitation, *two hours a week;* laboratory, †*four hours a week.*

3. DESIGN.—The object is to develop the appreciation of harmony of line, space, and color. Recitation, *one hour a week;* laboratory, †*two hours a week.*

4. DESIGN.—A continuation of Course 3. Recitation, *one hour a week;* laboratory, †*four hours a week.*

5, 6. FOODS.—A study of food composition, cost, and the principles involved in preparation. The laboratory work consists in the preparation of the various types of foods. Prerequisites, Chemistry 1 or 3, 5, 2 or 4, and 6. Recitation, *two hours a week;* laboratory, †*four hours a week.*

7. DRESS.—Economics, hygiene, design, and color are studied in their relation to dress. The laboratory work consists in designing and drafting of pattern, selection of materials, and the making of dresses. Prerequisites, Courses 1, 2, 3, and 4. Recitation, *two hours a week;* laboratory, †*four hours a week.*

8. DRESS.—A continuation of Course 7. Laboratory, †*six hours a week.*

9. SANITATION.—The situation of the house regarding general surroundings; sanitary conditions in and around the house, ventilation, water supply, heating, and plumbing; the householder's interest in public sanitation and hygiene. Prerequisites, Bacteriology 1 and 3. Recitation, *three hours a week.*

10. DIETETICS.—The chemical, economic, and physiological principles of human nutrition are studied and applied to the feeding of individuals and families under varying conditions. The course includes the study of

infant feeding and of normal and undernourished children. Prerequisites, Courses 5 and 6, and Biochemistry 7. Recitation, *three hours a week;* laboratory, †*four hours a week.*

11. Foods.—Continuation of Courses 5, 6, and 10. Preservation of foods; nutrition in disease; investigation in foods, each student choosing a special problem. Recitation, *one hour a week;* laboratory, †*four hours a week.*

12. Household Management.—Brief history of the family, economic and social principles of the household, standards of living, budgets, the training of children. Open to seniors. Recitations, *four hours a week.*

13. Handwork.—Problems in industrial art, basketry, knitting, embroidery, and hand sewing. Laboratory, †*four hours a week.*

14. Child Care and Child Welfare.—A study of the physical, mental and social needs of the child, including prenatal care, post natal care, preschool age, personal hygiene, adolescent period; some problems in sex-education, the responsibility of the family and community to the child. Prerequisites, Bacteriology 1 and 3, and Biology 5. *Three hours a week.*

16. Home Economics Education.—A brief survey of the education of women; the history of Home Economics and its place in education; the organization of the curriculum; planning courses of study; equipment; budgets; text books. Open to seniors. *Three hours a week.*

17, 18. House Construction and Furnishing.—The evolution of the house, of house furnishings, their color, design and cost. The laboratory work consists in the planning of the house, making plans and estimates for house furnishings, and visiting shops. Open to seniors. Recitation, *one hour a week;* laboratory, †*four hours a week.*

19, 20. Thesis.—Different phases of home economics. Individual problems. Open to seniors. *Two to four hours a week.*

21, 22. Household Administration.—Each senior lives in the Practice House one semester. The students do the work including planning, buying, preparation and serving of meals; household accounts; care of the house. They also have entire charge of the care and feeding of a baby who lives in the house. *Three credit hours.*

HORTICULTURE

Professor Sweetser; Mr. Wiggin

1. Commercial Pomology.—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. Class room, *two hours a week;* laboratory, †*two hours a week.*

2. Practical Pomology.—A study of orchard sites and soils, methods of propagating, setting, cultivating, fertilizing, pruning, and spraying. Class room, *two hours a week;* laboratory, **three hours a week.*

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. Prerequisites, Courses 1 and 2. Class room, *two hours a week;* laboratory, †*two hours a week.*

5. 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. Class room, *two hours a week;* laboratory, †*two hours a week.*

7. General Floriculture.—A study of the culture, propagation, management, and care of flowers for commercial purposes. Methods of producing, shipping, marketing, and designing, will be considered. Class room, *two hours a week;* laboratory, †*two hours a week.*

8. Greenhouse Construction.—A study of the various types of greenhouses and the methods of construction. Estimates and plans are made for houses suitable for conservatories, private estates, and commercial floriculture. Cost and methods of installing heating systems, show rooms, and storage houses are also considered. Class room, *two hours a week;* laboratory, †*two hours a week.*

9. Small Fruit Culture.—A study of the bush and vine fruits, including strawberries; adapted varieties; methods of propagation, culture, harvesting, and marketing. Class room, *two hours a week;* laboratory, †*two hours a week.*

11, 12. Thesis.—*Three hours a week.*

20. Vegetable Gardening.—A course in practical vegetable growing, dealing with the production of vegetables for home use or market. Handling hot beds and cold frames will be included. Class room, *two hours a week;* laboratory, †*two hours a week.*

21. Commercial Olericulture.—This course is designed to include harvesting, marketing, and systematic study of types and varieties of vegetables; also storage and care of vegetables for seed production. Prerequisite, Course 20. Class room, *two hours a week;* laboratory, †*two hours a week.*

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

51, 52. Seminar.—Preparation, presentation and discussion of horticultural problems. Special emphasis is given to problems in marketing. Required of students taking major work in horticulture. Open to any student in the university. *One hour a week.*

54. Floriculture.—A course designed to give practical knowledge of the propagation and culture of annuals, herbaceous perennials, bulbs, roses, bedding plants, and other garden plants, with especial reference to care of public parks and private estates. Class room, *two hours a week;* laboratory, †*two hours a week.*

55. Fruits and Vegetables Under Glass.—A study of the various fruits and vegetables that are grown under glass. A course suited to the needs of either commercial work or private estates. Prerequisite, Course 1. Class room, *two hours a week.*

56. Plant Disease Control.—A course designed to acquaint the student with the various kinds and types of spray machinery, and with the preparation and application of the various sprays used in disease control. Prerequisites, Courses 1 and 2. Class room, *one hour a week;* laboratory, †*two hours a week.*

College of Arts and Sciences

FACULTY OF INSTRUCTION

JAMES STACY STEVENS, M.S., LL.D., Litt. D., *Dean and Professor of Physics*
LUCIUS HERBERT MERRILL, Sc.D., *Professor of Biological and Agricultural Chemistry*
JAMES NORRIS HART, C.E., M.S., Sc.D., Ph.D., *Professor of Mathematics and Astronomy*
JOHN HOMER HUDDILSTON, Ph.D., *Professor of the Greek Language and Literature and Lecturer on Art History*
JACOB BERNARD SEGALL, Ph.D., *Professor of French*
GEORGE DAVIS CHASE, Ph.D., *Professor of Latin*
CAROLINE COLVIN, Ph.D., *Professor of History*
MINTIN ASBURY CHRYSLER, Ph.D., *Professor of Biology*
ROY MERLE PETERSON, Ph.D., *Professor of Spanish and Italian*
ROBERT RUTHERFORD DRUMMOND, Ph.D., *Professor of German*
HARLEY RICHARD WILLARD, Ph.D., *Professor of Mathematics*
JOHN H ASHWORTH, Ph.D., *Professor of Economics and Sociology*
CHARLES ANDREW BRAUTLECHT, Ph.D., *Professor of Chemistry*
HAROLD MILTON ELLIS, Ph.D., *Professor of English*
ALBERT LEWIS FITCH, Ph.D., *Professor of Physics*
LUTHER JOHN POLLARD, M.A., *Professor of Education*
HENRY MARC HALVERSON, Ph.D., *Professor of Psychology*
IRVING HILL BLAKE, A.M., *Associate Professor of Biology*
BERTRAND FRENCH BRANN, M.S., *Associate Professor of Chemistry*
AVA HARRIET CHADBOURNE, M.A., *Associate Professor of Education*
J HOWARD TOELLE, A.M., *Associate Professor of Economics and Sociology*
FRANÇOIS JOSEPH KUENY, L. ès L., *Associate Professor of French*
CHARLES HOWARD BATCHELDER, A.B., M.S., *Associate Professor of Zoology*
MARK BAILEY, A.M., *Associate Professor of Public Speaking*
JASON LESLIE MERRILL, B.S., *Associate Professor of Chemistry*
ALBERT AMES WHITMORE, M.A., *Associate Professor of History*
HERBERT DEWITT CARRINGTON, Ph.D., *Associate Professor of German*
JOHN WILLIAM DRAPER, Ph.D., *Associate Professor of English*
NOAH ROSENBERGER BRYAN, Ph.D., *Associate Professor of Mathematics*
HARRY WOODBURY SMITH, M.S., *Assistant Professor of Biological and Agricultural Chemistry*
ADELBERT WELLS SPRAGUE, A.M., *Director of Music*
LEO HENRY DAWSON, A.M., *Assistant Professor of Physics*

RUFUS WILLIAM MCCULLOCH, A.M., *Assistant Professor of English*
BERTHA JOSEPHINE HOWARD, M. A., *Assistant Professor of Economics and Sociology*
PLATT ASHLEY PEARSALL, B.S., *Assistant Professor of Chemistry*
ALBERT MORTON BIERSTADT, Ph.D., *Assistant Professor of English*
HAROLD FRANCIS WATSON, M.A., *Assistant Professor of English*
MARION STEPHANIE BUZZELL, M.A., *Instructor in French*
FRANCES ELIZABETH ARNOLD, B.A., *Instructor in Spanish*
AARON BLESS, M.A., *Instructor in Physics*
ISRAEL CHASMAN, A.M., *Instructor in English*
ROBERT DOUGALL, B.S., *Instructor in History*
SHERMAN JEWETT GOULD, B.S., *Instructor in Physics*
WARREN STANHOPE LUCAS, M.A., *Instructor in Mathematics*
JOHN ANTHONY STRAUSBAUGH, A.B., *Instructor in Spanish and Italian*
CHARLES FLOYD WHITCOMB, *Instructor in French*
HAROLD CHANDLER WHITE, C.E., *Instructor in Chemistry*
FRANK SWAN BEALE, B.S., *Instructor in Mathematics*
MARION KATHARYN BRAGG, B.A., *Instructor in English*
EDWARD CHOATE BROWN, *Instructor in Mathematics*
HOWARD LLOYD FLEWELLING, B.A., *Instructor in English*
THELMA LOUISE KELLOGG, B.A., *Instructor in English*
WARREN EDWARD LORING, B.S., *Instructor in Mathematics*
WALTER WILLIAM PURDY, B.S., *Instructor in Chemistry*
GEORGE MERVIL SEELEY, A.B., *Instructor in Chemistry*
IRVING TREFETHEN RICHARDS, A.B., *Instructor in English*
WALTER WHITMORE CHADBOURNE, M.B.A., *Instructor in Economics and Sociology*
EDWIN DILLMON HULL, M.S., *Instructor in Biology*
LESLIE GEORGE JENNESS, B.S., *Instructor in Mathematics*
FRED EUGENE JEWETT, B.S., *Instructor in Economics and Sociology*
FLOYD FRANCIS OPLINGER, M.S., *Instructor in Chemistry*
FRANCIS DOOLITTLE WALLACE, A.B., *Instructor in Public Speaking*
RALPH ALLEN WILKINS, B.S., *Instructor in Chemistry*
NORMAN EMME WOLDMAN, M.S., *Instructor in Chemistry*
HELEN WOODBRIDGE, B.A., *Instructor in Biology*
DAVID GROSS, *Assistant in Spanish*

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.

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

ADMISSION

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

FRESHMAN STUDIES

The character of the work of the first year is conditioned 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.

GRADUATION REQUIREMENTS

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

Including these requirements he must complete 30 hours in his major subject, and 125 hours for his entire curriculum.

1. Language Group.—This is composed of courses in language and literature offered in the departments of English, Public Speaking, French, German, Latin, and Spanish and Italian.

2. Science and Mathematics Group.—This is composed of the courses offered in mathematics and the biological and physical sciences, including the courses offered by the Departments of Mathematics, Biology, Chemistry, Biological Chemistry, and Physics. The student is expected to follow a definite cutline of courses in each department.

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

4. MILITARY SCIENCE AND TACTICS, two years, three hours a week.
5. PHYSICAL TRAINING, one year, two hours a week.

MAJOR SUBJECT

During the freshman year the student does not select a major subject and the registration is largely prescribed.

Beginning with the sophomore year each student must select some one department in which he is to pursue his major work. 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, French, German, History, Latin, Mathematics and Astronomy, Psychology, Physics, Spanish and Italian.

The major subject must include work counting not less than thirty nor more than fifty hours. In the case of departments in which less work is offered than amounts to thirty hours, 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 approval 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.

Major students in certain departments may also be required to select a minor subject in which a minimum of eighteen semester hours' work is to be done.

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 the representative of the student before the faculty.

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 when the course is completed.

PROGRAM FOR SECONDARY SCHOOL TEACHERS LEADING TO A STATE CERTIFICATE

The College of Arts and Sciences of the University of Maine has arranged a program for the professional training of secondary school teachers, which will entitle those who complete it to a professional state certificate for secondary school teachers. The program has been arranged in conference with the State Superintendent of Public Schools and has his endorsement.

In addition to fulfilling the general requirements leading to the degree of Bachelor of Arts, the student is expected to complete three hours in Psychology 49, three hours elective in Psychology, or Educational Psychology, twelve hours' work in Education in the junior and senior years, thirty hours in a major subject, and from ten to twenty hours in a minor subject. The prescribed mork in Education includes three hours in the History of Education, three hours in Methods of Teaching, and six hours to be elected.

The selection of a major subject to which the student devotes 30 hours and a minor subject to which he devotes from 15 to 20 hours is designed to equip him for teaching two subjects related to the high school. Usual combinations of high school subjects are English and history, Latin and history, English and Latin, Latin and modern languages, mathematics and physics, physics and chemistry. For the completion of this course a high standard of scholarship is required. All the prescribed work must be of C grade or above. Upon completing this course the student will receive a Professional Secondary Certificate from the State Department of Public Instruction which will designate the major and minor subjects which he has pursued. A special certificate will also be issued by the university which will give a detailed outline of the student's record.

BACHELOR OF ARTS CURRICULA

The work in the College of Arts and Sciences leads to the degree of Bachelor of Arts (B. A.). The curricula demand 125 hours and are regularly completed in four years, but a student of exceptional preparation and application may complete the requirements in three years by attending one or more summer terms. Students fitting themselves for professional or technical schools are often encouraged to do this, but prospective teachers are recommended to spend four years in college.

No outlines of the curricula in the College of Arts and Sciences are given in the catalog, but students may have an outline presented to them by applying to the professor in charge of the department in which they are interested. Groups of studies are made up which would be desirable for students intending to prepare for teaching, or to enter upon the study of law, medicine, or theology.

In this college 95 out of the 125 required hours must be made with a grade of C or above.

BACHELOR OF PEDAGOGY CURRICULA

Graduates of the Maine normal schools who have completed a course in a Class A high school, and who have had one year of successful experience in teaching, are admitted to the university as candidates for the degree of Bachelor of Pedagogy. Such students are required to complete,

with high grade, seventy-five semester hours, of which twelve shall be in the Department of Education, and a sufficient number of the remaining hours shall be devoted to some one department to give them a satisfactory equipment for high school teaching.

COMBINED ARTS AND MEDICAL CURRICULA

The marked increase in the number of pre-medical students in attendance at the university has led to the establishment of definite programs of work for such students. Owing to the work of the American Medical Association, two years pre-medical work in an Arts college has become the standard requirement for admission to class A medical schools, and with this in view the two-year course has been arranged. The three-year course has been arranged in connection with an agreement with certain medical schools, which provides that a student who completes three years at this institution may enter the medical school, and receive his bachelor's degree here at the completion of his first year at the medical school. A four-year course will be arranged to meet the need of students who wish a broader academic training before beginning their distinctly medical studies. Three or four years of academic work are strongly recommended to the prospective student.

Two-Year Course

FIRST YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
General Biology	4	General Biology	4
General Chemistry	4	General Chemistry	4
English	3	English	3
Modern Language	5	Modern Language	5
Military	1½	Military	1½
Physical Training	½	Physical Training	1

SECOND YEAR

Vertebrate Morphology	4	Animal Embryology	4
Qualitative Analysis	5	Organic Chemistry	5
General Physics	3	General Physics	3
Laboratory Physics	1	Laboratory Physics	1
Military	2	Military	2
Elective	3	Elective	3

Three-Year Course

FIRST YEAR

Fall Semester		*Spring Semester*	
Subject	Hours	Subject	Hours
General Biology	4	General Biology	4
General Chemistry	4	General Chemistry	4
English	3	English	3
Modern Language	5	Modern Language	5
Military	1½	Military	1½
Physical Training	½	Physical Training	1

SECOND YEAR

Vertebrate Morphology	4	Animal Embryology	4
Qualitative Analysis	5	Organic Chemistry	5
General Physics	3	General Physics	3
Laboratory Physics	1	Laboratory Physics	1
Modern Language	3	Modern Language	3
Military	2	Military	2

THIRD YEAR

Animal Physiology	4	Animal Histology	4
English	3	English	3
Scientific German	2	Scientific German	2
Psychology	3	Psychology	3
Sociology	3	Social Pathology	3
Genetics	2	Elective	2

PRE-DENTAL CURRICULUM

The standard dental schools now require for admission one year of college work, including biology, chemistry, and English. The following curriculum will enable pre-dental students to meet the new requirements:

General Biology	4	General Biology	4
General Chemistry	4	General Chemistry	4
English 1	3	English 2	3
History 7	3	History 8	3
Modern Language	3	Modern Language	3
Military 1	1½	Military 2	1½
Physical Training	½	Physical Training	½

Students planning to enter a dental school should be careful to elect a year's work in physics during their high school course.

Departments of Instruction

NOTE: A star (*) before the time designated for a course indicates that three hours of actual work are required to obtain credit for one hour; a dagger (†) indicates that two hours are required to obtain this credit.

Courses designated by an odd number are given in the fall semester; those designated by an even number, in the spring semester.

Courses numbered 1-50 are for undergraduates only; courses numbered 50-100 are for graduates and undergraduates; courses numbered 100 and above are primarily for graduates.

ASTRONOMY

PROFESSOR HART; MR. LUCAS

10. DESCRIPTIVE ASTRONOMY.—An elementary course. The text-book is supplemented by informal lectures, illustrated by lantern slides, drawings of celestial objects, and work in the observatory. Open to all students. *Three hours a week.*

15, 16. GENERAL ASTRONOMY.—Designed for general culture and for students in mathematics and physics. Recitations, lectures, solutions of problems, observations with instruments in the observatory. Open to sophomores, juniors, and seniors who have had Mathematics 1. *Three hours a week.* Given in 1923-1924 and alternate years.

57. 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 terrestial latitudes, 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 Mathematics 1, 3, and Astronomy 10. *Two hours of recitations or lectures and two hours of observatory work a week.*

59, 60. PRACTICAL ASTRONOMY.—The theory and use of the sextant, universal instrument, zenith telescope, transit, and equatorial. Open to students who have taken Mathematics 6, 7, 8, and Astronomy 10. *Three hours a week.* Not given in 1922-1923.

BIBLICAL LITERATURE

DEAN STEVENS

1, 2. THE ENGLISH BIBLE.—A study of the English Bible as a masterpiece of literature, with the main object of familiarizing the student with the content of the Bible itself, and with the use made of it by the great masters of English literature. *Two hours a week.*

BIOLOGY

PROFESSOR CHRYSLER; ASSOCIATE PROFESSOR BLAKE; ASSOCIATE PROFESSOR BATCHELDER; MR. HULL; MISS WOODBRIDGE

GENERAL BIOLOGY.—Course 1, General Zoology, together with Course 2, General Botany, comprise a year's work in General Biology. After completing Courses 1 and 2 a student may specialize on either the botanical or the zoological side of biology. The science requirement in the College of Arts and Sciences may be met by taking Courses 1, 2, and 7.

1. GENERAL ZOOLOGY.—The fundamental principles of animal life, illustrated by examples from the principal groups, and including some work on the anatomy and physiology of higher animals. Required of students taking the Curricula in Agriculture and Forestry, and Pre-medical work. Class room, *two hours a week;* laboratory, †*four hours a week.*

2. GENERAL BOTANY.—The fundamental principles of plant life, illustrated by examples from the various groups, with special attention to the seed plants. Required of students taking the Curricula in Agriculture, Forestry, and Home Economics, and Pre-medical work. Prerequisite, Course 1. Class room, *two hours a week;* laboratory, †*four hours a week.*

5. ELEMENTARY PHYSIOLOGY.—The anatomy, physiology, and hygiene of higher animals, especially applied to man. Required of students taking the Curriculum in Home Economics. Class room, *two hours a week;* laboratory, †*four hours a week.*

7. GENETICS.—A general treatment of the facts which form the basis of our knowledge of inheritance. Prerequisites, Courses 1 and 2. *Two hours a week.*

8. ENTOMOLOGY.—A study of the structure, life-histories, and classification of insects, illustrated by common farm and forest species; the special insect pests of field, garden, orchard, and forest, and of domestic animals; methods of control. Some work on animal parasites other than insects is included. Prerequisites, Courses 1 and 2. Class room, *two hours a week;* laboratory, †*four hours a week.*

9. Plant Taxonomy and Histology. 10. Plant Physiology and Pathology.—A combined course for one year for students in Agriculture, consisting of: practice in the identification of the higher plants; microscopic work on the cell, tissues, and organs of the higher plants; a study of the functions of plants, including nutrition, growth, and response; a study of the diseases of plants, especially those caused by fungi. Prerequisites, Courses 1 and 2. Class room, *two hours a week;* laboratory, †*six hours a week.*

11. Plant Diseases.—A non-technical view of the subject designed for students who have had only General Biology. Class room, *two hours a week;* laboratory, †*two hours a week.*

15. Organic Evolution.—A discussion of the problem of the origin of species. Open to students who have had no previous work in biology. *Two hours a week.*

17. Wood Identification.—The identification of the various commercial woods by means of the unaided eye and the microscope. Open to students in Chemical Engineering, and to others by permission. **Three hours a week.*

51. Vertebrate Morphology.—An interpretation of the fundamental principles of structure, origin, and history of vertebrate organ systems. Particular emphasis is placed upon the anatomy of the cat and the fowl in the laboratory studies. Prerequisites, Courses 1 and 2. Class room, *two hours a week;* laboratory, †*four hours a week.*

52. Animal Embryology.—A study of the fundamental principles of development, and the formation of organ systems and tissues in vertebrates. Laboratory work on fish, frog, and chick. Prerequisite, Course 51. Class room, *two hours a week;* laboratory, †*four hours a week.*

53. Advanced Animal Physiology.—A study of the activities of cells and organ systems, with experimental work on the muscles, nerves, circulation, etc., in frog and man. Prerequisite, Course 51. Class room, *two hours a week;* laboratory, †*four hours a week.*

54. Animal Histology.—A study of the structure of protoplasm, cells, and tissues; practice in microscopical technique. Prerequisite, Course 51. Class room, *two hours a week;* laboratory, †*four hours a week.*

56. Vertebrate Anatomy.—A continuation of Course 51, with special reference to other vertebrate types, especially dogfish and a reptile. Prerequisite, Course 51. Laboratory, †*four to* †*eight hours a week.*

57, 58. Economic Entomology.—A further study of economic insects and entomological problems, varying according to the needs of the students. Prerequisite, Course 8. Laboratory, †*four to* †*eight hours a week.*

61. Plant Histology.—The microscopic structure of the higher plants: the cell; the various tissues; the root, stem, leaf, and spore-bear-

ing organs; the adaptations of plants to external conditions, considered from the standpoint of structure; killing, sectioning, staining, and mounting of plant tissues. Prerequisites, Courses 1 and 2. Class room, *two hours a week;* laboratory, †*four hours a week.*

62. Plant Physiology.—The plant is considered from the standpoint of its activities; absorption and transport of raw material; manufacture, transport, and storage of food; growth; movement in response to stimuli. Prerequisite, Course 61. Class room, *two hours a week;* laboratory, †*four hours a week.*

63. Plant Taxonomy and Morphology.—The identification of seed-plants by the use of a manual; the structure and relationships of vascular plants from the evolutionary standpoint. Prerequisite, Course 61. Class room, field, and laboratory work; *time to be arranged,* giving four credit hours.

64. Plant Ecology.—Two aspects of the subject are presented: (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. Prerequisite, Course 9 or 61. Class room, *one hour a week;* laboratory, †*four hours a week.* Given in 1922 and alternate years.

66. Forest Pathology.—The diseases of trees, especially those caused by fungi; destruction of timber by fungi; methods of combating plant diseases. Prerequisite, Course 61. Class room, *two hours a week;* laboratory, †*two hours a week.* Given in 1923 and alternate years.

67, 68. Forest Botany.—A systematic study of the commercial trees of North America, with field study and identification of Maine representatives. Prerequisites, Courses 1 and 2. Class room, *two hours a week;* laboratory, †*four hours a week.*

71, 72. Biological Seminar.—Preparation and discussion of papers dealing with recent advances in zoology and botany. Open to seniors and graduate students. *One hour a week.*

73, 74. Thesis.—Students in the College of Agriculture specializing in biology may prepare a thesis on some subject approved by the head of the department. *Time varies.*

75, 76. 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.

77, 78. Advanced Botany.—This course offers an opportunity for special work in botany along 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. *The time varies* and the work may be continued a number of semesters.

CHEMISTRY

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

The science requirement in the College of Arts and Sciencs may be met by completing courses Ch 1-5, 2-6, (or 3-7, 4-8), Ch 17, and Ch 42.

Students taking chemistry as a major subject in the College of Arts and Sciences must complete satisfactorily not less than thirty hours in chemistry, including Ch 1-5, 2-6 (or 3-7, 4-8), 11, 40, 51, and 71.

The following work in chemistry is now required for medical colleges of the first class: (See catalog of medical school).

Three years' preparation in chemistry will be required, including at least 240 hours of class room work and 500 hours of laboratory work. The former must include 60 hours in organic chemistry and a short course in physical chemistry, while the latter must include one year's work in quantitative analysis and 120 hours in organic chemistry.

ECONOMICS AND SOCIOLOGY

Professor Ashworth; Associate Professor Toelle; Assistant Professor Howard; Mr. Jewett; Mr. Chadbourne

Students doing their major work in the department of Economics and Sociology are expected to take all of one of the following groups: 1a, 2a, 11, 12, 51, 52, 53, 93, 94; 55, 56, 81, 82, 97, 98; 61, 62, 63, 64, 87, 88.

I. Economics

1a. Principles of Economics.—An introductory course dealing with the general principles of modern economic activity. It is the purpose of this course to lay the foundation for further study in economics and to give the students who do not take other courses in the subject an understanding of the economic structure of society which every educated person is supposed to have. For students in the College of Arts and Sciences this course is prerequisite for other courses in economics. Not open to freshmen. *Three hours a week.*

1b. Principles of Economics.—Similar to Course 1a. For technical and agricultural students this course is prerequisite for other courses in economics unless Course 1a be taken. *Two hours a week.*

2a. Modern Economic Problems.—A continuation of Course 1a. Banking, insurance, the tariff, taxation, wages and other economic problems. *Three hours a week.*

2b. Modern Economic Problems.—A continuation of Course 1b. Similar to Course 2a. *Two hours a week.*

7. Geography and Industry.—A brief study of the resources of the countries of the world: agricultural, mining, forestry, fishing, and animal industries; means of transportation and communication; emphasis upon resources and production in the United States. *Two hours a week.*

8. American Commerce.—The commercial relations of the United States with foreign countries: theory of foreign trade and tariff policies; modern organization and practices; credit and banking facilities; commercial treaties; special attention to trade with South American countries. *Two hours a week.*

9. Accounting.—This course aims to give the student that general knowledge of the principles of accounting which every business person should possess. Since this course does not presume any knowledge of bookkeeping a considerable part of the work is devoted to double entry bookkeeping. *Three hours a week.*

10. Accounting.—A continuation of Course 9. Partnership and corporation accounting; balance and income sheets; depreciation, reserve, sinking fund, and investment accounting; advanced forms of final statements; realization and liquidation. *Three hours a week.*

11, 12. Business Law.—The legal principles of modern business; contracts, agency, corporations, partnerships, bailments, guaranty, and insurance. Juniors and seniors only. *Three hours a week.*

12a. Business Law.—Similar to Courses 11, 12, for engineering students. *Three hours a week.*

51. Corporation Finance.—The promotion, financing, incorporation, and capitalization of industrial corporations in the United States; the relations of stockholders and directors; stock speculation; receiverships and reorganizations. Juniors and seniors only. *Three hours a week.*

52. Public Finance.—Government activities and public revenue; tax systems with emphasis on existing systems and proposed reforms; government expenditures with emphasis on the budget system; the Maine system of taxation. Juniors and seniors only. *Three hours a week.*

53. Money and Banking.—The monetary and banking systems of the United States and other countries. Special emphasis on banking in its relation to business.

59. Insurance.—The relation of insurance and risks to modern business organization; principles of life and property insurance; types of companies and policies; rate making; investment of insurance companies;

legislation for the protection of policy holders. Juniors and seniors only. *Three hours a week.*

60. TRANSPORTATION.—The historical development of transportation in the United States; railway organization and combination; financing and rate makng; federal and state regulation; government ownership and operation; railway policies of leading European countries. Juniors and seniors only. *Three hours a week.*

71. BUSINESS ORGANIZATION AND MANAGEMENT.—The production, structure, functions, and financing of business undertakings; significance of large scale production; economic and legal aspects of business combinations; business methods, system and efficiency; problems of business management. Juniors and seniors only. *Three hours a week.*

72. LABOR PROBLEMS.—The industrial revolution and the development of the modern conflict between capital and labor; history, aims, policies, and methods of trade unions; present day industrial problems; woman and child labor, immigration, wages, hours of labor, working-men's insurance, and agencies of industrial peace. Juniors and seniors only. *Three hours a week.*

93, 94. ECONOMIC THOUGHT.—A study of economic thought of the past and the present. Required of students majoring in economics. *Two hours a week.*

101, 102. ECONOMIC SEMINAR.—Special work for those fitted for it.

II. Sociology

55. GENERAL SOCIOLOGY.—Human life and its organization; the evolution of institutions; the laws and forces which are fundamental in society; some psychological phases of the subject. Prerequisite to other courses in sociology. Not open to freshmen. *Three hours a week.*

56. SOCIAL PATHOLOGY.—Application of sociological principles in the study of poverty and relief; criminality and its prevention; care of dependents and defectives. *Three hours a week.*

81. THE FAMILY.—A historical consideration of the origin and development of the family; the legal and economic relations of its members; its significance as an institution; its pathological manifestations. *Two hours a week.*

82. RURAL SOCIOLOGY.—The social problems of country life: isolation of rural communities; movement of the people to the city; social activities; agencies for the improvement of rural life: the school, the church, and other institutions and organizations. Open to students of the College of Agriculture without the usual prerequisite. *Two hours a week.*

97. IMMIGRATION AND AMERICANIZATION.—A history of immigration into the United States; the social, economic, and political aspects of im-

migration; agencies and methods of Americanizing the immigrant. Students who have had Economcs 1 may by permission of the head of the department take this course without having had Course 55. Juniors and seniors only. *Two hours a week.*

98. Social Reform Programs.—An analysis of the socialist indictment of the present economic system; the history of socialism with special reference to recent events; the history of other movements aiming to transform the social order: communism, government ownership, the single tax, etc. Students who have had Economics 1 may by permission of the head of the department take this course without having had Course 55. Juniors and seniors only. *Three hours a week.*

III. Political Science

61. American Government.—The principles and interpretation of the federal government; emphasis on present day political problems which relate to fundamental principles of the American government. Prerequisite to other courses in political science. Not open to freshmen. *Three hours a week.*

62. State and Local Governments.—Powers, rights, and obligations of the states in the Federal union; formation and admission of state; development of the state constitutions; organization of state and local governments; brief survey of the newer problems connected with state governments. *Three hours a week.*

63. Foreign Governments.—The political institutions of England; party development and current problems national and local; the government of the overseas dominions; a comparative study. *Two hours a week,* during the first semester.

64. Foreign Governments.—A comparative study of the political institutions of France, Italy, Germany, Switzerland, and the Argentine; party development and current problems national and local. *Two hours a week.*

87. American Diplomacy.—The Department of State; diplomatic service; the treaty making power; the foreign policy of the United States; diplomatic controversies with foreign powers; the United States as a world power. Juniors and seniors only. *Three hours a week.*

88. International Law.—Development, nature, source, and present status; development of internationalism. Juniors and seniors only. *Three hours a week.*

EDUCATION

PROFESSOR POLLARD; ASSOCIATE PROFESSOR CHADBOURNE

Historical Courses

51. HISTORY OF EDUCATION IN THE UNITED STATES.—Evolution of education, educational institutions, school systems, and practices of the American people. *Three hours a week.*

52. HISTORY OF EDUCATION.—Evolution of educational theory, institutions and practices of the Greek, Roman, and modern civilizations. *Three hours a week.*

53, 54. CONTEMPORARY MOVEMENTS IN EDUCATION.—The objects, methods, and influences of certain modern American and European schools representing advanced educational practices. *Two hours a week.*

Theoretical Courses

25. PRINCIPLES OF EDUCATION.—The foundations of educational procedure, as based upon the modern sociological and psychological theories and research; formal and informal education. *Three hours a week.*

56. MENTAL TESTS.—A laboratory course in the methods and technique of mental tests, including practice of making mental tests and measurements. *Two hours a week.*

57. EDUCATIONAL PSYCHOLOGY.—The psychology of learning and its application to education; individual differences, mental inheritance, and mental ability. Open to students who have had Psychology 49. *Three hours a week.*

58. SCHOOL HYGIENE.—School architecture and equipment; heating, lighting, and ventilation; mental health of teacher and pupils; communicable diseases and the relation of school authorities to health authorities. *Two hours a week.*

71. PSYCHOLOGY OF SECONDARY EDUCATION.—A study of the adolescent age and of the general psychological principles which determine the scope and character of secondary education. Open to students who have had Psychology 49. *Three hours a week.*

72. PSYCHOLOGY OF HIGH SCHOOL SUBJECTS.—This course undertakes a psychological analysis of various high school courses as to their importance and organization; reasons for reorganization of some of these courses as discussed in recent educational writings. Open to students who have had Psychology 49. *Three hours a week.*

81. VOCATIONAL EDUCATION.—A survey of the recent rapid development of various organizations, within and outside of the schools, for secur-

ing a more rational adjustment between education and the early vocational experience of young people as they leave the care of the school. *Two hours a week.*

90. Educational Measurement.—A critical discussion of the validity of the tests; principles of design and methods of construction; the use of standard tests to the administrator, to the teacher, and to school surveyors. *Two hours a week.*

91. Psychology of Elementary Education.—A study of the physical and mental development of the child up to the adolescent period dealing with the mental processes involved in learning. Open to students who have had Psychology 49. *Three hours a week.*

92. Psychology of Elementary School Subjects.—A study of the methods by which children learn to read, write, draw, spell, and grasp the meaning of other elementary subjects. Open to students who have had Psychology 49. *Three hours a week.*

113, 114. Seminar.—Research in Educational Psychology. *Three hours a week.*

Practical Courses

27, 28. Educational Practice.—A laboratory course in directed teaching, based upon the observation of, and participation in, activities of the high schools of Old Town and Orono. *Two to four hours a week.*

77, 78. Methods of Teaching.—A general-methods course for prospective high school teachers. The course deals with the problems of the class room teaching. *Three hours a week.*

97, 98. Current Problems in Education.—Each member of the class is assigned a special problem. *Two hours a week.*

Administration Courses

61. High School Administration.—This course deals with the practical problems of high school administration, including the high school, the elementary school, the junior high school, and the college. *Two hours a week.*

62. Administration and Supervision of the Elementary Schools. A course for those who expect to become principals of elementary schools. It deals with the problems of organization and the purposes of the elementary schools. *Two hours a week.*

63. Junior High School.—The development, place, and administration of the junior high school. *Two hours a week.*

64. State School Systems.—A study of the principles of organization and of the typical agencies for the administrative control of American state educational systems. *Two hours a week.*

65. Municipal School Systems.—A consideration of the organization, administration and problems of city school systems. *Two hours a week.*

94, 95. School Laws.—A critical study of the school laws in each state and of court decisions. *Two hours a week.*

103, 104. Seminar.—Educational Statistics. *Two hours a week.*

105, 106. Seminar.—Problems in Elementary School Education. *Three hours a week.*

110. The Junior College.—The development, place, and administration of the junior college. *Two hours a week.*

111, 112. Seminar.—Problems in Secondary School Education. *Three hours a week.*

115, 116. Seminar.—Educational Administration. *Two hours a week.*

ENGLISH

Professor Ellis; Associate Professor Draper; Assistant Professor McCulloch; Assistant Professor Bierstadt; Assistant Professor Watson; Mr. Chasman; Miss Kellogg; Miss Bragg; Mr. Flewelling; Mr. Richards

Eh 1, 2, Freshman Composition and Literature, is prescribed for all freshmen and is prerequisite for all other courses in English.

All students intending to do major or minor work in English are required to take Eh 3, 4 in the sophomore year. They are also advised to elect English History, and elementary German if they have not had it in high school, in the freshman or sophomore year. Requirements or recommendations for other groups of students are the following:

For all students in the College of Arts and Sciences, one of the survey courses in literature, Eh 3, 4, or Eh 13, 14 (see description of these courses below), is required in the sophomore year.

For all students in the College of Technology, Eh 9 or 10, Modern Literature, is required in the junior year if Pb 3, 4 is not elected in its stead; and in the senior year Eh 5 or 6, Technical Composition.

For all students in Forestry, Eh 5, Technical Composition, is required in the fall semester, and Eh 10, Modern Literature, in the spring semester, of the sophomore year.

For all students in Home Economics, Eh 3, 4, History of English Literature, is required in the sophomore year.

For all other students in the College of Agriculture, Eh 5 or 6, Technical Composition, is required in the junior year. Students in the Biology Curriculum also take Eh 10, Modern Literature, in the spring semester of the junior year.

1, 2. FRESHMAN COMPOSITION AND LITERATURE.—Two days a week are devoted to a study of the fundamental principles of good usage in writing and the expository and narrative forms of composition, with some attention to description and argumentation. Frequent themes and weekly conferences are required. The remaining time is given to the consideration of several famous books from different periods of English literature. Prescribed for all freshmen. *Three hours a week.*

3, 4. HISTORY OF ENGLISH LITERATURE.—A survey of the literature from its beginning to the end of the nineteenth century. Lectures and recitations based upon the direct study of selections from the chief English poetry and prose. Written reports on assigned topics. Prerequisite for all advanced courses in English literature. *Three hours a week.*

5, 6. TECHNICAL COMPOSITION.—Business correspondence, reports and summaries of investigation, and preparation of manuscript for theses and technical journals. Required of students in the Colleges of Agriculture and Technology as above indicated. *Two hours a week,* fall or spring semester. Not open to students in Arts and Sciences.

7, 8. ADVANCED COMPOSITION.—A course designed to meet the needs of students who have passed Eh 1, 2 with a grade of C or better and desire to continue practice in writing for literary or practical purposes. *Two hours a week.*

9, 10. MODERN LITERATURE.—A study of representative short-stories, novels, essays, poetry, and plays of the last hundred years, with the design of cultivating the appreciation and enjoyment of good literature. Reports and criticisms of the works read are written. Open to all students in the Colleges of Agriculture and Technology who have completed Eh 1, 2. *Two hours a week,* fall or spring semester.

11, 12. COMPOSITION AND RHETORIC.—A continuation course for those who, having completed Eh 1, 2, feel the need of further practice in writing. *Two hours a week.*

13, 14. ENGLISH LITERATURE FROM 1550 TO 1900.—A survey of English literature from the age of Shakespeare to the close of the nineteenth century. Lectures and recitations based upon the direct study of selections from the chief English poetry and prose in the periods included. Written reports on assigned topics. *Two hours a week.*

15, 16. BUSINESS CORRESPONDENCE.—An elective course, primarily for major students in Economics. The main object of the course is to acquaint students with the use of correct and forceful English for business purposes. Prerequisite, Eh 13, 14 (or Eh 3, 4). *Two hours a week,* fall or spring semester.

18. ENGLISH LITERATURE FOR FRESHMEN.—An elective course for freshmen in the College of Technology who have passed Eh 1. Rapid

reading and study of worthy examples of English Literature. *Three hours a week.*

22. The Teaching of English.—Study of selected classics from the point of view of the teacher. Discussion of topics connected with the teaching of English in the secondary schools. *Two hours a week.*

23, 24. Journalistic Composition.—A fundamental course in news writing: the seeing of stories that have unique interest, developing news and feature stories, and cultivating an effective journalistic style. *Two hours a week.* Not given in 1922-23.

37, 38. Victorian Poets.—In the fall semester Tennyson and Browning are studied; in the spring, Arnold and the later Victorians, with some consideration of the more recent British poets. A study of selected poems with extensive assigned reading. *Two hours a week.*

43, 44. American Literature.—A survey course, based upon the study of the chief works of American poets and prose writers. Lectures, recitations, assigned reading, and written reports. *Three hours a week.*

47, 48. English Prose Fiction.—Primarily a reading course, designed to familiarize the student with the greater masterpieces in the English novel and short-story of the last three centuries. *Two hours a week.* Not given in 1922-23.

For the courses which follow, Eh 3, 4, History of English Literature, is prerequisite.

51. Anglo-Saxon.—A study of Anglo-Saxon grammar and reading of easy prose and poetry. Lectures on the literature of the Anglo-Saxon period. This course is recommended for those intending to teach English or to proceed to graduate study in the subject. *Three hours a week.*

52. Beowulf.—This course supplements Eh 51 with a study of the earliest English epic. Attention is given to metrical, literary, and linguistic qualities and to the historical background. *Three hours a week.*

53, 54. Chaucer.—A study of the *Canterbury Tales* and the chief minor poems, stressing the reading of Chaucer as poetry, his literary range and qualities, and the picture of his time given in his works. Some earlier and contemporary Middle English works are also studied for the literary and linguistic background. *Three hours a week.* Not given in 1922-23.

55, 56. Nineteenth Century Poetry.—In the first half the poetry of the English Romantic Movement is chiefly considered; in the second the poetry of the Victorian Age and the later period. *Three hours a week.* Not given in 1922-23.

57, 58. Shakespeare.—A brief consideration of the English drama prior to Shakespeare, followed by a careful study of several of his most important plays and the reading of others. Some attention is given to

Elizabethan stage conditions and the dramatic work of his contemporaries. *Three hours a week.*

59. English Literature from 1790 to 1830.—A study of the literature of the romantic and revolutionary movements, the early realistic reaction, the rise of periodical literature, and the social and political influences which affected the writers of the first quarter of the nineteenth century. *Three hours a week.* Not given in 1922-23.

60. English Literature from 1830 to 1870.—The literary and scientific movements of the era, the Victorian novelists, tractarianism, pre-Raphaelitism, the greater poets, imperialism, and the later realists and romancers. *Three hours a week.* Not given in 1922-23.

61, 62. History of the English Drama.—The development of the drama in England from the miracle and mystery plays through the Elizabethan period, and the later tendencies in the Restoration drama, the eighteenth century, the nineteenth century closet drama, and the revival of the acting play in England, Ireland, and America. *Three hours a week.* Not given in 1922-23.

63. Sixteenth Century Literature.—Non-dramatic poetry and prose, including selected writings from the works of Wyatt, Surrey, Gascoigne, Lyly, Spenser, Shakespeare, Ben Jonson, and others. *Two hours a week.* Not given in 1922-23.

64. Seventeeenth Century Literature.—This course follows Course 63 and deals with writings from the works of Bacon; Cavalier and Puritan poets; Herrick, Milton, and Bunyan. *Two hours a week.* Not given in 1922-23.

65. Restoration Literature.—The temper of the Restoration period as reflected in the literature; the Restoration drama; the significance of Dryden's work; political satire; the rise of modern prose; the standards of classicism in poetry. *Three hours a week.*

66. Eighteenth Century Literature.—The school of Pope and the beginnings of romanticism; the rise of the essay and the beginnings of periodical literature; the rise of the novel; the political, social, and religious influences; the poetry of Burns. *Three hours a week.*

67. Outline History of the English Language.—The descent and relationships of the English language; the successive periods of foreign influence; the sources and character of the English dialect. Recommended for prospective teachers of English. *Two hours a week.*

68. Forms and Types of English Poetry.—A study of the different metrical forms in English verse and of the ballad, sonnet, lyric, and other common types. *Two hours a week.*

69, 70. The Eighteenth and Nineteenth Century Essay.—Among the writers of the eighteenth century, Addison, Swift, Johnson,

Goldsmith, and Burke are studied; among those of the nineteenth, Lamb, DeQuincey, Macaulay, Carlyle, Ruskin, Arnold, and Stevenson. *Two hours a week.* Not given in 1922-23.

71. ADVANCED AMERICAN LITERATURE.—A somewhat intensive study of American Literature from 1800 to about 1840. *Three hours a week.*

72. ADVANCED AMERICAN LITERATURE.—A study of the drama in the United States. *Three hours a week.*

101, 102. SEMINAR.—The subject is determined by the needs of the students in attendance.

FRENCH

PROFESSOR SEGALL; ASSOCIATE PROFESSOR KUENY; MISS BUZZELL; MR. WHITCOMB

1, 2. ELEMENTARY FRENCH.—Grammar, pronunciation, composition, conversation, translation. *Five hours a week.*

3, 4. INTERMEDIATE FRENCH.—Grammar, pronunciation, composition, conversation, translation. Open to students who have taken Courses 1 and 2, or an equivalent. *Three hours a week.*

3a. INTERMEDIATE FRENCH.—Equivalent of Courses 3 and 4. Open to students who have taken Courses 1 and 2, or an equivalent. *Five hours a week.*

4a. ADVANCED FRENCH.—A continuation of Course 3a. Equivalent of Courses 5 and 6. *Five hours a week.*

5, 6. ADVANCED FRENCH.—Pronunciation, composition, conversation, rapid reading of modern authors. Open to students who have taken Courses 3 and 4, or an equivalent. *Three hours a week.*

7, 8. ELEMENTARY CONVERSATION AND COMPOSITION.—Open to students who have taken Courses 1 and 2, or an equivalent. *Two hours a week.*

9, 10. ADVANCED CONVERSATION AND COMPOSITION.—Open to students who have taken Courses 7 and 8, or an equivalent. *Two hours a week.*

53. THE NOVEL IN THE NINETEENTH CENTURY.—The Romantic Period: Madame de Staël, Chateaubriand, Victor Hugo, Dumas père, De Vigny, Stendhal, George Sand, Balzac, Mérimée, Gautier. Lectures, recitations, themes. Open to students who have taken Courses 5 and 6. *Two hours a week.*

54. THE NOVEL IN THE NINETEENTH CENTURY.—The Realistic Period: Feuillet, Flaubert, Edmond et Jules de Goncourt, Daudet, Zola,

Maupassant, Anatole France, Loti, Bourget. Lectures, recitations, themes. Open to students who have taken Courses 5 and 6. *Two hours a week.*

55. The Drama in the Nineteenth Century.—The Romantic Period: Dumas père, Victor Hugo, Alfred de Vigny, Alfred de Musset, Scribe. Lectures, recitations, themes. Open to students who have taken Courses 5 and 6. *Two hours a week.*

56. The Drama in the Nineteenth Century.—The Realistic Period: Augier, Dumas fils, Labiche, Meilhac et Halévy, Sardou, Pailleron, Henry Becque, Georges de Porto-Riche, Paul Hervieu, Maurice Donnay, Jules Lemaître, François de Curel, Eugène Brieux, Henri Lavedan, Coppée, Rostand. Lectures, recitations, themes. Open to students who have taken Courses 5 and 6. *Two hours a week.*

57, 58. Advanced French Grammar.—A teacher's course. Lectures, recitations, practical exercises. Open to students who have taken Courses 9 and 10, or an equivalent. *Three hours a week.* Given in 1922-23 and alternate years.

59, 60. How to Write French.—An advanced course in French composition. Open to students who have taken Courses 9 and 10, or an equivalent. *Three hours a week.* Given in 1923-24 and alternate years.

101, 102. The Middle Ages.—The historic development of the French language and literature from the origins to the Renaissance. The national epic; the epic of antiquity; romances of love and courtesy. Lyric poetry. Renard the Fox. Fabliaux. The Romance of the Rose. The chroniclers: Villehardouin, Joinville, Froissart, Commines. Latest medieval poets: Charles d'Orléans, Villon. The theatre. Lectures, rcitations, themes. Open to students who have taken two courses in French literature. *Three hours a week.* Given in 1923-24.

103. The Sixteenth Century.—Renaissance and Reformation Clément Marot, Rabelais, Calvin. The Pleïade and Ronsard. The theatre. The Protestant poets: Du Bartas, d'Aubigné. Montaigne. Memoirs, historians, and political writers. Lectures, recitations, themes. Open to students who have taken two courses in French literature. *Three hours a week.* Given in 1924-25.

105, 106. The Seventeenth Century.—The Hotel de Rambouillet and the Précieux school. Balzac. Descartes. The Jansenists, Port-Royal, Pascal. The Drama: Corneille, Molière, Racine. Madame de Sévigné, Madame de Lafayette, La Rochefoucauld. The Burlesque: Scarron. La Fontaine, Boileau. The Churchmen: Bossuet, Bourdaloue, Massillon, Fénelon. La Bruyère. Lectures, recitations, themes. Open to students who have taken two courses in French literature. *Two hours a week.*

109, 110. The Eighteenth Century.—Memoirs and history; poetry; the theatre; the novel. Beyle, Fontenelle, Montesquieu, Vauvenargues, Voltaire, Diderot and the Encyclopedia, philosophers, economists, critics.

Buffon, Rousseau, Bernardin de Saint-Pierre, Beaumarchais, André Chénier. The Revolution. Lectures, recitations, themes. Open to students who have taken two courses in French literature. *Two hours a week.*

112. The Poetry of the Nineteenth Century.—The historic development of the poetry of the century; a close and detailed literary study of representative poems. Béranger, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Gautier, Baudelaire, Leconte de Lisle, Sully-Prudhomme, Hérédia, Coppée, Richepin, Verlaine, Henri de Régnier, Moréas, Rodenbach, Verhaeren. Lectures, recitations, themes. Open to students who have taken two courses in French litrature. *Three hours a week.* Given in 1924-25.

GENERAL LECTURE COURSE

The College of Arts and Sciences of the University of Maine has arranged a series of weekly lectures of a popular nature, along the lines of work connected with the departments in that college.

Courses of lectures have been scheduled as follows:

1922-23 Ancient Civilization and Latin; Chemistry.
1923-24 English; Education and Philosophy.
1924-25 German and Romance Languages; Biology.
1925-26 History and Economics; Physics and Mathematics.

These courses will be repeated in the same order.

In 1922-23 a course of fifteen lectures each semester is being given by the Departments of Greek and Latin, and Chemistry.

Registration for this course is open to all students in the University and proper credit is given for its completion. The lectures are open to the public and are without charge.

GEOLOGY

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

GERMAN

Professor Drummond; Associate Professor Carrington

1, 2. First Year German.—A course for beginners. Grammar, composition, translation, conversation. *Five hours a week.*

3, 4. Second Year German.—For students who have had Courses 1, 2 or equivalent. Translation, composition, grammar review. *Three hours a week.*

5, 6. THIRD YEAR GERMAN.—For students who have had Courses 3, 4 or equivalent. A course in German literature including the reading of texts of the eighteenth and nineteenth centuries and lectures. *Three hours a week.*

7, 8. FOURTH YEAR GERMAN.—For students who have had Courses 5, 6 or equivalent. Critical reading of standard works, principally from the nineteenth century literature; lectures; essays. *Three hours a week.*

9. TEACHERS' COURSE.—For those who intend to teach German. Discussion of methods of teaching, the value of different texts, preparation of the lesson, class-room work, pronunciation, word-derivation, historical grammar. *Two hours a week.*

10. HISTORY OF GERMAN LITERATURE.—An outline sketch of the history of German literature in German. Recitations, outside reading, lectures. *Two hours a week.*

13, 14. ELEMENTARY GERMAN COMPOSITION AND CONVERSATION.—For students who have had Courses 3, 4 or equivalent. *Two hours a week.*

15, 16. SCIENTIFIC GERMAN.—Open only to students whose previous study of German will enable them to read scientific German with profit. *Two hours a week.*

17, 18. ADVANCED GERMAN CONVERSATION AND COMPOSITION.—For students who have had Courses 13, 14. *Two hours a week.*

51, 52. STUDIES IN EIGHTEENTH CENTURY LITERATURE.—Special attention is given to the life and works of Klopstock, Lessing, Wieland, Goethe, Schiller. Critical study of different works, lectures, discussions. *Two hours a week.* Given in 1923-24 and alternate years.

53, 54. FAUST.—The history and development of the Faust legend, the influence of the Faust idea, critical study of Goethe's Faust. *Two hours a week.* Given in 1922-23 and alternate years.

55, 56. STUDIES IN NINTEENTH CENTURY LITERATURE.—The various literary movements of the nineteenth century, lectures, discussions, outside reading. *Two hours a week.*

57, 58. SEMINAR.—A study of some special topic in German literature. *Two hours a week.*

101, 102. GOTHIC, INTRODUCTION TO THE STUDY OF GERMANIC PHILOLOGY.—Historical grammar, word-derivation, translation. *Two hours a week.* Given in 1923-24 and alternate years.

103, 104. OLD HIGH GERMAN.—A study of the grammar and translation from the different dialects of this period; word development in relation to present-day language; discussion of sound changes. *Two hours a week.* Given in 1922-23 and alternate years.

105, 106. MIDDLE HIGH GERMAN.—A study of the grammar and its relation to modern German grammar; reading of such texts as Nibelung-

enlied, Walther von der Vogelweide, Hartmann von Aue; lectures on the literature of this period. *Two hours a week.*

GREEK LANGUAGE AND LITERATURE AND ART HISTORY

PROFESSOR HUDDILSTON

Greek

The Department of Greek is arranged with the idea of presenting several phases of the ancient civilizations. Such courses are offered as will prove serviceable to the student of average interests, who not having studied the ancient languages in the fitting school, may desire to include in his college curriculum some work bearing on the permanent contributions of early peoples to the civilization of ancient and modern times.

1, 2. ANCIENT CIVILIZATION.—This course has little in common with the ancient history of the preparatory schools. It is rather the achievements of the Greeks and Romans in laying the foundations of so much that is the basis of our modern day life and thought to which attention is directed. Some examination is made of Egyptian and Eastern civilization as the historic background on which developed classical life and action. An important part of the course lies in the emphasis that is given to the Greek thought and Roman rule in the midst of which Christianity sprang up.

Instruction is entirely by lectures and each student is required to keep a note-book, and also have as parallel reading Breasted's Ancient Times. *Three hours a week.*

3. PRIVATE LIFE OF THE GREEKS AND ROMANS.—Text-book; lectures, illustrated with lantern slides and photographs; assigned reading. *Two hours a week.*

4. EARLY RELIGIONS.—A study of the religious conceptions of the ancient Egyptians, Persians, Greeks, and Romans and their relation to art and literature; lectures and assigned reading; investigation of special topics by members of the class. *Two hours a week.*

5. BEGINNING GREEK.—Grammar and elementary work followed in second part of the semester by the easy reading in the New Testament Greek. The transition is gradually made to the more complex Greek of the Classical period. *Three hours a week.*

6. CONTINUATION OF COURSE 5.—Reading of parts of Xenophon and Plato. Further study of Greek grammar and the writing of Greek. *Three hours a week.*

51. Greek Literature.—The history of poetry,—epic, lyric, and dramatic. Types and standards of verse composition established by the ancient Greeks, and some consideration of the Greek influence upon later poetry, particularly the epic. Lectures and readings from English translations. Each student will be expected to make a special study of some one author, and in the treatment of Aeschylus, Sophocles, and Euripides, at least one play of each will be read in class, members of the class taking the several parts. This course, as well as the next on prose literature, is intended to be foundational for students majoring in classics or in modern languages. *Three hours a week.*

52. Greek Literature.—The history of prose literature in ancient Greece. History, oratory, and philosophy will be traced in succession. Students will be expected to do parallel reading, specially in Thucydides, Demosthenes, and Plato. This course may be taken only in connection with Course 51, and like the latter is intended to place the studnt in touch with the forces of lasting value in Greek letters. *Three hours a week.* Given in 1923-24 and alternate years.

55, 56. History of the Near East.—It is with the conviction that the present Near East can be understood only by the past Near East that this course is given. The early national traditions of the Near East are traced from the Greek age down thru Roman and Byzantine epochs. The brilliant periods of Balkan history are discussed with the spread of Ottoman power and the relation of Turkey to the affairs of Modern Europe. Obviously this course can be given only in the light of the Great War and the recent order of events in the Near East. Lectures and special assignments. Open only to students who have taken Gk 1 and 2, or by arrangement with the instructor. *Three hours a week.*

Art

9. Renaissance.—This period is studied particularly in Italian paintings of the fifteenth and sixteenth centuries. Lectures; study of pictures; special subjects for individual investigation. *Three hours a week.* Given in 1922-23 and alternate years.

11, 12. General Art History.—From the Greek age down to the time of the French Revolution. Main emphasis will be laid on the architecture and sculpture of the ancients and the painting of the Renaissance and later times. *Two hours a week.*

HISTORY

PROFESSOR COLVIN; ASSOCIATE PROFESSOR WHITMORE, SUPERVISOR OF FRESHMAN WORK; MR. DOUGALL

For Ancient Civilization and History of the Near East see Courses 1, 2 and 55, 56 in the Department of Greek. Those courses are given credit in this department.

1. MEDIEVAL HISTORY.—A general course covering the period from the third century to 1500. Not open to freshmen. *Three hours a week.*

2. MODERN HISTORY.—Continuation of Course 1 to 1815, closing with a rapid sketch from 1815. Not open to freshmen. *Three hours a week.*

3. HISTORY OF ENGLAND.—From early times to the beginning of the Stuart period. Not open to freshmen. *Two hours a week.*

4. HISTORY OF ENGLAND.—Continuation of Course 3. From the beginning of the Stuart period to the present. Not open to freshmen. *Two hours a week.*

5. RECENT HISTORY.—This course is a general view from 1870. It is open to students from the Colleges of Technology and Agriculture only. *Two hours a week.*

6. EUROPEAN HISTORY SINCE 1815.—This course is open only to students who have had Courses 1 and 2 or 3 and 4. *Two hours a week.*

7, 8. UNITED STATES HISTORY AND GOVERNMENT.—This course begins with the close of the Revolution. It is open to freshmen only, and credit is not given except for a full year's work. *Three hours a week.*

9. HISTORY OF THE UNITED STATES.—The period from 1783 to 1865. This course is for upper class students who have not had Courses 7 and 8. *Two hours a week.*

10. HISTORY OF THE UNITED STATES.—A continuation of Course 9 from 1865 to the present time. *Two hours a week.*

51. THE RENAISSANCE.—This course takes up the Renaissance as an intellectual and social movement in Italy, and its expansion into France, England, and Germany. *Three hours a week.*

52. THE REFORMATION.—This course follows Course 51 and the two are always given the same year. *Three hours a week.*

53. MODERN CONTINENTAL EUROPE.—Study of a selected period since the Peace of Utrecht. *Three hours a week.*

54. MODERN ENGLAND.—Study of a selected period since the accession of the House of Hanover. *Three hours a week.*

55, 56. UNITED STATES HISTORY.—Studies of special periods, or of special phases of the development of American civilization. *Three hours a week.*

57, 58. Historical Criticism.—*One hour a week.*

59. Social and Industrial History of England.—This course begins with the medieval manor and comes down to the present time. *Two hours a week.*

60. Social and Industrial History of the United States.—This course begins with early colonial history.

Courses 59 and 60 are planned in connection with courses in Economics and Sociology.

LATIN

Professor Chase

1. Livy.—Selections from Livy, History of Rome. *Three hours a week.*

2. Cicero and Horace.—Cicero, De Senectute; Horace, Odes and Epodes. *Three hours a week.*

3. Latin Composition, with Review of Latin Syntax.—*One hour a week.*

4. Latin Composition.—A continuation of Course 3. *One hour a week.*

5. Tacitus.—Reading and discussion of the Agricola and Germania. *Three hours a week.*

6. 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.*

8. Teachers' Course.—Discussions of topics connected with the teaching of Latin in secondary schools. Study of selected passages of Cæsar, Cicero, and Vergil. *Two hours a week.*

9. Cicero.—Speeches against Catiline, for the Manilian Law, and Archias. Open to students who have completed two years' study of Latin in high school. *Five hours a week.*

10. Vergil.—Aeneid, books i-vi. Open to students who have had less than four years of high school training. *Five hours a week.*

51. Latin Composition.—Practice in writing Latin; study of Latin syntax. *One hour a week.*

52. Latin Composition.—Practice in writing Latin; study of Latin rhetoric. *One hour a week.*

53. The Younger Pliny.—Reading of selected letters of Pliny; the Roman Empire. *Three hours a week.*

54. Horace and Juvenal.—Reading of selections from the great satirists; study of Roman satire and social life. *Three hours a week.* Given in alternate years.

55. Tacitus.—Reading of the Annales and study of the reign of Tiberius. *Three hours a week.* Given in alternate years.

56. The Roman Elegaic Poets.—Selections from Catullus, Tibullus, Propertius, and Ovid; study of elegaic poetry. *Three hours a week.* Given in alternate years.

57, 58. 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 alternate years.

59, 60. Roman Rhetoric and Oratory.—Quintilian (selections from the Institutio Oratoria); Tacitus (Dialogus de Oratoribus); Cicero (selections from the Brutus, De Oratore, and Orator). Open to students who have taken Courses 1-4. *Three hours a week.* Given in alternate years.

103, 104. 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; the development of inflectional forms in Latin. Lectures and recitations. *One hour a week.* Given in alternate years.

105. Roman Numismatics.—Practice in the use of coins as original sources for the study of history, mythology, archeology, etc. *One hour a week.* Given on sufficient demand.

107. 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.

108. Sanskrit.—A continuation of Course 107, with more attention to the classical literature of India. *Two hours a week.*

MATHEMATICS

Professor Hart; Professor Willard; Associate Professor Bryan; Mr. Lucas; Mr. Beale; Mr. Loring; Mr. Brown; Mr. Jenness

Students electing mathematics as a major subject are expected to take Courses 1, 2, 3, 5, 6, 7, 8 and to elect other courses to a total of forty semester hours. Courses in Astronomy 10, 15, 16, and 57, and Mechanics 51 and 52 may be taken as mathematics electives. Students majoring in mathematics and intending to teach are also advised to take several courses in physics.

1. Trigonometry.—The trigonometric functions; radian measure; functions of two or more angles; logarithms; solution of right and oblique triangles; trigonometric equations; inverse functions. *Three hours a week.*

2. Solid Geometry.—Solid and spherical geometry, including original demonstrations and the solution of numerical problems. *Three hours a week.* Open to all freshmen who did not offer it for admission.

3. College Algebra.—A brief review of radicals, the theory of exponents, quadratic equations, and the binomial theorem; determinants; theory of equations. *Two hours a week.*

4. Spherical Trigonometry.—The elements of this subjects with problems and applications to spherical astronomy. *Two hours a week.*

5. Advanced Algebra.—Topics in college algebra not covered in Course 3. Open to students who have taken Courses 1, 2, and 3, and to freshmen with especially good high school preparation. *Three hours a week.*

6. Analytic Geometry.—The point. line, circle, and conic sections; higher plane curves; elements of solid analytic geometry. Open to students who have had Courses 1 and 3 and the equivalent of Course 2. *Five hours a week.*

7. Calculus.—Differentiation of the elementary forms of algebraic and transcendental functions; successive differentiation; differentials; rates; maxima and minima. Open to students who have taken Courses 1, 2, 3, and 6. *Five hours a week.*

8. Calculus.—A continuation of Course 7. Integration of the elementary forms; integration as a summation; various methods of integration. Applications of differential and integral calculus. *Five hours a week.*

11. Mathematics for Agricultural Students.—*Three hours a week.*

12. A Continuation of Course 11.—*Two hours a week.*

13. 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 this subject. *Three hours a week.*

14. Differential and Integral Calculus.—A continuation of Course 13. *Two hours a week.*

17. Mathematical Theory of Investment.—A study of the progressions and the binomial theorem, logarithms and the graphical representation of functions with a view to their application to the theory of investment. Also a study of interest, both simple and compound, present value, discount, and annuities. Thruout the course, numerous problems are solved to illustrate the theory and to fix the principles involved. *Two hours a week.*

18. Mathematical Theory of Investment.—A continuation of Course 17. A study of amortization, the valuation of bonds, sinking funds and depreciation, building and loan associations; also the theory of probability and its application to life annuities and certain problems connected wth life insurance. *Two hours a week.*

19, 20. The Theory of Statistics.—A study of the theory of statistics and the application of statistical methods. *Two hours a week.*

21. Solid Geometry.—The equivalent of Course 2 but given in the fall semester.

51. Advanced Analytic Geometry.—A course for students who have completed Courses 5, 6, 7, and 8. *Three hours a week.* Given in 1922-23 and alternate years.

52. Solid Analytic Geometry.—*Three hours a week.* Given in 1922-23 and alternate years.

53. 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 1923-24 and alternate years.

54. Advanced Integral Calculus.—A continuation of Course 53. *Three hours a week.* Given in 1922-23 and alternate years.

56. Differential Equations.—Open to students who have taken Courses 7, 8. *Two hours a week.*

61. History of Mathematics.—Lectures and recitations. *Two hours a week.* Given in 1922-23 and alternate years.

63, 64. Teachers' Course in Mathematics.—A critical study of the methods of teaching high school mathematics, together with an investigation of fundamental principles. *Three hours a week.* Given in 1922-23 and alternate years.

65. Theory of Equations.—*Three hours a week.* Not given in 1922-23.

66. Modern Projective Geometry.—A course based upon Oswald Veblen's text "Projective Geometry." Not given in 1922-23.

101. Theory of Functions of a Complex Variable.—An elementary course in the treatment of analytic functions. The course includes a consideration of infinite series, both single and double, infinite products, conformal representation, and a brief application of the theory to Fourier's series, the gamma, beta, and Bessel functions, and spherical harmonics. *Three hours a week.* Not given in 1922-23.

102. Elliptic Functions.—The Weirstrass and Jacobi functions. A brief treatment of transformation theory, and numerous examples. *Three hours a week.*

109. Celestial Mechanics.—An elementary course in the planetary theory. *Three hours a week.* Not given in 1922-23.

110. Hydrodynamics.—The subject is treated in such a way as not to require the use of spherical harmonics. The course includes a brief treatment of some of the problems of motion in a fluid, including wave motion and rectilinear vortex motion. *Three hours a week.* Not given in 1922-23.

115. Fourier's Series and Spherical Harmonic Analysis.—Solution of partial differential equations of mathematical physics under assigned boundary conditions. Not given in 1922-23.

116. Theory of Aggregates and Selected Topics on Theory of Functions of Real Variables.—Not given in 1922-23.

117. Theory of Substitution Groups and of Algebraic Fields.—Not given in 1922-23.

118. Theory of Transformation Groups (Lie Theory).—Not given in 1922-23.

119. Differential Geometry.—Metric theory of twisted curves and surfaces in space. Lectures and problems. Prerequisite, Solid analytical geometry. *Three hours a week.*

120. Continuation of Course 119.—*Three hours a week.*

MUSIC

Director Sprague

3, 4. Music Appreciation.—A study of the masterpieces of music from the standpoint of the listener. Analytical rather than historical. The vital forces and personalities in the development of the art noted briefly, but the chief stress laid upon the music itself. The evolution of form traced from the folk-song to the symphony. Lectures, illustrations, prescribed readings, reports. *Two hours a week.*

5, 6. Introductory Harmony.—The grammar of music, basic to an understanding of music structure. The foundation of the art of composition. A study of the conditions under which tones sound together and progress in combination. The invention and harmonization of melodies. A knowledge of notation required. *Two hours a week.*

7, 8. Advanced Harmony.—Supplementary to Course 5, 6 and designed to apply to the more advanced problems of tone combination the training already obtained. Emphasis placed upon harmonic analysis, melody writing, and composition in the simpler forms. *Two hours a week.*

9, 10. Counterpoint.—The art of combining melodies. A correlative with Harmony as the material of composition. Freedom and facility of expression in all the forms of music writing developed through its study and practice. Original work the chief aim of the course. Course 5, 6 a prerequisite. *Two hours a week.*

51. Interpretation and Conducting.—A consideration of the problems of organizing bodies of singers and players; of time-beating; of program building; and of interpretation as applied to the rehearsal and performance of choral and orchestral music. Membership in the university chorus, orchestra, or band a prerequisite. Open to juniors and seniors of sufficient talent. *One hour a week.*

PSYCHOLOGY

Professor Halverson

1. General Psychology.—Introductory course presenting facts and laws of mental life. Psychology of elementary mental processes and higher mental processes, supplemented by class demonstrations. Laboratory work required. *Three hours a week.*

50. Genetic Psychology.—An account of mental development in man. General principles of evolution, tracing the bodily and mental growth of the human individual from birth to maturity. Course 49 is prerequisite. *Three hours a week.*

60. Applied Psychology.—Psychology applied to business, industry, advertising, and other fields. The application of psychological methods and tests in the selection and training of workers. Course 49 is prerequisite. *Three hours a week.*

61. Applied Psychology.—Similar to Course 60, but given for students in the College of Technology, without prerequisites. *Three hours a week.*

6. Introduction to Experimental Psychology.—A course of lectures, demonstrations, class experiments, and discussions dealing with experimental psychology of the simpler and more complex mental processes. Students desiring to take this course must make personal application to head of department. *Three hours a week.*

PHYSICS

Professor Stevens; Professor Fitch; Assistant Professor Dawson; Mr. Bless; Mr. Gould

1, 2. General Physics.—A course covering mechanics, heat, sound, magnetism, and electricity. Lectures and recitations. *Four hours a week.*

3, 4. Laboratory Physics.—A course covering mechanics, heat, sound, light, and electricity. Special attention is given to the reduction of

observations and the tabulation of results. Open to students taking either Courses 1 and 2 or Courses 5 and 6. †*Two hours a week.*

5, 6. General Physics.—A course covering the ground of Courses 1 and 2 with more attention to the experimental and historical aspects, and less to the mathematical. *Three hours a week.*

8. Household Physics.—A course planned to meet the needs of students in Home Economics. Recitations, *four hours a week;* laboratory work, †*two hours a week.*

9. Meteorology.—A course covering the essential principles of the subject including a study of instruments and weather predictions. *Three hours a week.*

10. Meteorology.—A repetition of Course 9. *Three hours a week.*

11. Meteorology.—A continuation of Course 9 dealing with special topics. Recitations, *one hour a week;* laboratory work, *two hours a week.*

13, 14. Physics Problems.—The solution of problems in General Physics. Open to and especially recommended for students in Courses 1 and 2, or 5 and 6. *One hour a week.*

50. Optics.—An advanced course in the subject. Lectures; recitations. Mathematics 8 is a prerequisite. Given in 1922-23 and alternate years. *Three hours a week.*

51. Optics Laboratory.—An advanced laboratory course in light. †*Four hours a week.*

52. Mechanics and Heat Laboratory.—An advanced laboratory course dealing more with the accuracy of results than Courses 3 and 4. †*Four hours a week.*

53. Electrical Measurements.—An advanced laboratory course in the measurement of electrical quantities. Both direct and alternating currents are studied. †*Six hours a week.*

55. Electricity and Magnetism.—Recitations on the mathematical theory of direct current phenomena. *Two hours a week.*

56. Electricity and Magnetism.—A continuation of Course 55, dealing with alternating current phenomena. *Two hours a week.*

58. Mathematical Physics.—The application of mathematical methods to the treatment of problems in physics. Given in 1923-24 and alternate years. *Two hours a week.*

60. Sound.—Lectures and recitations. Given in 1922-23 and alternate years. *Two hours a week.*

61. Heat.—An advanced course. Given in 1923-24 and alternate years. *Three hours a week.*

63. Theory of Measurements.—This course is based upon the theory of least squares, and covers such topics as adjustment of observa-

tions, propagation of errors, empirical formulae, and graphic methods. *Two hours a week.*

65. VACUUM TUBES.—Lectures and recitations covering the theory of the vacuum tube as used in amplifiers, detectors, oscillators, etc. Course 2 and Mathematics 8 are prerequisites. *Two hours a week.*

66. VACUUM TUBE LABORATORY.—Laboratory work with vacuum tubes covering the work of Course 65. †*Two hours a week.*

69. RADIO-ACTIVITY.—A brief survey of the principal facts connected with radio-activity. Given in 1922-23 and alternate years. Lectures, *one hour a week;* laboratory work, †*two hours a week.*

71. THERMODYNAMICS.—An elementary course. *Two hours a week.*

101, 102. SPECIAL LABORATORY COURSES.—A subject for investigation is assigned or some published research is repeated. Open only to graduate students. †*Four or more hours a week.*

PUBLIC SPEAKING

ASSOCIATE PROFESSOR BAILEY; MR. WALLACE

1, 2. PUBLIC SPEAKING.—This course trains the student to organize his material and to deliver short speeches from the platform. Extemporaneous speaking on various subjects is especially emphasized. *One hour a week.*

3, 4. DEBATING.—A study of the principles of argumentation and debate. Public questions or technical questions of general interest are debated and discussed. Course 1, 2 is a prerequisite. Technical students who continue Public Speaking are expected to take this course. *One hour a week.*

5. ENGLISH ORATORS.—A study of representative orations; structure of the oration; qualities of a good oration; the preparation and delivery of speeches. Course 1, 2 is a prerequisite. *One hour a week.*

6. AMERICAN ORATORS.—Similar to Course 7 but dealing with American orators. *One hour a week.*

7, 8. ELOCUTION (ORAL READING).—The reading and rendering of various selections of merit form an important part of the work. This course aims to create the art side of public speaking. *One hour a week.*

8a. PUBLIC SPEAKING.—Practical public speaking for women. Quite similar in general character to Course 1. *One hour a week.*

9, 10. DRAMATIC PRODUCTION.—A critical study of several plays. Presentation of plays in the class room, and some public exhibition. A consideration of plays suitable for high school production. *Two hours a week.*

SPANISH AND ITALIAN

PROFESSOR PETERSON; MISS ARNOLD; MR. STRAUSBAUGH; MR. GROSS

Spanish

Major students in Spanish are required to complete the courses in Advanced Composition and the History of Spanish Literature. The requirement of thirty semester hours for a master's degree in Spanish may be met in one year by completing a minimum of twelve hours of advanced work in that language, by writing a satisfactory thesis on some topic connected with Spanish for which six hours' credit will be allowed, by completing the remainder of the required work in not more than two minor subjects, and by passing an oral examination covering all the work of the year.

1, 2. ELEMENTARY SPANISH.—In this course stress will be laid upon conversation as well as upon grammar, reading and composition. The instructor will insist upon careful pronunciation and accurate translation. During the spring semester collateral reading may be assigned at the discretion of the instructor. *Five hours a week.*

3, 4. INTERMEDIATE SPANISH.—For second year students. The chief aim of these courses is to acquire sufficient facility in the use of the language so as to be able to read at sight ordinary prose, to gain some acquaintance with present day literature, and to prepare the way for the study of the classics. Collateral reading will be assigned. There will be constant oral practice based on the texts read and much attention will be given to the mastery of idioms. *Three hours a week.*

5, 6. ELEMENTARY COMPOSITION AND CONVERSATION.—This course may be taken by second year students who are pursuing at the same time Courses 3 and 4. Stress will be laid on review of the grammar, dictation and composition. Students may be required to memorize selections in prose and verse. Attention will be given to the acquisition of a practical vocabulary. *Two hours a week.*

7, 8. COMMERCIAL SPANISH.—For third year students. The object of this course is to acquaint the student with the forms of private and commercial correspondence and the vocabulary used in the business world. Considerable reading of selections dealing with industrial and commercial life will be required. Given in alternate years; not offered in 1922-23. *Two hours a week.*

9. THE HISPANIC AMERICAN COUNTRIES.—After a survey of the history of the Hispanic nations of the New World their civilization will be

considered in its intellectual and moral as well as its material aspects. A study will be made of the industries, commerce, customs, social institutions, literature and ideals of the countries where Spanish and Portugese are spoken. Lectures, assigned reading and recitations. No reading in Spanish is required, and students who complete this course may receive credits for the social science group but not for language. *Two hours a week.*

51, 52. THE SPANISH NOVEL.—Selections from Cervantes and from representative novelists of the modern period such as Fernán Caballero, Valera, Pérez Galdós, Pardo Bazán and Blasco Ibáñez form the subject of study. Collateral reading, reports and lectures on the history of the novel. Open to students who have completed twenty hours of Spanish. These courses alternate with Courses 55 and 56. *Three hours a week.*

53, 54. ADVANCED COMPOSITION AND CONVERSATION.—A continuation of Courses 5 and 6 for third or fourth year students. Translation from English to Spanish, original compositions on assigned subjects, and oral work of different kinds to secure facility in expression form the basis of these courses. *Two hours a week.*

55, 56. THE SPANISH DRAMA.—These courses consist of a study of the development of the drama and the reading of selected plays representing the "Golden Age," the neo-classic period, the Romantic movement and contemporary dramatists. Lectures, collateral reading and reports. Open to students who have completed twenty hours of Spanish. These courses alternate with Courses 51 and 52. *Three hours a week.*

57, 58. HISTORY OF SPANISH LITERATURE.—The main facts and theories of the subject will be presented by means of lectures in Spanish. Works of representative Spanish authors and modern books of criticism will be assigned for reading. Some attention will be given at the end to Spanish American literature. *Three hours a week.*

66. THE TEACHING OF SPANISH.—The course is devoted to a consideration of problems and methods of teaching Spanish in the secondary school and of the necessary equipment of the teacher for this work. It includes a study of the characteristic Spanish institutions and of the geography of Spain, a systematic presentation of the principles of Spanish phonetics, the examination of text books, and attention to bibliography. Lectures, investigations, and reports. Open to juniors and seniors. Given in the spring semester of 1923 and alternate years. *Three hours a week.*

101. OLD SPANISH.—The student will study the laws governing the development of Spanish from popular Latin, and its growth from the beginning to the present day. As many selections will be read from early authors as time permits. Some acquaintance with Latin is presupposed. *Two hours a week.*

Italian

1, 2. ELEMENTARY ITALIAN.—This is a course in Italian grammar, reading, and composition designed for those who wish to begin as soon as possible the study of the Italian classics. Students will not be permitted to elect Elementary Italian and Elementary Spanish in the same year. *Three hours a week.*

30. MODERN ITALIAN PROSE.—Selections from representative authors will be studied in an endeavor to acquire as much facility in reading as possible. Review of the grammar, composition and collateral reading. Offered in alternate years. *Three hours a week.*

52. DANTE.—The basis of the reading in this course will be the *Inferno.* The life and times of Dante and his influence in literature will be treated by means of lectures and reports. Open to students who have taken Course 3 or an equivalent. Given in alternate years. *Three hours a week.*