1873

Catalogue of the Maine State College of Agriculture and the Mechanic Arts, 1873-4

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CATALOGUE
OF THE
MAINE STATE COLLEGE
OF
AGRICULTURE AND THE MECHANIC ARTS,
ORONO, MAINE.
1873-4.
CATALOGUE

OF THE

OFFICERS AND STUDENTS

OF THE

MAINE STATE COLLEGE

OF

AGRICULTURE AND THE MECHANIC ARTS,

ORONO, MAINE

1873—4.

BANGOR:
PRINTED BY SAMUEL S. SMITH & SON.
1873.
MAINE STATE COLLEGE.

TRUSTEES.

Hon. Abner Coburn, Skowhegan,
President.

Hon. Lyndon Oak, Garland,
Secretary.

Hon. William P. Wingate, Bangor,
Hon. Samuel F. Perley, Naples,
Hon. James C. Madigan, Houlton,
Hon. Thomas S. Lang, Augusta.
Rev. Samuel F. Dike, Bath.

Hon. Samuel L. Boardman, Augusta,
Secretary Maine Board of Agriculture, and ex-officio Member of Board of Trustees.

Hon. Isaiah Stetson, Bangor,
Treasurer.

Executive Committee:
Hon. William P. Wingate,
Hon. Lyndon Oak,
Hon. Samuel F. Perley.

Examining Committee:
Hon. Sidney Perham,
Rev. Samuel F. Dike,
Hon. A. M. Robinson.
MAINE STATE COLLEGE.

FACULTY.

Rev. CHARLES F. ALLEN, D. D.
President and Professor of English Literature,
Mental and Moral Science.

MERRITT C. FERNALD, A. M.
Professor of Mathematics and Physics.

WILLIAM A. PIKE, C. E.
Professor of Engineering.

CHARLES H. FERNALD, A. M.
Professor of Natural History.

RANDAL WHITTIER,
Ass't Prof. of Modern Languages and Mechanics.

GEORGE H. HAMLIN, C. E.
Assistant Teacher of Engineering.

JOSEPH R. FARRINGTON,
Farm Superintendent.

X. A. WILLARD, A. M.
Lecturer on Dairy Farming.

JAMES J. H. GREGORY, A. M.
Lecturer on Market Farming and Gardening.

CAPT. JAMES DEANE,
Military Instructor.

JOHN PERLEY,
Instructor in Book Keeping and Commercial Forms.

Rev. A. W. REED,
Steward.

MAINE STATE COLLEGE.

STUDENTS.

SENIOR CLASS.

NAME.
Allen, William Albert,
Balentine, Walter,
Gerrish, Willie Herbert,
Gurney, John Irvine,
Hunter, Rodney David,
*Reed, William Henry,
Ramsdell, Louise Hammond,

RESIDENCE.
Orono.
Waterville.
Portland.
Foxcroft.
Clinton.
Springfield.
Atkinson.

*Deceased.
JUNIOR CLASS.

NAME.
Bates, Solomon Wheaton,
Bumps, Wilbur,
Clapp, Samuel Hervey,
Coburn, Lewis Farrin,
Colesworthy, Charles Franklin,
Durham, Charles Frederic,
Goodale, Alfred Montgomery,
Hitchings, Edson Forbes,
Jones, Freeland,
Jordan, Whitman Howard,
Mayo, Edward Doliver,
Mitchell, Allen Gilman,
Mitchell, Albert Eliphalet,
Moore, Fred Lamson,
Rogers, Luther Woodman,
Sewall, Minott Wheelwright,
Shaw, George Moore,
Southard, Louis Carver,
Webb, Wesley,
Work, Edgar Alexander,

RESIDENCE.
Somerset Mills.
Bangor.
Damariscotta.
Brunswick.
Portland.
Munroe.
Saco.
Waterville.
Bangor.
New Gloucester.
S. W. Harbor.
Madison.
Madison.
Sebec.
Stillwater.
St. Albans.
Augusta.
Boston, Mass.
Unity.
Bangor.

NAME.
Abbott, Edmund,
Allen, Charles Plummer,
Bacon, Francis Henry,
Blanding, Edward Mitchell,
Baker, George Haskell,
Crosby, Oliver,
Cowan, Florence Helen,
Cyr Vetal,
Dike, James Edward,
Dike, Willis Oliver,
Estabrooke, Horace Melvin,
Farrington, Arthur Manley,
Foss, George Obed,
Gurney, Frank Paris,
Haines, William Thomas,
Hampton, Henry Fairfield,
Haseltine, Frank Adlam,
Haskell, Newall Prince,
Hopkins, Eugene,
Hubbard, Philip Wardsworth,
Jones, Samuel Messer,
Lewis, Albert Augustus,
Linnell, James Warren,
Long, Herbert Augustine,
Martin, Nelson,
Moody, George Jameson,
MAINE STATE COLLEGE.

Mudgett, Webster, Oak, Charles Edson, Parks, George Daniel, Pierce, Hayward, Pillsbury, Edward Butler, Reed, Frank Radford, Reynolds, Henry Jones, Robinson, Walter Franklin, Rogers, Charles Wilson, Soule, Sidney Smith, Southard, Frank Edwin, Stevens, William Lewis, Whitaker, Frank Pierce, Williams, John Howard, 

Freshmen Class.

NAME. RESIDENCE.
Andrews, Charles Frederic, Biddeford.
Bisbee, Fred Milton, Livermore.
Bunker, Fred Storey, Cambridge.
Burns, Robert Bruce, Fort Fairfield.
Blackinton, Alvah De Orville, Rockland.
Chase, Edson Clifford, Stillwater.
Dow William Wheeler, Dover.
Emery, Alicia Towne, Orono.
Emery, James Thissell, Stillwater.
Freeman, Charles Morse, Portland.
Goud, Frank Herbert, Fort Fairfield.
Gould, Samuel Wardworth, Hiram.

Harvey, Austin Irving, Carmel.
How, Edward S., Portland.
Herring, Menzies F., Dexter.
Larrabee, Edward Chamberlain, Winterport.
Lothrop, Luther Ramsdall, Leeds.
Lovejoy, Ardean, Orono.
Lunt, Joseph Coney, Benton.
Mallett, Fred Bartlett, Fort Kent.
Partridge, Fred Lincoln, Stockton.
Phillips, Fred Foster, Hermon.
Pullen, Fred Hubbard, Foxcroft.
*Reed, Frank Elmon, Springfield.
Roberts, Woodbury Davis, Stockton.
Seavey, Thomas Burnham, Hiram.
Shaw, Samuel, Augusta.
Smullen, Thomas, Bangor.
Town, Charles Elmer, East Dover.
Townsend, Henry Clay, Fort Fairfield.
Weeks, James Walter, Castine.
Weeks, Nellie Estelle, Orono.
Wiggin, Fred Sumner, Fort Kent.
Whitney, William Butler, Stillwater.

SPECIAL COURSE.

Rich, Wilfred Babson, Brooks.

Summary.

Seniors, - - - - - - - - - - - - - - - - - - - 7
Juniors - - - - - - - - - - - - - - - - - - 20
Sophomores, - - - - - - - - - - - - - - - - 41
Freshmen, - - - - - - - - - - - - - - - 34
Special Course, - - - - - - - - - - - - - 1
Total, 103

* Deceased.
MAINE STATE COLLEGE.

OFFICERS OF THE
COLLEGE MILITARY COMPANIES.

MAJORS OF BATTALION,
WILLIAM A. ALLEN.

COMPANY A.

CAPTAIN.
J. Irvine Gurney.

LIEUTENANTS.
1st Walter Balentine.
2d Rodney D. Hunter.

SERGEANTS.
1st Charles F. Colesworthy,
2d Willie H. Gerrish,
3d Edward D. Mayo,
4th Francis H. Bacon.

CORPORALS.
1st S. H. Clapp,
2d J. E. Dike,
3d W. H. Jordan,
4th W. L. Stevens,
5th C. W. Rogers.

COMPANY B.

CAPTAIN.
George M. Shaw.

LIEUTENANTS.
1st Alfred M. Goodale,
2d Edson F. Hitchings.

SERGEANTS.
1st Lewis F. Coburn,
2d Frank P. Gurney.

CORPORALS.
1st Frank H. Goud,
2d Fred H. Pullen,
3d S. W. Gould,
4th F. M. Bisbee.

DESIGN OF THE INSTITUTION.

It is the design of the Maine State College of Agriculture and the Mechanic Arts to give to the young men of the State who may desire it, at a moderate cost, the advantages of a thorough, liberal and practical education. It proposes to do this, by means of the most approved methods of instruction, by giving to every young man who pursues the course of study, an opportunity practically to apply the lessons he learns in the class-room, and by furnishing him facilities for defraying a part of his expenses by his own labor.

By the act of Congress donating public lands for the endowment and maintenance of such Colleges, it is provided that the leading object of such an Institution shall be, “without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts.”

While the course of study fully meets this requisition, and is especially adapted to prepare the student for agricultural and mechanical pursuits, it is designed that it shall be also sufficiently comprehensive, and of such a character as to secure to the student the discipline of mind and practical experience necessary for entering upon other callings or professions.
CONDITIONS OF ADMISSION.

Candidates for admission to the Freshmen Class, must be not less than fifteen years of age, and must pass a satisfactory examination in Arithmetic, Geography, English Grammar, History of the United States, Algebra as far as Quadratic Equations, and five books in Geometry.

Although the knowledge of Latin is not required as a condition of admission, yet the study of that language is earnestly recommended to all who intend to enter this Institution.

Candidates for advanced standing must sustain a satisfactory examination in the preparatory branches, and in all the studies previously pursued by the class they propose to enter.

Satisfactory testimonials of good moral character and industrious habits will be rigidly exacted.

COURSES OF INSTRUCTION.

Four full Courses are provided, viz: A Course in Agriculture, a Course in Civil Engineering, a Course in Mechanical Engineering, and an Elective Course. The studies of the several Courses are essentially common for the first two years.

Branches marked thus, (E) are Elective, and from them students may select, with the advice of the Faculty, to make up the required number (three) of daily exercises.

There will be regular exercises during the four years in English Composition, Declamation, and Military Tactics. Lectures will be given to the Freshmen Class on Physics, Meteorology, Physical Geography and Botany. To the Sophomore Class on Chemistry, Horticulture and Practical Agriculture. To the Junior Class, on Anatomy, Physiology, Astronomy, and English Literature. To the Senior Class on Rural Law, Mineralogy, Geology, Stock Breeding, Cultivation of the Grasses and Cereals.

ELECTIVE COURSE.

Students in the Elective Course will Pursue the required studies common to all the other courses, and may select from the other courses and the elective studies, to make up their full course.

SPECIAL COURSE.

Students may be received for less time than the full course, and may select from the studies of the first, second, or third term of any year, such branches of study as they choose, provided they are qualified to pursue them successfully.

Students in the Special Course will not be entitled to a Degree, but certificates of proficiency may be given them.

DEGREES CONFERRED.

The full course in Civil Engineering entitles to the Degree of Civil Engineer; the full course in Mechanical Engineering to the Degree of Mechanical Engineer; the full course in Agriculture, or the full Elective Course to the Degree of Bachelor of Science.
# FIRST YEAR

**FIRST TERM.**
- Physical Geography.—Guyot.
- Meteorology.
- Algebra.—Robinson.
- Rhetoric.—Haven.

**SECOND TERM.**
- Physics.—Ganot.
- General Properties of Bodies.
- Hydrostatics.
- Pneumatics.
- Acoustics.
- Algebra.—Robinson.
- Botany.—Gray.
- Book-Keeping.—Commercial Forms.

**THIRD TERM.**
- Physics.—Ganot.
- Heat.
- Light.
- Electricity.
- Geometry.—Chauvenot.
- Botany.—Gray.
- Horticulture.

**SECOND YEAR.**
- Chemistry.—Elliot & Storer.
- Trigonometry.—Chauvenot.
- Navigation.
- Botany.—Gray.
- Horticulture.
- Elements of Agriculture.—Waring.
- (E.) Chemistry.—(Quantitative Analysis.)
- (E.) History of France.
- English Literature.
- French.—Magill.
- Free Hand Drawing.
- Mechanical Drawing.

**THIRD YEAR.**
- Chemistry.—(Quantitative Analysis.)
- (E.) History of England (Elizabethan Age.)
- French Literature.
- Surveying.—Gillespie.
- Computing Areas.
- Dividing Land.—Leveling.
- Topographical Drawing.
- French.—Magill.

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**COURSE IN AGRICULTURE.**

**FIRST TERM.**
- Human Anatomy, Physiology and Hygiene.—Huxley.
- Origin, Preparation and Analysis of Soils, Fertilizers, Ashes, &c.
- French.—Magill.

**SECOND TERM.**
- Zoology.—Nicholson.
- Farm Implements.
- Mechanical Cultivation of the Soil.
- Farm Drainage.—Waring.
- (E.) German.

**THIRD TERM.**
- Mechanics.—Peck.
- Dairy Farming.—Flint.
- Etonology.—Packard.
- (E.) Logic.
- (E.) German.

**COURSE IN CIVIL ENGINEERING.**

**FIRST TERM.**
- Human Anatomy, Physiology and Hygiene.—Huxley.
- Analytical Geometry.—Loomis.
- Engineering.
- Henck's Field Book, Survey of Roads and Railways.
- Computation of Earthwork and Masonry.
- Mechanical Drawing.
- French.—Magill.

**SECOND TERM.**
- *(E.) Zoology.—Nicholson.
- Differential Calculus.—Loomis.
- Descriptive Geometry.—Warren.
- Mechanical Drawing.
- Engineering.—Rankine.
- Construction of Roads Railways and Canals.
- Hydraulics.
- *(E.) German.

**THIRD TERM.**
- Integral Calculus.—Loomis.
- Descriptive Astronomy.—White.
- The Earth, the Sun, the Moon, Gravitation, Planets, Comets, Nebula.
- Descriptive Geometry.—Warren.
- Mechanics.—Rankine.
- Drawing.
- Plans, Profiles, Elevations, Sections, &c.
- *(E.) Logic.
- *(E.) German.

* Zoology is only elective to the Engineering Classes.
### COURSE IN MECHANICAL ENGINEERING.

<table>
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<th>FIRST TERM</th>
<th>SECOND TERM</th>
<th>THIRD TERM</th>
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### FOURTH YEAR.

**COURSE IN AGRICULTURE.**


### COURSE IN CIVIL ENGINEERING.

<table>
<thead>
<tr>
<th>FIRST TERM</th>
<th>SECOND TERM</th>
<th>THIRD TERM</th>
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* Elective only for the Civil and Mechanical Engineers.

**COURSE IN MECHANICAL ENGINEERING.**

SPECIAL FEATURES OF THE COURSE.

The prominence given to the Natural Sciences, and the practical element associated with nearly all departments of study, cannot fail to render the course especially valuable.

Nearly a year is devoted to Botany and Horticulture, commencing early in the spring, and continuing till late in autumn. This course embraces a thorough drill in Botanical Analysis; the study of plants as to their relative importance and geographical distribution; the study of those having commercial or medical value; of those which are cultivated for ornament, and also those which are detrimental, as weeds and poisonous plants. The students learn practically the operations and processes in the department of Horticulture.

A year and a half is devoted to Chemical Physics and Chemistry, commencing with the third term of the first year. The course in Chemistry proper will include General, Analytical, and Agricultural Chemistry. Under Analytical Chemistry will be taken up General Analysis, Use of Blow-pipe, Analysis of Minerals, Analysis of Soils, Ashes of Plants, Fertilizers and Farm Products.

Students in Chemistry devote two hours a day to Analysis, under the direction of the Professor of Chemistry, thus requiring facility in conducting experiments, and securing a practical knowledge of the methods employed in chemical investigations.

Under Agricultural Chemistry will be considered Composition of Soils, Relations of Air and Moisture to Vegetable Growth, Food of Plants, Chemical Changes during Vegetable Growth, Chemistry of Farm Processes, Methods of Improving Soils, and various other topics which may properly be treated of under this department.

Other departments of science will be studied and taught, so far as may be, with special reference to their practical bearing, or their relations to Agriculture and the Useful Arts.

LABOR.

It is a peculiarity of the College, that it makes provision for labor, thus combining practice with theory, manual labor with scientific culture. Students in this Institution are required to labor a certain portion of each day, not exceeding three hours, for five days in the week.

The labor is designed to be as much as possible educational, so that every student may become familiar with all the forms of labor upon the farm and in the gardens.

Students receive compensation for their labor according to their industry, faithfulness and efficiency, the educational character of the labor being also taken into account. The maximum amount paid will be thirty cents for three hours labor.

MILITARY.

Thorough instruction is given in Military Science by a competent Officer. The instruction extends through the whole College Course and embraces personal, squad, company and battalion drill. The students are enrolled in companies, and choose their officers. Arms are furnished by the State. The uniform of the students is similar to that of Cadets at West Point.

LOCATION.

The College has a pleasant and healthful location intermediate between the village of Orono and Upper Stillwater, and about a mile from each. Stillwater River, a tributary of the Penobscot, flows a short distance in front of the buildings, forming the western boundary of the college farm, and adding much to the beauty of the surrounding scenery.
The European and North American Railway, over which trains pass several times each day, has a station at the village of Orono. The College is within nine miles of the city of Bangor, and is consequently easily accessible from all parts of the State.

FARM AND BUILDINGS.

The College Farm contains three hundred and seventy acres of land of high natural productiveness and of great diversity of soil, and is therefore, well adapted for the experimental purposes of the Institution.

White Hall, the building first erected, contains eighteen rooms and affords excellent accommodations for a limited number of students. The lower rooms of this building are appropriated to general and class purposes.

Brick Hall contains forty-eight rooms. The Boarding House connected with the College Buildings, is open to students. With these buildings, the Institution furnishes desirable accommodations for one hundred and twenty-five students.

The Chemical Laboratory contains two apparatus rooms, a lecture room, a cabinet, a library and weighing room, a recitation and rooms for analytical and other purposes, and is in all respects admirably adapted to the wants of the Chemical and Mineralogical departments.

APPARATUS.

The College is furnished with new and valuable apparatus for the departments of Physical Geography, Natural Philosophy and Chemistry and for Surveying and Civil Engineering, to which additions will be made as the exigencies of the several departments require. Models have been obtained from the United States Patent Office that serve for purposes of instruction.

LIBRARY.

The Library already contains fifteen hundred volumes, some of which have been obtained by purchase, while others have been kindly given to the College. The volumes recently secured through the liberality of Gov. Coburn, and the gifts of Mrs. Flagg of Hallowell, Mr. Thatcher of Bangor, and others, are a valuable addition to this department. It is earnestly hoped that so important an auxiliary in the education of students in the College will not be disregarded by the people of the State, but that liberal contributions will be made to this collection of books, not only of Agricultural and Scientific works, but also works of interest to the general reader.

READING ROOM.

The Reading Room is supplied with a number of valuable newspapers and periodicals. Grateful acknowledgment is here-with made for the following named papers generously sent by the proprietors to the College:

- Sunrise, Presque Isle, Maine.
- Piscataquis Observer, Dover, Maine.
- American Sentinel, Bath, Maine.
- Maine Farmer, Augusta, Maine.
- Dexter Gazette, Dexter, Maine.
- North Star, Caribou, Maine.
- Somerset Reporter, Skowhegan, Maine.
- Aroostook Times, Houlton, Maine.
- Kennebec Journal, Augusta, Maine.
- York County Independent, Saco, Maine.
- Bangor Weekly Courier, Bangor, Maine.
- Maine Democrat, Biddeford, Maine.
- Santa Barbara Press, Santa Barbara, Cal.
- Ohio Farmer, Cleveland, Ohio.
- Southern Farmer, Memphis, Tenn.

The following are furnished by Subscription:

- Edinburgh Review.
- Westminster Review.
- Blackwood's Magazine.
CABINET.

Rooms have been fitted up with cases for Minerals, and specimens of Natural History, and several hundred specimens have been presented to the College. The valuable private Cabinet of Prof. C. H. Fernald is placed in these rooms and is accessible to the students. All specimens presented will be properly credited and placed on exhibition. Rocks illustrating the different Geological formations, and minerals found within the State are particularly solicited. Large additions have been made during the past year.

LITERARY SOCIETIES.

Flourishing societies have been organized by the students of the College, which hold weekly meetings for declamations, discussions, and other literary exercises.

PUBLIC WORSHIP.

All students are required to attend daily prayers at the College, and public worship on the Sabbath at some one of the neighboring churches, unless excused by the President.

EXPENSES, AND MEANS OF DEFRAYING THEM.

Tuition is free to students from all parts of the State. Those from other States will be charged twelve dollars per term. Rooms are free, and each room is furnished with a bedstead, mattress, table, sink and chairs. All other bedding and furniture must be supplied by the students, who will also furnish their own lights. Board, washing and fuel will be furnished at cost. The price of board has been, hitherto, three dollars per week, the fuel and washing fifty cents per week. These bills, with those for incidental expenses, are payable at or before the close of each term.

The terms are so arranged that the long vacation occurs in the winter, that students may have an opportunity to teach during that time. By means of the amount thus earned, together with the allowance for labor, the industrious and economical student can cancel the greater part of his college expense.

GENERAL STATEMENT.

Students are required to make their own beds and sweep their own rooms.

Each student is required, at the commencement of his College course to deposit with the Treasurer of the College, a Bond for $100, signed by responsible sureties to secure the payment of his board bill and any incidental charges.

Strict conformity to college regulations and requirements is the only condition of continued membership of the College.

Candidates for the next class should make early application.
MAINE STATE COLLEGE.

CALENDAR.

1873—Aug. 28—Thursday, First Term commenced.

" Nov. 25 and 26—Tuesday and Wednesday, Examination.

First Term closes.

Vacation of ten weeks.

1874—Feb. 5—Thursday, Second Term commences.

" April 28 and 29—Tuesday and Wednesday, Examination.

Second Term closes.

Vacation of one week.

" May 7—Thursday, Third Term commences.

" Aug. 3 and 4—Monday and Tuesday, Examination.

" Aug. 3—Monday, Exhibition Junior and Sophomore Classes.

" Aug. 5—Wednesday, Commencement.

" Aug. 6—Thursday, Examination for admission to College.

Vacation of three weeks.

" Aug. 25—Examination for admission to College.

" Aug. 27—Thursday, First Term commences.

" Nov. 24 and 25—Tuesday and Wednesday, Examination.

First Term closes.

Vacation of ten weeks.