

Agricultural College Bulletin

SERIES 1.

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OREGON AGRICULTURAL COLLEGE

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The Campus.



Administration Building (See page 15.)

ANNUAL CATALOGUE

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OF THE

AGRICULTURAL COLLEGE

OF THE

STATE OF OREGON

FOR

1902 - 1903

AND

ANNOUNCEMENTS FOR 1903-1904

CORVALLIS, OREGON

AGRICULTURAL COLLEGE PRINTING OFFICE
GEO. B. KEADY, MANAGER
1903 *8*

Calendar==1903=1904.

SEPTEMBER.							JANUARY.							MAY.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
...	...	1	2	3	4	5	...	...	...	...	...	1	2	...	...	...	...	...	...	...
6	7	8	9	10	11	12	3	4	5	6	7	8	9	1	2	3	4	5	6	7
13	14	15	16	17	18	19	10	11	12	13	14	15	16	8	9	10	11	12	13	14
20	21	22	23	24	25	26	17	18	19	20	21	22	23	15	16	17	18	19	20	21
27	28	29	30	24	25	26	27	28	29	30	22	23	24	25	26	27	28
...	31	29	30	31
OCTOBER.							FEBRUARY.							JUNE.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
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4	5	6	7	8	9	10	7	8	9	10	11	12	13	5	6	7	8	9	10	11
11	12	13	14	15	16	17	14	15	16	17	18	19	20	12	13	14	15	16	17	18
18	19	20	21	22	23	24	21	22	23	24	25	26	27	19	20	21	22	23	24	25
25	26	27	28	29	30	31	28	29	26	27	28	29	30
...
NOVEMBER.							MARCH.							JULY.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
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8	9	10	11	12	13	14	13	14	15	16	17	18	19	10	11	12	13	14	15	16
15	16	17	18	19	20	21	20	21	22	23	24	25	26	17	18	19	20	21	22	23
22	23	24	25	26	27	28	27	28	29	30	31	...	...	24	25	26	27	28	29	30
29	30	...	...	...	...	...	...	...	...	...	...	...	...	31	...	...	...	...	...	...
DECEMBER.							APRIL.							AUGUST.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
...	...	1	2	3	4	5	...	...	...	...	...	1	2	...	1	2	3	4	5	6
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27
27	28	29	30	31	...	...	24	25	26	27	28	29	30	28	29	30	31	...	...	...

CALENDAR.

FIRST TERM.

Entrance Examinations for Freshmen, Friday and Saturday, September 18-19, 1903.

Registration, Monday, September 21, 1903.

Recitations begin Tuesday, September 22, 1903.

Final Examinations, Monday and Tuesday, December 21-22, 1903.

SECOND TERM.

Registration, Monday, January 4, 1904.

Recitations begin Tuesday, January 5, 1904.

Final Examinations, Wednesday and Thursday, March 23-24, 1904.

THIRD TERM.

Registration, Monday, March 28, 1904.

Recitations begin Tuesday, March 29, 1904.

Baccalaureate Sermon, Sunday, June 12, 1904.

Final Examinations, Monday and Tuesday, June 13-14, 1804.

Senior Class Day, Tuesday, June 14, 1904.

Commencement Day, Wednesday, June 15, 1904.

NOTE.—All absences will be charged from the first class recitation of the term. At the close of each term of school students will receive certificates of standing from their instructors. Standings of students will be sent to parents or guardians on application to the President or the Registrar.

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BOARD OF REGENTS
OF THE
OREGON AGRICULTURAL COLLEGE
AND
EXPERIMENT STATION.

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HON. J. K. WEATHERFORD, <i>President</i>	Albany.
HON. JOHN D. DALY, <i>Secretary</i>	Portland.
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APPOINTED BY THE GOVERNOR.

	TERM EXPIRES.
HON. BENTON KILLIN.....	Portland, 1903.
HON. J. M. CHURCH	La Grande, 1903.
HON. JOHN D. OLWELL.....	Central Point, 1903.
HON. WM. E. YATES.....	Corvallis, 1907.
HON. JOHN D. DALY.....	Portland, 1907.
HON. B. F. IRVINE	Corvallis, 1907.
HON. J. T. APPERSON.....	Parkplace, 1910.
HON. W. P. KEADY.....	Portland, 1910.
HON. J. K. WEATHERFORD.....	Albany, 1910.

STANDING COMMITTEES
OF THE
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Benton Killin, *Chairman*, J. M. Church, J. D. Olwell.

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Professor of English and Literature.

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Professor of German and Instructor in English.

GRANT ADELBERT COVELL, M. E.,
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Professor of History and Latin.

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EDWARD RALPH LAKE, M. S.,
Professor of Botany and Horticulture.

ABRAHAM LINCOLN KNISELY, M. S.,
Professor of Chemistry.

HELEN VIRGINIA CRAWFORD, B. S.,
Professor of Elocution.

GEORGE COOTE,
Professor of Floriculture and Gardening.

JOHN FULTON, B. S.,
Professor of Assaying and Assistant Professor of Chemistry.

(In Professor Fulton's absence during the past year, this chair has been filled by Professor H. D. Gibbs.)

FACULTY AND INSTRUCTORS.

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IDA BURNETT CALLAHAN, B. S.,
Assistant Professor of English.

FRED LEROY KENT, B. AGR.,
Assistant Professor of Agriculture and Dairying.

ERNEST CHESNEY HAYWARD, E. E.,
Assistant Professor of Mechanical and Electrical Engineering.

CHARLES LESLIE JOHNSON, B. S.,
Instructor in Mathematics.

EMILE FRANCIS PERNOT,
Professor of Bacteriology.

CLARENCE MELVILLE MCKELLIPS, PH. C.,
Assistant Chemist and Instructor in Pharmacy.

WILLIAM THOMAS SHAW, B. AGR., M. S.,
Instructor in Biology.

MARK CLYDE PHILLIPS, B. M. E.,
Instructor in Mechanical Drawing and Ironwork.

FARLEY DOTY McLOUTH, B. S.,
Director of the Art Department.

DANIEL WILLIAM PRICHARD,
Instructor in Woodwork.

MAJOR FRANK EDWARDS, B. M. E., Commandant,
Military Science and Tactics.

*JACOB BRUCE PATTERSON, A. B.,
Physical Director.

MORDAUNT GOODNOUGH,
Director of Music.

MARY ELIZABETH AVERY,
Instructor in Sewing.

THOMAS HENRY CRAWFORD, A. M.,
Commerce.

HELEN LUCILE HOLGATE, B. H. E.,
Stenography and Typewriting.

*Upon the resignation of Professor Patterson, Mr. W. O. Trine assumed the duties of this position.

OTHER OFFICERS.

HOMAS HENRY CRAWFORD, A. M.,
Clerk and Purchasing Agent.

RICHARD JOEFFREY NICHOLS,
Librarian.

GEORGE BRELSFORD KEADY,
Printer.

HELEN LUCILE HOLGATE, B. H. E.,
Stenographer.

WILLIAM THOMAS JOHNSON, B. S. A.,
Assistant Florist and Gardener.

OTTO FRANK LUDWIG HERSE,
Assistant Printer.

WALTER JAMES KENT,
Foreman of the Farm.

JOHN ANDERSON SPANGLER,
Engineer.

ELLSWORTH ERWIN,
Janitor.

FACULTY COMMITTEES.

- ACCREDITED SCHOOLS.—Pernot, Covell, McLouth.
- ADVANCED STANDING.—Knisely, Kent, Shaw, Phillips.
- ADVISORY COMMITTEE.—Covell, Chamberlin, Horner, Withycombe.
- ATHLETICS.—Trine, Hayward, Shaw, Fulton, McLouth.
- DISCIPLINE.—Skelton, Horner, Chamberlin.
- EMPLOYMENT.—Coote, Withycombe, Knisely, Edwards.
- ENTRANCE EXAMINATIONS.—Dean Chamberlin, Skelton, Berchtold, Johnson, Callahan.
- GRADUATES.—Berchtold, Kent, Phillips.
- LECTURES AND LITERARY ENTERTAINMENTS.—Helen V. Crawford, Edwards, Horner, Shaw.
- LEGISLATION.—Withycombe, McLouth, Covell.
- LIBRARY.—Callahan, Withycombe, Holgate, Horner.
- LITERARY SOCIETIES.—Snell, McKellips, Pernot.
- MASTER'S DEGREE.—Lake, Skelton, Cordley.
- MUSIC.—Thomas H. Crawford, Chamberlin, Fulton, Prichard, Goodnough, Holgate.
- PUBLICATIONS.—Horner, Berchtold, Lake, Cordley.
- SOCIAL ENTERTAINMENTS.—Cordley, Chamberlin, Kent, Johnson.
- TERM SCHEDULES.—Fulton, Horner, Johnson.

THE STATION STAFF.

THOMAS MILTON GATCH, M. A., PH. D.,
President.

JAMES WITHYCOMBE, M. AGR.,
Director and Agriculturist.

ARTHUR BURTON CORDLEY, M. S.,
Entomologist.

EDWARD RALPH LAKE, M. S.,
Botanist and Horticulturist.

GEORGE COOTE,
Florist and Gardener.

ABRAHAM LINCOLN KNISELY, M. S.,
Chemist.

JOHN FULTON, B. S.,
Assistant Chemist.

CLARENCE MELVILLE MCKELLIPS, PH. C.,
Assistant Chemist.

FRED LEROY KENT, B. S., AGR.,
Assistant Agriculturist and Dairy Instructor.

EMILE FRANCIS PERNOT,
Bacteriologist.

THOMAS HENRY CRAWFORD, A. M.,
Clerk and Purchasing Agent.

HELEN LUCILE HOLGATE, B. H. E.,
Stenographer.

Oregon Agricultural College.

HISTORY.

By an act approved by President Lincoln, July 2, 1862, a grant of land was made by the United States to each state in the Union in the amount of thirty thousand acres, or its equivalent, for each Senator and Representative to which the state was entitled by the apportionment of the census of 1860.

The proceeds under this act were to constitute a perpetual fund the principal of which was to remain forever undiminished; but interest arising from said fund in each state, which should avail itself of the benefits of the act, was to be applied inviolably to the support and maintenance of a "College where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such a manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Ninety thousand acres of land were apportioned to Oregon, and by an Act approved October 9, 1862, the Legislative Assembly of Oregon accepted the provisions of the congressional law.

In 1868 the legislature appointed three commissioners to locate the land, which was done and the report submitted in 1870.

There were in 1868 no state colleges in Oregon, and the same legislature that provided for the location of the land gave the use of the funds that should arise from the sale of the land to the Corvallis College, in Benton county, an institution of learning under the control of the M. E. Church, South.

None of the land of the land grant having as yet been sold, the legislature made an annual appropriation to support the school until the fund to be derived from the grant should become sufficiently large for that purpose. The amount appropriated, while not large, accomplished the purpose: It kept "the feeble spark from expiring."

In 1885 the church voluntarily relinquished its claim on the funds of the Agricultural College, and the state resumed control vesting the general control of the college in a board of regents, granting full power to that end.

In the summer of 1887 the corner-stone of a brick structure was laid by the Governor of Oregon amid imposing ceremonies. This structure, the new Agricultural College, erected by citizens of Benton county on the Agricultural College farm, was the nucleus around which other buildings soon began to cluster as necessity and growing interests demanded.

For a year or two there was ample room; but like a healthy plant placed in good soil, the institution expanded, until the original thirty-five acres have increased to nearly two hundred, and the first structure now proudly surveys its ten descendants.

THE MORRILL ACT.

On August 30, 1890, "An Act" was passed by Congress "to apply a portion of the proceeds of the public lands to

the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July 2, 1862."

This act provided that in 1890, \$15,000 should be paid to these land grant colleges and that the amount so appropriated should be increased by the sum of \$1,000 annually for ten years, and that thereafter the amount annually appropriated should continue to be \$25,000.

It is provided in this act that this money shall be "applied only to instruction in agriculture, the mechanic arts, the English language and the various branches of mathematical, physical, natural and economic sciences with special reference to their application in the industries of life, and to the facilities for such instruction." But it is provided that "no portion of said moneys shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings."

THE HATCH ACT.

In addition to the above, this college receives from the United States, under the "Hatch Bill" of 1887, the sum of \$15,000 a year for experimenting in agriculture. With this sum it supports an agricultural experiment station in connection with the college. As this "Hatch Fund" is used entirely for experiment work, it adds nothing to the income available for educational purposes. But the experiment station is valuable to students in agriculture in giving them practical illustration in many agricultural and horticultural processes.

LOCATION.

The State Agricultural College is located at Corvallis, Oregon, near the head of navigation on the Willamette river. The city, as its name indicates, is in the heart of this beautiful valley. To the east, on the distant horizon, may be seen the Cascades, with their snow-capped peaks, while to the west, and near at hand, is the Coast range. Mary's Peak, the tallest in the range, is covered with snow for several months of the year, and, though twenty miles away, adds beauty to the scene.

Corvallis is located on high ground, is healthful, and has not been visited by any dangerous, epidemic diseases. It is accessible by rail from the east, west, north and south.

BUILDINGS AND GROUNDS.

CAMPUS AND FARM.

The college grounds comprise in all 184.32 acres. The campus of 39.57 acres is tastefully laid out and adorned with trees, shrubbery, flower gardens, walks, and drives, and is intended eventually to be ornamented with all the various kinds of trees and shrubs of the State. On the campus are the grounds for military drill, base ball, foot ball, lawn tennis, bicycle track, golf and general athletics. The college farm, which is to the west of the administration building, consists of 144.75 acres. The farm is provided with barns, silos, piggery, tool house, implements and stock, sufficient for the purpose of practical instruction in agriculture. One hundred acres of the farm are devoted to a variety of farm crops, grassplats, orchards, berry and vegetable plats, illustrative of the studies and experiments in agriculture and horticulture.

BUILDINGS.

(Extract from the annual report, of Hon. James, K. Weatherford, president of the Board of Regents, dated July 16, 1902.)

“The Administration Building was erected by the citizens of Benton County, and with $39\frac{1}{2}$ acres of ground donated to the State of Oregon, as an inducement to the people of the State to permanently locate the State Agricultural College at Corvallis. It is a three story brick building containing fourteen rooms suitably arranged and well adapted for school purposes. It is of the estimated value of \$25,000.00. It is situated on a small hill in a commanding position and is a beautiful, substantial and imposing building.

“The Agricultural Hall is nearing completion [now completed] and will be finished and ready for occupancy by the opening of the school year 1902. It is a three-story Oregon gray granite and sandstone building 85x125 feet and is situated about 150 yards southeast of the Administration Building. It is intended for an assembly hall for the Agricultural and Horticultural classes, laboratories and class rooms and for all purposes connected with agriculture and chemistry and the Experiment Station. When completed it will cost about \$42,000.00. This is probably the best building on the ground.

“Mechanical Hall is located on the northeast and about 150 yards distant from the Administration Building. It is constructed of Oregon gray granite and sandstone. It is two stories high, 90x100 feet. It is a fine substantial building, well arranged and admirably adapted for the purpose for which it is used. It is valued at \$23,000.00.

“The Armory is situated south of the Administration

Building some 200 yards. This is a large two story wooden structure 70x120 feet. It is used for public gatherings, for armory purposes, gymnasiums, etc. It is valued at \$10,000.

"Cauthorn Hall is a two-story wooden structure intended for a home for young men attending the College and will accommodate 100 persons. It is valued at \$15,000.00.

"Alpha Hall is a frame two-story building, designed as a home for young ladies attending College and will accommodate 40 persons. It is valued at \$4,000.00.

"Horticultural Building stands north of the Administration Building about 200 yards, and is used as class rooms and has laboratories and green houses connected therewith. It is, including laboratories, valued at \$2,500.00.

"The Chemistry Building is situated just south of the Administration Building and is a medium sized frame building of the value of \$4,000.00.

"West of the Administration Building and about 200 yards distant, is located the power house and blacksmith shop, a one story brick structure, large and roomy, valued at \$6,000.00.

"North of the Administration Building is situated the heating plant. The building is of brick and the plant consists of two boilers each of 75 horse power, of superior make and quality. From this plant all the buildings on the ground are heated, by means of pipes conducting the heat underground to the various buildings. The buildings and machinery and heating apparatus are valued at \$26,000.00.

"The water supply is obtained from wells immediately west of the Administration Building by means of pumps operated by steam engines stationed in the power house. The machinery and buildings connected therewith are of the value of \$2,000.00.



6. Alpha Hall—Mrs. E. C. Hayward, Matron. 5. Cauthorn Hall.



13. Horticultural Hall. 15. Armory. 11. Heating Plant.

LIGHTS.

"Electricity is generated at the power house by steam power and is conducted to all of the buildings belonging to the College. The complete plant is of the probable value of \$3,000.00.

"Mechanical Hall is supplied with a sufficient amount of the latest improved machinery to teach mechanism in its various branches most successfully, and is valued at \$12,000.00.

CREAMERY.

"The Creamery Building is situated some distance west of the Administration Building, and is a complete model creamery where instruction is given in all that pertains to this great industry. It is of the value of about \$500.00. However, as soon as Agricultural Hall is completed the dairy work will be transferred to that building.

"The farm has also good barns, a number of silos, the usual farm machinery and is of the value of \$2,500.00."

STUDENT LIFE.

CAUTHORN HALL.

Cauthorn Hall, commonly known as the Young Men's Hall, was built in 1891, for the use of young men who desire to live economically while attending school and at the same time enjoy the privileges and refining influences of the cultured home. The hall was named in honor of Senator Thomas Cauthorn, a benefactor of the Oregon Agricultural College. The building, which is conveniently located and amply supplied with hot and cold water, bath rooms, steam heat and electric lights, is sufficiently large to accommodate one hundred persons. The dining

room, kitchen, and club rooms are pleasant and well furnished. Students' rooms are uniformly ten feet wide, and respectively fourteen, seventeen and twenty feet long.

The hall is under the management of Professor and Mrs. J. B. Horner.

To become a member of Cauthorn Hall Club it is necessary for the applicant to furnish satisfactory evidence that he does not use tobacco nor profane language, and that his conduct is gentlemanly at all times.

The cost of living at Cauthorn Hall, including rent, heat, board, etc., is \$2.50 per week payable monthly, in advance. No reduction will be made during the term, save for prolonged absence caused by sickness, when one-half will be deducted.

Each student's room is furnished with a table, chairs, a chest with drawers; and each student is supplied with mattress, springs and a bedstead three feet wide and six feet long. The student is expected to furnish four sheets, two pillowcases, blankets, quilt, pillow, window-blind 3 x 6½ feet, towels, broom, dustpan, washbowl and pitcher, mirror, comb, brushes, tumblers, carpet, pictures and other ornaments that will make his room comfortable and homelike. He should bring a dictionary and such other books as are used for study, for reference, and for profitable entertainment.

The hall is furnished with a reading room which is supplied by the club with choice current literature.

Relatives and visiting friends will be charged 15 cents per meal and 20 cents for lodging.

Cauthorn Hall will be closed during the winter holidays. For further information send for special circular.

ALPHA HALL.

It is the purpose of those having charge of the hall, to make it a comfortable and happy home for the young ladies, surrounding them with such influences as will, during their college course, largely contribute to their welfare and progress.

During the summer vacation, the hall will be thoroughly renovated and improvements made which will add greatly to the convenience and pleasantness, not only of the sleeping apartments, but of the whole house.

The hall is provided with a piano, while the spacious grounds are supplied with tennis courts and croquet sets, for the amusement of the young ladies during hours of recreation.

Each room is furnished with mirror, chest with drawers, bedstead, spring mattress, pillow, two chairs and table. Each student should bring with her, table napkins, towels, bedroom crockery and bedding.

The board will be \$2.50 per week.

Friends visiting students will be charged 15 cents per meal.

Those not willing to observe strictly the two rules of the house—quiet observance of study hours and promptness at all meals—will please not apply for rooms.

SOCIAL LIFE OF THE STUDENTS.

Literary contests are common events, the societies meeting in joint session, with prominent citizens as judges. The Y. M. C. A. and Y. W. C. A. hold their regular sessions at the college every Sunday afternoon. These gatherings aid materially in developing the social and spiritual life of the members. At the beginning of the school year these asso-

ciations conduct a bureau of information and furnish Y. M. C. A. hand-books gratis to all students. Each year a popular course of lectures free to all students is given, under the direction of the faculty, by distinguished speakers from various parts of the state. Vocal and instrumental music intersperse various features of the college work, so that a student in a career of four years may not leave the institution without the refining influences of this important art. Physical culture is encouraged in every way at the gymnasium and on the training grounds. Bowling, fencing, Indian-club swinging, dumb-bell exercises, foot ball, basket ball, base ball, golf and lawn tennis occupy the spare moments of the students in a happy commingling of all classes. These social affairs, although under the direction of a committee of the faculty, are managed by the students who thereby acquire a training in social life destined to be of great value to them.

Corvallis is pre-eminently a college town noted for social clubs, literary societies, and active churches which vie with each other in friendly interest and hospitality toward our young people. More and more as the institution progresses patrons of the college move hither that they may be with their children and at the same time enjoy the refining influences and cultured society of a college community.

SOCIETIES.

The students maintain several literary societies, four for young ladies and four for young gentlemen. These societies are of a semi-fraternal nature, offering to their members social as well as literary advantages. The exercises consist principally of essays, declamations, debates and music. Public and joint meetings are held by permission of the faculty. Many other features of college life, social and liter-

ary, are under their supervision. Students are elected to membership by those already belonging to the societies.

The following is a list of the different societies now in existence:

For young ladies: Sorosis, Pierian, Feronian, Utopian.

For young men: Amicitia, Jeffersonian, Philadelphian, Zetagathian.

The membership of each of these societies is limited to forty. They are all in a flourishing condition.

In March, 1896, the literary societies of the college began the publication of a monthly periodical, the "College Barometer." The enterprise met with marked success, and the paper, controlled entirely by students, now wields a strong influence in all college affairs. During the coming year every effort will be made to improve it and make it of interest not only to those directly connected with the school, but to all who are in touch with literary, scientific and industrial education. The editors will be pleased to receive news of alumni and other persons formerly connected with the college. Brief, pointed notes, accounts of scientific experiments and discoveries, and short, well-written and instructive literary articles are also solicited.

ATHLETICS.

The Oregon Agricultural College is a member of the Northwest Intercollegiate Athletic Association. This association is composed of the leading colleges and universities of the Northwest, organized for the better control of college athletics.

The students also maintain an athletic association known as the Athletic Union of the Agricultural College of Oregon. This organization supports foot-ball, base-ball, basket-ball and track teams and has general charge of all athletics un-

der the supervision of the athletic committee of the faculty.

During the past year a new athletic field has been secured and properly fenced; a neat and commodious grandstand has been erected; an excellent quarter-mile track has been built, and the inclosed area has been thoroughly drained, graded and seeded to make this one of the best athletic fields in the Pacific Northwest.

The training, and the physical condition of all athletes is supervised by the Director of Athletics, Mr. W. O. Trine, who has long been recognized as one of the most efficient trainers on the coast.

GOVERNMENT.

The college does not undertake to prescribe in detail either its requirements or prohibitions. Students are met on a plane of mutual regard and helpfulness. Our appeal is to a proper sense of the proprieties of life and the necessity of organization on such a basis.

Established by a government that recognizes no distinction of religious belief, the Oregon Agricultural College seeks neither to promote any creed nor to exclude any; but it will always do everything in its power to promote the religious spirit and life.

Whenever the college life of any student is such that his influence, directly or indirectly, is injurious to the work of the institution, he will be relieved from further attendance at this college.

All absences will be charged from the first recitation of the term.

COURSE OF LECTURES.

In addition to the regular lectures given in the various departments by members of the faculty, a course of lectures by representative men, is delivered at convenient intervals

during the year. These lectures bring young people in contact with leaders in the various departments of human endeavor; arouse investigation on current topics; stimulate students to emulate the achievements of specialists; give breadth of scholarship to the student and aid in developing the character of the institution. They rank among the most attractive features of college life and are free to all students.

CONDITIONS OF ADMISSION.

To enter the freshman year the applicant must be at least fifteen years of age, and must be able to pass a satisfactory examination in reading, spelling, geography, arithmetic (written and mental), United States history English grammar, and algebra to quadratics.

ADMISSION FROM OTHER COLLEGES.

Students from other colleges must show a certificate of good standing, or honorable dismissal. Such applicants will receive credit for studies pursued in any college authorized to confer degrees, so far as the two courses are equivalent, upon presenting a certificate of standing from the proper officers.

ADMISSION FROM ACCREDITED SCHOOLS.

Graduates from the following accredited schools will be admitted to the freshman year without examination, provided they have completed algebra to quadratics:

Albany,	La Grande,
Astoria,	Lakeview,
Ashland,	Lebanon,
Baker City,	Marshfield,
Bandon (Major Course),	McMinnville,
Bishop Scott Academy,	Medford,
Burns,	Milton,
Coquille Collegiate Institute,	Moro,
Corvallis,	North Yamhill,

Cottage Grove,	Oregon City,
Cove,	Ontario,
Elgin,	Parkplace,
Eugene,	Pendleton,
Forest Grove,	Portland,
Fossil,	Prineville,
Garland Academy,	Roseburg,
Grant's Pass,	Salem,
Heppner,	Santiam Academy,
Hillsboro High School,	Silverton,
Hill's Military Academy.	Summerville,
Hood River	The Dalles,
Independence,	Tillamook,
Jacksonville,	Union,
Klamath Falls,	Wasco.
Lafayette High School,	Woodburn.
Mary B. Allen Select School, Portland.	

The above list is subject to annual revision.

Those applicants who have completed a high school course will be given proper credit for work accomplished, upon presenting satisfactory evidence to the head professors of the departments concerned.

ADMISSION UPON CERTIFICATES AND STATEMENTS.

The holder of a certificate or statement signed by the county school board of examiners certifying that at a regular teachers' examination he received a satisfactory grade to entitle him to a teacher's certificate, may be admitted to all the freshman classes except algebra. He may remove such deficiency in algebra upon furnishing the President with a satisfactory statement from a teacher or school superintendent that the applicant is familiar with the subject of algebra to quadratics; or, upon arrival at the college, he may make good such deficiency by examination or by class recitation.

ADMISSION TO THE SUB-FRESHMAN CLASS.

The course of instruction offered under this head is intended for young people who live at considerable distance from

an academy or high school, and are unable to attend such, but have finished the eighth grade in a good public school. No tuition is charged. The work is distributed in the three terms as follows:

SUB-FRESHMAN YEAR.

FIRST TERM.

English Grammar 5.....	English A
English Composition 5	English B
Arithmetic 5.....	Mathematics A
U. S. History 5	History A
Reading 1, 2,	Elocution A
Military Drill 2, 4 (young men).....	Military A
Physical Culture 1½, 3 (young ladies)	Physical Culture A

SECOND TERM.

English Grammar 5.....	English C
English Composition 5.....	English D
Elementary Algebra 5	Mathematics B
U. S. History 5.....	History B
Elocution 1, 2.....	Elocution B
Military Drill 1, 2.....	Military B
Physical Culture 1½, 3.....	Physical Culture B

THIRD TERM.

English Grammar 5.....	English E
English Composition 5.....	English F
Algebra 5.....	Mathematics C
Physical Geography 5.....	Geography A
Elocution 1, 2.....	Elocution C
Military Drill 2½, 5.....	Military C
Physical Culture 1½, 3.....	Physical Culture C

According to a regulation of the board of regents no students may be admitted to this class who come from towns or cities of more than fifteen hundred inhabitants, or from such as are supporting good high schools. To enter this class, students must be fifteen years of age.

ADMISSION OF SPECIAL STUDENTS.

None can be admitted as irregular or special students unless they belong to one of the following classes:

1. Those who desire to devote special attention to music and take at least two lessons a week in our department of music.

2. Those who on account of poor health certified by physicians cannot take a complement of studies.

3. Residents who are heads of families and have household duties to look after.
4. Residents who are engaged in regular business or profession and have time for only one or two studies.
5. Such persons as may be permitted to take special studies by vote of the Faculty at a regular monthly meeting.

SCOPE OF THE INSTITUTION.

The scope of the institution, as now organized, cannot be better stated than in the comprehensive words of the act of Congress defining the duty of this and similar colleges:

“The leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislature of the state may prescribe, *in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.*”

Based upon this broadened foundation, the special work of the Oregon Agricultural College is the training of youth in those branches of learning which lie at the foundation of modern industrial pursuits. In accordance with the purposes of its founders, and the terms of its original charter, it aims to give special and prominent attention to agriculture, both theoretical and experimental; but it also provides “a liberal and practical education” in the leading branches of mathematical, natural and physical sciences, in order to prepare youth “for the several pursuits and professions of life.” It has increased its subjects and courses of study, and its teaching and illustrative equipment, to such an extent that now, “without excluding classical studies,” its leading object is to teach the various sciences in such a manner as to show their applications in the more important industries, to combine with every branch of in-

struction such an amount of actual practice in the shop, the field, and the laboratory as will serve to illustrate and apply the theory, but without subordinating it. The course in agriculture, as now arranged, conforms very closely to the recommendations of the *Association of American Agricultural Colleges and Experiment Stations*. The range of work in the various courses is shown, as far as the limits of space will allow, in the following descriptive statements and schedule. It is confidently believed that few institutions in the country furnish opportunities for obtaining advanced scientific education to an equal extent and thoroughness at so moderate a cost and with so many incidental advantages.

DEGREES AND COURSES OF STUDY.

UNDERGRADUATE WORK.

The college offers seven courses of instruction of four years each leading to the degree of Bachelor of Science, viz:—

Agriculture,
Household Science,
Mechanical Engineering,
Electrical Engineering,
Mining Engineering,
Pharmacy,
Literary Commerce.

All of which require training in English, mathematics, history, elocution, drawing and such other branches as are requisite to a practical education.

In order that the college may meet the needs of a greater number of people and the students intensify along special lines, much of the work is made elective, as may be seen by reference to the courses of study published elsewhere in this catalogue.

In addition to the above courses provision has been made for courses in Vocal and Instrumental Music, a two-year course in Mining, a two-year course in Commerce, and a short course in Agriculture.

GRADUATE WORK.

That students may be encouraged to continue their college work after graduation, the board of regents has made provision for courses leading to advanced degrees.

ADVANCED DEGREES.

Advanced degrees will be given to graduates of this college, or similar, approved colleges, upon the following conditions:—

An applicant for a higher degree must present himself for examination in one major and at least one minor study. Major and minor courses leading to the degree of Master of Science, to be selected from different departments, approved by the faculty, are provided for in the departments of Agriculture, Botany, Chemistry, Economics, Horticulture, Zoology, Mechanical and Electrical Engineering and Household Science. The minor, at the option of the student, may also be taken from the departments of Mathematics, English History or Modern Languages. The candidate must prepare a thesis, based upon original research, which shall show scholarly acquirements of a high order. This thesis must be printed or typewritten and bound, and two copies of it left in the college library. The candidate must spend at least one academic year, or its equivalent, as a resident student at this college in preparing for this degree.

COURSE IN AGRICULTURE.

FRESHMAN YEAR.

FIRST TERM.

Algebra 5	Mathematics I.
English Composition 5	English I
General History 5	History I.
* { Freehand Drawing 1½, 3	Drawing I.
{ Elocution 1, 2	Elocution I.
* Woodwork 2½, 5	Shopwork I.
Military Drill 2, 4	Military I.

SECOND TERM.

Geometry 5	Mathematics IV.
English Composition 5	English II.
* General History 5	History II.
Elocution 1, 2	Elocution II.
Freehand Drawing 1½, 3	Drawing II.
Woodwork 2½, 5	Shopwork II.
Military Drill 1, 2	Military II.
Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

Geometry 5	Mathematics V.
Composition and Rhetoric 5	English III.
Plant Morphology 5, 7	Botany I.
Breeds of Stock 5	Agriculture I.
* Freehand Drawing 2½, 5	Drawing III.
Military Drill 2½, 5	Military III.

* Latin or German may be elected instead, but no credit will be given towards graduation for less than the full course of six terms.

SOPHOMORE YEAR.

FIRST TERM.

Chemistry 5, 7	Chemistry I.
Trigonometry 5	Mathematics VI.
Rhetoric 5	English IV.
* Plant Histology 5, 7	Botany II.
Blacksmithing $1\frac{1}{2}$, 3	Shopwork IV.
Military Drill 2, 4	Military IV.

SECOND TERM.

Physics 5, 7	Physics I.
Chemistry 5, 7	Chemistry II.
Rhetoric 4	English V.
Soils and Manures $2\frac{1}{2}$	Agriculture IV.
Dairying $2\frac{1}{2}$	Agriculture II.
*Blacksmithing $2\frac{1}{2}$, 5	Shopwork V.
Military Drill 1, 2	Military V.
Physical Culture 1, 2	Physical Culture II.

THIRD TERM.

*Physics 5, 7	Physics II.
Chemistry 2, 4	Chemistry III.
Chemistry 3	Chemistry XI.
English Literature 5	English VI.
Zoology 5, 7	Zoology I.
Irrigation and Drainage 5	Agriculture III.
Military Drill $2\frac{1}{2}$, 5	Military VI.

JUNIOR YEAR.

FIRST TERM.

English Literature 5.....	English VII
* Entomology 5, 7.....	Zoology II.
Agricultural Chemistry 5.....	Chemistry IV.
Dairying 5.....	Agriculture V.
Military Drill 1.....	Military VIII.
Military Science 1½, 3.....	Military VII.

SECOND TERM.

Plant Physiology 5, 7.....	Botany III.
* Literature 5.....	English VIII.
Vertebrate Anatomy 5, 7.....	Zoology III.
Agricultural Chemistry 5.....	Chemistry XXI.
Military Drill 1, 2.....	Military IX.
Military Science 2.....	Military X.

THIRD TERM.

American Literature 5.....	English IX.
* Surveying 5, 7.....	Mathematics X.
† Chemistry 5, 7.....	Chemistry V.
Civics 5.....	Political Science II.
Physiology 5, 7.....	Zoology IV.
Steam Engine 1, 2.....	Mechanics IV.
Military Drill 2½, 5.....	Military XI.

† Required of students who elect thesis work in the department of chemistry.

SENIOR YEAR.

FIRST TERM.

Economics 5	Political Science I.
Soil Physics 2½, 5	Agriculture VII.
Horticulture 2½, Hort. I, or Agrostology 2½	Bot. XII.
Military Drill 1½, 3	Military XII.
Military Science 1	Military XIII.

†*Electives.*

German 5, or,	German X.
Latin 5	Latin X.
Chemistry 5, 7	Chemistry VI.
Mineralogy 3, 6	Mineralogy I.
Forestry	Botany VIII.
Kitchen Gardening	Gardening I.
Botany 5, 7	Botany IV.
Zoology 5, 7	Zoology VI.
Bacteriology 5, 7	Bacteriology I.
Geology 5	Geology I.

SECOND TERM.

Psychology 5	Mental Science I.
Soil Physics 2½, 5	Agriculture VIII.
Horticulture 2½	Horticulture II.
Military Drill 1, 2	Military XIV.
Military Science 2	Military XV.

†*Electives.*

German 5, or,	German XI.
Latin 5	Latin XI.
Botany 5, 7	Botany V.
Forestry 5	Botany IX.
Kitchen Gardening 5	Gardening II.
Chemistry 5, 7	Chemistry VII.
Zoology 5, 7	Zoology VII.
Bacteriology 5, 7	Bacteriology II.

Assaying 3, 6	Chemistry IX.
Elocution I, 2	Elocution V.

THIRD TERM.

Veterinary Science 5	Agriculture IX.
Horticulture 5	Horticulture III.
Stock Feeding and Breeding 4	Agriculture VI.

†*Electives.*

‡ Military Drill 2½, 5	Military XVI.
American Literature 5	English IX.
German 5, or,	German VI.
Latin 5	Latin VI.
Astronomy 5	Mathematics XI.
Forestry 5	Botany X.
Kitchen Gardening 5	Gardening III.
Agricultural Engineering 5	Mathematics XII.
Botany 5, 7	Botany VI or VII.
Zoology 5, 7	Zoology VIII.
Chemistry 5, 7	Chemistry VIII.
Bacteriology 5, 7	Bacteriology III.
Assaying 3, 6	Chemistry X.

† In addition to the required studies seniors must select from the electives a sufficient number of hours to form a full course of 22 hours.

‡ Seniors who accept commissions as cadet officers are required to drill during the third term.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

COURSE IN HOUSEHOLD SCIENCE.

FRESHMAN YEAR.

FIRST TERM.

Algebra 5	Mathematics I.
English Composition 5	English I.
General History 5	History I.
* { Freehand Drawing 1½, 3	Drawing I.
{ Elocution 1, 2	Elocution I.
General Hygiene ½, 1	Household Science I.
Sewing 2, 4	Household Science II.
Physical Culture 1½, 3	Physical Culture I.

SECOND TERM.

Geometry 5	Mathematics IV.
English Composition 5	English II.
* General History 5	History II.
Elocution 1, 2	Elocution II.
Freehand Drawing 1½, 3	Drawing II.
Etiquette ½, 1	Household Science III
Sewing 2, 4	Household Science IV.
Physical Culture 1½, 3	Physical Culture II.

THIRD TERM.

Geometry 5	Mathematics V.
Composition and Rhetoric 5	English III.
Plant Morphology 5, 7	Botany I.
* Freehand Drawing 2½, 5	Drawing III.
Sewing 2½, 5	Household Science V.
Physical Culture 1½, 3	Physical Culture III.

* Latin or German may be elected instead, but no credit will be given towards graduation for less than the full course of six terms.

SOPHOMORE YEAR.

FIRST TERM.

Chemistry 5, 7	Chemistry I.
Plant Histology 5, 7	Botany II.
Rhetoric 5	English IV.
Dressmaking 2½, 5	Household Science VI.
Elocution 1, 2	Elocution III.
Physical Culture 1½, 3	Physical Culture IV.
Care of the Sick	Household Science XIII.

SECOND TERM.

*Floriculture 5	Floriculture I.
History of Eastern Peoples 5 (half term)	History III.
Floriculture 5 (half term)	Floriculture IV.
Chemistry 5, 7	Chemistry II.
Rhetoric 4	English V.
Dressmaking 2½, 5	Household Science VII.
Physical Culture 1½, 3	Physical Culture V.

THIRD TERM.

English Literature 5	English VI.
Zoology 5, 7	Zoology I.
Chemistry 2, 4	Chemistry III.
Chemistry 3	Chemistry XI.
Modern History 5	History IV.
* Dressmaking 2½, 5	Household Science VIII.

JUNIOR YEAR.

FIRST TERM.

Literature 5	English VII.
Entomology 5, 7	Zoology II.
Floriculture 5	Floriculture II.
German 5, or,	German I.
Latin 5	Latin I.
Cookery 2½, 3	Household Science IX.

SECOND TERM.

Plant Physiology 5, 7	Botany III.
Literature 5	English VIII.
Floriculture 5	Floriculture III.
German 5, or,	German II.
Latin 5	Latin II.
Vertebrate Anatomy 5, 7	Zoology III.
Cookery 1½, 3	Household Science X.
Physical Culture 1½, 3	Physical Culture VI.

THIRD TERM.

Dairying 5, or,	Agriculture V.
American Literature 5	English IX.
German 5, or,	German III.
Latin 5	Latin III.
Physiology 5, 7	Zoology IV.
Civics 5	Political Science II.
Cookery 3	Household Science XI

Students desiring to elect thesis work in the department of chemistry must take Course V in chemistry during the third term of the Junior year.

SENIOR YEAR.

FIRST TERM.

Economics 5	Political Science I.
Aesthetics 5	Household Science XII.
German 5, or,	German IV.
Latin 5	Latin IV.

†*Electives.*

Literature 5	English X.
Botany 5, 7	Botany IV.
Zoology 5, 7	Zoology V.
Bacteriology 5, 7	Bacteriology I.
Elocution 1, 2	Elocution IV.
Drawing 2½, 5	Drawing IV.
Chemistry of Foods 5, 7	Chemistry XII.
Geology 5	Geology I.

SECOND TERM.

Psychology 5	Mental Science I.
German 5, or,	German V.
Latin 5	Latin V.
Aesthetics 5	Household Science XIII.

†*Electives.*

Physics 5, 7	Physics I.
Chemistry of Foods 5, 7	Chemistry XIII.
Zoology 5, 7	Zoology VI.
Botany 5, 7	Botany V.
Elocution 1, 2	Elocution V.
Drawing 2½, 5	Drawing V.
Bacteriology 5, 7	Bacteriology II.
Literature 5	English XI.

THIRD TERM.

Domestic Lectures 5	Household Science XIV.
German 5, or,	German VI.
Latin 5	Latin VI.

† *Electives.*

Literature 5	English XII.
Physics 5, 7	Physics II.
Chemistry of Foods 5, 7	Chemistry XIV.
Zoology 5, 7	Zoology VII.
Botany 5, 7	Botany VI.
Elocution 1, 2	Elocution VI.
Drawing 2½, 5	Drawing VI.
Astronomy 5	Mathematics XI.
Bacteriology 5, 7	Bacteriology III.
Landscape Gardening 5	Floriculture VI.

† In addition to the regular studies seniors must select from the electives enough hours to form a full course of 22 hours.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

COURSE IN MECHANICAL ENGINEERING FRESHMAN YEAR.

FIRST TERM.

Algebra 5	Mathematics I.
English Composition 5	English I.
General History 5	History I.
{ Freehand Drawing 1½, 3	Drawing I.
* { Elocution 1, 2	Elocution I.
Woodwork 2½, 5	Shopwork I.
Military Drill 2, 4	Military I.

SECOND TERM.

Geometry 5	Mathematics IV.
English Composition 5	English II.
*General History 5	History II.
Elocution 1, 2	Elocution II.
Freehand Drawing 1½, 3	Drawing II.
Woodwork 2½, 5	Shopwork II.
Military Drill 1, 2	Military II.
Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

Geometry 5	Mathematics V.
Composition and Rhetoric 5	English III.
Modern History 5	History IV.
*Freehand Drawing 2½, 5	Drawing III.
Woodwork 2½, 5	Shopwork III.
Military Drill 2½, 5	Military III.

*Latin or German may be elected instead, but no credit will be given towards graduation for less than the full course of six terms.

SOPHOMORE YEAR.

FIRST TERM.

Trigonometry 5	Mathematics VI.
Rhetoric 5	English IV.
Mechanical Drawing 5, 10	Mechanical Engineering I.
*Blacksmithing $2\frac{1}{2}$, 5	Shopwork IV.
Military Drill 2, 4	Military IV.

SECOND TERM.

Algebra 5	Mathematics II.
Physics 5, 7	Physics I.
Rhetoric 4	English V.
*Mechanical Drawing $2\frac{1}{2}$, 5	Mechanical Engineering II.
Blacksmithing $2\frac{1}{2}$, 5	Shopwork V.
Military Drill $1\frac{1}{2}$, 3	Military V.
Physical Culture 1, 2	Physical Culture II.

THIRD TERM.

Algebra 5	Mathematics III.
Physics 5, 7	Physics II.
English Literature 5	English VI.
Mechanical Drawing $1\frac{1}{2}$, 3	Mechanical Engineering III.
Blacksmithing $2\frac{1}{2}$, 5	Shopwork VI.
*Military Drill $2\frac{1}{2}$, 5	Military VI.

‡ JUNIOR YEAR—MECHANICAL.

FIRST TERM.

Chemistry 5, 7.....	Chemistry I.
*Literature 5.....	English VII.
Analytical Geometry 5.....	Mathematics VII.
Descriptive Geometry 5.....	Mechanical Engineering V.
Machine Shop 2½, 5.....	Shopwork VII.
Military Drill 1½, 3.....	Military VII.
Military Science 1.....	Military VIII.

SECOND TERM.

Chemistry 5, 7.....	Chemistry II.
Physiology 5.....	Zoology V.
*Descriptive Geometry 3.....	Mechanical Engineering VI.
Calculus 5.....	Mathematics VIII.
Machine Shop 2½, 5.....	Shopwork VIII.
Military Drill 1, 2.....	Military IX.
Military Science 2.....	Military X.

THIRD TERM.

Mechanism 5.....	Mechanical Engineering IV.
Calculus 5.....	Mathematics IX.
Steam Engines and Boilers 4.....	Mechanical Engineering VII.
Civics 5.....	Political Science II.
*Machine Shop 2, 4.....	Shopwork IX.
Military Drill 2½, 5.....	Military XI.

‡ Students wishing to specialize in electrical engineering may elect to do so at the beginning of the junior year.

SENIOR YEAR—MECHANICAL.

FIRST TERM.

Economics 5	Political Science I.
Mechanics of Engineering 5,	Mechanical Engineering VIII.
Thermodynamics 3	Mechanical Engineering IX.
Physics 5, 7	Physics III.
Military Drill 1½, 3	Military XII.
Military Science 1	Military XIII.

†*Electives.*

Literature 5	English X.
German 5, or,	German IV.
Latin 5	Latin IV.
Woodwork 2½, 5	Shopwork X.
Ironwork 2½, 5	Shopwork XI.
Mechanical Drawing 2½, 5	Mechanical Engineering X.
Mineralogy 3, 6	Mineralogy I.

SECOND TERM.

Psychology 5	Mental Science I.
Machine Design 5, 7	Mechanical Engineering XI.
Mechanics of Engineering 5,	Mechanical Engineering XII.
Military Drill 1, 2	Military XIV.
Military Science 2	Military XV.

†*Electives.*

Literature 5	English XI.
German 5, or,	German V.
Latin 5	Latin V.
Structure of Woods and Metals 5, 7	Botany XI.
Woodwork 2½, 5	Shopwork XII.
Ironwork 2½, 5	Shopwork XIII.
Mechanical Drawing 2½, 5	Mechanical Engineering XIII.
Assaying 3, 6	Chemistry IX.
Elocution 1, 2	Elocution V.

THIRD TERM.

Mechanics of Engineering 5 . . . Mechanical Engineering XIV.
 Machine Design 5, 7 Mechanical Engineering XV.

†*Electives.*

German 5, or, German VI.
 Latin 5 Latin VI.
 Astronomy 5 Mathematics XI.
 American Literature 5 English IX.
 Surveying 5, 7 Mathematics X.
 Woodwork 2½, 5 Shopwork XIV.
 Ironwork 2½, 5 Shopwork XV.
 Mechanical Drawing 2½, 5 . . . Mechanical Engineering XVI.
 Assaying 3, 6 Chemistry X.
 *Military Drill 2½, 5 Military XVI.

† In addition to the regular studies seniors must select from the electives enough hours to form a full course of 22 hours.

* Seniors who accept commissions as cadet officers are required to drill during the third term.

JUNIOR YEAR—ELECTRICAL.

FIRST TERM.

Electricity and Magnetism 6, 9	Electrical Engineering I.
Descriptive Geometry 5	Mechanical Engineering V.
Analytical Geometry 5	Mathematics VII.
Chemistry 5, 7	Chemistry I.
*Machine Shop 2½, 5	Shopwork VII.
Military Drill 1, 2	Military VII.
Military Science 1	Military VIII.

SECOND TERM.

Electricity and Magnetism 5, 7	Electrical Engineering II.
Chemistry 5, 7	Chemistry II.
*Descriptive Geometry 3	Mechanical Engineering VI.
Calculus 5	Mathematics VIII.
Machine Shop 2½, 5	Shopwork VIII.
Military Drill 1, 2	Military IX.
Military Science 2	Military X.

THIRD TERM.

Calculus 5	Mathematics IX.
Electricity and Magnetism 3	Electrical Engineering III.
Steam Engines and Boilers 4	Mechanical Engineering VII.
*Civics 5	Political Science II.
Mechanism 5	Mechanical Engineering IV.
Machine Shop 2, 4	Shopwork IX.
Military Drill 2½, 5	Military XI.

SENIOR YEAR—ELECTRICAL.

FIRST TERM.

Economics 5	Political Science I.
Mechanics of Engineering 5	Mechanical Engineering VIII.
Alternating Currents and Dynamo Design 5, 7 }	Electrical Engineering IV.
Literature 5	English VII.
Physics 3½, 7	Physics III.
Military Drill 1, 2	Military XII.
Military Science 1	Military XIII.

† *Electives.*

Literature 5	English X.
German 5, or,	German IV.
Latin 5	Latin X.
Woodwork 2½, 5	Shopwork X.
Ironwork 2½, 5	Shopwork XI.
Mechanical Drawing 2½, 5	Mechanical Engineering X.
Mineralogy 3, 6	Mineralogy I.

SECOND TERM.

Psychology 5	Mental Science I.
Machine Design 5, 7	Mechanical Engineering XI.
Mechanics of Engineering 5	Mechanical Engineering XII.
Alternating Currents and Dynamo Design 5, 7 }	Electrical Engineering V.
Military Drill 1, 2	Military XIV.
Military Science 2	Military XV.

† *Electives.*

German 5, or,	German XI.
Latin 5	Latin XI.
Woodwork 2½, 5	Shopwork XII.
Ironwork 2½, 5	Shopwork XIII.
Mechanical Drawing 2½, 5	Mechanical Engineering XIII.

† Assaying 3, 6	Chemistry IX.
Elocution 1, 2	Elocution V.
Literature 5	English XI.

THIRD TERM.

Mechanics of Engineering 5	Mechanical Engineering XIV.
Machine Design 5, 7	Mechanical Engineering XV.
Alternating Currents and Dynamo Design 5, 7 }	Electrical Engineering VI.

† *Electives.*

German 5, or,	German XII.
Latin 5	Latin XII.
Astronomy 5	Mathematics XI.
American Literature, 5	English IX.
Surveying 5, 7	Mathematics X.
Woodwork 2½, 5	Shopwork XIV.
Ironwork 2½, 5	Shopwork XV.
Mechanical Drawing 2½, 5	Mechanical Engineering XIV.
Assaying 3, 6	Chemistry X.
† Military Drill 2½, 5	Military XVI.

† Students electing Assaying must have previously taken Mineralogy I.

† Seniors who accept commissions as cadet officers are required to drill during the third term.

In addition to the regular studies seniors must select from the electives enough hours to form a full course of 22 hours.

COURSE IN PHARMACY.

FRESHMAN YEAR.

FIRST TERM.

†Algebra 5.....	Mathematics I.
†English Composition 5.....	English I.
General History 5.....	History I.
†Latin 5.....	Latin I.
Freehand Drawing 1½, 3.....	Drawing I.
Elocution 1, 2.....	Elocution I.
††Military Drill 2, 4.....	Military I.

SECOND TERM.

Geometry 5.....	Mathematics IV.
†English Composition 5.....	English II.
†Latin 5.....	Latin II.
General History 5.....	History II.
Freehand Drawing 1½, 3.....	Drawing II.
Elocution 1, 2.....	Elocution II.
†Military Drill 1, 2.....	Military II.
†Physical Culture 1, 2.....	Physical Culture I.

THIRD TERM.

Geometry 5.....	Mathematics V.
†Composition and Rhetoric 5.....	English III.
†Latin 5.....	Latin III.
Plant Morphology 5, 7.....	Botany I.
†Military Drill 2½, 5.....	Military III.

†Throughout the course young ladies take Physical Culture instead.

†Students desiring to take a short course in Pharmacy will be given a certificate in Pharmacy after completing the studies marked (†).

SOPHOMORE YEAR.

FIRST TERM.

†Chemistry 5, 7	Chemistry I.
Rhetoric 5	English IV.
German 5	German I.
Plant Histology 5, 7	Botany II.
†Military Drill 2, 4	Military IV.

SECOND TERM.

Physics 5, 7	Physics I.
Rhetoric 4	English V.
German 5	German II.
†Chemistry 5, 7	Chemistry II.
†Military Drill 1, 2	Military V.
Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

German 5	German III.
Zoology 5, 7	Zoology I.
†Chemistry 5, 10	Chemistry XV.
Modern History 5	History IV.
†Military Drill 2½, 5	Military VI.
Physics 5, 7	Physics II.

JUNIOR YEAR.

FIRST TERM.

Literature 5	English VII.
†Pharmaceutical Chemistry 5	Chemistry XVI.
†Therapeutics and Doses 2	Pharmacy V.
†Pharmacy 2	Pharmacy II.
Military Drill 1, 2	Military VII.
Military Science 1	Military VIII.
†Nomenclature 1	Pharmacy VI.
German 5	German IV.

SECOND TERM.

†Pharmaceutical Chemistry 5	Chemistry XVII.
†Pharmacognosy 2	Pharmacy III.
Vertebrate Anatomy 5, 7	Zoology III.
†Pharmacy 3, 5	Pharmacy IV.
Literature 5	English VIII.
Military Drill 1, 2	Military IX.
Military Science 2	Military X.
German 5	German V.

THIRD TERM.

†Quantitative Chemistry 5, 7	Chemistry V.
Physiology 5, 7	Zoology IV.
Plant Classification 5, 7	Botany VII.
Military Drill 2½ 5	Military XI.
†Pharmacognosy 2	Pharmacy I.
†Pharmacy 3, 5	Pharmacy VII.
German 5	German VI.

SENIOR YEAR.

FIRST TERM.

†Materia Medica and Therapeutics 3	Pharmacy VIII.
†Operative Pharmacy 4, 6	Pharmacy IX.
†Pharmaceutical Analysis 5, 10	Chemistry XVIII.
Military Drill 1, 2	Military XII.
Military Science 2	Military XIII.
Bacteriology 5, 7	Bacteriology I.

SECOND TERM.

†Materia Medica and Therapeutics 3	Pharmacy XIV.
†Prescription Practice 4½, 7	Pharmacy X.
†Pharmaceutical Analysis 5, 10	Chemistry XIX.
Military Drill 1, 2	Military XIV.
Military Science 2	Military XV.
Bacteriology 5, 7	Bacteriology II.

THIRD TERM.

†Pharmacognosy and Synonyms 3	Pharmacy XI.
†Prescription Practice 5½, 8	Pharmacy XV.
†Toxicology I	Pharmacy XIII.
†Pharmaceutical Analysis 5, 10	Chemistry XX.
Military Drill 2½, 5	Military XVI.
Bacteriology 5, 7	Bacteriology III.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

* COURSE IN MINING.

FRESHMAN YEAR.

FIRST TERM.

†Algebra 5	Mathematics I.
†English Composition 5	English I.
†General History 5	History I.
Freehand Drawing 1½, 3	Drawing I.
Elocution 1, 2	Elocution I.
†Woodwork 2½, 5	Shopwork I.
†Military Drill 2, 4	Military I.

SECOND TERM

Geometry 5	Mathematics IV.
†English Composition 5	English II.
†General History 5	History II.
Freehand Drawing 1½, 3	Drawing II.
Elocution 1, 2	Elocution II.
†Woodwork 2½, 5	Shopwork II.
†Military Drill 1, 2	Military II.
†Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

Geometry 5	Mathematics V.
†Composition and Rhetoric 5	English III.
Modern History 5	History III.
Freehand Drawing 2½, 5	Drawing III.
†Physical Geography 5	Physical Geography I.
†Military Drill 2½, 5	Military III.

* Students desiring to take a short course in mining will be given a certificate in mining after completing the studies marked [†].

SOPHOMORE YEAR.

FIRST TERM.

Economics 5	Political Science I.
Trigonometry 5	Mathematics VI.
†Rhetoric 5	English IV.
†Mechanical Drawing 5, 10	Mechanical Engineering I.
†Blacksmithing 2½, 5	Shopwork IV.
†Military Drill 2, 4	Military IV.

SECOND TERM.

Physics 5, 7	Physics I.
Algebra 5	Mathematics II.
†Rhetoric 4	English V.
†Mechanical Drawing 2½, 5	Mechanical Engineering II.
†Blacksmithing 2½, 5	Shopwork V.
†Military Drill 1, 2	Military V.
Physical Culture 1, 2	Physical Culture II.

THIRD TERM.

Physics 5, 7	Physics II.
Algebra 5	Mathematics III.
Surveying 5, 7	Mathematics X.
†Mechanical Drawing 1½, 3	Mechanical Engineering III.
†Tool Dressing 2½, 5	Shopwork VI.
†Military Drill 2½, 5	Military VI.

JUNIOR YEAR.

FIRST TERM.

†Chemistry 5, 7	Chemistry I.
Mine Surveying 3	Mathematics XIII.
Analytical Geometry 5	Mathematics VII.
Descriptive Geometry 5	Mechanical Engineering V.
†Machine Shop 1½, 2½	Shopwork VII.
Military Drill 1, 2	Military VII.
Military Science 1	Military VIII.
†Geology 5	Geology I.

SECOND TERM.

Tunneling and Leveling, 5	Mathematics XIV.
†Chemistry 5, 7	Chemistry II.
Descriptive Geometry 3	Mechanical Engineering XI.
Calculus 5	Mathematics VIII.
†Machine Shop 2½, 5	Shopwork VIII.
Military Drill 1, 2	Military IX.
Military Science 2	Military X.

THIRD TERM.

Calculus 5	Mathematics IX.
Steam Engines and Boilers 4	Mech. Engineering VII.
Civics 5	Political Science II.
Military Drill 2½, 5	Military XI.
†Mechanism 5	Mechanical Engineering IX.
†Qualitative Analysis 5, 10	Chemistry XV.

SENIOR YEAR.

FIRST TERM.

†Mineralogy 3, 6	Mineralogy I.
Mechanics of Engineering 5	Mechanical Engineering VIII.
Thermodynamics 3	Mechanical Engineering IX.
†Physics 3½, 7	Physics III.
Military Drill 1, 2	Military XII.
Military Science 1	Military XIII.

SECOND TERM.

†Metallurgy 5, 7	Mineralogy II.
†Assaying 3, 6	Chemistry IX.
Psychology 5	Mental Science I.
Mechanics of Engineering 5	Mechanical Engineering XII.
Military Drill 1, 2	Military XIV.
Military Science 2	Military XV.

THIRD TERM.

Mining Engineering 5	Mathematics XV.
Mining Hydraulics }	Mechanical Engineering XVII.
and Ventilation 5 }	
†Assaying 3, 6	Chemistry X.
Mechanics of Engineering 5	Mechanical Engineering XIV.
Machine Design 5	Mechanical Engineering XV.
Military Drill 2½, 5	Military XVI.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

LITERARY COMMERCE COURSE.

FRESHMAN YEAR.

FIRST TERM.

Bookkeeping 5, 3.	Bookkeeping I.
English Composition 5.	English I.
Commercial Arithmetic 5.	Arithmetic I.
Algebra 5.	Mathematics I.
Penmanship 2.	Penmanship I.
Military Drill 2, 4 (men)	Military I.
Physical Culture 1½, 3 (women)	Physical Culture I.
Elocution 1, 2	Elocution I.

SECOND TERM.

Bookkeeping 5, 3.	Bookkeeping II.
English Composition 5	English II.
Commercial Arithmetic 5.	Arithmetic II.
Geometry 5.	Mathematics IV.
Penmanship 2.	Penmanship II.
Military Drill 1, 2.	Military II.
Physical Culture 1½, 3.	Physical Culture II.
Elocution 1, 2	Elocution II.

THIRD TERM.

Bookkeeping 5, 3.	Bookkeeping III.
Composition and Rhetoric 5.	English III.
Commercial Arithmetic 5.	Arithmetic III.
Geometry 5.	Mathematics V.
Penmanship 2.	Penmanship III.
Military Drill 2½, 5	Military III.
Physical Culture 1½, 3.	Physical Culture III.

SOPHOMORE YEAR.

FIRST TERM.

Bookkeeping 3	Bookkeeping IV.
Stenography 4, 5	Stenography I.
Typewriting 4, 5	Typewriting I.
Rhetoric 5	English IV.
Floriculture 2, 3	Floriculture I.
Military Drill 2, 4	Military IV.
Physical Culture 1½, 3	Physical Culture IV.

SECOND TERM.

Bookkeeping 3	Bookkeeping V.
Rhetoric 4	English V.
Stenography 5	Stenography II.
Typewriting 5	Typewriting II.
Algebra 5	Mathematics II.
Military Drill 1, 2	Military V.
Physical Culture 1, 2	Physical Culture V.

THIRD TERM.

Bookkeeping 3	Bookkeeping VI.
Stenography 5	Stenography III.
Typewriting 5	Typewriting III.
Algebra 5	Mathematics III.
Zoology 5, 7	Zoology I.
Military Drill 2½, 5	Military VI.
Physical Culture 1½, 3	Physical Culture VI.

JUNIOR YEAR.

FIRST TERM.

Commercial Law 3	Commercial Law I.
Latin 5, or,	Latin I.
German 5	German I.
English 5	English VII.
Entomology 5, 7	Zoology II.
General History 5	History I.
Military Drill 1, 2	Military VII.
Military Science 1	Military VIII.
Physical Culture $\frac{3}{4}$, $1\frac{1}{2}$	Physical Culture VII.

SECOND TERM.

Commercial Law 3	Commercial Law II.
Latin 5, or,	Latin II.
German 5	German II.
English 5	English VIII.
General History 5	History II.
Vertebrate Anatomy 5, 7	Zoology III.
Military Drill 1, 2	Military IX.
Military Science 2	Military X.
Physical Culture $\frac{3}{4}$, $1\frac{1}{2}$	Physical Culture VIII.

THIRD TERM.

Civics 5	Civics I.
Latin 5, or,	Latin III.
German 5	German III.
English 5	English IX.
Modern History 5	History IV.
Military Drill $2\frac{1}{2}$, 5	Military XI.
Physical Culture $2\frac{1}{2}$, 5	Physical Culture IX.

SENIOR YEAR.

FIRST TERM.

Economics 5	Political Science I.
Latin 5, or,	Latin IV.
German 5	German IV.
English 5	English X.
Aesthetics 5	Household Science XII.
Military Drill 1, 2	Military XII.
Military Science 1	Military XIII.
Physical Culture $\frac{3}{4}$, $1\frac{1}{2}$	Physical Culture X.

SECOND TERM.

Latin 5, or,	Latin V.
German 5	German V.
English 5	English XI.
Aesthetics 5	Household Science XIII.
Psychology 5	Mental Science I.
Military Drill 1, 2	Military XIV.
Military Science 2	Military XVI.
Physical Culture $\frac{3}{4}$, $1\frac{1}{2}$	Physical Culture XI.

THIRD TERM.

Latin 5, or,	Latin VI.
German 5	German VI.
Astronomy 5	Mathematics XI.
Geology 5	Geology I.
Military Drill $2\frac{1}{2}$, 5	Military XV.
Physical Culture $2\frac{1}{2}$, 5	Physical Culture XII.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

COURSE IN PIANO.

SUB-FRESHMAN YEAR.

FIRST TERM.

5, Easy Exercises Technic A

SECOND TERM.

5, Exercises Technic B

THIRD TERM.

5, { Exercises Technic C
 { Little Pieces Pieces A

FRESHMAN YEAR.

FIRST TERM.

7½ { Exercises Technic I
 { Pieces Musical Literature I

SECOND TERM.

7½ { Exercises Technic II
 { Pieces Musical Literature II

THIRD TERM.

7½ { Exercises Technic III
 { Pieces Musical Literature III

SOPHOMORE YEAR.

FIRST TERM.

10 { Studies, Scales, etc. Technic IV
 { Preludes and Fugues Polyphony I
 { Classic Pieces Musical Literature IV
 I, Theory Musical Science I

SECOND TERM.

10 { Studies, Arpeggios, etc. Technic V
 { Preludes and Fugues Polyphony II
 { Sonatas, Pieces Musical Literature V
 I, Theory Musical Science II

THIRD TERM.

10 { Studies, Octaves, etc. Technic VI
 { Fugues Polyphony III
 { Sonatas, Pieces Musical Literature VI
 I, Theory Musical Science III

JUNIOR YEAR.

FIRST TERM.

	{	Studies, Rotation, Exercises	Technic VII
10	{	Polyphonic Inventions	Polyphony IV
	{	Classic Solos	Musical Literature VII
5,		Harmony	Musical Science IV

SECOND TERM.

	{	Octaves, Exercises	Technic VIII
10	{	Polyphonic Inventions	Polyphony V
	{	Sonatas, Solos	Musical Literature VIII
5,		Harmony	Musical Science V

THIRD TERM.

	{	Etudes, Exercises	Technic IX
10	{	Polyphonic Inventions	Polyphony VI
	{	Classic Works	Musical Literature IX
5,		Harmony	Musical Science VI

SENIOR YEAR.

FIRST TERM.

	{	Very Difficult Etudes	Technic X
12½	{	Bach Clavichord	Polyphony VII
	{	Difficult Classic Works	Musical Literature X
5,		Harmony	Musical Science VII
2,		Musical History	Musical History I

SECOND TERM.

	{	Concert Etudes	Technic XI
12½	{	Bach Clavichord	Polyphony VIII
	{	Concert Works	Musical Literature XI
5,		Counterpoint	Musical Science VIII
2,		Musical History	Musical History II

THIRD TERM.

	{	Concert Etudes	Technic XII
12½	{	Bach Clavichord	Polyphony IX
	{	Concert Works	Musical Literature XII
5,		Counterpoint	Musical Science IX
2,		Musical History	Musical History III

DEPARTMENTS OF INSTRUCTION.

MENTAL AND POLITICAL SCIENCE.
AGRICULTURE.
HISTORY AND LATIN.
HOUSEHOLD SCIENCE.
MODERN LANGUAGES.
MECHANICAL AND ELECTRICAL ENGINEERING
CHEMISTRY AND PHARMACY.
ENGLISH LANGUAGE AND LITERATURE.
MATHEMATICS AND ENGINEERING.
ZOOLOGY.
BOTANY AND HORTICULTURE.
ELOCUTION.
FLORICULTURE AND GARDENING.
BACTERIOLOGY.
DRAWING.
MILITARY.
PHYSICAL CULTURE.
MINING.
LITERARY COMMERCE.
MUSIC.

MENTAL AND POLITICAL SCIENCE.

THOMAS M. GATCH, A. M., PH. D.

Course I.—*Economics*.—Senior year; first term. During the first part of the term our aim is to familiarize the student with the principles of the science. The last part of the term is devoted principally to debates, informal discussions and theme work. Our library is well supplied with reference books in this department. Students are encouraged in original investigation. The labor question, socialism, taxation, money and tariff receive attention. Five hours a week. Ely's Introduction, with Lectures.

Course II.—*Civics*.—Junior year; third term. Practical information is presented as to the rights and duties which attach to American citizenship. Constant care is taken to give reasons as well as justification for each power exercised by our government, and to inculcate in every way the moral obligations of good citizenship. Five hours a week. Strong and Shaffer's "Government of the American People," with lectures.

Course III.—*Psychology*.—Senior year; second term. This study presupposes a considerable acquaintance with the structure and functions of the brain and nervous system. Students acquire this knowledge in the laboratory under the direction of the professor of zoology. The intellectual faculties, the sensibilities and the will are carefully studied; the various schools of philosophy are criticised and compared and themes are often required from members of the class. Five hours a week. Halleck, with Lectures.

AGRICULTURE.

JAMES WITHYCOMBE, M. Agr., Professor of Agriculture.

F. L. KENT, B. Agr., Assistant Professor of Agriculture.

W. J. KENT, Foreman.

The object sought throughout the entire agricultural course is to familiarize the student with the art and science of agriculture. This embraces the study of zoology, botany, chemistry and bacteriology, the sciences related to agriculture; and the supplementary studies of mathematics, economics, physics, history, language and other cultural branches, all of which broaden the course of study and tend to elevate the educated farmer to the intellectual level of other professions.

The college laboratories are strictly modern in their appointments and are supplied with up-to-date equipments, which afford the student unusual opportunities for making a thorough study of all the sciences related to agriculture.

While the theory of agriculture, as based upon the sciences, is being taught, the industrial side is not overlooked. Instruction is given in wood and iron working in the carpenter and blacksmith shops under competent supervision. The student is also taught how to handle and care for steam machinery, and is made thoroughly familiar with the mechanism of the farm traction engine.

The instruction given in the class-room is directly supplemented by actual demonstrations of the best agricultural practice on the college farm, thus giving to the student an

opportunity to observe the methods employed, and enabling him to note from time to time the results of the practical applications of science to agricultural methods.

The college and station farm consists of 199 acres, 140 of which are devoted to farm crops, pasture, and experimental purposes. The farm is equipped with dairy building, horse-barn, cattle-barn, silos, piggery, tool-house, engine-house, etc., and with typical specimens of several breeds of stock.

Students laboring on the farm and in gardens, receive pay at the rate of 10 cents per hour. Only comparatively few persons can be so employed, as the amount of work to be done is limited. Those only who by their work prove to be valuable laborers will be employed.

DAIRYING.

One of the purposes of the Oregon Agricultural College is to advance the business industries of the state. It is believed that dairying is one of the most important lines of work that can now be undertaken in Oregon. There is a large body of land in the state which is especially adapted to this industry. For this reason dairying has been introduced as a branch of study in the agricultural course. A separate building has been provided for such instruction and it is fitted up with all the necessary machinery for carrying on the work in the most approved way. An expert dairyman is in charge of this work.

All students in the agricultural department will be required to study dairying not only as a science but as an art. Those taking the household science course will have the same opportunities as the agricultural students.

This is a line of practical work which, it is believed, will prove of great advantage both to the student and to the

state. The practical instruction includes both butter and cheese making.

A short course has been provided, as described elsewhere in the catalogue, whereby practical instruction in dairying may be obtained by those who can not avail themselves of a college course.

The instruction in applied agriculture extends through the freshman, sophomore, junior and senior years, as shown in the following synopsis of courses :

Course I.—*Breeds of Stock*.—Freshman year; third term. The study of the history of the different classes of farm stock, their origin and characteristics. By means of charts, in the class-room the student is made familiar with the different points of animal form preparatory to the use of the score-card system for judging farm animals. This is followed by a practical application of this system in judging dairy cows, beef cattle, mutton sheep and swine. In this manner the student obtains useful information relative to animal form and function, and thus becomes acquainted with the points of excellence in the typical pure bred, as well as the points of merit in the animal designed for the butcher's block. Five hours a week.

Course II —*Theoretical Dairying*.—Sophomore year; second term. The principles of modern dairy practice will be taught in the classroom. Instruction will be given by text-book and lectures. Five hours a week for one half term.

Course III.—*Irrigation and Drainage*.—Sophomore year; third term. In the discussion of this subject it will be the aim to deal with those relations of water to soils and to plants which must be grasped in order to permit of a rational practice of applying, removing or conserving soil moisture in crop production. The subject will be considered

from the standpoints of the farmer, the fruit grower and the gardener rather than from that of the engineer. The various methods of applying water; the laying out and construction of farm drains; and the effect of irrigation and drainage on the chemical and physical conditions of the soil will be considered. Five hours a week.

Course IV.—*Soils and Manures*.—Sophomore year; second term. The origin and formation of soils; soil tillage; management and application of manures; green manuring; organic and mineral manures; soil exhaustion; rotation of crops, and methods of improving worn-out soils. Five hours a week for one half term.

Course V.—*Dairying*.—Junior year; first term. (a) Practical work in the dairy for agricultural students. The principles taught in the sophomore year will be put into practice in the actual work of the manufacture of butter and cheese. The Babcock test, rennet tests, and curd tests, as well as the subjects of creamery accounting will receive due attention. Five hours a week.

(b) Practical work in the dairy for household science students. This work is practically the same as above. Wing's "Milk and its Products" will also be used as a text during a portion of the term. Five hours a week throughout the third term.

Course VI.—*Stock Feeding and Breeding*.—Senior year; third term. Stock feeding covers the subject of rations for milk and meat production; how best balanced for economical feeding. Stock breeding covers the subjects of atavism, heredity, in-and-in-breeding, variation, prepotency and care of breeding animals. Opportunity is given for judging and scoring live stock, and for studying the essential points of breeds adapted to different purposes. Four hours a week.

Course VII.—*Soil Physics*.—Senior year; first term. The work will include a study of various types of soils as to their mechanical structure and analysis; of conditions influencing temperature, capillary action and water-holding capacity of soil; effects of drainage and cultivation upon the conservation of moisture in soils; the texture of soils; the use of fertilizers and amendments and their effects on soils. Class room and laboratory work, five hours a week. week.

Course VIII.—*Soil Physics*.—Senior year; second term. This is a continuation of Course VII, Agriculture. Five hours a week.

Course IX.—*Veterinary Science*.—Senior year; third term. This subject will be taught by lectures covering the anatomy of the horse, and taking up the diseases most common to domestic animals, giving causes, symptoms, and treatment for the same. Special stress is placed upon proper treatment to prevent disease in domestic animals. Five lectures a week.

Instruction is given largely by lectures, suitable books being selected for reference. Miles' book on drainage. Curtis' "Horses, Cattle, Sheep, and Swine." Warfield's "Cattle Breeding," Stewart's "Stock Feeding." Armsby's Manual of Cattle Feeding. Wing's "Milk and its Products." Shaw's "Study of Breeds." "Soil" by King. "Fertility of Soil" by I. P. Roberts. "Irrigation and Drainage" by King. "Physics of Agriculture" by King. "Feeds and Feeding" by Henry.

HISTORY AND LATIN.

J. B. HORNER, A. M., LITT. D., Professor.

HISTORY.

Course I.—*Greek and Roman History*.—Freshman year; first term. Includes the study of general Hellenic development; the Athenian leadership; the Hellenistic or Alexandrian conquests and kingdoms. The political organizations of republican Rome in the prae- and post-Punic periods. Study on the pagan empire; Teutonic migrations. The Christian empire under Roman control. Five hours a week.

Course II.—*Mediæval History*.—Freshman year; second term. A study of social and political institutions of the fifth to the fifteenth centuries. Five hours a week.

Course III.—*History of Eastern Peoples*.—Sophomore year; second term. A survey of the history of China, Japan and India. Religion, arts and general culture of Egypt, Chaldæa, Assyria, Babylonia, Persia. Five hours a week.

Course IV.—*Modern History*.—Sophomore year; third term. This is a study of the era of the reformation and renaissance. (1490-1648). A general study of the age of Louis XIV., Frederick the Great, Anne and the Georges, Maria Teresa, and Peter the Great. The great French revolution and the wars of Napoleon. The states-general of 1789 to the congress of Vienna, 1815. German and Italian freedom and unity. Discussions touching the material progress of the age; famous works of art; foundations, inventions, discoveries, enterprises, improvements and investigations. Five hours a week.

The college is supplied with maps, charts, and a good working library of historical reference books.

In addition to the individual work of the student, as outlined above, lectures are given on the more important periods, such as the great reformation, thirty years' war, the English reformation, and the French revolution. Textbook, Myers' General History.

LATIN.

Course I.—*Elementary Latin*.—Freshman year; first term. First three declensions and first and second conjugations. Numerous exercises in translating Latin into English as well as English into Latin. Collar and Daniel's First Year Latin. Collar's *Via Latina*.

Course II.—*Elementary Latin*.—Freshman year; second term. Declensions and regular conjugations finished. Review. Exercises in translating. *Via Latina*.

Course III.—*Elementary Latin*.—Freshman year; third term. Irregular verbs. Subjunctive mood. Ablative absolute. Sequence of tenses, etc. Exercises. *Via Latina*.

Courses IV to VI.—*Advanced Latin*.—Sophomore and succeeding years. The first year's instruction is largely grammatical, prominence being given to Latin writing as the best method of acquiring a mastery of the language, Latin composition is eminently helpful in scientific research, and it is suggestive to the student of English. This preliminary work done, the student is then trained to appreciate the literature. Attention is called, during the reading of various authors, to those numerous problems in the history, thought and institutions of the Romans which illustrate similar phenomena noticeable among ourselves. The contribution of the Romans to the language, literature, and institutions of our time is so great that a thorough acquaintance with their life is of the highest educational value.

HOUSEHOLD SCIENCE.

MARGARET C. SNELL, M. D., Professor.

MARY AVERY, Assistant in Sewing.

Self interest and public interest make it apparent to every intelligent person how greatly in need are subjects pertaining to the home of being "touched to fine issues;" hence their introduction as studies into college curricula.

We have been reviled as "the most common schooled, and least cultivated, among all civilized nations," and this largely through our deplorable indifference to, and ignorance of, the common facts and necessities of life.

"The home as we find it to-day has scant warrant that anything born of its teaching is worth while to impart, yet the problem grows of how to get better results, how to lessen the labor of the farmer's wife, the washer-woman, the cook, the boarding-house keeper, the city missionary, the school teacher, the woman of fashion."

The solution requires something more than the knitting of the brow over theories; there must be actual testing of these theories by practice in the college laboratory, if they are to have value and permanence. The precious acquisition of the scholar who *knows*, must be further supplemented by that of the artist who *does*.

The various subjects pertaining to home life are taught under the following heads:

Course I.—*General Hygiene*.—Freshman year; first term. Good health is acknowledged as one of the prime factors of success in life; lectures and talks on this important subject are not neglected. The amenities of home, and readings on

kindred topics, give mental occupation to the sewing hour. One hour a week.

Courses II, IV, V.—*Sewing*.—Freshman year. During the first term there are sewing lectures and practice work, one hour a day, on sewing samples. Here are acquired and strengthened those invisible impulses: industry, dexterity, patience, exactness. Five hours a week.

Second term, sewing continued. Five hours a week.

During the third term sewing is combined with the making of simple garments. Readings, conversation.

Courses VI, VII, VIII.—*Dressmaking*.—Sophomore year. Cleverness with scissors, tape line, and needle finds in dressmaking, millinery, home furnishing, a large field for the application of art principles to the living, moving canvas of actual life.

Instruction in dressmaking is an important branch of domestic science. Lectures will be given on the following subjects: The methods of manufacturing thread, cloths and other dressmaking material; hygienic principles of dressmaking; study and sketching of drapery; history of costume, etc.

During the first term the work includes draughting and making simple skirts, cutting, fitting and making lined waists from patterns; a study of the texture of goods. Five hours a week.

Throughout the second and third terms instruction is given in draughting and making lined waists, matching stripes and plaids, study of woolen textiles. Five hours a week.

Courses IX, X, XI.—*Cookery*.—Junior year. The first term's work includes instruction in canning of fruits, one-half term; three lectures; one hour a week practice work in

the kitchen laboratory; technological cookery; preparatory work in chemistry of foods. Two hours a week. Laboratory fee, \$3.

The second and third terms' instruction includes practice work in cookery. Three hours a week throughout the year.

Course III.—*Etiquette*.—Freshman year; second term. Lectures and talks on social forms and usages; the art of entertaining.

Course XII.—*Aesthetics*.—Senior year; first term. Lectures and recitations on the subject of aesthetics.

This term is given to the general subject of aesthetics in its relations to the subjective and objective world; the kinds and laws of beauty; class readings from various authors on aesthetics; the application of aesthetic principles to discourse as we find it illustrated in the great master pieces of literature. Five hours a week.

Course XIII.—*Aesthetics*.—Senior year; second term. Application of aesthetic principles to the remaining fine arts, with a study of the best authors on these varied subjects. The two arts receiving especial attention during the coming year will be architecture and painting. Five hours a week.

Course XIV.—*Domestic Lectures*.—Senior year; third term. The term's work will include lectures on the following subjects: Special hygiene, including parentage, care of children, heredity, etc.; sanitation of the home; home furnishing; emergency lectures; fireside practice, etc. Five hours a week.

Course XIV—Helen Campbell's "Household Economics," and Pomeroy's "Ethics of Marriage."

MODERN LANGUAGES.

ELLEN J. CHAMBERLIN, A. M., Professor.

Opportunity to study German is offered throughout the different courses and is compulsory in the course in pharmacy during the sophomore and junior years. We teach in a large measure by the conversational method, and aim to bring the student so far that he can read with ease and facility, and understand so much of the language as will be most helpful to him in practical life. A knowledge of German is a business possession of undoubted value for any young man, or young woman.

Courses I to IV.—*Elementary German*.—Collar's Eysenbach—German grammar; First German Reader, Muller and Wenckebach's Gluck Auf. Hewett's German Reader. Constant practice in translating into German and in conversation.

Courses IV, V and VI.—*Advanced German*; Schiller's Wilhelm Tell; Jungfrau von Orleans; Marie Stuart. Lessing's Nathan der Weise; Seume's Mein Leben. Lectures on the life and works of Lessing, Goethe and Schiller and some of the minor writers of the eighteenth century. Grammar reviewed; Composition, Syntax.

MECHANICAL AND ELECTRICAL ENGINEERING.

GRANT A. COVELL, M. E., Professor.

E. C. HAYWARD, E. E., Assistant.

M. CLYDE PHILLIPS, B. M. E., Instructor in Ironwork and Drawing.

D. W. PRICHARD, Instructor in Woodwork.

Students in this department are allowed to choose either the course in mechanical engineering or the course in electrical engineering. Each course leads to the degree of Bachelor of Science, and the two courses are identical until the beginning of the junior year.

The course in mechanical engineering is intended especially for young men who expect to choose an industrial vocation and for those who are already, or expect to be, connected with some of the manufacturing establishments of the country.

The course in electrical engineering is designed to meet the needs of those who desire to turn their attention towards electrical science, the designing, the installation and the management of electric light and power plants, etc.

The shops are well equipped with tools and machinery from the best makers in the country; the idea being not only to have the shops well supplied with the necessary tools but also to make each shop a model as regards quality of equipment and systematic arrangement.

The uses of the various tools in the shop are taught by a series of exercise pieces which the student is required to make. After completing the exercises, the regular work consists in building and repairing machinery in the machine shop, mending farm implements, and making tools in the blacksmith shop, and other useful articles in the wood shop. So far as possible, all work in the shops is executed from drawings and blue prints, which must be followed accurately.

In the drafting room the student begins with linear drawing and follows a progressive course until he is able to make complete working drawings of whole machines, and finally he is encouraged to produce designs of his own and to make complete drawings and blue prints of them.

The scientific principles involved in machines and mechanical movements are taught in the class-room, as well as the application of mathematics to problems in mechanical engineering. The student is required to solve original problems and to depend upon his own judgment and ingenuity as far as possible.

EQUIPMENT.

The machine shop is equipped with one 24" x 24" iron planer, one universal milling machine, one universal tool grinder, one radial drill, one 20" drill press, one 20" engine lathe, one 16" engine lathe, three 14" engine lathes, one 15" shaper, one emery grinder, two 10" speed lathes, twelve bench vises, and numerous small tools, such as hammers, chisels, drills, reamers, taps and dies.

The blacksmith shop contains twenty stationary forges operated by an electric motor fan. Each forge is provided with anvil, hammers and tongs. The shop also contains two vises, a swedge block and a full set of swedges, fullers, and heading tools.

The woodshop contains one 4" four-sided moulder, one 24" surface planer, one iron saw table with rip and cut-off saws, one band saw, one jig saw, one 20" pattern-maker's lathe, one post boring machine, four 12" wood-turning lathes, and twenty hand benches, each equipped with a set of tools consisting of saws, planes, chisels and other small tools. Power is supplied by a 10 horse power electric motor.

The power house contains a 54 inch tubular boiler, pump, injector, feed water heater and a 40 horse power high speed automatic engine, belted direct to two 12½ kilowatt generators. These generators operate the motors in the machine shop, wood shop and blacksmith shop, and also furnish lights for the college buildings.

The steam, electrical and heating plants of the college furnish opportunity for much valuable experimental work in engineering, such as tests of boilers, engines, dynamos, motors, fans, pumps and injectors. The department is supplied with indicators, gauges, planimeters and other instruments to facilitate this work.

A Riehle testing machine of 50,000 pounds capacity, operated by an independent motor, affords means of testing the strength of metals, woods, stones or brick.

The following is an outline of the work done in the mechanical department:

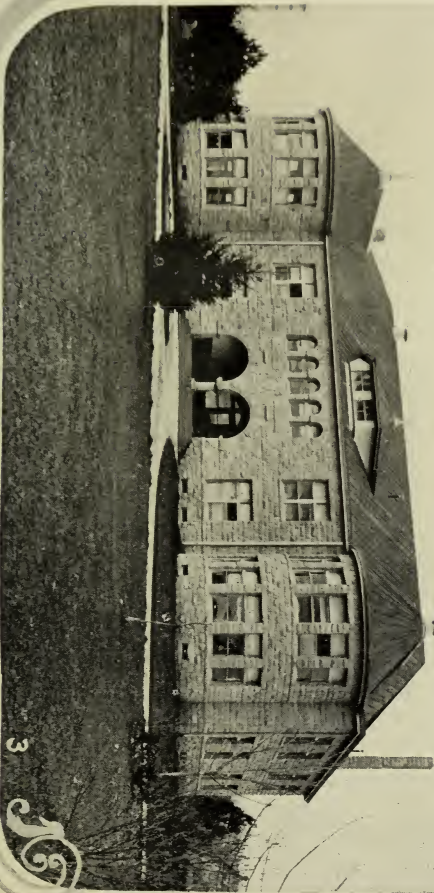
SHOPWORK.

Courses I, II and III.—*Woodwork*.—Freshman year. A course in woodwork which includes carpentry, joinery and wood-turning, also the care and use of tools. Five hours a week throughout the year.

Courses IV, V and VI.—*Blacksmithing*.—Sophomore year. In this course the student is taught how to make and manage a forge fire; to shape iron by bending, drawing, upsetting and welding, and finally to make and temper cutting tools for the shops. Five hours a week.

Course VII.—*Machine Shop*.—Junior year; first term. This course is devoted principally to chipping, filing, polishing and hand work. Five hours a week.

Courses VIII and IX.—*Machine Shop*.—Junior year; second and third terms. These include a series of exercise



3

Mechanical Hall (See page 15.)



12



18

12. Power House and Blacksmith Shop. 18. Campus—N. W. Corner.

pieces in turning, shaping, milling and drilling which the student is required to make from drawings. Five and four hours a week respectively.

Courses X, XII and XIV—*Woodwork*.—Senior year. These courses are elective and are intended for students who desire to specialize in this branch. Particular attention is given to the care and management of wood-working machines and to pattern-making. Five hours a week throughout the year.

Courses XI, XIII and XV.—*Ironwork*.—Senior year. These are elective courses and follow course IX. The work consists of constructing parts of machines, repair work, and making tools for the shops. Five hours a week throughout the year.

MECHANICAL ENGINEERING.

Courses I, II and III.—*Mechanical Drawing*.—Sophomore year. In these courses the student begins at once to make mechanical drawings of simple objects and finally makes sketches of machines from which working drawings are made. Ten hours, the first term; five hours the second term and three hours the third term.

Course IV.—*Mechanism*.—Junior year; third term. This course treats of the motion of machine parts, and is introductory to the course in machine design. Five hours a week.

Courses V and VI.—*Descriptive Geometry*.—Junior year; first and second terms. The work in these courses is largely drawing. It involves the solution of problems in projection and intersection of lines, surfaces and solids. Five and three hours a week respectively.

Course VII.—*Steam Engines and Boilers*.—Junior year; third term. A study of the construction, care and operation of steam engines and boilers; recitations and lectures. Four hours a week.

Course IX.—*Thermodynamics*.—Senior year; first term. Steam and other engines considered as heat engines. Two hours a week.

Courses VIII, XII and XIV.—*Mechanics of Engineering*.—Senior year. A course in applied mechanics. The first two terms are occupied with a discussion of statical and dynamical problems. During the last term the strength of materials is studied with special reference to beams, girders and trusses; also the mechanics of fluids relating to pressure, flow and carrying capacity of pipes and open ditches. Open only to those who have completed Mathematics VIII and IX. Five hours a week throughout the year.

Courses XI and XV.—*Machine Design*.—Senior year; second and third terms. A course applying the principles brought out in the courses in mechanism and mechanics to the design and construction of machine parts. Numerous practical problems are solved, the data for many of them being taken from machines used in the college, so that the student may compare his results with those used in practice. Considerable draughting is done in connection with this course. Seven hours a week.

PHYSICS.

Courses I and II.—*Elementary Physics*.—Sophomore year; second and third terms. These courses cover the usual topics of mechanics, heat, electricity and magnetism, sound and light. Instruction is given by means of lectures and recitations, alternating with laboratory practice. Seven hours a week.

Course III.—*Physics*.—Senior year; first term. A laboratory course, which is a continuation of the preceding courses, and deals more especially with experiments in

heat, light, sound and electricity. Seven hours a week.

ELECTRICAL ENGINEERING.

Courses I, II and III.—*Electricity and Magnetism*.—Junior year; first, second and third terms. Dealing with the general theory of electricity and magnetism and their most common application; such as the telephone, telegraph, electro-plating, electric lighting, etc. In the laboratory the student becomes familiar with the usual measurements employed by the electrical engineer. Special attention is given to the calculation of magnetic circuits, thus leading up to the course in dynamo design. Lectures, recitation and laboratory work. Seven hours a week first and second terms; three hours third term.

Courses IV, V and VI.—(a) *Alternating currents*.—Senior year; first term. Being a brief development of the elementary theory of alternating currents, using both the graphical and analytical methods of calculation. A continuation of courses I, II and III. Open only to those who have completed Mathematics VIII and IX. Lectures and recitations. Three hours a week.

(b) *Dynamo Design*.—Second term.—Theory and practice of the design of direct and alternating current dynamos and motors, including calculation and construction of field magnets, armatures, commutators, etc. Lectures and recitations, supplemented by the making of models in the laboratory. Three hours a week.

(c) *Practical Electrical Engineering*.—Third term.—Considerable time will be devoted to practical engineering problems, such as the calculation of circuits, installation of lighting and power plants, power transmissions, etc. Three hours a week.

(d) *Laboratory*.—An advanced course, being a continuation of the laboratory work carried on in courses II and III, including, in addition to the more common measurements, the measurement of insulation resistance, location of faults in cables, and construction of apparatus. Four hours a week throughout the year.

CHEMISTRY AND PHARMACY.

A. L. KNISELY, M. S., Professor.
*JOHN FULTON, B. S., Assistant Professor.
C. M. MCKELLIPS, PH. G., PH. C., Instructor.
FRANK E. EDWARDS, B. M. E., Instructor.

EQUIPMENT.

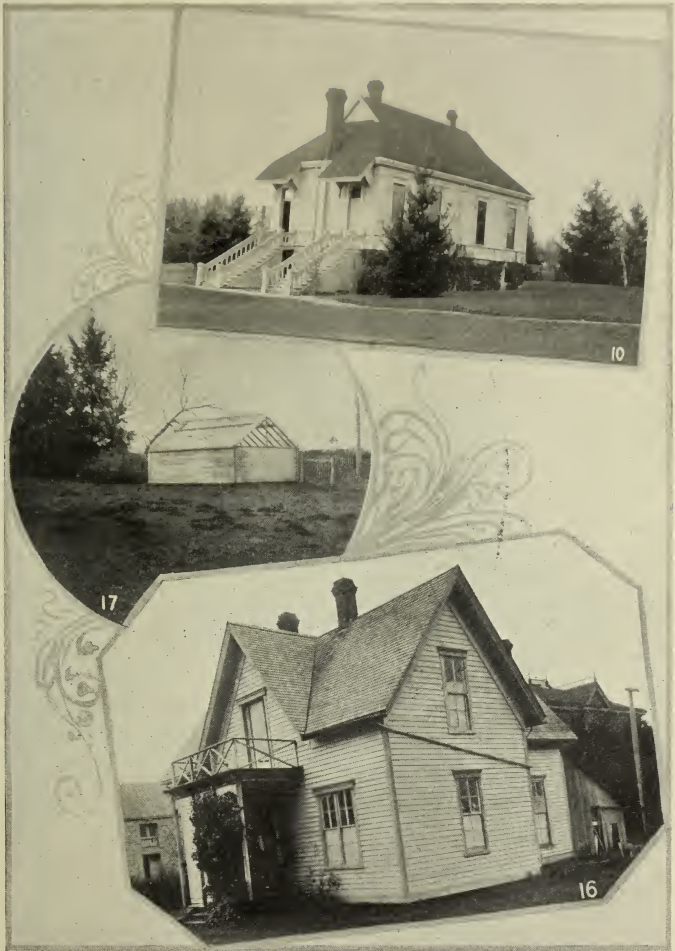
The Department of Chemistry occupies the entire south wing of Agricultural Hall. The various laboratories, lecture and recitation rooms are equipped for thorough, accurate work.

On the first floor are located the storeroom for chemicals and apparatus, and the laboratory for general and qualitative chemistry. This laboratory is supplied with gas, water and sinks to accommodate 100 students. A series of hoods extend along one side of the laboratory so as to keep the air in the room free from noxious gases and fumes.

The laboratory for careful quantitative analysis is located on the second floor. This laboratory is completely equipped for the work intended. A chemical library and balance room joins this laboratory. The chemical department of the college is equipped with two torsion balances, two high grade assay balances and four analytical balances.

On the third floor is located the lecture and recitation room for general chemistry; this room is provided with raised seats and has a seating capacity for 150 students. The lecture table in this room is supplied with gas, water and electric wires of sufficient size for a stereopticon or

* In Professor Fulton's absence, this chair has been filled by H. D. Gibbs, B. S.



10. Mines and Mining. 17. Insectary. 16. Pharmaceutical Laboratory.



Class Fountain, '02.

electric furnace. On this floor are also two small recitation rooms, each capable of accommodating 20 to 25 students.

A dark room is available whenever work is being carried on with the polariscope or spectroscope.

One room on the third floor is available when the subject of gas analysis is being studied.

All recitation and lecture rooms are supplied with desks, gas and water so that at all times the instructor in charge can fully illustrate the subject under consideration.

CHEMISTRY.

The study of chemistry is begun in the first term of the sophomore year.

Course I.—*General Inorganic Chemistry*.—Non-metals.—Sophomore year; first term. A daily exercise throughout the first term is devoted to recitations, lectures and laboratory practice. In this course special attention is given to the fundamental principles of the science, which are suitably illustrated either by experiments performed by the student in the laboratory, or, when too intricate and expensive of time, by the instructor before the class in the lecture room. The elements are discussed individually as well as their more important compounds.

The *practicum* of this course consists of a series of laboratory exercises dealing with the elements studied and is designed to introduce the student to chemical manipulation. Seven hours a week.

Course II.—*General Inorganic Chemistry*.—Sophomore year; second term. The study of the metals is entered upon in the second term and is conducted similarly to the study of the non-metals. The more important metals are individually discussed under the following heads: history, occurrence

in nature, properties, preparation, uses, tests, and compounds. Special attention is given to metals and their compounds which are of industrial importance.

The laboratory work of the second term consists of a study of the properties of the metals, being an introduction to qualitative analysis. This course must be preceded by Chemistry I. Seven hours a week.

Course III—*Elementary Qualitative Analysis*.—Sophomore year; third term. The student is required to apply and study the reactions involved in the ordinary methods of separation and identification of substances. The study includes the reactions, ordinarily used in qualitative analysis, but deals with only those substances usually met with in chemical work. The student repeatedly works through a scheme of separation in making qualitative analyses of unknown substances. Prerequisite Chemistry I-II. Four hours a week.

Course IV.—*Agricultural Chemistry*.—Junior year; first term. This course deals with the more intimate relation of the science to agriculture. Such topics as soil composition, elements essential to plant growth, soil exhaustion, fertilizers; chemistry of cattle foods, nutrition, dairy products and food adulteration are dealt with as fully as time permits. Prerequisites, Chemistry I, II and III. Five hours a week.

Course XXI.—*Agricultural Chemistry*.—Junior year; second term. This is a continuation of course IV and extends through the second term. Five hours a week.

Course V.—*Elementary Quantitative Analysis*.—Junior year; third term. The student is required to make the ordinary fundamental determinations of moisture, aluminum, calcium, magnesium, copper, lead, potash, sulfuric acid, phosphoric acid, chlorine, and carbonic acid by gravimetric processes;

estimations by volumetric methods including alkalimetry, acidimetry, precipitation, and oxidation will be undertaken. The work is so planned as to familiarize the student with the standard gravimetric and volumetric methods. This is a required course for all pharmacy students and is elective for students who have completed chemistry I, II and III, or XV. Seven hours a week.

Courses VI, VII, VIII.—*Advanced Quantitative Analysis*.—Senior year; first, second and third terms. A continuation of course V. This work extends throughout the senior year and is arranged especially for students electing theses in the department of chemistry. Elective. Seven hours a week.

Course IX.—*Assaying*.—Senior year; second term. A course in practical assaying of gold, silver, iron, mercury and copper ores. Must be preceded by chemistry I, II, III, and mineralogy I. Elective. Six hours a week.

Course X.—*Assaying*. Senior year; third term. A continuation of course IX. Elective. Six hours a week.

Course XI.—*Chemistry of Common Life*.—Sophomore year; third term. This is a short course treating of organic compounds of common life. It alternates during the third term with course III. This work is required of all students in agricultural and household science courses. Prerequisites chemistry I–II. Three hours a week.

Courses XII, XIII and XIV.—*Chemistry of Foods*.—Senior year. An elective extending through the senior year in the household science course. It is an expansion of the work in course XI, but limited to a study of foods from a chemical and scientific standpoint. This work must be preceded by chemistry V. Seven hours a week.

Course XV.—*Qualitative Analysis*.—Sophomore year; third

term. This course which is more extensive than Course III is designed for students in pharmacy and mining. It gives practice in the analysis of unknown mixtures and chemical compounds for both acids and bases. Prerequisites chemistry I-II. Ten hours a week.

Courses XVI, XVII.—*Pharmaceutical Chemistry*.—Junior year; first and second terms. This subject is designed for students of the pharmacy course. It embraces inorganic chemistry the first term and organic chemistry the second term. Prerequisites I, II, XV. Five hours a week.

Courses XVIII, XIX, XX.—*Pharmaceutical Analysis*.—Senior year; first, second and third terms. This work consists of advanced qualitative and quantitative analysis, both organic and inorganic. Under this head are taken up the separation, identification and determination of the active constituents of alkaloidal drugs and galenical preparations. During the spring term practical laboratory work in Toxicology is given. Ten hours a week.

THESES.

Undergraduates desiring to elect theses in the department of chemistry and pharmacy must have passed in one course of quantitative analysis.

GRADUATE ELECTIVES.

Elective work in chemistry is offered as a major or a minor subject for two years to candidates for the degree of Master of Science.

Advanced Analysis.—This course is intended for those who may desire to specialize in chemical work. It provides a greater variety of analytical work than can be given in courses V, VI, VII, VIII. It offers the following: analysis

of limestone, coal, iron ores, milk, butter, cheese, water, urine, sugar, and various other materials. A student desiring to investigate along any particular line, as mineral, sanitary, or agricultural chemistry, may do so. This course is open as a major subject to students who have completed courses I, II, III, or XV and V, VI, VII and VIII. In addition, a parallel course of reading must be taken, upon which the student will be required to pass a satisfactory examination at the end of the year. The work of the last year will be left largely to the student's choice, subject to the approval of the head of the department, and will serve as the basis for a graduation thesis. Hours to be arranged with the instructor.

GEOLOGY.

Course I.—*Geology*.—Senior year; first term. The course opens with work designed to acquaint the student with the common rocks and minerals as to their physical characters and appearance. The geological and mineralogical cabinets offer abundant opportunity for the study of specimens. The remainder of the course consists in a study of the aqueous, atmospheric, igneous, and organic agents in the earth's history; the structure and arrangement of rocks and the order of succession of strata. Elective in the agricultural and household science courses. Five hours a week.

MINERALOGY.

Course I.—*Determinative Mineralogy*.—Senior year; first term. An elective laboratory course open to seniors in both agricultural and mechanical courses. The student will make use of the blowpipe and reagents to determine and classify the more common metal-bearing rocks, and the ordinary gangues. Elective. Six hours a week.

Course II.—*Metallurgy*.—Senior year; second term. The first part of the term will be devoted to the study of refractory materials, such as fire clay, etc., and to furnace construction. In the second part special attention will be given to fuels and to the proper methods of working metals and alloys. Seven hours a week.

PHARMACY.

In addition to the ordinary equipment in constant use in the pharmaceutical laboratory—mortars, percolators, evaporation dishes, graduates, beakers, pilltles, spatulas, etc., the department is supplied with suppository moulds, compressors, drug mills, tablet triturate moulds, cachet and soft capsule filling and sealing apparatus, pill machine, pharmaceutical stills, etc.

Courses I and III.—*Pharmacognosy*.—Junior year; second and third terms. In these courses are considered both the gross structure and characteristics of the crude drugs and chemicals. The student is taught the appearance, taste, color, odor, fracture and habitat of the various crude drugs, and also receives careful drill on their Latin and English names. Special attention is directed toward the learning of the scientific classification of the vegetable drugs. The student has access to the specimens for study, and special effort is made to train the senses to the recognition of each of the drugs considered.

The pharmacognosy of the senior year consists in a thorough review of the work of the junior year and practice in the recognition of powders, liquids, chemicals, and pharmaceutical preparations. Two hours a week, Spring term.

Courses II, IV and VII.—*Pharmacy*.—Junior year. By means of a series of lectures and recitations during the first

term, the student is made familiar with the nature and objects of the practice of pharmacy, as well as with the scientific principles underlying it. His attention is directed particularly to the various classes of Pharmacopœial preparations, beginning with those of the more simple character and gradually advancing until a thorough understanding is acquired concerning those of the most complex formulæ.

Definitions are introduced wherever admissible, being supplemented by descriptive and theoretical considerations when necessary for a better understanding of the subject.

The work of the second and third terms is devoted largely to laboratory practice, during which time the student has ample opportunity for the practical application of the knowledge gained in the lecture room, and in the acquirement of pharmaceutical technique.

The preparations of the Pharmacopœia receive special attention, each student being required to make, independently, a sufficient number of these preparations to insure a thorough understanding of the processes and manipulations involved in their manufacture. Various unofficial preparations are also considered from time to time, especially those of the National Formulary.

The laboratory work is under the direct supervision of an experienced pharmacist and each student receives personal attention. The character of the instruction is such as will be of much practical benefit to the student in the subsequent event of his becoming a dispensing pharmacist. Two hours a week, first term, and five during second and third.

Course V.—*Therapeutics and Doses.*—Junior year; first term. The therapeutical uses of medicines serve as a basis for classifying them in a manner which will facilitate

study. The definitions of medical terms are given special attention in the junior year. In this connection the student also learns the minimum and maximum doses of all remedial agents in active use in the modern practice of medicine. Two hours a week.

Course VI.—*Nomenclature*.—Junior year. In this connection the student is shown the practical application and use of the Latin language in the professions of medicine and pharmacy.

The Latin titles of the Pharmacopœia, National Formulary and the more common terms that occur in the prescription are made the subject of a series of recitations. One hour a week, first term.

Courses VIII and XIV.—*Materia Medica and Therapeutics*.—Senior year; first and second terms. All substances which find use in medicine are here studied one by one as to source, Latin and English names, formulae (in the case of chemicals), compounds and preparations, properties, method of preservation, industrial and domestic use, impurities and adulterations, antidote (in case of poisons) and dose.

In the consideration of crude organic drugs, attention is especially directed to the constituents responsible for the medicinal activity of the drug, e. g., alkaloids, glucosides, volatile oils, etc. Three hours a week.

Course IX.—*Operative Pharmacy*.—Senior year; first term. This course is a continuation of that of the junior year and includes such preparations of the Pharmacopœia and of the newer classes of remedies as were not considered in the junior year. Attention is given to the manufacture of the more difficult preparations, both galenical and toilet, and to the correct methods of manipulation involved in preparing medicines for dispensing in cachets, soft capsules, etc.

The composition of the more important Pharmacopœial preparations, and of the percentage strength of the active constituents of each, are made the subject of close study. The work of the term ends with a final review of the entire subject of pharmacy. Six hours a week.

Courses X and XV.—*Prescription Practice*.—Senior year. The recitation work consists of reading, interpreting, criticising prescriptions and calculating doses. During the third term a series of general quiz recitations is held. This is preparatory to the State Board examination. Special attention is given to incompatibilities and to the solubility of chemicals. Unsightly, dangerous and explosive mixtures are also considered under this head. In this laboratory course and that of operative pharmacy the student gains experience for the prescription counter, learning the difficulties there met with and how best to overcome them. He also gains in manipulative skill in making extemporaneous preparations.

Each student is required to personally perform the operations under the direct supervision of the instructor. The student works not from book prescriptions, but from prescriptions written in the ordinary practice of physicians and found on file in the drug stores. Seven hours a week second term and eight hours a week third term.

Course XI.—*Pharmacognosy and Synonyms*.—Senior year; third term. The pharmacognosy of the senior year consists in a thorough review of the work of the junior year and practice in the recognition of powders, liquids, chemicals, and pharmaceutical preparations.

In addition to the knowledge of the scientific classifications of the medicines already considered up to this time, the student is further instructed regarding many "common

names," or synonyms, in general use in the ordinary practice of pharmacy. Three hours a week.

Course XIII.—*Toxicology*.—Senior year; third term. The important active poisons—both mineral and vegetable—are studied. Their physiological action, characteristic symptoms that follow their use, treatment and antidote are noted and commented upon. Attention is directed to the conditions and regulations provided by the Oregon Pharmacy law for the handling and sale of poisons within the state. One hour a week.

From time to time special lectures are given on hygiene, pharmaceutical jurisprudence, etc.

STATE EXAMINATION AND REGISTRATION.

At its meeting held on December 14, 1898, the Oregon State Board of Pharmacy passed the following resolutions endorsing the course here offered:

WHEREAS, The Oregon State Agricultural College has established a course in pharmacy and chemistry that meets with the hearty approval of this Board, inasmuch as it offers a large proportion of practical work; therefore, be it

Resolved, That the Oregon State Board of Pharmacy acting in accordance with Sections 5 and 6 of the Oregon Pharmacy Law as amended, grant to students of the Oregon Agricultural College, who complete the full course and hold a diploma from said institution, after they shall have been subjected to such examination, at Corvallis, Oregon, as this Board may approve, on the completion of the senior year, a certificate to act as a registered pharmacist in this state.

Provided, That any student who may have taken the last two years of the course only and who does not hold the regular diploma from the said institution, on passing the examination aforesaid shall only be granted the certificate of a registered assistant.

The training in the pharmaceutical course is largely conducted in the laboratory for it is only by this means that the student can form an intimate personal acquaintance with the material and the best methods of manipulation. Thus it is that he receives systematic practice in dispensing, in the examination of drugs as to identity, purity, and strength, and in the manufacture of various preparations from crude drugs. The requirements of the U. S.

Pharmacopœia are always kept in mind, and the student is always held strictly responsible for the purity of his preparations and the accuracy of his work. The course aims to teach students facts and principles of immediate use in the drug store, adapting the work to the needs of the practical pharmacist and manufacturing chemist. It is, however, further recognized that a thorough foundation must be laid for this work, and in view of this, two years of preparatory work are required in the college, or its equivalent in some other school. Students who have had equivalent work elsewhere can complete the course in pharmacy in two years.

EXPENSES IN CHEMISTRY AND PHARMACY.

Tuition is free at this institution, but to cover the cost of material used and wasted in the laboratories a small laboratory fee and a deposit for breakage will be charged in the chemical and pharmaceutical laboratories as is the custom in all institutions. These fees are payable each term strictly in advance.

Chemical laboratory: Courses I, II, III.

Material.....	\$1.50
Deposit for breakage.....	1.50

Qualitative Analysis XV or Quantitative Analysis:

Material.....	\$3.00
Deposit for breakage.....	2.00

Pharmaceutical Laboratory, per term:

Material.....	\$3.00
Deposit for breakage.....	2.00

Assaying Laboratory, per term:

Material.....	\$3.00
Deposit for breakage.....	2.00

Laboratory work accompanying theses, per term:

Material.....	\$3.00
Deposit for breakage.....	2.00

Text and reference books in chemistry: General Chemistry, Newell, Young; Qualitative Analysis, Johnson and

Prescott, Irish; Quantitative Analysis, Smith and Cheever; Agricultural Chemistry, Johnson; Organic Chemistry, Remsen; Roscoe and Schorlemmer, Watt's Dictionary of Chemistry, Thorpe's Dictionary of Applied Chemistry, Thorpe's Industrial Chemistry, Wiley's Principles of Agricultural Chemistry, Fresenius, Crooke's Select Methods, Sutton's Volumetric Analysis, Stillman Engineering Chemistry, Official Methods, etc.

Text and reference books in pharmacy and materia medica: Handbook of Pharmacy, Coblentz; Practice of Pharmacy, Remington; Quantitative Analysis, Sturmer and Vanderkleed; Organic Analysis, Prescott; The Art of Compounding, Scoville; Medical Chemistry, Bartley; Materia Medica, Culbreth; same, White and Wilcox; Dose Book, Hoak; U. S. Dispensatory; King's Dispensatory; U. S. Pharmacopœia; same, of Homœopathy; National Formulary. Numerous other books and trade journals are to be found in the college library and are accessible to students.

ENGLISH LANGUAGE AND LITERATURE.

F. BERCHTOLD, A. M., Professor.

IDA B. CALLAHAN, B. S., Assistant Professor.

ELLEN J. CHAMBERLIN, A. M., Instructor.

English as a required study is found extending in most of our courses to, and including part of, the junior year. It is offered as an elective in two terms of the junior year, and in the senior year.

Courses S., B., F.—The course in preparatory English is designed to secure accuracy and freedom in expression. There is work in spelling, writing and simple grammatical constructions. Written exercises prepared under rules of form are constantly required, to obtain practice and secure confidence in expression. Reed and Kellogg, "Higher Lessons in English." "Seventy Lessons in Spelling." "Elementary English Composition," Scott and Denny.

It is well understood that the art of using one's native tongue correctly and forcibly is acquired for the most part through imitation and practice, and is not so much a matter of knowledge as of habit. To become familiar with good use, we must read the best literature; a student familiar with the best language of reputable writers and speakers will use good English without conscious effort. Indeed, good reading is indispensable to good speaking or writing; and rules and dictionaries are of little benefit without it.

Throughout the courses, therefore, there is required an amount of collateral reading equivalent to two books per term, or six per scholastic year. The student prepares

condensive abstracts of these books, and supplements this work by selecting and memorizing from each book six short quotations embodying general truths.

The books to be read and studied in the Subfreshman year are: Defoe's "Robinson Crusoe;" Bunyan's "Pilgrim's Progress;" Hughes' "Tom Brown's School Days;" Edward Everett Hale's "The Man Without a Country;" R. D. Blackmore's "Lorna Doone;" G. W. Cable's "The Cavalier."

Courses I, II, III.—*Composition and Rhetoric*.—Freshman year; first, second and third terms. Review of English grammar; review of punctuation. Daily practice in spelling. Description; narration. Collection of material for a theme. The study of words, the sentence, the paragraph. Figures of speech. The burden of these courses is description and narration. Extracts from classic literature are read and analyzed in class. Written reports are handed in, giving distinctive features in the description or method of movement in the narration. Short descriptions and narrations are written on demand in the class under limit. There are also constant recitations and exercises under grammatical rules and constructions to secure order and accuracy. The work, here as well as in all other courses in English, is done with a view to the increase of the student's vocabulary, and to develop ease and exactness of expression in his compositions. Lockwood and Emerson's "Composition and Rhetoric." Collateral reading. Books to be read and studied in the freshman year:

"The Sketch Book," Washington Irving.

"Sir Roger De Coverley," Joseph Addison.

"Silas Marner," George Eliot.

Courses IV, V.—*Rhetoric*.—Sophomore year; first and second terms. This course is carried on co-ordinately with

Genung's Rhetoric. It emphasizes Criticism, Exposition and Argument.

A number of formal papers are required during the year. The subjects are assigned and the methods follow principles laid down by Genung, and Lockwood. Much attention is given to definition of terms and to making clear expositions of ideas contained in paper.

By way of review many short exercises are also written under the simple fundamentals of composition and in study of sentence and paragraph structure. Collateral reading.

Course VI.—*English Literature*.—Sophomore year; third term. The long course of English literature necessitates the division of it into a number of periods marked by the presence of new and weighty influences. In each period there are a few writers that stand, by reason of their ability and enduring work, in positions of recognized preeminence. We aim to extend the study of the works of such writers—our classic authors—sufficiently far to include considerable fulness of biographical and critical detail.

Formative Period.—Chaucer, "Canterbury Tales:" Prologue and Knight's Tale.

First Creative Period.—Spencer, "Faery Queene." Cantos I and II. Bacon, Essays. Shakespeare, "Merchant of Venice." Collateral reading.

Courses VII and VIII.—*English Literature*.—Junior year; first and second terms. Civil War Period: Of Milton's minor poems: "L'Allegro" and "Il Penseroso." The Restoration: Dryden, selections. Queen Anne Period: Addison. Pope, selections. Age of Johnson: Burns, selections. Goldsmith, "The Deserted Village." The Nineteenth Century: Scott, Byron, Wordsworth, Tennyson. Selections from each. Collateral reading.

Courses IX and X.—*American Literature*.—Junior year; third term, and senior year, first term. A study of the leading periods and principal writers of American literature, with particular emphasis of what is usually termed the First National Period, representing such authors as Irving, Cooper, Bryant, Poe, Emerson, Hawthorne, Longfellow, Lowell, Whittier and Holmes. Collateral reading as in other courses in English.

Courses XI and XII.—*Elective Courses in English Literature*.—Senior year; second and third terms. A critical study of four or five representative plays of Shakespeare and selections from Wordsworth, Tennyson and Browning. Papers on assigned topics and reports upon collateral reading are required throughout the courses.

MATHEMATICS AND ENGINEERING.

GORDON V. SKELTON, C. E., Professor.

CHARLES L. JOHNSON, B. S., Instructor.

The course in Mathematics includes such of its branches as the distinctive aims of this institution require, and conforms itself, in general, to that in use in the most successful agricultural colleges.

That the study may to the fullest extent strengthen and discipline the mind for connected, logical thought, thoroughness and accuracy are insisted upon at all times. In the class-room all principles and demonstrations must be presented in an orderly and logical manner. The constant aim is to cultivate the powers of insight, judgment, and originality.

Course I—*Algebra*.—Freshman year; first term. From quadratic equations on. This course is open to students who have completed the sub-freshman work and to new students who can satisfy the department that they are prepared for the work. A review of about ten days will be devoted to the topics that precede quadratic equations. Five hours a week.

Course II—*University Algebra*.—Sophomore year; second term. From ratio and proportion to theory of numbers. This course is open to all students who have successfully passed course I. Five hours a week.

Course III—*University Algebra*.—Sophomore year; third term. From the theory of numbers on. This course is open

to students who have had courses I and II or their equivalent. Five hours a week.

Course IV—*Plane Geometry*—Freshman year; second term. This course includes all that is found in the first four books of plane geometry in any standard text, as Wentworth's. Special emphasis is laid upon definitions and principles. Original demonstrations are given and much time is devoted to "original" theorems and problems and at all times proofs and demonstrations are freely criticised and discussed in the class-room. Five hours a week.

Course V—*Plane, Solid and Spherical Geometry*.—Freshman year; third term. This course includes book V of plane geometry and all of solid and spherical geometry. Students must have had course IV before taking this. Five hours a week.

Course VI—*Trigonometry*.—Sophomore year; first term. Students must have had courses I, IV and V before taking this. Only enough time is given to spherical trigonometry to enable the student to solve the spherical triangle. Much time is devoted to practical triangulation and measurements. The department is supplied with all the necessary instruments which the students use under the direction of the instructor. Five hours a week.

Course VII—*Plane Analytical Geometry*.—Junior year; first term. This work is required of all students taking the mechanical and electrical engineering courses. The work embraces the subjects treated in Ashton's Analytic Geometry. Five hours a week.

Course VIII—*Differential Calculus*.—Junior year; second term. This course is required of the same students as is course VII. Among the topics considered are differentiation and applications, evaluation of indeterminate forms, ex-

pansion of functions, Taylor's and Maclaurin's theorems, maxima and minima, points of inflection, curvature, change of independent variable, functions of two or more variables, asymptotes, curve tracing, etc. Five hours a week.

Course IX—*Integral Calculus*.—Junior year; third term. Among the topics considered are direct integration, definite integrals and applications, integration of rational fractions, integration by rationalization, integration by parts, integration of trigonometric forms, etc.; applications to finding the lengths and areas of curves, surfaces and volumes of solids of revolution, etc.; double and triple integration and applications. In this course, as in course VIII, great stress is laid upon practical applications, and a large number of practical problems are solved. Five hours a week.

Course X—*Surveying*.—Sophomore, Junior and Senior years; third term. The greater part of the time is spent by the student in the field with the various instruments. He is required to make surveys from descriptions given him as well as to write descriptions from surveys made by himself. In all cases notes must be carefully kept and worked up in the office.

The engineering department is equipped with the necessary instruments, including a railroad compass, two transits with solar attachments, plane-table, Y level, hand-level, rods, chains, tapes, etc.

Course XI.—*Astronomy*.—Senior year; third term. That this most elevating and refining subject may be open to a greater number of students, it will be confined to descriptive astronomy and may be taken by students who have completed courses I to V, inclusive. Much time will be devoted to uranography. Five hours a week.

Course XII.—*Agricultural Engineering*.—Senior year; third term. This course is open to students who have completed course X. Under this head will be given instruction in road location and construction, including consideration of various road materials; designing of highway bridges; inspection of existing structures; designing, locating and constructing agricultural drainage systems; laying out farm buildings, etc. Instruction given in the class-room will be applied wherever possible. Five hours a week.

Course XIII.—*Mine Surveying*.—Junior year; first term. The instruments and their adjustments, form of field notes, maps and their construction, methods of connecting underground surveys with the surface, methods of traversing underground, etc., will be considered. This work must be preceded by course X. Three hours a week.

Course XIV.—*Tunneling and Leveling*.—Junior year; second term. The various problems of alignment, grade, and constructive details of tunneling and underground work will be considered. Much time will be devoted to the survey, location and construction of hydraulic works. Five hours a week.

Course XV.—*Mining Engineering*.—Senior year; third term. The subjects treated are the planning and laying out of framed structures, power plants, roads, dams, reservoirs, and hydraulic engineering works, etc. Five hours a week.

ZOOLOGY.

A. B. CORDLEY, M. S., Professor.

W. T. SHAW, B. Agr., M. S., Assistant.

The work in this department is designed to give the student that knowledge of biological laws which is to-day regarded as an essential part of a liberal education. It aims to create a growing interest in the study of our native birds, insects and other animals and their interrelations with one another, with native and cultivated plants and with rural life; to give a knowledge of the foundation facts of morphology and physiology on which depend many of the principles of scientific stock breeding and feeding, of veterinary science and of human physiology and hygiene; and above all from an educational standpoint, it aims to train the student's perceptive faculties, to teach him to see, to do and to reason from observed facts.

The laboratories of the department occupy six rooms on the third floor of the agricultural building. They are well supplied with necessary apparatus including compound and dissecting microscopes, camera lucidas, eyepiece and stage micrometers, an automatic microtome, dissecting sets, dry and steam sterilizers, incubators, reagent sets and numerous smaller articles, all of which are for the use of students.

For the purpose of illustration there are in addition to the general museum and the entomological collection a set of the celebrated Leuchart zoological charts, enlarged dissectable models of the human ear, eye, heart, brain and larynx and a large series of microscopic mounts.

The general museum, which occupies the main part of the fourth floor of the agricultural building, also contains a small but typical collection of mounted mammal skins; a collection of mounted skins of native birds; a collection of mounted bird skins from Alaska; a collection of more than one hundred species of eggs of native birds; a small collection of fishes and reptiles; a considerable number of marine invertebrates, including a small but beautiful collection of Philippine shells; a small but interesting collection of skulls and disarticulated and articulated skeletons; and the largest collection of Oregon insects in existence.

Course I.—*Invertebrate Zoology*.—Sophomore year; third term. A course devoted principally to the morphology, physiology and ecology of invertebrates. Particular attention is given to the study of the single celled forms since it is believed that the student can thus best gain an insight into the structure and physiological activities of the higher animals. Some of the types studied are the amœba, paramœcium, vorticella, sponge, hydra, starfish, crawfish, earthworm, mussel and grasshopper. Required in the agricultural, household science, pharmacy and literary commerce courses. Seven hours a week. Laboratory deposit, \$3.00.

Course II.—*Entomology*.—Junior year; first term. A study of the structure, classification and habits of insects, with particular reference to those which are beneficial or injurious. Instruction is given in methods of collecting and mounting insects and in studying their life-histories and in the preparation and use of insecticides. Required in the agricultural, household science and literary commerce courses. Prerequisite, course I. Seven hours a week. Laboratory deposit, \$1.00.

Course III.—*Vertebrate Zoology*.—Junior year; second

term. A course devoted principally to the morphology and physiology of vertebrates. A careful comparative study is made by dissections of several vertebrate types, particular attention being given to the Guinea pig as a type of the mammalia. The relation of function to structure is kept constantly in mind throughout the course which thereby becomes valuable as an introduction to the study of human physiology and veterinary science. Required in the agricultural, household science, pharmacy and literary commerce courses. Seven hours a week. Prerequisite, course I. Laboratory deposit, \$3.00.

Course IV.—*Physiology*.—Junior year; third term. A course in human physiology designed for students having a knowledge of general biology and of vertebrate anatomy. The student should also possess some knowledge of chemistry and physics. Required in courses in agriculture, household science and pharmacy. Prerequisites, courses I and III. Five hours a week.

Course V.—*Physiology*.—Junior year; second term. A course in the elements of human anatomy and physiology designed for students with no previous biological training. Text-book, lectures and demonstrations. Martin's Human Body. Required in the course in mechanical engineering. Five hours a week.

Course VI.—(a) *Evolution*.—Senior year; first term. A course of lectures and collateral reading on organic evolution; covering such topics as the evolution of evolution, variation, struggle for existence, heredity, etc. Prerequisites, courses I and III. Two hours a week. Elective.

(b) *Systematic Zoology*.—A discussion of the principles of zoological classification with particular reference to species

of economic importance. Prerequisites, courses I and III. Three hours a week. Elective.

(c) *Advanced Entomology*.—A laboratory study of some restricted group of insects, of some particular species of economic importance, or of the insects affecting some particular crop. In this course students have free access to the collections and the library and records of the experiment station. The course extends throughout the year. Prerequisites, courses I and II. Seven hours a week. Elective.

Course VII.—(a) *Histology*.—Senior year; second term. A course of laboratory practice in fixing, hardening, imbedding, sectioning, staining, mounting and studying the tissues of the higher animals. Prerequisites, courses I and III. Seven hours a week. Elective.

(b) *Advanced Entomology*.—A continuation of course VI c.

Course VIII.—(a) *Embryology*.—Senior year; third term. Mainly a laboratory course in the study of the development of the frog and the chick, supplemented by a study of the general facts and principles of embryology. Prerequisites, courses I, III and VII a. Seven hours a week. Elective.

(b) *Advanced Entomology*.—A continuation of courses VI c and VII b. Seven hours a week. Elective.

BOTANY AND HORTICULTURE.

EDWARD R. LAKE, M. S., Professor.

BOTANY.

The aim of the regular course in botany is to give the student such a working knowledge of plants and plant-life as will enable him to intelligently consider the various problems of vegetable life on the farm, in the garden or forest.

The student is taught to observe plants; to become familiar with them through a working association; to ascertain by actual field work and observation what plants do, and what relations they bear to each other, and to other forms of life.

The chief features of the work in this subject are field and laboratory exercises, supplemented by lectures and recitations. Text and reference books are used merely as guides, or for the purpose of furnishing suggestions to the end that the student may be the better enabled to make the field, garden, greenhouse and laboratory work the more effective.

The department has a good working equipment for the courses outlined. Individual sets, comprising dissecting and compound microscopes, laboratory glassware and other apparatus are supplied each student at a moderate rental fee. The collection of mounted and unmounted plants, especially rich in Oregon types, together with charts, models and preserved specimens furnish ample material for both the regular and special advanced work in the several courses.

Course I.—*Plant Morphology*.—Freshman year; third term. Laboratory and field exercises, together with recitations. The gross structure of our common flowering plants is the main topic of the term's work, though incidentally germination, growth, fertilization and fructification are considered. Each student is required to collect, mount, label and classify specimens of the common field plants, and samples of seeds of native plants. Seven hours a week. Laboratory deposit, \$1.00. Leavitt, *Outlines of Botany*; Coulter, *Plants*.

Course II.—*Plant Histology*.—Sophomore year; first term. Laboratory work with the dissecting and compound microscopes. The exercises of this course cover the minute structure of the higher plants, together with a brief consideration of the lower forms of plant life. Seven hours a week. Laboratory deposit, \$2.50. Coulter, *Plants*; Strassburger and Hillhouse, *Practical Botany*.

Course III.—*Plant Physiology*.—Junior year; first term. Laboratory exercises and recitations. The subject is considered with special reference to the needs of the agriculturist and horticulturist. The principal part of the discussion is upon those phases of the subject that bear directly upon our cultivated crops. Seven hours a week. Pre-requisite, course II. Laboratory deposit, \$3.00. Sorauer, *Physiology of Plants*; McDougal, *Plant Physiology*.

Course IV.—*Plant Classification*.—Junior year; third term. This course is designed to meet the demands of the pharmacist for a working knowledge of plants in general. Much stress is laid upon field and laboratory work. Plant relationships, plant societies, regional types, plant products, the medicinal and poisonous species of our common plants, together with a discussion of the various parts of plants used

in pharmacy are some of the topics considered during the term's work. Required in the course in pharmacy. Seven hours a week. Laboratory deposit, \$1.50.

Course V.—*Plant Pathology and Hygiene*.—Senior year; first term. Laboratory and field work supplemented by lectures and recitations. The common fungous foes of the cultivated field, orchard and garden crops, together with the means of prevention and remedy are considered at length. Seven hours a week. Elective. References, Lodeman, Weed and Masee.

Course VI.—*Plant Products*.—Senior year; second term. Economic plants and their various preparations and uses. History, development, and distribution of the plants that furnish the world with its chief supply of material for food, shelter, clothing, fuel, medicine and the arts. Elective. Seven hours a week.

Course VII.—*Systematic or Cryptogamic Botany*.—Senior year; third term. The work of this course is arranged to meet the needs of those electing it. In the systematic work, the student collects and classifies a hundred or more of the local plants, giving data as regards habitat, and distribution, and prepares a synopsis of the orders considered and species collected. Some time is also devoted to a study of current botanical literature.

In the cryptogamic work, the exercises are confined chiefly to a study of the comparative morphology of the fungi, algæ and other flowerless forms of plant life. Seven hours a week. Elective. Laboratory deposit, \$2.50.

The laboratory deposits in courses I, II, III, IV, VII, VIII, IX, X and XI are required of all students, and are made to cover possible loss and breakage of apparatus used. At the close of each term such balance as may remain, is re-

turned to the student. All deposits are required to be made in advance.

Course VIII.—*Forestry*.—Senior year; first term. Lectures, laboratory exercises and field work. The topics of the course are: Pacific coast forests; areas, type trees, and products; forest trees, chief characteristics, particular uses, and identification. Five hours a week. Elective.

Course IX.—*Forestry*.—Senior year; second term. Lectures. Forest culture; forest management; forest protection; forest laws. Five hours a week. Elective.

Course X.—*Forestry*.—Senior year; third term. Lectures, laboratory exercises and field work. Plant diseases, especially those affecting forest trees. Fungous foes of timber. Timber preservation. Seven hours a week. Elective. Laboratory deposit, \$2.50.

Course XI.—*Construction of Woods and Metals*.—Senior year; second term. A course designed to supply the student with a practical knowledge of the minute structure of the leading kinds of timber and metals used in construction. No better designs of structures for strength, elasticity, buoyancy, compactness and rigidity are offered than those devised by nature for use in plant structures. The value of metals for constructive purposes depends very largely upon fibre, molecular structure and crystallinity. A microscopic examination of these features of metals gives the student an insight into the fundamental properties of these materials. Timber and metal diseases are considered at some length. Lectures and laboratory exercises. Seven hours a week. Elective. Laboratory deposit, \$2.50.

Course XII.—*Agrostology*.—Senior year; first term. A brief course designed to meet the needs of those students who desire to get a working knowledge of the more common

forage grasses, particularly the local native and introduced species. The economic aspect of the subject so far as relating to culture and feeding-value will be considered by the agriculturist.

HORTICULTURE.

The work in horticulture is so arranged as to give the student a working knowledge of the principles and practices of modern horticulture, especially applicable to Pacific Coast conditions and requirements.

The experiment station orchard of over two thousand fruit trees, shrubs and vines furnishes ample material for all phases of the work of the several courses.

Course I.—*Plant Propagation*.—Senior year; first term. House and field exercises in seeding, grafting, cutting, layering, pruning and budding, together with recitations. Two and one-half, or five hours a week. Goff, Principles of Plant Culture.

Course II.—*Plant Culture*.—Senior year; second term. Lectures and recitations on orchard, garden and vineyards fruit crops, including selection of soils, planting, cultivating, pruning, harvesting, storing and marketing. Two and one-half, or five hours a week. Bailey, Principles of Fruit Growing.

Course III.—*Plant Evolution and Improvement*.—Senior year; third term. Lectures and recitations covering the various phases of evolution as bearing especially upon our cultivated plants, together with a discussion of the principles and practices of plant breeding, and improvements by selections and cross fertilization. Five hours a week. Bailey, Plant Breeding; Bailey, The Survival of the Unlike.

ELOCUTION.

HELEN V. CRAWFORD, B. S., Professor.

“There is one accomplishment, in particular, which I would earnestly recommend to you, Cultivate assiduously the ability to read well. Good reading is the natural exponent and vehicle of all good things. It seems to bring dead authors to life again, and makes us sit down familiarly with the great and good of all ages.”

It is the purpose of this department to train the pupils to become thoughtful, intelligent, and agreeable readers. To give them the power to extract thought from the printed page, and by systematic drill both in physical culture and voice work to give them adequate vocal expression. To instill in the minds of pupils a love for good literature, and a genuine pleasure in interpreting and rendering the same.

Courses I and II.—*Elocution*.—Freshman year; first and second terms. Analysis and rendering. Voice culture, physical culture. Two hours a week. *Evolution of Expression*, Vol. I., C. W. Emerson.

Course III.—*Elocution*.—Sophomore year; first term. Voice culture, bodily expression, analysis and rendering. Two hours a week. *Evolution of Expression*, Vol. II., C. W. Emerson.

Junior year.—Rhetorical exercises will be required first term of junior year.

Courses IV, V and VI.—*Advanced Elocution*.—Senior year; first, second and third terms. Voice culture, rhythmic movements, literary analysis and rendering. Elective. Two hours a week. *Evolution of Expression*, Vol. III., C. W. Emerson.

FLORICULTURE AND GARDENING.

GEORGE COOTE, Professor.

W. T. JOHNSON, B. S. A., Assistant.

Instruction in floriculture is given to the classes in household science. Floriculture is intended to acquaint students with the habits and requirements of the many hardy plants for outside decoration and also with the propagation and management of tropical and subtropical varieties. Thus students are enabled to acquire considerable insight into the proper care of greenhouses. In order that this plan may be carried into effect, lectures supplemented by practical work in the propagation, potting and care of plants, are regularly given in the classes.

Course I.—Sophomore year; first term. Propagation of spring and summer plants for adorning the home grounds.

Course II.—Senior year; third term. Propagation of soft wooded plants, care of greenhouse, propagation and care of winter flowering plants.

Course III.—Senior year; first term. Vegetable Gardening, elective. Location and soil, irrigation and rotation of crops. Harvesting. Care of seeds; improvement of varieties.

The aim is to teach students to become successful cultivators. The instruction given is both practical and theoretical.

Course IV.—Senior year; second term. Composting Manures. Application for early and late crops. Cultivation to develop plant food. Care of cold frames, and winter protection of young plants for early spring planting. The building of greenhouses for forcing vegetables.

Course V.—Senior year; third term. Green's "Vegetable Gardening" will be used as a text-book.

Course VI.—Senior year; third term. Landscape Gardening is treated as a fine art. Introductorily the arts of design in general are discussed. Then are discussed the principles, aims and methods of artistic gardening. The principles, when once understood, are applied to the embellishment of home grounds, cemeteries, parks and highways.

BACTERIOLOGY.

EMILE F. PERNOT, Professor.

Within the last decade bacteria have laid a very strong hold on the thought and imagination of the scientific world, and have come to be looked upon as playing a most important part, not only in the production of disease and in fermentation, but also in many everyday processes hitherto supposed to be dependent on very different causes.

In consequence of this, bacteriology has been raised to the dignity of a science, and its ramifications have become so numerous and widespread that many of the other sciences, and even some of the arts, have been freely pressed into the service of one or the other of its branches.

The study of bacteriology has made great strides both in the pathological and the technical branches of the subject; and just as investigations into the physiology of higher plants gave the first impetus to the establishment of agricultural experiment stations in all countries; so, in like manner, the physiology of fermentation and technical bacteriology have called into existence, within the last few years, a number of stations and laboratories for the development of those branches of industry wherein microorganisms play an important part.

This college has a well equipped bacteriological laboratory for the investigation and study of bacteriological diseases, both animal and vegetable.

The following courses of lectures and laboratory work have been added to the college curriculum as electives in the senior year.

Course I.—*Bacteriology*.—Senior year; first term. A course in the elements of bacteriology, including lectures, and laboratory practice in sterilizing, making culture media, inoculating and growing cultures, studying cultural characteristics of certain definite species of bacteria, mounting, staining and examining slides, classification.

Course II.—*Dairy Bacteriology*.—Senior year; second term. Study of the bacterial diseases of milk, bacteria in the dairy, study of bacteria in butter making, and in cheese making. Study of yeasts and ferments.

Course III.—*Bacteriology*.—Senior year; third term. Lectures and laboratory work in pathogenic germ diseases of stock and poultry; a study of vaccines, their manufacture and use; of the nitrifying bacteria in leguminous plants; of bacteria in the soil and the bacterial analysis of water.

DRAWING.

FARLEY D. MCLOUTH, B. S., Instructor.

Of the five senses, or gateways of knowledge, two, seeing and hearing, belong to the intellectual part of our nature, while the others chiefly supply our animal wants. The sense of seeing is at once the most active, the most comprehensive and the most intellectual of them all. It is the servant of the soul and through it we receive the richest ideas.

The chief aim of the course in drawing is to teach the student to see truly, to obtain quicker perceptions of the natural world and to preserve something of a true image of beautiful things that pass away. Few among us see truly what we see and then only what we have been educated to see. While no teaching can make an artist in the full sense of the word, any more than the study of the forms and methods of poetry can make a poet, yet drawing, as surely as rhetoric, should form a part of any thorough education; for besides the general quickening of perception and the training of the eye to accuracy of sight, it affords the means of noting the forms of objects such as no written descriptions can secure. At its lowest estimate it is an accomplishment perhaps larger in resources of pleasure than any other, while at its highest, it affords a mode of expression second only to language itself.

In considering the study of drawing, its importance is too often lost sight of, and yet it may be safely said that not only is drawing a corner stone in the foundation of an industrial education, but of a scientific education as well. In engineering courses, for instance, a knowledge of drawing is one of the first requirements.

In the first and second terms of the freshman year the work is confined entirely to outline drawing, realizing that as an aid in other branches of study, careful outline is of more importance than shading. Exactness of outline and accuracy of proportions are the aim.

Course I.—*The Elements of Drawing*.—Freshman year; first term. The work includes the first principles of drawing and of freehand perspective, drawing from simple block casts. Lectures. Three hours a week.

Course II.—*The Elements of Drawing*.—Freshman year; second term. A continuation of course I, drawing from casts. Lectures. Three hours a week.

Course III.—*The Elements of Drawing*.—Freshman year; third term. Everything that is seen in the world around us presents itself to our eyes in an arrangement of spots or patches of different colors variously shaded, or patches of light and shade, and to this course III is shaped making a decided change. To one not having a knowledge of the work, it might seem as though it were carried far to the other extreme, for now we use no outlines at all, but work in patches or spots, and give our attention to areas and values of light and shade. The work is from casts of geometric figures and from simple still-life studies. Students taking the mechanical or mining engineering courses are given two hours a week in machine sketching and light and shade drawing of machine forms. Lectures. Three hours a week and course II continued two hours a week.

Courses IV, V and VI.—*Advanced Drawing*.—Senior year. Facilities for advanced work are offered as an elective throughout the senior year. The work includes still-life, cast drawing, carried to the antique and leading to work from life as the pupil exhibits ability. Lectures. Five hours a week.

MUSIC.

MORDAUNT GOODNOUGH, Director.

TECHNIC.

Courses I and II.—Mason's Technics.—Freshman year; first and second terms. Scales and arpeggios through four octaves with rhythmical treatment. Mathews' Studies, Vol. 3, and supplementary studies by Czerny and others.

Course III.—Technic.—Freshman year; third term. Canon scale exercises in the keys of D^b, G^b and E^b Etudes.

Courses IV, V and VI.—Technic.—Sophomore year; first, second and third terms. A speed of five or six hundred tones a minute is acquired this year. Doring Octaves, Op. 24, Part 1. Mathews' Studies, Vols. 4 and 5.

Courses VII, VIII and IX.—Technic.—Junior year; first, second and third terms. Mason's scales in thirds and sixths. Rotation exercises. Speed, 736 tones a minute. Mathews' Studies, Vol. 6. Doring Octaves, Op. 24, Part 2.

Course X.—Technic.—Senior year; first term. Clementi Gradus, Nos. 3, 6, 7, 26, 28 and 29. Chopin Study, Op. 10, No. 5. Kullak Octave Studies, Nos. 5 and 6.

Courses XI and XII.—Technic.—Senior year; second and third terms. Difficult concert studies from various composers. The student must acquire a speed of 920 tones a minute. Also learn several etudes of great difficulty from memory, including Kullak's Octave Study, No. 7.

POLYPHONY.

Courses I, II and III.—Sophomore year; first, second and third terms. A course in Bach's Little Preludes and Fugues.

Courses IV, V and VI.—Polyphonic Playing.—Junior year; first, second and third terms. A continuation of contrapuntal compositions. Bach's two- and three-voiced Inventions will be mastered.

Courses VII, VIII and IX.—Polyphonic Playing.—Senior year; first, second and third terms. Six or more of the most difficult preludes and fugues from Bach's "Well Tempered Clavichord" will have to be memorized this year.

MUSICAL LITERATURE.

Courses I, II and III.—Musical Literature.—Freshman year; first, second and third terms. A taste for good music is formed during the various courses in musical literature by adhering strictly to classic music. Sonatinas and Pieces.

Courses IV, V and VI.—Sophomore year; three terms. Salon pieces of the fifth grade of difficulty (scale of ten), such as "First Mazurka," C. Saint-Saens. Three of Mozart's Sonatas.

Course VII.—Junior year; first term. Nos. 6, 8, 9, 14, 21, 25, 27, 28, from Mathews' Fifth and Sixth Grade Pieces.

Course VIII.—Junior year; second term. Beethoven Sonatas, Nos. 5 and 13. Chopin Waltzes, Nos. 5, 7 and 9.

Course IX.—Junior year; third term. Beethoven Sonatas, No. 12. Classic pieces, sonatas and etudes, will be used in all the courses from various composers, especially Brahms, Chopin, Schumann, Grieg and Beethoven.

Courses X and XI.—Senior year; first and second terms. "Scherzo E^b Minor," Brahms' "En Route" Godard. "Valse De Concert," D^b. Wieniawski, and other works of similar difficulty. Beethoven Sonatas, Nos. 3 and 17.

Course XII.—Senior year; third term. The ability to execute the following pieces from memory: "Valse Caprice,"

E^b, Rubinstein; "Militär Marsch," Schubert-Tausig; Nocturne, No. 12, Chopin, will be necessary before graduation. Concert work of great difficulty.

MUSICAL SCIENCE.

Courses I, II and III.—Theory.—Sophomore year; three terms. The usual subjects of notation, form, orchestration, etc., will be studied. Examples of the various forms of music will be given before the class by the instructor. Text-book, Elson's Theory of Music.

Course IV.—Harmony.—Junior year; first term. Text-book Emery's Elements of Harmony, lessons 1 to 18.

Course V.—Junior year; second term. Lessons 18 to 36.

Course VI.—Junior year; third term. Lessons 36 to 59.

Course VII.—Senior year; first term. Lessons 59 to 80. Emery's Harmony.

Courses VIII and IX.—Counterpoint.—Senior year; second and third terms. Text-book, Bridge's Counterpoint, with supplementary work by the instructor.

MUSICAL HISTORY.

The course in the history of music is principally a lecture course with examinations at the close of each term.

Course I.—Senior year; first term. Text-book, Mathews' History of Music. Chapters 1 to 16. Includes the study of music of the ancient world; apprentice period of modern music.

Course II.—Senior year; second term. The dawn of modern music. Flowering time of modern music. Chapters 17 to 31.

Course III.—Senior year; third term. Epoch of the Romantic. Chapters 31 to 39.

GRADUATION.

A diploma of graduation in Piano, Harmony, Theory, and History of Music, will be given pupils who complete this course.

TUITION.

Piano, two 30 minute lessons a week, per term of four weeks -----\$2.80
 Harmony, class instruction, per term of four weeks----- 1.50

ADVANTAGES.

Tuition in Theory and Musical History is free to all piano students. Public recitals both by the director and pupils will be given during each term.

RULES AND REGULATIONS.

The course in Piano is intended for those who desire to become professional pianists and teachers, and all students taking this course will have to practice as follows: Sub-freshman year, two hours per day; Freshman year, three hours per day; Sophomore and Junior years, four hours per day; Senior year, five hours per day.

Students who do not expect to graduate, and who can not devote as much time as required in the Course in Piano, may take piano alone, but no diploma will be given for such work.

No student can receive our diploma with less than one full year's study in this school. The tuition is payable monthly in advance to the director, and no pupil will be enrolled on any other terms.

No deduction for missed lessons, except in cases of protracted illness; and any pupil enrolling, will be expected to continue for the term of three months. Music may be obtained of the department; also pianos for practice at reasonable rates.

MILITARY.

MAJOR FRANK E. EDWARDS, Commandant.

The object of this department is so to instruct the cadet that upon graduation he will be thoroughly competent to hold a commission as a company officer in the national guard or volunteer army. Military drill improves the habits and manners of the student, develops him physically and gives him that military knowledge which it is desirable every citizen should possess that he may render intelligent aid to his country or state in time of need. It cultivates a manly spirit, ready and implicit obedience, respect for authority and self-restraint—all qualities of inestimable value to a young man.

Instruction in the course is prescribed for all undergraduate male students. All claims for excuses from military duties on the ground of physical disability will be referred to the physical director. Students excused from active military work will be assigned some light duty by the head of the department. The instruction is both practical and theoretical.

The battalion band, with twenty instruments, is under the instruction of a competent cadet officer as leader. Ordinarily no cadet will be assigned to the band until he is well instructed in the "school of the soldier" and the "school of the company."

The armory contains a drill room 70 x 100 feet in extent, an office, and suitable rooms for storing guns and other ordnance. Three hundred Springfield cadet rifles with equipments, two light artillery field pieces, twenty cavalry sabers,

and a liberal allowance of blank and ball cartridges are furnished by the ordnance department, U. S. army. The college has purchased the necessary band instruments, swords, bugles, colors, and signal apparatus for the thorough equipment of the department.

It is the intention to hold an encampment for two or three days annually when suitable camp equipage can be secured.

The commissioned officers are selected from the senior class, the non-commissioned officers from the senior, junior and sophomore classes. Appointment of officers and non-commissioned officers and their relative rank, is determined according to the military standing of cadets based upon a careful consideration of the following points: (1) Knowledge of drill and duties as determined by examination, practical application and recommendations of superior officers; (2) zeal, soldierly bearing and aptitude for command; (3) character; (4) military record; (5) general standing in the college.

Cadets are required to wear a uniform at all drills and other military exercises. This uniform costs about \$16.50. It is of dark blue cloth of an excellent quality and makes a very neat and serviceable school suit.

Courses I, II, III, IV, V, VI, VII, IX, XI, XII, XIV, and XVI.—*Military Drill*.—Freshman, sophomore, junior and senior years. The practical course in infantry includes the schools of the soldier, company and battalion, in close and extended order; ceremonies; guard and outpost duty; target practice and battle tactics. In artillery it includes the schools of the soldier, cannoneer and platoon, dismounted; the mechanism, nomenclature and care of the 3.2 inch breech-loading field pieces; the use of artillery in the field.

Those physically unable to bear arms, together with a limited number from the senior and junior classmen, may be assigned to the signal corps, and instructed in the usual methods employed in military signaling.

Courses VIII, X, XIII and XV.—*Military Science*.—Junior and senior years. The theoretical course embraces recitations in U. S. infantry and light artillery drill regulations, and outpost and guard duty manuals; instruction in reports and returns pertaining to a company; lectures on organization and administration of the U. S. army in peace and in war; the volunteers and militia; tactics, strategy and logistics, and other military subjects.

Text and reference books: U. S. Infantry Drill Regulations; Blunt's Small Arms Firing Regulations; U. S. Light Artillery Drill Regulations; Gidding's Manual of Signaling; Burnham's Duties of Outposts and Manual of Guard Duty; Wagner's Elements of Military Science; Tutherly's Elementary Military Science and the Art of War.

ROSTER.

Cadet Officers and Non-Commissioned Officers.

STAFF AND NON-COMMISSIONED STAFF.

W. D. Jamieson.....	First Lieutenant and Adjutant
E. P. Jackson.....	First Lieutenant and Quartermaster
A. S. Hall.....	Sergeant Major
H. G. Pugh.....	Quartermaster Sergeant
E. W. Yates.....	Chief Bugler

COLORS.

J. T. Withycombe.....	Color Sergeant
W. Weeks.....	Color Corporal
R. C. Shepard.....	Color Corporal

BAND.

E. E. Wills.....	Chief Musician and Leader
F. S. Fischer.....	Drum Major
H. L. Fryer.....	Sergeant

W. H. Wicks.....	Sergeant
G. E. Moore.....	Sergeant
D. N. Gellatly.....	Corporal
R. R. Draper.....	Corporal
J. R. Chambers.....	Corporal

SIGNAL CORPS.

B. W. Wilson.....	Signal Sergeant
S. J. Mann.....	Signal Corporal
G. A. Cathey.....	Signal Corporal

BATTERY A.

I. P. Whitney.....	First Lieutenant
D. Hirstel.....	Second Lieutenant
M. D. McCallister.....	First Sergeant
E. Hinrichs.....	Sergeant
J. T. Witty.....	Sergeant
W. Winniford.....	Sergeant
C. L. Proebstel.....	Corporal
A. M. Bryant.....	Corporal
F. C. Stimson.....	Corporal
H. C. Darby.....	Lance Corporal
J. S. Tannock.....	Lance Corporal

INFANTRY.

B. Mayfield.....	Major
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"A" COMPANY.	"B" COMPANY.	"C" COMPANY.	"D" COMPANY.
<i>Captain:</i> J. E. Johnson.	<i>Captain:</i> W. S. Wells.	<i>Captain:</i> E. B. Beaty.	<i>Captain:</i> J. Paulson.
<i>Lieutenants:</i> I. M. Underwood, E. G. Wicklund.	<i>Lieutenants:</i> F. C. Pate, C. Buchanan.	<i>Lieutenants:</i> J. R. Howard, F. M. Dempsey.	<i>Lieutenants:</i> S. L. Burnaugh, W. T. Dickey.
<i>Sergeants:</i> V. C. Staats, C. C. Cate, J. C. Clark, A. O. Horton, B. T. Smith.	<i>Sergeants:</i> A. D. Gerking, C. W. Beaver, C. L. Shepard, A. L. Thornton, J. C. Burns.	<i>Sergeants:</i> H. H. Hagelstein, T. W. Scott, P. E. Cupper, W. W. Henry, D. L. Harden.	<i>Sergeants:</i> H. C. Brodie, M. W. Bartmess, J. W. Buster, W. R. Horton, O. A. Weber.
<i>Corporals:</i> R. Wimer, A. S. Hussey, J. W. Carlson, D. C. Little, C. V. Schrack, J. C. Cecil.	<i>Corporals:</i> W. F. Chapman, L. W. Mack, A. S. Wells, C. Morris, R. Nash, T. J. Allen.	<i>Corporals:</i> E. D. Mossie, T. W. Espy, F. M. Stokes, B. T. Jordan, W. R. Bunn, Z. Tharp.	<i>Corporals:</i> K. Steiwer, F. A. Williams, W. G. Abraham, H. W. Bates, H. B. Evans, W. B. Hartley.
<i>Musician:</i> W. G. Cumming.	<i>Musician:</i> H. A. H. Airth.	<i>Musician:</i> B. J. Taylor.	<i>Musician:</i> A. J. Rich.

PHYSICAL CULTURE.

J. B. PATTERSON, A. B., Physical Director.

The aim of this department is to secure and maintain perfect health. To this end we strive to develop a symmetrical and graceful body. No pretense is made at developing actors, and no one is required to do what is known as "heavy work." However, there are always classes and special teams in various lines of artistic gymnastics, and those enjoying the work are welcome.

The chief aim is to benefit the weak and to guard against developing any tendencies to weakness or disease that so often exist. To this end every man entering the department is given a rigid physical examination. In these examinations the exact condition of the man is noted and special exercises are prescribed to meet his particular case. Records are kept making it possible by later examinations to note results of work and progress made.

The work is largely selected from the German and Swedish systems of gymnastics. A progressive course is followed. The class work which is carefully planned aims primarily to cure the common physical defects, such as narrow chest, stooping shoulders and weakened muscular system.

The gymnasium is well equipped for thorough work. The basement is provided with lockers and bath rooms for both men and women. The main floor is equipped with horizontal bar, parallel bars, buck, horse, rings, ladders, trapeze, dumb-bells, clubs, wands and other apparatus. South of the gymnasium is a large athletic field, with a quarter-mile track, grandstand, 100-yard straight-away track, tennis courts and base-ball grounds.

MINES AND MINING.

JOHN FULTON, B. S., Mineralogy and Assaying,

Instruction is given in this department to familiarize the student with the most approved methods of successfully carrying on mining operations as practised on the Pacific coast. The student is taught the uses of the various surveying instruments and is given ample opportunity for practical application in both field and mine surveying.

For courses in mine surveying, leveling, tunneling, etc., see page 100.

The student is also taught how to care for and handle such machinery as boilers, engines, motors, pumps, hoists, etc., by practical study and use in the machine shops. Abundant facilities for such instruction are offered here.

For description of equipment of the mechanical department see pages 75 and 76.

The courses in chemistry are practically the same as those for the mechanical student, excepting that an additional term in qualitative analysis is required of the mining student.

The courses in mineralogy are largely laboratory practice, and consist to a great extent of blowpipe-analysis of most of the metal-bearing rocks. The student is also taught how to recognize specimens in the field by aid of simple instruments, such as the pocket knife, lens, and small acid bottle.

The study of economic geology is also fully considered in this department, and much assistance may be derived by study of specimens in the mineral cabinet.

The courses in assaying cover analysis of gold, silver, mercury and lead ores, by the fire or dry assay, and the estimation of copper, iron, and zinc, by the volumetric or wet assay.

Instruction in rapid estimations of various metals is also given when time permits.

The equipment of the assay laboratory consists of one simplex ore crusher, one wall cupel machine, one Becker button balance, one Spohrhaese button balance, two pulp scales, one bucking board, two crucible furnaces, two muffle furnaces, one combination muffle and crucible furnace. All above furnaces are heated by Hoskins' gasoline burners, supplied by pressure from one fifteen-gallon pressure tank. In addition, there are furnaces for coal or coke, both stationary and movable, anvils, moulds, tongs, scorifier-crucible and cupel-hand cupel machines, etc.

Nothing has been omitted in the equipment of a first class assay laboratory, so that students completing the full course will have no difficulty in taking up the duties usually incumbent upon the assayer.

LITERARY COMMERCE COURSE.

T. H. CRAWFORD, A. M., Professor.

J. B. HORNER, A. M., Penmanship.

HELEN L. HOLGATE, B. H. E., Stenography and Typewriting.

This course leads to the degree of B. S. Those who complete the first two years—freshman and sophomore—and in addition the subjects of commercial law, civics, and economics, will receive a certificate to that effect.

A small fee will be charged for the use of the College typewriting machines.

The requirements for entrance to this course are the same as those for entrance to any one of the Freshman years in other courses. See page 24.

One of the most attractive features of this course is the prominence given to English. Every term in the entire four years—with one exception—presents the subject of English—making this emphatically a literary course.

Along commercial lines, the subjects of book-keeping, stenography, typewriting and commercial arithmetic are made prominent in the freshman and sophomore years and in the junior and senior years commercial law, civics and economics are studied.

In mathematics—in addition to commercial arithmetic—there are algebra and geometry. All the mathematics come in the first two years.

During the junior and senior years either Latin or German is studied continuously. In these years will also be found the subjects of entomology, vertebrate anatomy, general and modern history, aesthetics, psychology and astronomy.

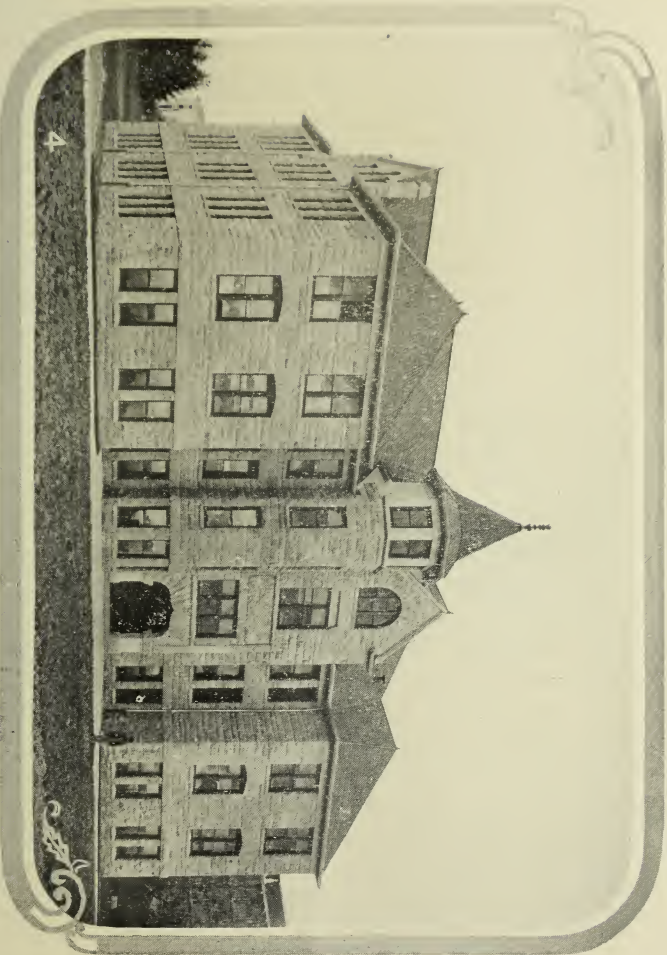
THE EXPERIMENT STATION.

The station bears an important relation to the college, as the scientific investigations conducted at the station strongly support the instruction given in the class-room. Aside from the original investigations of an economic significance to agriculture, the work of the station affords daily object lessons in good modern farming.

About one hundred acres of the college farm are devoted to scientific and experimental farming. Animal husbandry is an important feature of station work. For this branch of the work Shorthorn and Jersey cattle, Cotswold and Shropshire sheep, and Berkshire swine are maintained. Among these, animals can be found of rare individual excellence, thus offering the student in agriculture an opportunity to study the highest types of the respective breeds.

Extensive field trials are made in the growing of many varieties of cereals, grasses and forage plants, which are utilized in various feeding experiments conducted for the purpose of determining their value as stock foods. This work embraces the study of plant environment and the correlated subject of animal nutrition, thus supporting in a practical manner the science of agriculture as taught in the college.

Dairying is also a prominent feature of the station work. For this purpose a herd of typical dairy cows and a well equipped creamery are maintained. Many problems of vital interest to practical dairymen are constantly being worked out along the lines of rations for cows and methods for handling the herd. The student himself frequently assists in the work and thus obtains tangible evidence of the practical utility of the sciences in dairy husbandry.



Agricultural Hall (See page 15.)



9. Evaporator. 8. The Old Creamery. 14. Piggery. 7. Barn.

The horticultural work of the station affords the student an admirable opportunity for comparing the work of the class room with the practices of the field. Plant breeding, cross pollination of fruits, as well as modern methods of planting, pruning, grafting, spraying and cultivation are all brought immediately under the observation of the student, thus affording him an excellent opportunity to become thoroughly conversant with the science and practice of horticulture.

THE SHORT COURSE IN AGRICULTURE.

To give Oregon farmers who are unable to pursue a four-year course in the Agricultural College, a share in the advantages of higher education, the College has for many years conducted Farmers' Institutes in various parts of the State. But the Institute, while it has its place, has developed another movement of perhaps greater importance, that of holding a more extended Institute, known as the Short Course in Agriculture, Horticulture and Dairying.

The main conception of such schools is, that they are places where people from the farm and orchard—practical farmers and fruit growers—can understandingly study the application of some of the fundamental laws of their occupation. In announcing the Short Course we feel that we can make it thoroughly practical for any intelligent agriculturist, and that we can make scientific agriculture and horticulture both educational and useful. Such a course covers a field which on account of lack of time and apparatus for illustration cannot be undertaken in the regular Farmers' Institutes.

The course consists of a series of popular lectures along lines suited to aid horticulturists, dairymen and others engaged in agricultural pursuits in developing the great

natural resources of our state. The lectures are all supplemented by laboratory work under the supervision of experts who strive to make the course thoroughly practical by adapting the work as far as possible to the needs of each individual. The primary study is of things rather than books, and there is always kept in mind the practical side of the matter under discussion. Little time is spent in purely theoretical discussion.

There will be no educational test. No special preparation is necessary as the instruction will be given by lectures and practical work. It is the aim of this course to give to the student the largest possible amount of practical information regarding the various phases of agriculture and horticulture.

An important source of information for those attending this course is the Station and College library where the best books on agriculture, horticulture, and dairying are found. The bulletins of the experiment stations of all the states in the Union are on file at the College and will be at the command of anyone wanting them. These bulletins are invaluable as being about the only source from which one can get information as to the present status of, and the progress that is being made in agricultural and horticultural matters.

An effort will be made to direct the reading along particular lines in such a way that the reader will get in touch with the progressive work that is being done in his particular occupation.

The first lecture of the series will be given at 9 a. m., January 5, 1904, and the course will close on Friday, January 15, 1904.

SPECIAL COURSE IN DAIRYING.

The establishment of the Dairy department of the Oregon Agricultural College on the first floor in the new Agricultural

Hall makes it possible for the institution to give a special course in butter and cheese making and subjects closely related thereto. The management of the institution will offer such a course of eight weeks duration, beginning on the Monday following the close of the short course in agriculture.

The course is designed to familiarize students with the modern forms of dairy apparatus, and to teach the underlying principles of the production, care, and manufacture of milk into butter and cheese. Both the *how* and the *why* will be the aim of the instructors, and it is the intention that the ideas set forth will be applicable to the farm dairy as well as the larger creamery or cheese factory.

ADMISSION.—The dairy course is open to all persons of good moral character, both male and female, who are at least eighteen years of age and who have a common school education. No entrance examinations will be required, but it is expected that those seeking admission will be able to intelligently understand lectures, take notes, and perform a small amount of text-book work.

EQUIPMENT.—More than one-half of the floor space on the first floor of Agricultural Hall is devoted to the dairy department. At the left of the main entrance is the dairy instructor's office, and to the right are located the dairy rooms proper. The main work room, located in the northwest corner, is 24 x 44 feet with cement floor sloping from all directions toward the center where a bell trap connects with the sewer system of the building. This room is equipped with five of the modern styles of cream separators, operated by either steam or hand power. There are also combined churns and workers, box churns, table workers, receiving and ripening vats, and the necessary apparatus for the manufacture of full cream Cheddar cheese.

Adjoining the main work room are lockers for students' use, a well lighted boiler room 16 x 18 and a wood and store room.

In the northeast corner of the building is the Dairy Laboratory 22 x 40 feet which will be equipped with all the modern devices for testing milk and its products, such as hand and turbine Babcock tests, curd tests, cream scales and automatic acid measures.

Two commodious cheese-curing rooms, 10 x 16 and 12 x 16 feet, complete the quarters of the dairy department.

The college library located in the Administration Building will be open to students of the dairy course. Here access may be had to the leading farm and dairy papers of the United States as well as some foreign publications. Full sets of the bulletins of the various experiment stations and the U. S. Department of Agriculture are on the library shelves, also many valuable books pertaining to dairy matters.

CHARACTER OF WORK.—Students will meet for work six days per week. The forenoon of each day will be devoted to practical work in the dairy rooms. Two days per week will be devoted to cream separation and butter-making, two days to cheese-making, and two will be spent in the dairy laboratory. In the afternoons of all days except those devoted to cheese-making, lectures and recitations will occupy two or three hours. The object of this class-room work is to give the student a better knowledge of the underlying principles upon which the practical dairy operations are based. An outline of the work is given below:

LECTURE WORK.—*Soil Chemistry and Physics*.—This includes a study of the origin and composition of soils and of the plant food contained in them. Such questions as the conservation of moisture; conditions affecting the water-

holding capacity of soils; temperature of soils, etc., discussed and illustrated by experimental work. In this connection the composition and use of fertilizers is considered, including the discussion of both farm manures and commercial fertilizers, their composition, and when and how to use them.

Feeds and Feeding.—This includes the study of forage plants, growth, adaptability, chemical composition and their relationship to successful dairy husbandry—the study of the fundamental principles of animal nutrition, including digestion, assimilation—the composition and feeding value of the different grains and commercial feed stuffs and how they should be fed for best results in milk production.

Milk and Its Products.—For this work a text-book, “Milk and its Products,” by H. H. Wing, is used, supplemented by lectures. Some of the topics covered by the text are: secretion and composition of milk; pasteurization; market milk; the ripening of cream; principles of the Babcock Test; milk for cheese-making; varieties of cheese, etc. Creamery accounts and herd records will also be taken up in this connection.

Dairy Bacteriology.—Lectures and laboratory demonstrations are given relative to the various forms of bacteria which are of interest to the dairyman.

Breeds and Breeding.—A necessary requirement of a successful dairyman is the ability to harmonize breed and environment. Hence this work embraces the study of the origin and characteristics of the leading dairy breeds, adaptability, form as related to function and a general discussion of types.

The College maintains a typical herd of dairy animals comprising representatives of three popular breeds, thus

affording the student an excellent opportunity to make comparisons. Stock judging both by the card system and by comparison is a feature of this work.

Chemistry of Dairy Products.—In these lectures the comparison of dairy products is dealt with more in detail than it is possible for the lecturer on dairying to do. In order to bring out and emphasize certain points, these lectures are accompanied by experiments and the examination of dairy products.

Veterinary Science.—This will consist of a general discussion of the causes of the common diseases of cattle, their treatment and best means of prevention. It will also include discussions relative to the usual management and care of the herd and individual members thereof, in health or disease.

Steam Engine.—Discussions and practical work relative to the structure, care and operation of steam engines and boilers, with special reference to the principles involved are held. Four boilers and a like number of engines are available for illustration in this work.

LABORATORY.—*Practical Dairy Work.*—This work consists of extended practice in the use of the Babcock test in determining the percentage of butter fat contained in milk, skim milk, buttermilk, cream, whey, butter, and cheese. Particular attention is given to the use of scales in connection with cream testing. The use of acid tests for determining the ripeness of the cream is considered. Daily practice in the application of results obtained is afforded.

Butter-Making.—Five latest style cream separators furnish practice in the removal of cream from milk. A combination churn, a trunk churn, and a table worker will illustrate the operations of churning and working butter.

One and two-pound molds, and cutting boxes illustrates the methods of finishing. All work in this line is performed by students under the direction of the instructors.

Cheese-Making.—The manufacture of full cream Cheddar cheese is considered. Attention is given to the small sizes known as Young Americas. Some partly skimmed milk cheese is made to illustrate the effect of the removal of a portion of the cream. The use of various rennet tests is taught, also the hot iron test. Small vats are used in this work in order that each student may have an opportunity to carry the work through from start to finish.

EXPENSES.

Fees.—There will be no fees except a breakage deposit of \$2.50, a portion of which will be returned at the close of the term. This deposit is mainly to cover breakage of glassware in the laboratory, and in case of no breakage the fee will all be returned.

Board and Lodging is obtainable in Corvallis at \$3.00 to \$4.00 per week. A list of places may be seen at the office of the Dairy Instructor.

Clothing.—Students are ordinarily required to wear white suits while at work. These can be purchased in the Corvallis stores at \$1.00 to \$1.50 per suit, consisting of cap, trousers and jacket. A pair of colored overalls will also be found useful at times.

Books.—This item will not exceed \$2.00. The only regular text-book will be "Milk and Its Products," by Wing. Some note books will be needed by those who wish to make the most of the course. Anything required in this line can be obtained in Corvallis.

Since only a limited number of students can be accom-

modated in this course, application for admission should be made to the department of dairying at least two weeks preceding the opening.

FARMERS' INSTITUTES.

One of the most useful methods of diffusing agricultural education is the farmers' institute. These institutes are especially helpful both to the farmer and the experiment worker. The former secures scientific information upon topics of immediate interest to him and is instructed in its practical application to the farm; while the latter is brought to realize more vividly the needs and perplexities of the farmer. It is gratifying to note the growing demand for more of these institutes, and while the station is ever ready to accede to these demands, it is, however, becoming annually more difficult on the part of the station officials to fulfill these obligations, owing to the constant increase in the work of the station.

LIBRARY.

RICHARD GEOFFREY NICHOLS, Librarian.

The library occupies a large, well-lighted room on the first floor of the administration building, and contains nearly 3000 bound volumes of standard works on history, literature, arts, sciences, general subjects and fiction; as many more bound volumes of U. S. government publications and about 5000 pamphlets and bulletins. Care has been exercised in the selection of books in order that each department may have proper works of reference at the disposal of the student.

A card catalogue is used and the books are indexed according to subject by the decimal system, and alphabetically according to title and author, so that the use of the library is greatly facilitated and its resources upon any subject easily ascertained.

The library receives the leading literary and scientific magazines and journals, all of which are kept on file.

The library is open for the issuing of books every school-day from 8 a. m. to 5 p. m., and during that time the librarian is in constant attendance. Books, excepting cyclopedias and works of general reference, may be drawn out by students for a period not exceeding two weeks.

LIST OF STUDENTS.

GRADUATES.

NAME.	†POSTOFFICE.	COUNTY.
Frances Edna Belknap.....	H. S. Corvallis	Benton.
Mabel Davis.....	H. S. and Phar. Yaquina	Lincoln.
Joseph Gilbert Garrow	Mech. McCloud.....	California.
Wilfred Edmond Hanley,.....	Agri. Hillsboro.....	Washington.
Fred Chancey Houston.....	Agri. Mohawk	Lane.
Edith Slayton Howard.....	H. S. Prineville	Crook.
Roy Howard.....	Mech. Prineville.....	Crook.
Leroy Garfield Mattley.....	Agri. Lewisville.....	Polk.
Florence Maxfield.....	H. S. Suver.....	Polk.
Edward Rosendorf.....	Phar. Independence...	Polk.
Linnie Small	H. S. Silver Lake.....	Lake.
Robert Thomas Withycombe.	Agri. Union.....	Union.

SENIORS.

NAMES.	COURSE.	POSTOFFICE.	COUNTY.
Mabel Maud Abbe	H. S. Nashville.....	Lincoln.	
Clauda Leola Anderson	H. S. Lents.....	Multnomah.	
Rachel Lindsay Applegate....	H. S. Yoncalla	Douglas.	
Edward Benjamin Beaty	Elec. Walkerton.....	Indiana.	
Edith Jane Berthold ..	H. S. Albany....	Linn.	
Claud Buchanan.....	Agri. Inavale.....	Benton.	
Samuel Lewie Burnaugh	Phar. Elgin.....	Union.	
Elsie May Canfield.....	H. S. La Fayette.....	Yamhill.	
Laura Lillian Chipman.....	H. S. Tillamook.....	Tillamook.	
Rosamond Leolene Chipman	H. S. Tillamook.....	Tillamook.	
Sibyl Alice Cummings.....	H. S. Shaw	Marion.	
Walter Thompson Dickey....	Elec. Hood River	Wasco.	
Ada Eudora Finley.....	H. S. Bruce	Benton.	
Albert David Gerking.....	Agri. Stayton.....	Marion.	
Henry Hagelstein.....	Elec. Marshfield	Coos.	
Beulah Bethsheba Harden....	H. S. Stayton.....	Marion.	
Alice Odalite Horning	H. S. Silver Lake.....	Lake.	
William Daniel Jamieson....	Elec. Raleigh.....	Washington.	
John Edwin Johnson.....	Agri. Vale.....	Malheur.	
Lillian Johnson.....	H. S. Vale	Malheur.	
Viola Ethel Johnson.....	H. S. Vale	Malheur.	
Ethel Elenor Linville.....	H. S. Corvallis	Benton.	
Byram Mayfield.....	Phar. Elgin.....	Union.	

† Address before coming to Corvallis for school purposes.

Effie Laura Michael.....	H. S.	Lebanon	Linn.
Frank Caleb Pate.....	Agri.	Jefferson.....	Marion.
Joseph Paulson.....	Elec.	University Park	Multnomah.
Lloyd Francis Millhollen....	Phar.	Oakville	Linn.
Harvey Garfield Pugh.....	Elec.	Shedd	Linn.
Emma Imogen Rusk.....	H. S.	Milwaukie.....	Clackamas.
Minnie Grace Smith.....	Agri.	Latourell Falls,	Multnomah.
Ida Mae Smith.....	H. S.	Salem.....	Marion.
Irving Melville Underwood....	Mech.	Sherar's Bridge.	Wasco.
Grace Whiteman.....	H. S.	Jefferson.....	Marion.
Walter Stanley Wells.....	Phar.	Corvallis	Benton.
Elmer Gifford Wicklund.....	Agri.	Vale.....	Malheur.
James Drummond Zucher....	Mech.	Enterprise.....	Wallowa.

JUNIORS.

NAMES.	COURSE.	POSTOFFICE.	COUNTY.
Meigs William Bartmess.....	Elec.	Hood River.....	Wasco.
Clarence Warner Beaver	Phar.	Salem.....	Marion.
Arthur Edward Belnap.....	Mech.	Corvallis.....	Benton.
Floyd Ellis Bogue	Mech.	Corvallis	Benton.
Horace Carpenter Brodie.....	Mech.	Palestine.....	Multnomah.
John Charles Burns.....	Agri.	Rockwood.....	Multnomah.
John William Buster.....	Phar.	Sheridan	Yamhill.
Carrie Ann Byerlee.....	H. S.	Hood River.....	Wasco.
Claude Clifton Cate	Agri.	Hillsboro.....	Washington.
Maud Elizabeth Cochran.....	H. S.	Needy.....	Clackamas.
Percy Alfred Cupper.....	Mech.	Monument	Grant.
Harry Lee Fryer.....	Elec.	Carlton.....	Yamhill.
Clara Etta Fuller.....	H. S.	Corvallis.....	Benton.
John Homan Gault.....	Mech.	Salem.....	Marion.
Albert Sidney Hall.....	Mech.	Cleone.....	Multnomah.
Delbert Leightner Harden..	Mech.	Stayton.....	Marion.
Fred Harrison Hazard	Min.	Jefferson	Marion.
Joseph Clare Henkle..	Mech.	Corvallis	Benton.
Edna Blanche Hershner.....	Phar.	Corvallis	Benton.
Ernst Hinrichs	Elec.	Hood River.....	Wasco.
Dave Hirstel.....	Elec.	Portland.....	Multnomah.
Alva Otis Horton.....	Phar.	Bridal Veil.....	Multnomah.
Walter Ralph Horton.....	Mech.	Bridal Veil.....	Multnomah.
John Ransom Howard.....	Agri.	Prineville.....	Crook.
Nellie Lillian Pate.....	H. S.	Jefferson.....	Marion.
Bert Pilkington.....	Phar.	Oakland.....	Douglas.
Chester Lloyd Proebstel.....	Min.	Portland.....	Multnomah.
Jackson Carle Rinehart.	Elec.	The Dalles.....	Wasco.
Alyce Leena Rusk.....	Phar.	Milwaukie	Clackamas.
Teroah Winfield Scott.....	Phar.	Carson.....	Wash. State.
Claiborne Lockley Shepard..	Agri.	Salem.....	Marion.

Vivian Cecil Staats.....	Agri.	Airlie.....	Polk.
Erwin Fred Wann.....	Mech.	Waldport.....	Lincoln.
Otto Adam Weber.....	Phar.	Corvallis.....	Benton.
Isabel Harris Whitby.....	H. S.	Corvallis.....	Benton.
Albert Sidney Wells.....	Min.	Portland.....	Multnomah.
Ira Parker Whitney.....	Agri.	Chitwood.....	Lincoln.
Bushrod Washington Wilson	Mech.	Corvallis.....	Benton.
John Thomas Witty.....	Phar.	Elgin.....	Union.
Elbert William Yates.....	Agri.	Corvallis.....	Benton.

SOPHOMORES.

NAME.	COURSE.	POSTOFFICE.	COUNTY.
William Gustave Abraham....	Mech.	Granger.....	Benton.
Chester Witten Abrams.....	Mech.	Lincoln.....	Polk.
Percival Lysander Adams.....	Mech.	Hood River.....	Wasco.
Ernest Lawrence Alspaugh....	Mech.	Eagle Creek....	Clackamas.
Thomas Jefferson Allen.....	L. C.	Kings Valley ...	Benton.
Eva Applegate.....	H. S.	Yoncalla.....	Douglas.
Evea Applegate.....	H. S.	Yoncalla.....	Douglas.
Bartmess Earl Kumler.....	Mech.	Hood River.....	Wasco.
Howard Wilson Bates.....	Mech.	Portland.....	Multnomah.
Belden Miles Bebee.....	Min.	Cove	Union.
Albert Burton Bower.....	Mech.	Silverton.....	Marion.
George Chase Brigham.....	Agri.	Portland	Multnomah.
Andrew Jackson Burnaugh...	L. C.	Elgin.....	Union.
Albert Melvin Bryant	Phar.	Heppner	Morrow.
Wilbur Ray Bunn.....	Mech.	North Yamhill..	Yamhill.
John Will Carlson.....	Mech.	Portland	Multnomah.
Etta Belle Carter.....	L. C.	Halsey	Linn.
James Ralph Chambers.....	L. C.	Kings Valley ...	Benton.
Jesse Claude Clark	Agri.	Newberg.....	Yamhill.
Wallace Welcome Colbert....	Phar.	Fayette.....	Iowa.
George W. Crume.....	Mech.	Shedd.....	Linn.
Barton Green Davidson.....	Mech.	Hood River.....	Wasco.
Henry Clay Darby.....	Phar.	Lewisburg	Marion.
Fred Marion Dempsey	Phar.	Portland.....	Multnomah.
Lucy Aramintha Dilley.....	H. S.	Wren.....	Benton.
Sadie Madge Dixon.....	L. C.	Yaquina	Lincoln.
Earnest Eddy	L. C.	Kings Valley....	Benton.
Joel Emily.....	Mech.	Hurlburt.....	Multnomah.
Thomas Willard Espy.....	Min.	Oysterville.....	Wash. State.
Seth Lee Fawk.....	Mech.	Rickreall....	Polk.
Fred Fischer.....	L. C.	Corvallis	Benton.
Lura Flett.....	H. S.	Corvallis.....	Benton.
Margaret Isabel French.....	H. S.	Corvallis.....	Benton.
Frank Asberry Galloway.....	L. C.	Elgin	Union.

Eunice Evelyn Garfield.....	H. S. Oswego.....	Clackamas.
Theodore Alexander Garrow	Mech. Oregon City.....	Clackamas.
David Neal Gellatly.....	L. C. Philomath.....	Benton,
John Maxfield Graham.....	L. C. Kings Valley.....	Benton.
Fred Monroe Groshong.....	Agri. Hoskins.....	Benton,
*Otto Anthony Haenel.....	Mech. Monroe.....	Benton.
Claude Hale	L. C. Brownsville.....	Linn.
Le Roy Harlan.....	L. C. Republican Cy.	Nebraska.
Warren Benson Hartley	Min. Bohemia	Lane.
Sophia Marguerite Hartley..	H. S. Bohemia.....	Lane.
Georgia Ellen Herbert	H. S. Corvallis	Benton,
Violet Philendia Herbert.....	H. S. Corvallis	Benton.
Alice Cressie Hunsaker	L. C. Turner	Marion.
William Robert Jones.....	L. C. Suver.....	Polk.
Alice Elizabeth Jones.....	H. S. Corvallis.....	Benton.
Bert Trew Jordan.....	Phar. Albany	Linn.
Mabel Bee Keady.....	H. S. Corvallis.....	Benton.
John Carl Knapp.....	Phar. Oregon City.....	Clackamas.
David Charles Little.....	Min. Houlton	Columbia.
Smith James Mann	Phar. Roseburg.....	Douglas.
Maude Ethel Marsh.....	H. S. Centerville.....	Washington
Lawrence Wallace Mack.....	Mech. Ely	Clackamas.
Weaver Thomas Martin.....	Mech. McMinnville....	Yamhill.
John Roderick McCormick..	Mech. Lebanon.....	Linn.
Guy Erwin Moore	Agri. Prineville.....	Crook.
Guy Sherwood Moore	Mech. Albany.....	Linn.
Merrill Bruce Moores..	Mech. Oregon City	Clackamas.
Eber David Mossie.....	Mech. Ukiah	Umatilla.
Edna Marie Osborne.....	H. S. Corvallis.....	Benton.
Nellie Lillian Pate.....	H. S. Jefferson.....	Marion.
Ames Alfred Post.....	Mech. Dayton.....	Yamhill.
*Earl Rawson.....	Mech. Hockinson	Wash. State.
Lucile Jean Roberts.....	H. S. Hood River.....	Wasco.
Pearl Lemuel Rose.....	Mech. Airlie.....	Polk.
Juanita Rosendorf	L. C. Independence..	Polk.
William Amile Schoel.....	Mech. Halsey	Linn.
James Ambrose Sewell	Mech. Hillsboro.....	Washington.
Ralph Curtis Shepard	Agri. Salem.....	Marion.
Laura Mae Small.....	H. S. Silver Lake.....	Lake.
Edna Louisa Smith.....	Phar. Latourell.....	Multnomah.
Benjamin Trueblood Smith..	Agri. Salem.....	Marion.
Eva Clara Staats.....	H. S. Airlie.....	Polk.
Mamie Calla Luda Starr.....	L. C. Monroe.....	Benton.
Karl Steiwer.....	Agri. Jefferson.....	Marion.
Frederick Charles Stimson..	Phar. Amity.....	Yamhill.
Francis Marion Stokes.....	Min. Portland.....	Multnomah.

* Deceased.

Ray Lewis Stout.....	Mech.	Mehama.....	Marion.
Mary Elizabeth Sutherland..	H. S.	Shedd	Linn.
John Smith Tannock.....	Mech.	Lenox.....	Washington.
Byron James Taylor	L. C.	Corvallis.....	Benton.
Arthur Lee Thornton.....	Phar.	Roseburg.....	Douglas.
Earl Wayne Wallace	Mech.	Hillsboro.....	Washington.
Wilbur Weeks.....	Agri.	Salem.....	Marion.
Ward Perry Webber.....	Min.	Medford.....	Jackson.
Leona Charlotte Weber.....	Phar.	Corvallis	Benton.
William Hale Wicks	Agri.	Albany.....	Linn.
Alice Minerva Wicklund.....	L. C.	Boise.....	Idaho.
Marion Wilkes.....	Mech.	Hillsboro.....	Washington.
Floyd Alexander Williams..	Agri.	Airlie.....	Polk.
Elmer Edward Wills.....	L. C.	Heppner	Morrow.
Walter Asa Winniford ..	Agri.	Wren.....	Benton.
Minnie Myrtle Wyatt.....	L. C.	Corvallis.....	Benton.
Bessie Yates.....	H. S.	Corvallis.....	Benton.

FRESHMEN.

NAME.	COURSE.	POSTOFFICE.	COUNTY.
Stella Rowe Adams	L. C.	Warren	Columbia.
Henry Allen Airth.....	Mech.	Astoria	Clatsop.
John Wesley Alspaugh.....	Mech.	Eagle Creek....	Clackamas.
Willie Emma Alspaugh	H. S.	Portland	Multnomah.
Elvin Ames.....	Mech.	Silverton	Marion.
George Anthon Anderson ...	Mech.	Harrisburg	Linn.
Henry Villard Andrews	L. C.	Mt. Tabor.....	Multnomah.
Lynn Chester Anstadt.....	Mech.	Astoria	Clatsop.
Harry Benjamin Auld	L. C.	Woodburn	Marion.
Ernest Avery.....	L. C.	Corvallis	Benton.
Allen Bates	Phar.	La Fayette	Yamhill.
Ethel Alberta Berman.....	H. S.	Corvallis	Benton.
Fred Lawrence Beach.....	Mech.	Glencoe	Washington.
William Henry Beaty	Mech.	Walkerton	Indiana.
Clifford Stuart Benson.....	Mech.	Roseburg.....	Douglas.
Oliver Wilberforce Berchtold	Phar.	Corvallis ..	Benton.
Hamon Shelly Bilyeu	L. C.	Athena	Umatilla.
George Vernon Bolton ..	Agri.	Antelope	Wasco.
Daniel Vivian Bolton.....	Agri.	Antelope	Wasco.
Leigh Gatch Bolton.....	Agri.	Antelope	Wasco.
Arthur George Bouquet.....	Agri.	Purley	England.
Alfred Leroy Bradley	Mech.	Portland	Multnomah.
Thomas Reeves Brown.....	Mech.	Ashland.....	Jackson.
Hugh Brandon	Phar.	Halsey	Linn.
Archibald Eugene Burns	Mech.	Beaverton	Washington.
Lee Ellis Burch.....	Mech.	Rickreal	Polk.

Edna Volevia Buster.....	H. S.	Sheridan	Yamhill.
Kitty Clydea Butler... ..	H. S.	Mill City.....	Marion.
Reva Buell	H. S.	South Bend....	Wash. State.
Lyman Albert Bundy	Phar.	Moscow	Idaho.
Ray Bruce Cady	Agri.	Holbrook	Nebraska.
Albert Walter Camp	Mech.	Mapleton.....	Lane.
Grover Cate	Agri.	Hillsboro.....	Washington.
Rufus Henry Cate	Mech.	Portland	Multnomah.
George Andrew Cathey.....	Phar.	Woodburn.....	Marion.
Cecil Calvin Cathey.....	Phar.	Woodburn.....	Marion.
James Carroll Cecil	Agri.	Burns	Harney.
William Frederick Chapman	Phar.	Roseburg.....	Douglas.
John Jay Clark	Mech.	Salem	Marion.
Waldo W. Colbert	Phar.	Siskiyou	California.
Juliet Hamilton Cooper ...	H. S.	Palo Alto.....	California.
Kenneth Leigh Cooper.....	Mech.	The Dalles	Wasco.
Charles Francis Cropp .. .	Phar.	Rickland	North Dakota.
Walter Griffin Cumming	Agri.	Hilgard	Union.
Ray Crow.....	L. C.	Eugene	Lane.
Clarence Curtis Curriu	Phar.	Montague	California.
Cleve Johnson Currin.....	Agri.	Ione	Morrow.
Lillie Florence Currin.....	H. S.	Ione	Morrow.
Charles Clarence Curry.....	Mech.	Shedd.....	Linn.
Rodney Curtis Cutsforth	Mech.	Gervais..	Marion.
Samuel Damon	L. C.	Independence...Polk.	
Mary Cecil Danneman	L. C.	Clem.....	Gilliam.
Fred Raymond Day.....	Agri.	Winlock	Wash. State.
Floyd Bushnell Davis	Mech.	Yaquina.....	Lincoln.
Ralph Leonard Davidson.....	Mech.	Independence...Polk.	
Oral Everett Davidson	Agri.	Rowland	Linn.
Julia Delaney.....	Phar.	Portland	Multnomah.
Warren James Dirr	L. C.	Mehama..	Marion.
George Julius Dodson.....	Agri.	Albany	Linn.
Edgar Wade Donnelly	Agri.	Richmond.....	Wheeler.
Floyd Albert Doty	Agri.	Doty	Wash. State.
Frank Amos Dowty.....	Agri.	Currinsville .. .	Clackamas.
Ellis Hartley Edgington	Agri.	Wasco.....	Sherman.
Alice Leora Edwards.....	H. S.	Bellfountain....	Benton.
Mary Adeline Elgin.....	H. S.	Corvallis	Benton.
Sophia Dell Elgin	H. S.	Corvallis	Benton.
Louie Mae Erskine	H. S.	Plainview	Linn.
Ronald Esson	Mech.	Gervais.....	Marion.
Harry Benton Evans.....	Mech.	Junction.....	Lane.
Fred Clarke Ewing.....	Agri.	Fulton	Multnomah.
Frank Luverne Fowells	Mech.	Fayette..	Iowa.
Julia Ella Fuller.....	H. S.	Corvallis	Benton.
Margaret Ruth Frey	L. C.	Hepner	Morrow.
Henry Sidney French.. . .	Agri.	Corvallis	Benton.

William Douglas Fry	Phar.	Grants Pass.....	Josephine.
Charles Warren Fullerton ...	Mech.	Alsea.....	Benton.
John Angus Gambel.....	Mech.	Astoria.....	Clatsop.
James Andrew Gallagher.....	Mech.	North Yamhill..	Yamhill.
Willis Kearney Galloway.....	Mech.	Hillsboro.....	Washington.
Clifford Le Mont Gardiner...	Min.	Astoria.....	Clatsop.
Haman Washington Garland	L. C.	Scio.....	Linn.
Philip Elmer Gearhart.....	Mech.	Astoria.....	Clatsop.
Frances Violet Gellatly	L. C.	Philomath.....	Benton.
Howard Getz	Min.	Portland	Multnomah.
Mary Louise Gilbert	L. C.	McMinnville....	Yamhill.
Byron Gill	Agri.	Scio.....	Linn.
Melvin Gillett	Agri.	Scandia ..	Kansas.
Nellie Doris Glassford....	L. C.	Corvallis	Benton.
Maud Crenshaw Graves.....	H. S.	Odell.....	Klamath.
Frank Sylvester Groshong...	Agri.	Hoskins.....	Benton
George Arnold Good.....	L. C.	Elgin	Union.
Donald Hamilton Graham...	Mech.	San Antonio....	Texas.
Roy Leslie Greear	Phar.	Hillsboro.....	Washington.
Vern Leonard Hamilton.....	Mech.	Lebanon	Linn.
Stanley Hammel.....	Phar.	Palmer.....	Multnomah.
Fred Ely Harrison.....	Phar.	Brownsville ..	Linn.
Worth Wellington Henry ...	L. C.	Zena	Polk.
Fay Harriman.....	H. S.	Astoria	Clatsop.
Gretta Harrington	H. S.	Corvallis	Benton.
Myrtle Edith Harrington....	H. S.	Corvallis	Benton.
Earl Vincent Hawley	Mech.	Monroe	Benton.
Maggie Maud Hays.....	H. S.	Tangent.....	Linn.
Bessie Ruth Herbert	H. S.	Corvallis	Benton.
Mary Alice Hill.....	H. S.	Hood River.....	Wasco.
Arthur Donald Hill	Mech.	Hood River.....	Wasco.
Fred Austin Hills.....	Agri.	Jasper.....	Lane.
Max Hinrichs	Mech.	Hood River.....	Wasco.
Carl Johan Holmes.....	Min.	Astoria.....	Clatsop.
Alvaro Staples Hussey	Phar.	Turner.....	Marion.
Calvin Asa Ingle.....	Phar.	Philomath.....	Benton.
Rose Mildred Ingram	H. S.	Monroe	Benton.
Mabel Sarah Ireton.....	Phar.	Salem.....	Marion.
Malcolm Irvine.....	Phar.	Arlington	Gilliam.
Frank Wesley Jackson	Agri.	Glencoe.....	Washington.
Elmer Polic Jackson.....	Mech.	Cleone	Multnomah.
Robert Combs Jackson	Agri.	Portland ..	Multnomah.
James Jones	Phar.	Independence...	Polk.
Francis Lawrence Jones.....	L. C.	Toledo	Lincoln.
Hugh William Jones.....	Mech.	Cypress	Clackamas,
Carl John Holmes.....	Min.	Lebanon	Linn.
Edward Kerby.....	Phar.	Central Point...	Jackson.
Harry Edward Kerker.....	Mech.	Tuscola	Illinois.

Alice Althea Knerr	L. C.	Mill City	Linn.
John Gilbert Kilpack	Agri.	Surrey	England.
William Kraus	Agri.	Aurora	Marion.
Fred Larson.....	Mech.	Astoria	Clatsop.
Harley Wade Laughlin	Min.	La Grande.....	Union
Lyman Austin Leonard	Mech.	Silverton	Marion.
Ruth Laura Lilly	H. S.	Corvallis	Benton.
Dora Matilda Lindgren.....	L. C.	Marion.....	Marion.
Winnie Logan.....	H. S.	Portland	Multnomah.
August Lokan	Mech.	Astoria.....	Clatsop.
William Paine Lord.....	Agri.	Salem.....	Marion.
Charles Donahue Lyon.....	Mech.	Medford.....	Jackson.
Lester Lutgens	L. C.	Waldport.....	Lincoln.
James MacKenzie.....	L. C.	Newberg	Yamhill.
Estella Mary Madden.....	L. C.	McMinnville ..	Yamhill.
Mary Margaret Martin	Phar.	McMinnville ..	Yamhill.
Sidney Vincent Malmstein ..	Agri.	Vernonia	Columbia.
Cyrus Ross McCormick	Min.	Lebanon	Linn.
Margaret McCormick	H. S.	Lebanon	Linn.
Henry Irving Mattson.....	Mech.	Astoria	Clatsop.
Mark McCallister.....	Mech.	Pratum.....	Marion.
Fred Hall Merrick.....	Mech.	Wooster.....	Ohio.
Charles Hosea Messinger.....	L. C.	Independence...	Polk.
John Irving Moore.....	Mech.	Albany.....	Linn.
Clarence Moore.....	Mech.	Albany.....	Linn.
Roy Morgan.....	Agri.	Coquelle.....	Coos.
Charles Wesley Morris	L. C.	Fossil ..	Wheeler.
Herbert Blaine Murphy	Mech.	Grass Valley....	Sherman.
Roderick Nicholson Nash ..	Agri.	Nashville.....	Lincoln.
Lulu Newhouse.....	L. C.	Corvallis	Benton.
Sylva Grace Nichols	L. C.	Glenbrook	Benton.
John Earl Noble	L. C.	Oregon City....	Clackamas.
Loia Estella Owen	L. C.	South Bend.....	Wash. State.
Wallace Herbert Pasley	Agri.	Clencoe.....	Washington.
Earl Patton.....	L. C.	Halsey	Linn.
Louis Paldanius	L. C.	Astoria	Clatsop.
Arthur James Pepin.....	Min.	Chitwood.....	Lincoln.
Fred Joseph Pelland	Mech.	St. Paul	Marion.
Pearl Anna Persinger	L. C.	Monroe	Benton.
Jesse Plankington.....	Mech.	Falls City	Polk.
Charles Henry Pollock.....	Phar.	Portland	Multnomah.
Minnie Ethel Phillips.....	H. S.	Corvallis	Benton.
Delbert Waldorf Proebstel...	Mech.	Portland	Multnomah.
Ruby Agnes Post	H. S.	Dayton.....	Yamhill.
Charles Rufus Pugh.....	Mech.	Wasco.....	Sherman.
Hazel Blanche Raber.....	L. C.	Corvallis	Benton.
Julia Randall.....	H. S.	Corvallis	Benton.
Elmer Philander Rawson....	L. C.	Orchards	Wash. State.

Lulu Ruth Rice.....	H. S.	Clear Lake	Iowa.
Gladys Richardson	H. S.	Chinook	Wash. State.
Arthur James Rich.....	Mech.	Astoria.....	Clatsop.
Franklin Clay Rinehart.....	Agri.	Summerville.....	Union.
Harvey Earle Rinehart.....	Agri.	The Dalles.....	Wasco.
Maude Ethel Roberts	H. S.	Jacksonville	Jackson.
Joseph Lucine Ringo.....	Min.	Moialla	Clackamas.
George Herbert Root.....	Mech.	Wasco.....	Sherman.
Burrus Estee Rose	Phar.	Airlie	Polk.
Fred Miller Roth	Min.	Canby.....	Clackamas.
Floyd Elba Rowland..	Mech.	Halsey	Linn.
Henry Salvon.....	Phar.	Astoria	Clatsop.
Louis Schoel	Mech.	Halsey	Linn.
Charley Vernon Schrack	Agri.	Oakville.....	Linn.
Claude Schrack.....	Agri.	Oakville.....	Linn.
Margaret Merle Simpson.....	H. S.	Corvallis	Benton.
Leroy Sims	Mech.	McMinnville ..	Yamhill.
Otto Gerald Simpson..	Agri.	Suver	Polk.
Carl Bryant Smith	Phar.	Carson	Wash. State.
Orrice Ray Smith.....	Min.	Gates	Marion.
Ray Marie Smith	L. C.	Salem	Marion.
George Francis Stevens	Mech.	Hillsboro.....	Washington.
William Loren Stevens.....	Mech.	Hillsboro.....	Washington.
Louis Chauncey Stringer.....	L. C.	Lacomb	Linn.
John Campbell Sutherland..	Agri.	Shedd.....	Linn.
Claude Vivian Swann	Mech.	Buena Vista	Polk.
Marion Dennis Taylor	Mech.	Gopher.....	Yamhill.
Albert Pearl Tedrow	Mech.	Monmouth	Polk.
Henry Zophar Tharp.....	Mech.	Bellevue..	Yamhill.
Harold Condon Thompson..	Agri.	The Dalles	Wasco.
Wallace Atwood Thompson.	Agri.	Echo	Umatilla.
Harry Trapp	Agri.	Chitwood.....	Lincoln.
Henry Melvin Tulley.....	Agri.	Wallowa.....	Wallowa.
John Travers Tweed.....	Agri.	Pratum.....	Marion.
Nellie Frances Turnidge.....	H. S.	Mill City	Marion.
Archie Clifford Van Cleve..	Phar.	Baker City... ..	Baker.
Mary Luella Van Cleve.....	H. S.	Baker City.....	Baker.
Harvey Watkins.....	Agri.	Portland	Multnomah.
Walter Eakin Wade.....	Mech.	Summerville.....	Union.
Guy Walker	L. C.	Independence...Polk.	
Rae Walker	L. C.	Independence...Polk.	
Raleigh Clay Walker.....	Mech.	Forest Grove....	Washington.
Arthur Weaver	L. C.	Elgin	Union.
Guy Leonard Weaver	Phar.	Salem.....	Marion.
Ethel Alice White	L. C.	Clear Lake	Iowa.
Charles Edward Welsh.....	L. C.	Shedd.....	Linn.
Florence Wicks.....	H. S.	Albany.....	Linn.
Candace Estella Wicklund..	L. C.	Monroe	Utah.

Reuben Earnest Wills.....	Mech.	Heppner	Morrow.
Harold Wilkins.....	L. C.	Corvallis	Benton.
Robert Vernon Williamson..	L. C.	Wells	Benton.
Bessie Hart Wilson	L. C.	Roseburg	Douglas.
Clarence Presley Wilson.....	L. C.	Corvallis	Benton.
Claude Wilkinson.....	Agri.	Junction City...	Lane.
Roswell Edward Wimer.....	L. C.	Salem	Marion.
Harry Calvin Witman.....	Mech.	Lebanon	Linn.
John Withycombe	Mech.	Portland	Multnomah.
Walter Ernest Wood.....	Mech.	Corvallis	Benton.
Otto Warner Woldt.....	Phar.	Corvallis	Benton.
Joseph Wright.....	Agri.	Silver Lake.....	Lake.
Olive Isabelle Wright	H. S.	Webb City.....	Missouri.
Thomas D. Yarnes.....	Agri.	Amity.....	Yamhill.

SUB-FRESHMEN.

NAME.	POSTOFFICE.	COUNTY.
Wallace Lester Barnes	Mill City.....	Linn.
Wharton Frederick Baughman	Hillsboro.....	Washington.
Charles Edward Bowen	Oysterville	Washington State.
George Walter Cartwright.....	Rye Valley.....	Baker.
Homer David Cecil.....	Burns	Harney.
Carrie Elise Clauson	Canby.....	Clackamas.
Edward Robert Currin.....	Ione	Morrow.
Hugh Cochran Currin.....	Ione	Morrow.
Will Rufus Dailey... ..	Sulphur Springs...	Douglas.
Millard Donnelly.. ..	Enterprise.....	Wallowa.
George Henry Doughty.....	Hillsboro.....	Washington.
Ridgely Rupert Draper.....	Prineville	Crook.
Samuel Leland Eddy.....	Hoskins	Benton.
John Minor Erskine.....	Plainview	Linn.
George Daniel Fisk.....	Mapleton	Lane.
Arthur Edwin Harder.....	Melville.....	Clatsop.
Ivan Hawley	Glenbrook	Benton.
Henry Clay Henness.....	Gates.....	Marion.
Binger Edward Herman.....	Myrtle Point.....	Coos.
Robert Owsley Horning.....	Silver Lake.....	Lake.
Letitia Catherine Jackson.....	Glencoe.....	Washington.
Susie Anna Jensen.....	Mapleton	Iowa.
Clarence Edward Kraus.....	Aurora	Marion.
Verna Kerker.....	Tuscola	Illinois.
Gracie Maude Lowell.....	Corvallis	Benton.
William James Lyon.....	Liberty	Kansas.
Lawrence Walter Madden.....	McMinnville.....	Yamhill.
Grant McElhiney	Albany.....	Linn.
Carl Montrose Miller.....	Albany.....	Linn.

Alta Leone Montgomery.....	Shedds	Linn.
Clark Taylor Mundy.....	Mt Tabor.....	Multnomah.
Madeleine Lenore Nichols.....	Glenbrook	Benton.
Percy Alonzo Palmer.....	Ventura.....	Iowa.
Earl Robert Peery.....	Scio.....	Linn.
Laura Myrtle Persinger.....	Monroe.....	Benton.
Reta Myrtle Price.....	Bellfountain.....	Benton.
Carrie Edith Price.....	Bellfountain.....	Benton.
Fred Percy Reddaway.....	Oregon City	Clackamas.
Mark Rickard	Inavale	Benton.
Frederick Charles Ritner	Kings Valley.....	Clackamas.
Almeda Rodlun.....	Damascus	Clackamas.
Ralph Edward Smith.....	Salem.....	Marion.
Charles Theodore Smith.....	Latourell Falls.....	Multnomah.
Frank Leroy Smith.....	Corvallis	Benton.
Mabel Mattie Stovall.....	Philomath.....	Benton.
Kathryn Ann Sutherland	Shedd.....	Linn.
William Wilson Tigard	Tigardville	Washington.
Clarence Cornelius Vincent.....	Kings Valley.....	Benton.
Ira Lester Vincent	Kings Valley.....	Benton.
Ralph Oliver Vincent.....	Kings Valley.....	Benton.
Frank Albert Wikstrom.....	St. Helens.....	Columbia.
John Franklin Winniford.....	Wren.....	Benton.
Earnest Rowland Woods.....	Albany ..	Linn.
Allen James Zimmerman	Aurora	Marion.

SPECIAL STUDENTS.

NAME.	POSTOFFICE.	COUNTY.
Mabelle Hazel Boorman.....	Hood River... ..	Wasco.
Ethel Amelia Brooks.....	Corvallis	Benton.
Kathleen Mavoureen Canfield..	La Fayette	Yamhill.
Carrie Elise Clauson	Canby.....	Clackamas.
Louise Cooper	Palo Alto.....	California.
Mabel Estella Cronise.....	Corvallis	Benton.
Harry Kratz Cronise	Corvallis	Benton.
Kathleen Daniel.....	Corvallis	Benton.
Katherine Blanche Daniel.....	Grants Pass	Josephine.
Bessie Gus Danneman.....	Clem.....	Gilliam.
Della Davenport	Silverton.....	Marion.
Clara Myrtle De Haven	Winslow	Illinois.
Glen De Haven.....	Winslow	Illinois.
Annie Christine Ewing.....	Fulton ..	Multnomah.
Matt Glover	Eagle Creek	Clackamas.
Edna Gillett.....	Scandia	Kansas.
James Robert Harrison.....	Brownsville	Linn.
Nora Jensen	Mapleton.....	Iowa.

Elsie Eyylin Locke	Albany	Linn.
Oliver Gene Mallow.....	Independence	Iowa.
Belle Kate Mattley.....	Lewisville	Polk.
Gertrude Allen Moores.....	Oregon City	Clackamas.
Alpha Murray	Corvallis	Benton.
Lemuel Bradford Nicholson	Harrisburg	Linn.
Edgar Warren Philips.....	Corvallis	Benton.
Hattie Potts	Oelwein	Iowa.
Libbie Rice.....	Clear Lake	Iowa.
Asenath Pearl Sanders	Baker City	Baker.
Lena Belle Tartar.....	Airlie	Polk.
Una Ellner Stewart.. .. .	Prineville	Crook.
Emma Tortora.....	Corvallis	Benton.
Elmer Edward Wills.....	Heppner	Morrow.
Myra Frances Yeager.....	Heppner	Morrow.

COURSE IN DAIRYING.

NAME.	POSTOFFICE.	COUNTY.
Harry Ackley..	Tillamook	Tillamook.
Clyde Temple Bonney.....	Brooks	Marion.
William Rufus Daily	Sulphur	Douglas.
George Norman Fisk.....	Medford.....	Jackson.
Frank Hynes.. .. .	Gervais	Marion.
Sidney Earnest Lowry	Tillamook	Tillamook.
William Nelson Lyster.....	Gardiner	Douglas.
Eugene Prescott	Salem.....	Marion.
Rasmus Rasmussen.....	Eugene.....	Lane.
Harvey Earle Rinehart.....	The Dalles.....	Wasco.
Clarence Edward Schroeder.....	Arago	Coos.
William Stauff.....	Gervais	Marion.
Willard Stevens.....	Arago	Coos.
Rhan Tharp	Willamina.....	Yamhill.
Harold Condon Thompson.....	The Dalles.....	Wasco.
Herman John Thol.....	Nehalem	Tillamook.
Harry Wambsganz.....	Dayton.....	Yamhill.
Benjamin Ward Waterhouse...	Clatsop.....	Clatsop.
Archie Wiesner.....	Gervais	Marion.
Benno Oliver Winkler.....	Maple Valley..	Washington State.

SPECIAL MUSIC STUDENTS.

NAME.	POSTOFFICE.	COUNTY.
Stella Rowe Adams	Warren	Columbia
Elnora Bookwalter	Gem	Idaho
Ethel Amelia Brooks	Corvallis	Benton
John William Buster	Sheridan	Yamhill
Winnifred Cameron	Corvallis	Benton
Kathleen Canfield	La Fayette	Yamhill
Homer David Cecil	Burns	Harney
James Carrol Cecil	Burns	Harney
Louise Cecil	Burns	Harney
Vieve Cecil	Burns	Harney
James Ralph Chambers	Kings Valley	Benton
Carrie Elsie Clauson	Canby	Clackamas
Juliet Hamilton Cooper	Palo Alto	California
Kathleen Daniel	Corvallis	Benton
Bessie Danneman	Corvallis	Benton
Delle Davenport	Silverton	Marion
Bessie Dilley	Corvallis	Benton
Annie Ewing	Fulton	Multnomah
Kate Gearhart	Corvallis	Benton
Edna Gillett	Scandia	Kansas
Matt Glover	Eagle Creek	Clackamas
Blanche Hammel	Portland	Multnomah
Fay Harriman	Astoria	Clatsop
Gretta Harrington	Corvallis	Benton
James Robert Harrison	Brownsville	Linn
Frances Hodes	Corvallis	Benton
Pearl Alicia Horner	Corvallis	Benton
Vera Dell Horner	Corvallis	Benton
Frank Hout	Corvallis	Benton
William Robert Jones	Corvallis	Benton
Florence Junkin	Portland	Multnomah
Verna Kerker	Corvallis	Benton
John Carl Knapp	Oregon City	Clackamas
Gracie Maud Lowell	Corvallis	Benton
Gladys Moore	Prineville	Crook
Marion Moore	Corvallis	Benton
Alpha Murray	Corvallis	Benton
Gertrude Nolan	Corvallis	Benton
Hattie Potts	Oelwein	Iowa
Lillian Ranney	Corvallis	Benton
Lucile Jean Roberts	Hood River	Wasco
Modesta Rosendorf	Corvallis	Benton
Pearl Sanders	Baker City	Baker
Teroah Winfield Scott	Carson	Washington State
Grace Smith	Corvallis	Benton
Leona Smith	Corvallis	Benton
Una Ellner Stewart	Prineville	Crook
Mattie Strong	Corvallis	Benton
Emma Tortora	Corvallis	Benton
Luella Van Cleve	Baker City	Baker
Frank A. White	Corvallis	Benton
Elmer Edward Willy	Heppner	Morrow
John Thomas Witty	Elgin	Union
Myra Frances Yeager	Heppner	Morrow

RECAPITULATION.

	Men	Women	Dept. Total	Class Total
GRADUATES	7	5	-----	12
SENIORS—				
Mechanical	2	-----	2	
Electrical	6	-----	6	
Household Science	-----	18	18	
Agricultural	5	1	6	
Pharmacy	4	-----	4	
Total seniors	-----	-----	-----	36
JUNIORS—				
Mechanical	11	-----	11	
Electrical	5	-----	5	
Household Science	-----	5	5	
Pharmacy	7	2	9	
Agricultural	7	-----	7	
Mining	3	-----	3	
Total juniors	-----	-----	-----	40
SOPHOMORES—				
Mechanical	30	-----	30	
Household Science	-----	19	19	
Agricultural	11	-----	11	
Pharmacy	9	2	11	
Mining	6	-----	6	
Literary Commerce	13	7	20	
Total sophomores	-----	-----	-----	97
FRESHMEN—				
Mechanical	67	-----	67	
Household Science	-----	34	34	
Literary Commerce	28	18	46	
Agricultural	46	-----	46	
Pharmacy	26	3	29	
Mining	10	-----	10	
Total freshmen	-----	-----	-----	232
DAIRYING (course of four weeks)	20	-----	-----	20
SPECIAL	9	23	-----	32
SUB-FRESHMEN	41	13	-----	54
MUSIC	15	39	-----	54
Total	388	189	-----	577
STUDENTS COUNTED TWICE—				
Music	12	21	33	
Dairying	3	-----	3	
Total	15	21	-----	36
Number of students in college	373	168	-----	541

Students Classified by Courses of Study.

MECHANICS.		Sophomores.....	11
Seniors.....	2	Freshmen.....	29— 53
Juniors.....	11	LITERARY COMMERCE.	
Sophomores.....	30	Sophomores.....	20
Freshmen.....	67	Freshmen.....	46— 66
ELECTRICAL ENGINEERING.		MINING.	
Seniors.....	6	Juniors.....	3
Juniors.....	5—11—121	Sophomores.....	6
HOUSEHOLD SCIENCE.		Freshmen.....	10— 19
Seniors.....	18	GRADUATES.....	12
Juniors.....	5	SPECIAL STUDENTS.....	32
Sophomores.....	19	MUSIC.....	54
Freshmen.....	34— 76	SUB-FRESHMEN.....	54
AGRICULTURE.		DAIRYING (Short Course).....	20
Seniors.....	6	GRAND TOTAL.....	577
Juniors.....	7	COUNTED TWICE.	
Sophomores.....	11	Music.....	33
Freshmen.....	46— 70	Dairying.....	3— 36
PHARMACY.		NUMBER OF STUDENTS.....	541
Seniors.....	4		
Juniors.....	9		

Students Classified by Counties, States and Foreign Countries.

Baker.....	5	Lincoln.....	11
Benton.....	104	Linn.....	51
Clackamas.....	20	Malheur.....	4
Clatsop.....	15	Marion.....	54
Columbia.....	4	Morrow.....	10
Coos.....	5	Multnomah.....	38
Crook.....	7	Polk.....	26
Curry.....	0	Sherman.....	4
Douglas.....	11	Tillamook.....	5
Grant.....	1	Umatilla.....	3
Gilliam.....	3	Union.....	13
Harney.....	4	Wallowa.....	3
Jackson.....	6	Wheeler.....	2
Josephine.....	2	Wasco.....	20
Klamath.....	1	Washington.....	22
Lake.....	5	Yamhill.....	24
Lane.....	10		
Number of counties in Oregon.....			33
Total number of counties represented.....			32
Whole number of students from Oregon.....			493
California.....			5
England.....			2
Idaho.....			3
Illinois.....			4
Indiana.....			2
Iowa.....			10
Kansas.....			3
Missouri.....			1
Nebraska.....			2
North Dakota.....			1
Ohio.....			1
Texas.....			1
Utah.....			1
Washington.....			12
Total.....			541

Comparative Statement of Enrollment.

<i>Year.</i>	<i>Music, Special.</i>	<i>Prepar- atory.</i>	<i>Fresh- men.</i>	<i>Sopho- mores.</i>	<i>Juniors</i>	<i>Seniors</i>	<i>Grad- uate Stu- dents.</i>	<i>Special.</i>	<i>Dairy- ing.</i>	<i>Total.</i>
1888-1889..		36	33	14	14	0	0	0		97
1889-1890..		67	55	17	6	0	6	0		151
1890-1891..		76	83	24	15	0	3	0		201
1891-1892..		86	63	28	19	9	3	0		208
1892-1893..		98	123	31	18	7	5	0		282
1893-1894..		36	103	71	21	5	4	0		240
1894-1895..		47	85	64	52	13	0	0		261
1895-1896..		80	175	63	54	9	14	2		397
1896-1897..		<i>Sub-</i>	157	80	29	17	11	25		319
1897-1898..		<i>Fresh-</i>	151	75	45	26	15	24		336
1898-1899..		<i>men.</i>	164	79	30	36	15	14		338
1899-1900..		42	145	74	40	36	20	48		405
1900-1901..		44	177	72	42	37	9	55		436
1901-1902..	14	38	247	83	30	38	10	28		488
1902-1903..	21	54	232	97	40	36	12	32	17	541

Students Classified by Occupations of the Parents.

Farmers.....	71 per cent
Mechanics and day laborers.....	10 "
Merchants and capitalists.....	8 "
Other occupations.....	11 "

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ANNUAL CATALOGUE

OF THE

AGRICULTURAL COLLEGE

OF THE

STATE OF OREGON

FOR

1903=04

AND

ANNOUNCEMENTS FOR 1904-1905

CORVALLIS, OREGON

AGRICULTURAL COLLEGE PRINTING OFFICE
GEO. B. KEADY, PRINTER
1904



The Campus.

Calendar=1904=1905.

SEPTEMBER.							JANUARY.							MAY.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
...	...	...	...	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	5	6	7	8	9	10	1	2	3	4	5	6	7	...	1	2	3	4	5	6
11	12	13	14	15	16	17	8	9	10	11	12	13	14	7	8	9	10	11	12	13
18	19	20	21	22	23	24	15	16	17	18	19	20	21	14	15	16	17	18	19	20
25	26	27	28	29	30	...	22	23	24	25	26	27	28	21	22	23	24	25	26	27
...	...	...	...	...	...	...	29	30	31	...	...	...	...	28	29	30	31	...	...	...
OCTOBER.							FEBRUARY.							JUNE.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
...	...	...	...	...	...	1	...	...	...	1	2	3	4	...	...	...	...	1	2	3
2	3	4	5	6	7	8	5	6	7	8	9	10	11	4	5	6	7	8	9	10
9	10	11	12	13	14	15	12	13	14	15	16	17	18	11	12	13	14	15	16	17
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23	24	25	26	27	28	29	26	27	28	25	26	27	28	29	30	...
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NOVEMBER.							MARCH.							JULY.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
...	...	1	2	3	4	5	1	2	3	4	1
6	7	8	9	10	11	12	5	6	7	8	9	10	11	2	3	4	5	6	7	8
13	14	15	16	17	18	19	12	13	14	15	16	17	18	9	10	11	12	13	14	15
20	21	22	23	24	25	26	19	20	21	22	23	24	25	16	17	18	19	20	21	22
27	28	29	30	...	...	...	26	27	28	29	30	31	...	23	24	25	26	27	28	29
...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	31	...	...	...	...	...
DECEMBER.							APRIL.							AUGUST.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
...	...	...	...	1	2	3	...	...	...	...	...	...	1	...	...	1	2	3	4	5
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30	31	23 30	24	25	26	27	28	29	27	28	29	30	31

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CALENDAR.

FIRST TERM.

Entrance Examinations for Freshmen, Friday and Saturday, September 16-17, 1904.

Registration, Monday, September 19, 1904.

Recitations begin Tuesday, September 20, 1904.

Final Examinations, Tuesday, Wednesday and Thursday, December 20-22, 1904.

SECOND TERM.

Registration, Tuesday, January 3, 1905.

Recitations begin Wednesday, January 4, 1905.

Final Examinations, Tuesday, Wednesday and Thursday, March 21-23, 1905.

THIRD TERM.

Registration, Monday, March 27, 1905.

Recitations begin Tuesday, March 28, 1905.

Baccalaureate Sermon, Sunday, June 11, 1905.

Final Examinations, Monday and Tuesday, June 12-13, 1905.

Senior Class Day, Tuesday, June 13, 1905.

Commencement Day, Wednesday, June 14, 1905.

NOTE.—All absences will be charged from the first class recitation of the term. At the close of each term of school, students will receive certificates of standing from their instructors. Standings of students will be sent to parents or guardians on application to the President or the Registrar.

BOARD OF REGENTS
OF THE
OREGON AGRICULTURAL COLLEGE
AND
EXPERIMENT STATION.

OFFICERS.

HON. J. K. WEATHERFORD, <i>President</i>	Albany.
HON. JOHN D. DALY, <i>Secretary</i>	Portland.
HON. B. F. IRVINE, <i>Treasurer</i>	Corvallis.

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HON. F. I. DUNBAR, <i>Secretary of State</i>	Salem.
HON. J. H. ACKERMAN, <i>Supt. of Public Instruction</i>	Salem.
HON. B. G. LEEDY, <i>Master of State Grange</i>	Tigardville.

APPOINTED BY THE GOVERNOR.

	TERM EXPIRES.
HON. WM. E. YATES.....	Corvallis, 1907.
HON. JOHN D. DALY.....	Portland, 1907.
HON. B. F. IRVINE.....	Corvallis, 1907.
HON. J. T. APPERSON.....	Parkplace, 1910.
HON. W. P. KEADY.....	Portland, 1910.
HON. J. K. WEATHERFORD.....	Albany, 1910.
HON. J. M. CHURCH	La Grande, 1912.
HON. JOHN D. OLWELL.....	Central Point, 1912.
HON. WILLIAM W. COTTON.....	Portland, 1912.

STANDING COMMITTEES
OF THE
BOARD OF REGENTS.

EXECUTIVE COMMITTEE.

J. K. Weatherford, *Chairman*, J. T. Apperson, J. D. Daly, W. P. Keady, B. G. Leedy.

FINANCE COMMITTEE.

J. T. Apperson, *Chairman*, W. E. Yates, B. G. Leedy.

COLLEGE COMMITTEE.

B. F. Irvine, *Chairman*, W. P. Keady, J. M. Church.

STATION COMMITTEE.

J. M. Church, *Chairman*, J. D. Olwell, William W. Cotton.

FACULTY AND INSTRUCTORS.

THOMAS MILTON GATCH, A. M., PH. D., President,
Political and Mental Science.

JAMES WITHEYCOMBE, M. AGR.,
Professor of Agriculture.

FREDERICK BERCHTOLD, A. M.,
Professor of English and Literature.

MARGARET COMSTOCK SNELL, M. D.,
Professor of Household Science and Hygiene.

ELLEN JEANNETTE CHAMBERLIN, A. M., Dean of Women,
*Professor of German and Instructor in English.

GRANT ADELBERT COVELL, M. E.,
Professor of Mechanics and Mechanical Engineering.

JOHN B. HORNER, A. M., LITT. D., Registrar,
Professor of History and Latin.

GORDON VERNON SKELTON, C. E.,
Professor of Mathematics and Engineering.

ARTHUR BURTON CORDLEY, M. S.,
Professor of Zoölogy.

EDWARD RALPH LAKE, M. S.,
Professor of Botany and Horticulture.

ABRAHAM LINCOLN KNISELY, M. S.,
Professor of Chemistry.

HELEN VIRGINIA CRAWFORD, B. S.,
Professor of Elocution.

GEORGE COOTE,
Professor of Floriculture and Gardening.

JOHN FULTON, B. Agri., B. S.,
Associate Professor of Chemistry.

THOMAS HENRY CRAWFORD, A. M.,
Commerce.

*In Dean Chamberlin's absence, Professor Alfred C. Schmitt, A. M., Ph. D., had charge of her classes.

OREGON AGRICULTURAL COLLEGE.

IDA BURNETT CALLAHAN, B. S.,
Assistant Professor of English.

FRED LEROY KENT, B. AGR.,
Associate Professor of Agriculture and Dairying.

ERNEST CHESNEY HAYWARD, E. E.,
Assistant Professor of Mechanical and Electrical Engineering.

CHARLES LESLIE JOHNSON, B. S.,
Assistant Professor of Mathematics.

EMILE FRANCIS PERNOT, M. S.,
Professor of Bacteriology.

CLARENCE MELVILLE MCKELLIPS, PH. C.,
Assistant Chemist and Instructor in Pharmacy.

FRANK EDWARDS, B. M. E.,
Instructor in Chemistry.

WILLIAM THOMAS SHAW, B. AGR., M. S.,
Instructor in Biology.

MARK CLYDE PHILLIPS, B. M. E.,
Instructor in Mechanical Drawing and Ironwork.

ALTHEA BELLE WILLIAMS,
Director of the Art Department.

MAJOR CHARLES B. HARDIN, U. S. A. Commandant,
Military Science and Tactics.

HELEN LUCILE HOLGATE, B. H. E.,
Stenography and Typewriting.

MORDAUNT GOODNOUGH,
Instructor on the Piano.

RUTHYN TURNEY,
Bandmaster and Instructor on the Violin.

FLORENCE McDOWELL GREEN, Mus. B.,
Instructor in Vocal Music.

W. O. TRINE,
Physical Director.

HENRY DRAKE GIBBS, A. M.,
Instructor in Chemistry.

ELMER POLIC JACKSON,
Instructor in Woodwork.

OTHER OFFICERS.

THOMAS HENRY CRAWFORD, A. M.,
Clerk and Purchasing Agent.

RICHARD JEOFFREY NICHOLS, B. S.
Librarian.

GEORGE BRELSFORD KEADY,
Printer.

HELEN LUCILE HOLGATE, B. H. E.,
Stenographer.

OTTO FRANK LUDWIG HERSE,
Assistant Printer.

WALTER JAMES KENT,
Foreman of the Farm.

JOHN ANDERSON SPANGLER,
Engineer.

ELLSWORTH ERWIN,
Janitor.

FACULTY COMMITTEES.

ACCREDITED SCHOOLS.—Pernot, Covell, Williams.

ADVANCED STANDING.—Knisely, Kent, Shaw, Phillips.

ADVISORY COMMITTEE.—Covell, Chamberlin, Horner, Withycombe.

ATHLETICS.—Trine, Hayward, Shaw, Fulton.

DISCIPLINE.—Skelton, Horner, Chamberlin.

EMPLOYMENT.—Coote, Withycombe, Knisely, Edwards.

ENTRANCE EXAMINATIONS.—Dean Chamberlin, Skelton, Berchtold, Johnson, Callahan.

GRADUATES.—Berchtold, Kent, Phillips.

LECTURES AND LITERARY ENTERTAINMENTS.—Helen V. Crawford, Edwards, Horner, Shaw.

LEGISLATION.—Withycombe, Covell, Williams.

LIBRARY.—Callahan, Withycombe, Holgate, Horner.

LITERARY SOCIETIES.—Snell, McKellips, Pernot.

MASTER'S DEGREE.—Lake, Skelton, Cordley.

MUSIC.—Thomas H. Crawford, Chamberlin, Fulton, Goodnough, Holgate.

PUBLICATIONS.—Horner, Berchtold, Lake, Cordley.

SOCIAL ENTERTAINMENTS.—Cordley, Chamberlin, Kent, Johnson.

TERM SCHEDULES.—Fulton, Horner, Johnson.

THE STATION STAFF.

THOMAS MILTON GATCH, A. M., PH. D.,
President.

JAMES WITHYCOMBE, M. AGR.,
Director and Agriculturist.

ARTHUR BURTON CORDLEY, M. S.,
Entomologist.

EDWARD RALPH LAKE, M. S.,
Botanist and Horticulturist.

GEORGE COOTE,
Florist and Gardener.

ABRAHAM LINCOLN KNISELY, M. S.,
Chemist.

FRANK EDWARDS, B. M. E.,
Assistant Chemist.

HENRY DRAKE GIBBS, A. M.
Assistant Chemist.

CLARENCE MELVILLE MCKELLIPS, PH. C.,
Assistant Chemist.

FRED LEROY KENT, B. S., AGR.,
Assistant Agriculturist and Dairy Instructor.

EMILE FRANCIS PERNOT, M. S.,
Bacteriologist.

THOMAS HENRY CRAWFORD, A. M.,
Clerk and Purchasing Agent.

HELEN LUCILE HOLGATE, B. H. E.,
Stenographer.

Oregon Agricultural College.

HISTORY.

By an act of Congress, approved by President Lincoln, July 2, 1862, a grant of land was made to each state in the Union in the amount of thirty thousand acres, or its equivalent, for each Senator and Representative to which the state was entitled by the apportionment of the census of 1860.

The proceeds under this act were to constitute a perpetual fund the principal of which was to remain forever undiminished; but interest arising from said fund, in each state which should avail itself of the benefits of the act, was to be applied inviolably to the support and maintenance of a "College where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such a manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Ninety thousand acres of land were apportioned to Oregon, and by an Act approved October 9, 1862, the Legislative Assembly of Oregon accepted the provisions of the congressional law.

In 1868 the state legislature appointed three commissioners to locate the land; and a report of the selection made, was submitted in 1870.

There were in 1868 no state colleges in Oregon, and the same legislature that provided for the selection of the land gave the use of the funds that should arise from the sale of such land to the Corvallis College, in Benton county, an institution of learning under the control of the M. E. Church, South.

None of the land of the land grant having as yet been sold, the legislature made a small annual appropriation to support the school until the fund to be derived from the grant should become adequate.

In 1885 the church voluntarily relinquished its claim on the funds of the Agricultural College, and the state assumed control vesting the full management of the college in a board of regents.

In the summer of 1887 the corner-stone of a brick structure, now known as the administration building, was laid by the Governor of Oregon amid imposing ceremonies. This building, erected by citizens of Benton county on the Agricultural College farm, was the nucleus around which eleven other buildings eventually clustered as necessity and growing interests demanded.

THE MORRILL ACT.

On August 30, 1890, "An Act" was passed by Congress "to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July 2, 1862."

This act provided that in 1890, \$15,000 should be paid to each of the land grant colleges and that the amount so

appropriated should be increased by the sum of \$1,000 annually for ten years, and that thereafter the amount annually appropriated should continue to be \$25,000.

It also is provided that this money shall be "applied only to instruction in agriculture, the mechanic arts, the English language and the various branches of mathematical, physical, natural and economic sciences with special reference to their application in the industries of life, and to the facilities for such instruction." And it further provided that "no portion of said moneys shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings."

THE HATCH ACT.

In addition to the above, this college receives from the United States, under the "Hatch Bill" of 1887, the sum of \$15,000 a year for conducting experiments in agriculture. With this sum it supports an agricultural experiment station in connection with the college. Although the "Hatch Fund" is used entirely for experiment work, it is exceedingly valuable to students in agriculture and horticulture.

LOCATION.

The State Agricultural College is located at Corvallis, Oregon, near the head of navigation on the Willamette river and is accessible by railway from the east, west, north and south. The city, as its name might indicate, is in the heart of the Willamette valley. To the east is the Cascade range with its snow-capped peaks, while to the west, and

near at hand, is the Coast range. Mary's Peak, the tallest in the range, is covered with snow for several months of the year, and, though fourteen miles away, adds beauty to the scene.

Corvallis, which is situated on high ground, has never been visited by any dangerous, epidemic diseases. The State Board of Health and other authorities have made frequent mention of the healthfulness of Corvallis and vicinity, and have spoken of the location as one of the chief causes of the rapid growth of the College.

The College grounds cover an area of 204 acres. Of this acreage about three-fifths is devoted to croppage including the common farm and garden crops, native pasture, orchards, small fruits and vines. The remaining two-fifths is devoted to lawns, shrubberies, athletic sports and flower-gardens. The main campus is tastefully designed for landscape effects and the ultimate purpose is to use native trees and shrubs for the body of the plantings, with a view to exhibiting the value of our native plants for ornamental and economic purposes.

BUILDINGS.

(Extract from the annual report of Hon. James, K. Weatherford, president of the Board of Regents, dated July 16, 1902.)

"The Administration Building was erected by the citizens of Benton County, and with 39½ acres of ground was donated to the State of Oregon, as an inducement to the people of the State to locate permanently the State Agricultural College at Corvallis. It is a three story brick building containing fourteen rooms suitably arranged and well adapted for school purposes. It is of the estimated value of \$25,000.00.



Administration Building.

It is situated on a small hill in a commanding position and is a beautiful, substantial and imposing building.

“The Agricultural Hall, which is a three-story Oregon gray granite and sandstone building 85x125 feet, is situated about 150 yards southeast of the Administration Building. It is intended for an assembly hall for the Agricultural and Horticultural classes, laboratories and class rooms and for all purposes connected with agriculture and chemistry, dairying and the Experiment Station. It cost about \$42,000.00. This is probably the best building on the ground.

“Mechanical Hall is located about 150 yards northeast of the Administration Building. It is constructed of Oregon gray granite and sandstone. It is two stories high, 90x100 feet. It is a fine substantial building, well arranged and admirably adapted for the purpose for which it is used. It is valued at \$23,000.00 and contains machinery worth \$12,000.00.

“The Armory is situated south of the Administration Building some 200 yards. This is a large two story wooden structure 70x120 feet. It is used for public gatherings, for armory purposes, gymnasiums, etc. It is valued at \$10,000.

“Cauthorn Hall is a two-story wooden structure intended for a home for young men attending the College and will accommodate 100 persons. It is valued at \$15,000.00.

“Alpha Hall is a two-story frame building, designed as a home for young ladies attending College and will accommodate 40 persons. It is valued at \$4,000.00.

“Horticultural Building stands north of the Administration Building about 200 yards, and is used as class rooms and has laboratories and green houses connected therewith. It is, including laboratories, valued at \$2,500.00.

"The Mining Laboratory is situated just south of the Administration Building and is a medium sized frame building of the value of \$4,000.00.

"West of the Administration Building and about 200 yards distant, is located the blacksmith shop, a one story brick structure, large and roomy, valued at \$6,000.00.

"North of the Administration Building is the heating and power plant. The building is of brick and the plant consists of two boilers each of 75 horse power, and one of 50 horse power, of superior make and quality, also a 40 horse power engine and suitable dynamos to furnish light and power. From this plant all the buildings on the ground are heated, by means of pipes conducting the heat underground to the various buildings. Electricity is generated by steam power and is conducted to all of the buildings belonging to the College. The building and machinery and heating apparatus are valued at \$33,000.00.

"The water supply is obtained from wells north and west of the Administration Building by means of pumps operated by steam engines stationed in the pump house. The machinery, building and water tower are of the value of \$2,000.00.

FARM.

"The farm has also good barns, a number of silos, the usual farm machinery and is of the value of \$2,500.00."

STUDENT LIFE.

CAUTHORN HALL.

Cauthorn Hall, commonly known as the Young Men's Hall, was named in honor of Senator Thomas Cauthorn, a benefactor of the Oregon Agricultural College. It was erected

in 1891, for the use of young men who desire to live economically while attending school and at the same time enjoy the privileges and refining influences of the cultured home. The building, which is conveniently located and amply supplied with hot and cold water, bath rooms, steam heat and electric lights, is sufficiently large to accommodate one hundred persons. The dining room, kitchen, and reading room are pleasant and well furnished. Students' rooms are uniformly ten feet wide, and respectively fourteen, seventeen and twenty feet long.

Each student's room is furnished with a table, chairs, a chest with drawers; and each student is supplied with mattress, springs and a bedstead three feet wide and six feet long. The student is expected to furnish four sheets, two pillowcases, blankets, quilt, pillow, window-blind 3 x 6½ feet, towels, broom, dustpan, washbowl and pitcher, thermometer, mirror, comb, brushes, tumblers, carpet, pictures and other ornaments that will make his room comfortable and homelike. He should bring a dictionary and such other books as are used for study, for reference, and for profitable entertainment.

The hall is managed under the direction of Professor and Mrs. J. B. Horner.

To obtain a room in Cauthorn Hall it is necessary for the applicant to furnish satisfactory evidence that he does not use tobacco nor profane language, and that his conduct is gentlemanly at all times.

The cost of living at Cauthorn Hall, including rent, heat, board, etc., is \$2.75 per week payable monthly, in advance. No reduction will be made during the term, save for prolonged absence caused by sickness, when one-half will be deducted.

The hall is furnished with a reading room which is supplied by the club with choice current literature.

Relatives and visiting friends will be charged 15 cents per meal and 20 cents for lodging.

Cauthorn Hall will be closed during the winter holidays. For further information send for special circular.

ALPHA HALL.

It is the purpose of those having charge of the hall, to make it a comfortable and happy home for the young ladies, surrounding them with such influences as will, during their college course, largely contribute to their welfare and progress.

Each room is furnished with mirror, chest with drawers, bedstead, spring mattress, pillow, two chairs and table. Each student should bring with her, table napkins, towels, bedroom crockery and bedding.

The board will be \$2.75 per week, payable monthly in advance.

Friends visiting students will be charged 15 cents per meal.

Those not willing to observe strictly the two rules of the house—quiet observance of study hours and promptness at all meals—will please not apply for rooms.

SOCIAL LIFE OF THE STUDENTS.

Literary contests are common events, the societies meeting in joint session, with prominent citizens as judges. The Y. M. C. A. and Y. W. C. A. hold their regular sessions at the college every Sunday afternoon throughout the school year. These gatherings aid materially in developing the social and spiritual life of the members. At the beginning

of the school year these associations conduct an employment bureau also a bureau of information at their headquarters, and furnish Y. M. C. A. hand-books gratis to all students. Each year a popular course of lectures free to all students is given, under the direction of the faculty, by distinguished speakers from various parts of the state. Vocal and instrumental music intersperse various features of the college work, so that a student in a career of four years may not leave the institution without the refining influences of this important art. Physical culture is encouraged in every way at the gymnasium and on the training grounds. Bowling, fencing, Indian-club swinging, dumb-bell exercises, foot ball, basket ball, base ball, golf and lawn tennis occupy the spare moments of the students in a happy commingling of all classes. These social affairs, although under the direction of a committee of the faculty, are managed by the students who thereby acquire a training in social life destined to be of great value to them.

Corvallis is pre-eminently a college town noted for social clubs, literary societies, and active churches which vie with each other in friendly interest and hospitality toward our young people. More and more as the institution progresses patrons of the college move hither that they may be with their children and at the same time enjoy the refining influences and cultured society of a college community.

SOCIETIES.

The students maintain several literary societies, four for young ladies and four for young gentlemen. These societies are of a semi-fraternal nature, offering to their members social as well as literary advantages. The exercises consist principally of essays, declamations, debates and music.

Public and joint meetings are held by permission of the faculty. Many other features of college life, social and literary, are under their supervision.

The following is a list of the different societies now in existence:

For young ladies: Sorosis, Pierian, Feronian, Utopian.

For young men: Amicitia, Jeffersonian, Philadelphian, Zetagathian.

The membership of each of these societies is limited to forty.

In March, 1896, the literary societies of the college began the publication of a monthly periodical, the "College Barometer." The enterprise met with marked success, and the paper, controlled entirely by students, now wields a strong influence in all college affairs. During the coming year every effort will be made to improve it and make it of interest not only to those directly connected with the school, but to all who are in touch with literary, scientific and industrial education. The editors will be pleased to receive news of alumni and other persons formerly connected with the college. Brief, pointed notes, accounts of scientific experiments and discoveries, and short, well-written and instructive literary articles are also solicited.

ATHLETICS.

The Oregon Agricultural College is a member of the Northwest Intercollegiate Athletic Association. This association is composed of the leading colleges and universities of the Northwest, organized for the better control of college athletics.

The students also maintain an athletic association known as the Athletic Union of the Agricultural College of Oregon.

This organization supports foot-ball, base-ball, basket-ball and track teams and has general charge of all athletics under the supervision of the athletic committee of the faculty.

The College now owns a fine athletic field properly fenced, a neat and commodious grandstand, an excellent quarter-mile tract. The enclosed area is thoroughly drained, graded and seeded, making this one of the best athletic fields in the Pacific Northwest.

The training and the physical condition of all athletes are supervised by the Director of Athletics, W. O. Trine, who has long been recognized as one of the most efficient trainers on the coast.

GOVERNMENT.

The college does not undertake to prescribe in detail either its requirements or prohibitions. Students are met on a plane of mutual regard and helpfulness. Our appeal is to a proper sense of the proprieties of life and the necessity of organization on such a basis.

Established by a government that recognizes no distinction of religious belief, the Oregon Agricultural College seeks neither to promote any creed nor to exclude any; but it will always do everything in its power to promote the religious spirit and life.

Whenever the college life of any student is such that his influence, directly or indirectly, is injurious to the work of the institution, he will be relieved from further attendance at this college.

All absences will be charged from the first recitation of the term.

COURSE OF LECTURES.

In addition to the regular lectures given in the various

departments by members of the faculty, a course of lectures by representative men, is delivered at convenient intervals during the year. These lectures bring young people in contact with leaders in the various departments of human endeavor; arouse investigation on current topics; stimulate students to emulate the achievements of specialists; give breadth of scholarship to the student and aid in developing the character of the institution. They rank among the most attractive features of college life and are free to all students.

CONDITIONS OF ADMISSION.

All applicants for matriculation in any department except music must be at least fifteen years of age.

To enter the freshman year the applicant must be able to pass a satisfactory examination in reading, spelling, geography (physical and descriptive), arithmetic (written and mental), United States history, English grammar, and algebra to quadratics.

ADMISSION FROM OTHER COLLEGES.

Students from other colleges must show a certificate of good standing, or honorable dismissal. Such applicants will receive credit for studies pursued in any college authorized to confer degrees, so far as the two courses are equivalent, upon presenting a certificate of standing from the proper officers.

ADMISSION FROM ACCREDITED SCHOOLS.

Graduates from the following accredited high schools and academies will be admitted to the freshman year without examination, provided they have completed algebra to quadratics:

Albany,	Lakeview,
Astoria,	Lebanon,
Ashland,	Marshfield,
Baker City,	McMinnville,
Bandon (Major Course),	Medford,
Bishop Scott Academy,	Milton,
Burns,	Moro,
Carlton,	North Yamhill,
Coquille Collegiate Institute,	Oregon City,
Corvallis,	Ontario,
Cottage Grove,	Parkplace,
Cove,	Pendleton,
Elgin,	Portland,
Eugene,	Prineville,
Forest Grove,	Roseburg,
Fossil,	Salem,
Garland Academy,	Santiam Academy,
Grant's Pass,	Silverton,
Heppner,	Summerville,
Hillsboro High School,	The Dalles,
Hill's Military Academy,	The Allen Preparatory School,
Hood River,	Portland,
Independence,	Tillamook,
Jacksonville,	Union,
Klamath Falls,	Wasco,
Lafayette High School,	Woodburn.
La Grande,	

The above list is subject to annual revision.

Applicants who have completed a high school course will be given proper credit for work accomplished, upon presenting satisfactory evidence to the head professors of the departments concerned.

ADMISSION UPON CERTIFICATES AND STATEMENTS.

The holder of a certificate or statement signed by the county school board of examiners certifying that at a regular teachers' examination he received a satisfactory grade to entitle him to a teacher's certificate, may be admitted to all the freshman classes except algebra. He may remove such deficiency in algebra upon furnishing the President with a satisfactory statement from a teacher or school



6. Alpha Hall—Mrs. E. C. Hayward, Matron. 5. Cauthorn Hall.

superintendent that the applicant is familiar with the subject of algebra to quadratics; or, upon arrival at the college, he may make good such deficiency by examination or by class recitation.

ADMISSION TO THE SUB-FRESHMAN CLASS.

The course of instruction offered under this head is intended for young people who live at considerable distance from an academy or high school, and are unable to attend such, but have finished the eighth grade in a good public school. No tuition is charged. The work is distributed in the three terms as follows:

SUB-FRESHMAN YEAR.

FIRST TERM.

English Grammar 5.....	English A
English Composition 5.....	English B
Arithmetic 5.....	Mathematics A
U. S. History 5.....	History A
Reading 1, 2.....	Elocution A
Military Drill 2½, 5 (young men).....	Military A
Physical Culture 1½, 3 (young ladies).....	Physical Culture A

SECOND TERM.

English Grammar 5.....	English C
English Composition 5.....	English D
Elementary Algebra 5.....	Mathematics B
U. S. History 5.....	History B
Elocution 1, 2.....	Elocution B
Military Drill 2½, 5.....	Military B
Physical Culture 1½, 3.....	Physical Culture B

THIRD TERM.

English Grammar 5.....	English E
English Composition 5.....	English F
Algebra 5.....	Mathematics C
Physical Geography 5.....	Geography A
Elocution 1, 2.....	Elocution C
Military Drill 2½, 5.....	Military C
Physical Culture 1½, 3.....	Physical Culture C

According to a regulation of the board of regents students shall not be admitted to this class who come from towns or cities of more than fifteen hundred inhabitants, or from such communities as are supporting good high schools.

ADMISSION OF SPECIAL STUDENTS.

None can be admitted as irregular or special students unless they belong to one of the following classes:

1. Those who desire to devote special attention to music and take at least two lessons a week in our department of music.
2. Those who on account of poor health certified by physicians cannot take a complement of studies.
3. Residents who are heads of families and have household duties to look after.
4. Residents who are engaged in regular business or profession and have time for only one or two studies.
5. Such persons as may be permitted to take special studies by vote of the Faculty at a regular monthly meeting.

SCOPE OF THE INSTITUTION.

The scope of the institution, as now organized, cannot be better stated than in the comprehensive words of the act of Congress defining the duty of this and similar colleges:

“The leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislature of the state may prescribe, *in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.*”

Based upon a broad foundation, the special work of the Oregon Agricultural College is the training of youth in those branches of learning which lie at the foundation of modern industrial pursuits. In accordance with the purposes of its founders, and the terms of its original charter, it aims to give special and prominent attention to agriculture, both theoretical and experimental; but it also provides “a liberal and practical education” in the leading

branches of mathematical, natural and physical sciences, in order to prepare youth "for the several pursuits and professions of life." It has increased its subjects and courses of study, and its teaching and illustrative equipment, to such an extent that now, "without excluding classical studies," its leading object is to teach the various sciences in such a manner as to show their applications in the more important industries, and to combine with every branch of instruction such an amount of actual practice in the shop, the field, and the laboratory as will serve to illustrate and apply the theory, without subordinating it. The course in agriculture, as now arranged, conforms very closely to the recommendations of the *Association of American Agricultural Colleges and Experiment Stations*. The range of work in the various courses is shown, as far as space will allow, in the following descriptive statements and schedule. It is confidently believed that few institutions in the country furnish opportunities for obtaining advanced scientific education to an equal extent and thoroughness at so moderate a cost and with so many incidental advantages.

DEGREES AND COURSES OF STUDY.

UNDERGRADUATE WORK.

The college offers seven courses of instruction of four years each leading to the degree of Bachelor of Science, viz:—

Agriculture,
Household Science,
Mechanical Engineering,
Electrical Engineering,
Mining Engineering,
Pharmacy,
Literary Commerce.

All of these require training in English, mathematics, history, elocution, drawing and such other branches as are requisite to a practical education.

In order that the college may meet the needs of a greater number of people and the students intensify along special lines, much of the work is made elective, as may be seen by reference to the courses of study published elsewhere in this catalogue.

In addition to the above courses provision has been made for courses in Vocal and Instrumental Music, a two-year course in Mining, a two-year course in Pharmacy, and short course in Agriculture and Dairying.

GRADUATE WORK.

That students may be encouraged to continue their college work after graduation, the board of regents has made provision for courses leading to advanced degrees.

ADVANCED DEGREES.

Advanced degrees will be given to graduates of this college, or similar approved colleges, upon the following conditions:—

An applicant for a higher degree must present himself for examination in one major and at least one minor study. Major and minor courses leading to the degree of Master of Science, to be selected from different departments, approved by the faculty, are provided for in the departments of Agriculture, Botany, Chemistry, Economics, Horticulture, Zoology, Mechanical and Electrical Engineering and Household Science. The minor, at the option of the student, may also be taken from the departments of Mathematics, English History or Modern Languages. The candidate must prepare a thesis, based upon original research, which shall show scholarly acquirements of a high order. This thesis must be printed or typewritten and bound, and two copies of it left in the college library. The candidate must spend at least one academic year, or its equivalent, as a resident student at this college in preparing for this degree.

I have had all but the studies
marked through

COURSE IN AGRICULTURE.

FRESHMAN YEAR.

FIRST TERM.

Algebra 5	Mathematics I.
English Composition 5	English I
General History 5	History I.
* { Freehand Drawing $1\frac{1}{2}$, 3	Drawing I.
* { Elocution 1, 2	Elocution I.
* Woodwork $2\frac{1}{2}$, 5	Shopwork I.
Military Drill $2\frac{1}{2}$, 5	Military I.

SECOND TERM.

Geometry 5	Mathematics IV.
English Composition 5	English II.
* General History 5	History II.
Elocution 1, 2	Elocution II.
Freehand Drawing $1\frac{1}{2}$, 3	Drawing II.
Woodwork $2\frac{1}{2}$, 5	Shopwork II.
Military Drill $2\frac{1}{2}$, 5	Military II.
Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

Geometry 5	Mathematics V.
Composition and Rhetoric 5	English III.
Plant Morphology 5, 7	Botany I.
Breeds of Stock 5	Agriculture I.
* Freehand Drawing $2\frac{1}{2}$, 5	Drawing III.
Military Drill $2\frac{1}{2}$, 5	Military III.

* Latin or German may be elected instead, but no credit will be given towards graduation for less than the full course of six terms.

SOPHOMORE YEAR.

FIRST TERM.

Chemistry 5, 7	Chemistry I.
Trigonometry 5	Mathematics VI.
Rhetoric 5	English IV.
* Plant Histology 5, 7	Botany II.
Blacksmithing 1½, 3	Shopwork IV.
Military Drill 2½, 5	Military IV.

SECOND TERM.

Physics 5, 7	Physics I.
Chemistry 5, 7	Chemistry II.
Rhetoric 4	English V.
Soils and Manures 2½	Agriculture IV.
Dairying 2½	Agriculture II.
*Blacksmithing 2½, 5	Shopwork V.
Military Drill 2½, 5	Military V.
Physical Culture 1, 2	Physical Culture II.

THIRD TERM.

*Physics 5, 7	Physics II
Chemistry 2, 4	Chemistry III.
Chemistry 3	Chemistry XI.
English Literature 5	English VI.
Zoology 5, 7	Zoology I.
Irrigation and Drainage 5	Agriculture III.
Military Drill 2½, 5	Military VI.

JUNIOR YEAR.

FIRST TERM.

English Literature 5.....	English VII
* Entomology 5, 7.....	Zoology II.
Agricultural Chemistry 5.....	Chemistry IV.
Dairying 5.....	Agriculture V.
Military Drill 2½, 5.....	Military VIII.
Military Science 1.....	Military Science I.

SECOND TERM.

Plant Physiology 5, 7.....	Botany III.
* Literature 5.....	English VIII.
Vertebrate Anatomy 5, 7.....	Zoology III.
Agricultural Chemistry 5.....	Chemistry XXI.
Military Drill 2½, 5.....	Military IX.
Military Science 1.....	Military Science II.

THIRD TERM.

American Literature 5.....	English IX.
* Surveying 5, 7.....	Mathematics X.
† Chemistry 5, 7.....	Chemistry V.
Civics 5.....	Political Science II.
Physiology 5, 7.....	Zoology IV.
Steam Engine 1, 2.....	Mechanics IV.
Military Drill 2½, 5.....	Military XI.
Military Science 1.....	Military Science III

† Required of students who elect thesis work in the department of chemistry.

SENIOR YEAR.

FIRST TERM.

Economics 5	Political Science I.
Geology 5	Geology I.
Horticulture 2½, Hort. I, or Agrostology 2½	Bot. XII.
Military Drill 2½, 5	Military XII.
Military Science I.	Military Science IV.

†*Electives.*

German 5, or,	German X.
Latin 5	Latin X.
Chemistry 5, 7	Chemistry VI.
Mineralogy 3, 6	Mineralogy I.
Forestry	Botany VIII.
Kitchen Gardening	Gardening I.
Botany 5, 7	Botany IV.
Zoology 5, 7	Zoology VI.
Bacteriology 5, 7	Bacteriology I.

SECOND TERM.

Psychology 5	Mental Science I.
Horticulture 2½	Horticulture II.
Military Drill 2½, 5	Military XIV.
Military Science I.	Military Science V.

†*Electives.*

German 5, or,	German XI.
Latin 5	Latin XI.
Botany 5, 7	Botany V.
Forestry 5	Botany IX.
Kitchen Gardening 5	Gardening II.
Chemistry 5, 7	Chemistry VII.
Zoology 5, 7	Zoology VII.
Bacteriology 5, 7	Bacteriology II.

Assaying 3, 6.....	Chemistry IX.
Elocution 1, 2.....	Elocution V.

THIRD TERM.

Soil Physics 5, 7.....	Agriculture VII.
Veterinary Science 5.....	Agriculture IX.
Horticulture 5.....	Horticulture III.
Stock Feeding and Breeding 4.....	Agriculture VI.
Military Drill 2½, 5.....	Military XVI.
Military Science 1.....	Military Science VI.

†*Electives.*

American Literature 5.....	English IX.
German 5, or,	German VI.
Latin 5.....	Latin VI.
Astronomy 5.....	Mathematics XI.
Forestry 5.....	Botany X.
Kitchen Gardening 5.....	Gardening III.
Agricultural Engineering 5.....	Mathematics XII.
Botany 5, 7.....	Botany VI or VII.
Zoology 5, 7.....	Zoology VIII.
Chemistry 5, 7.....	Chemistry VIII.
Bacteriology 5, 7.....	Bacteriology III.
Assaying 3, 6.....	Chemistry X.

† In addition to the required studies seniors must select from the electives a sufficient number of hours to form a full course of 22 hours.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

COURSE IN HOUSEHOLD SCIENCE.

FRESHMAN YEAR.

FIRST TERM.

Algebra 5	Mathematics I.
English Composition 5	English I.
General History 5	History I.
* { Freehand Drawing 1½, 3	Drawing I.
{ Elocution 1, 2	Elocution I.
General Hygiene ½, 1	Household Science I.
Sewing 2, 4	Household Science II.
Physical Culture 1½, 3	Physical Culture I.

SECOND TERM.

Geometry 5	Mathematics IV.
English Composition 5	English II.
* General History 5	History II.
Elocution 1, 2	Elocution II.
Freehand Drawing 1½, 3	Drawing II.
Etiquette ½, 1	Household Science III
Sewing 2, 4	Household Science IV.
Physical Culture 1½, 3	Physical Culture II.

THIRD TERM.

Geometry 5	Mathematics V.
Composition and Rhetoric 5	English III.
Plant Morphology 5, 7	Botany I.
* Freehand Drawing 2½, 5	Drawing III.
Sewing 2½, 5	Household Science V.
Physical Culture 1½, 3	Physical Culture III.

* Latin or German may be elected instead, but no credit will be given towards graduation for less than the full course of six terms.

SOPHOMORE YEAR.

FIRST TERM.

Chemistry 5, 7	Chemistry I.
Plant Histology 5, 7	Botany II.
Rhetoric 5	English IV.
Dressmaking 2½, 5	Household Science VI.
Elocution 1, 2	Elocution III.
*Physical Culture 1½, 3	Physical Culture IV.
Care of the Sick 2	Household Science XIII.

SECOND TERM.

*Floriculture 5	Floriculture I.
History of Eastern Peoples 5	History III.
Chemistry 5, 7	Chemistry II.
Rhetoric 4	English V.
Dressmaking 2½, 5	Household Science VII.
Physical Culture 1½, 3	Physical Culture V.

THIRD TERM.

English Literature 5	English VI.
Zoology 5, 7	Zoology I.
Chemistry 2, 4	Chemistry III.
Chemistry 3	Chemistry XI.
Modern History 5	History IV.
* Dressmaking 2½, 5	Household Science VIII.

JUNIOR YEAR.

FIRST TERM.

Literature 5	English VII.
Entomology 5, 7	Zoology II.
Floriculture 5	Floriculture II.
German 5, or,	German I.
Latin 5	Latin I.
Cookery 1½, 3	Household Science IX.

SECOND TERM.

Plant Physiology 5, 7	Botany III.
Literature 5	English VIII.
Floriculture 5	Floriculture III.
German 5, or,	German II.
Latin 5	Latin II.
Vertebrate Anatomy 5, 7	Zoology III.
Cookery 1½, 3	Household Science X.
Physical Culture 1½, 3	Physical Culture VI.

THIRD TERM.

Dairying 5, or,	Agriculture V.
American Literature 5	English IX.
German 5, or,	German III.
Latin 5	Latin III.
Physiology 5, 7	Zoology IV.
Civics 5	Political Science II.
Cookery 3	Household Science XI

Students desiring to elect thesis work in the department of chemistry must take Course V in chemistry during the third term of the Junior year.

SENIOR YEAR.

FIRST TERM.

Economics 5	Political Science I.
Aesthetics 5	Household Science XII.
German 5, or,	German IV.
Latin 5	Latin IV.

†*Electives.*

Literature 5	English X.
Botany 5, 7	Botany IV.
Zoology 5, 7	Zoology V.
Bacteriology 5, 7	Bacteriology I.
Elocution 1, 2	Elocution IV.
Drawing 2½, 5	Drawing IV.
Chemistry of Foods 5, 7	Chemistry XII.
Geology 5	Geology I.

SECOND TERM.

Psychology 5	Mental Science I.
German 5, or,	German V.
Latin 5	Latin V.
Aesthetics 5	Household Science XIII.

†*Electives.*

Physics 5, 7	Physics I.
Chemistry of Foods 5, 7	Chemistry XIII.
Zoology 5, 7	Zoology VI.
Botany 5, 7	Botany V.
Elocution 1, 2	Elocution V.
Drawing 2½ 5	Drawing V.
Bacteriology 5, 7	Bacteriology II.
Literature 5	English XI.

THIRD TERM.

Domestic Lectures 5	Household Science XIV.
German 5, or,	German VI.
Latin 5	Latin VI.

† *Electives.*

Literature 5	English XII.
Physics 5, 7	Physics II.
Chemistry of Foods 5, 7	Chemistry XIV.
Zoology 5, 7	Zoology VII.
Botany 5, 7	Botany VI.
Elocution 1, 2	Elocution VI.
Drawing 2½, 5	Drawing VI.
Astronomy 5	Mathematics XI.
Bacteriology 5, 7	Bacteriology III.
Landscape Gardening 5	Floriculture VI.

† In addition to the regular studies seniors must select from the electives enough hours to form a full course of 22 hours.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

COURSE IN MECHANICAL ENGINEERING FRESHMAN YEAR.

FIRST TERM.

Algebra 5	Mathematics I.
English Composition 5	English I.
General History 5	History I.
{ Freehand Drawing 1½, 3	Drawing I.
* { Elocution 1, 2	Elocution I.
Woodwork 2½, 5	Shopwork I.
Military Drill 2½, 5	Military I.

SECOND TERM.

Geometry 5	Mathematics IV.
English Composition 5	English II.
*General History 5	History II.
Elocution 1, 2	Elocution II.
Freehand Drawing 1½, 3	Drawing II.
Woodwork 2½, 5	Shopwork II.
Military Drill 2½, 5	Military II.
Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

Geometry 5	Mathematics V.
Composition and Rhetoric 5	English III.
Modern History 5	History IV.
*Freehand Drawing 2½, 5	Drawing III.
Woodwork 2½, 5	Shopwork III.
Military Drill 2½, 5	Military III.

*Latin or German may be elected instead, but no credit will be given towards graduation for less than the full course of six terms.

SOPHOMORE YEAR.

FIRST TERM.

Trigonometry 5	Mathematics VI.
Rhetoric 5	English IV.
Mechanical Drawing 5, 10	Mechanical Engineering I.
*Blacksmithing $2\frac{1}{2}$, 5	Shopwork IV.
Military Drill $2\frac{1}{2}$, 5	Military IV.

SECOND TERM.

Algebra 5	Mathematics II.
Physics 5, 7	Physics I.
Rhetoric 4	English V.
*Mechanical Drawing $2\frac{1}{2}$, 5	Mechanical Engineering II.
Blacksmithing $2\frac{1}{2}$, 5	Shopwork V.
Military Drill $2\frac{1}{2}$, 5	Military V.
Physical Culture 1, 2	Physical Culture II.

THIRD TERM.

Algebra 5	Mathematics III.
Physics 5, 7	Physics II.
English Literature 5	English VI.
Mechanical Drawing $1\frac{1}{2}$, 3	Mechanical Engineering III.
Blacksmithing $2\frac{1}{2}$, 5	Shopwork VI.
*Military Drill $2\frac{1}{2}$, 5	Military VI.

‡ JUNIOR YEAR—MECHANICAL.

FIRST TERM.

Chemistry 5, 7.....	Chemistry I.
*Literature 5.....	English VII.
Analytical Geometry 5.....	Mathematics VII.
Descriptive Geometry 5.....	Mechanical Engineering V.
Machine Shop 2½, 5.....	Shopwork VII.
Military Drill 2½, 5.....	Military VII.
Military Science 1.....	Military Science I.

SECOND TERM.

Chemistry 5, 7.....	Chemistry II.
Physiology 5.....	Zoology V.
*Descriptive Geometry 1½, 3.....	Mechanical Engineering VI.
Calculus 5.....	Mathematics VIII.
Machine Shop 2½, 5.....	Shopwork VIII.
Military Drill ½2, 5.....	Military IX.
Military Science 1.....	Military Science II.

THIRD TERM.

Mechanism 5, 7.....	Mechanical Engineering IV.
Calculus 5.....	Mathematics IX.
Steam Engines and Boilers 4.....	Mechanical Engineering VII.
Civics 5.....	Political Science II.
*Machine Shop 2, 4.....	Shopwork IX.
Military Drill 2½, 5.....	Military XI.
Military Science 1.....	Military Science III.

‡ Students wishing to specialize in electrical engineering may elect to do so at the beginning of the junior year.

SENIOR YEAR—MECHANICAL.

FIRST TERM.

Economics 5	Political Science I.
Mechanics of Engineering 5,	Mechanical Engineering VIII.
Thermodynamics 3	Mechanical Engineering IX.
Physics 5, 7	Physics III.
Military Drill 2½, 5	Military XII.
Military Science 1	Military Science IV.

†*Electives.*

Literature 5	English X.
German 5, or,	German IV.
Latin 5	Latin IV.
Woodwork 2½, 5	Shopwork X.
Ironwork 2½, 5	Shopwork XI.
Mechanical Drawing 2½, 5	Mechanical Engineering X.
Mineralogy 3, 6	Mineralogy I.

SECOND TERM.

Psychology 5	Mental Science I.
Machine Design 5, 7	Mechanical Engineering XI.
Mechanics of Engineering 5,	Mechanical Engineering XII.
Military Drill 2½, 5	Military XIV.
Military Science 1	Military Science V.

†*Electives.*

Literature 5	English XI.
German 5, or,	German V.
Latin 5	Latin V.
Structure of Woods and Metals 5, 7	Botany XI.
Woodwork 2½, 5	Shopwork XII.
Ironwork 2½, 5	Shopwork XIII.
Mechanical Drawing 2½, 5	Mechanical Engineering XIII.
Assaying 3, 6	Chemistry IX.
Elocution 1, 2	Elocution V.

THIRD TERM.

Mechanics of Engineering 5.	Mechanical Engineering XIV.
Machine Design 5, 7.	Mechanical Engineering XV.
*Military Drill 2½, 5.	Military XVI.
Military Science 1.	Military Science VI.
† <i>Electives.</i>	
German 5, or,	German VI.
Latin 5.	Latin VI.
Astronomy 5.	Mathematics XI.
American Literature 5.	English IX.
Surveying 5, 7.	Mathematics X.
Woodwork 2½, 5.	Shopwork XIV.
Ironwork 2½, 5.	Shopwork XV.
Mechanical Drawing 2½, 5.	Mechanical Engineering XVI.
Assaying 3, 6.	Chemistry X.

† In addition to the regular studies seniors must select from the electives enough hours to form a full course of 22 hours.

JUNIOR YEAR—ELECTRICAL.

FIRST TERM.

Electricity and Magnetism 6, 9 . . .	Electrical Engineering I.
Descriptive Geometry 5	Mechanical Engineering V.
Analytical Geometry 5	Mathematics VII.
Chemistry 5, 7	Chemistry I.
*Machine Shop 2½, 5	Shopwork VII.
Military Drill 2½, 5	Military VII.
Military Science 1	Military Science I.

SECOND TERM.

Electricity and Magnetism 5, 7 . .	Electrical Engineering II.
Chemistry 5, 7	Chemistry II.
*Descriptive Geometry 1½, 3 . .	Mechanical Engineering VI.
Calculus 5	Mathematics VIII.
Machine Shop 2½, 5	Shopwork VIII.
Military Drill 2½, 5	Military IX.
Military Science 1	Military Science II.

THIRD TERM.

Calculus 5	Mathematics IX.
Electricity and Magnetism 3 . .	Electrical Engineering III.
Steam Engines and Boilers 4 .	Mechanical Engineering VII.
*Civics 5	Political Science II.
Mechanism 5, 7	Mechanical Engineering IV.
Machine Shop 2, 4	Shopwork IX.
Military Drill 2½, 5	Military XI.
Military Science 1	Military Science III

SENIOR YEAR—ELECTRICAL.

FIRST TERM.

Economics 5	Political Science I.
Mechanics of Engineering 5	Mechanical Engineering VIII.
Alternating Currents and Dynamo Design 5, 7	} Electrical Engineering IV.
Literature 5		English VII.
Physics 3½, 7	Physics III.
Military Drill 2½, 5	Military XII.
Military Science 1	Military Science IV.

† *Electives.*

Literature 5	English X.
German 5, or,	German IV.
Latin 5	Latin X.
Woodwork 2½, 5	Shopwork X.
Ironwork 2½, 5	Shopwork XI.
Mechanical Drawing 2½, 5	Mechanical Engineering X.
Mineralogy 3, 6	Mineralogy I.

SECOND TERM.

Psychology 5	Mental Science I.
Machine Design 5, 7	Mechanical Engineering XI.
Mechanics of Engineering 5	Mechanical Engineering XII.
Alternating Currents and Dynamo Design 5, 7	} Electrical Engineering V.
Military Drill 2½, 5	
Military Science 1	Military Science V.

† *Electives.*

German 5, or,	German XI.
Latin 5	Latin XI.
Woodwork 2½, 5	Shopwork XII.
Ironwork 2½, 5	Shopwork XIII.
Mechanical Drawing 2½, 5	Mechanical Engineering XIII.

† Assaying 3, 6	Chemistry IX.
Elocution 1, 2	Elocution V.
Literature 5	English XI.

THIRD TERM.

Mechanics of Engineering 5	Mechanical Engineering XIV.
Machine Design 5, 7	Mechanical Engineering XV.
Alternating Currents and Dynamo Design 5, 7 }	Electrical Engineering VI.
† Military Drill 2½, 5	Military XVI.
Military Science 1	Military Science VI

† *Electives.*

German 5, or,	German XII.
Latin 5	Latin XII.
Astronomy 5	Mathematics XI.
American Literature, 5	English IX.
Surveying 5, 7	Mathematics X.
Woodwork 2½, 5	Shopwork XIV.
Ironwork 2½, 5	Shopwork XV.
Mechanical Drawing 2½, 5	Mechanical Engineering XIV.
Assaying 3, 6	Chemistry X.

† Students electing Assaying must have previously taken Mineralogy I.

† Seniors who accept commissions as cadet officers are required to drill during the third term.

In addition to the regular studies seniors must select from the electives enough hours to form a full course of 22 hours.

COURSE IN PHARMACY.

FRESHMAN YEAR.

FIRST TERM.

†Algebra 5.....	Mathematics I.
†English Composition 5.....	English I.
General History 5.....	History I.
†Latin 5.....	Latin I.
Freehand Drawing 1½, 3.....	Drawing I.
Elocution 1, 2.....	Elocution I.
† † Military Drill 2½, 5.....	Military I.

SECOND TERM.

Geometry 5.....	Mathematics IV.
†English Composition 5.....	English II.
†Latin 5.....	Latin II.
General History 5.....	History II.
Freehand Drawing 1½, 3.....	Drawing II.
Elocution 1, 2.....	Elocution II.
† Military Drill 2½, 5.....	Military II.
† Physical Culture 1, 2.....	Physical Culture I.

THIRD TERM.

Geometry 5.....	Mathematics V.
†Composition and Rhetoric 5.....	English III.
†Latin 5.....	Latin III.
Plant Morphology 5, 7.....	Botany I.
† Military Drill 2½, 5.....	Military III.

† Throughout the course young ladies take Physical Culture instead.

† Students desiring to take a short course in Pharmacy will be given a certificate in Pharmacy after completing the studies marked (†).

SOPHOMORE YEAR.

FIRST TERM.

†Chemistry 5, 7	Chemistry I.
Rhetoric 5	English IV.
German 5	German I.
Plant Histology 5, 7	Botany II.
†Military Drill 2½, 5	Military IV.

SECOND TERM.

Physics 5, 7	Physics I.
Rhetoric 4	English V.
German 5	German II.
†Chemistry 5, 7	Chemistry II.
†Military Drill 2½, 5	Military V.
Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

German 5	German III.
Zoology 5, 7	Zoology I.
†Chemistry 5, 10	Chemistry XV.
Modern History 5	History IV.
Physics 5, 7	Physics II.
†Military Drill 2½, 5	Military VI.

JUNIOR YEAR.

FIRST TERM.

Literature 5	English VII.
†Pharmaceutical Chemistry 5	Chemistry XVI.
†Therapeutics and Doses 2	Pharmacy V.
†Pharmacy 2	Pharmacy II.
†Nomenclature 1	Pharmacy VI.
German 5	German IV.
Military Drill 2½, 5	Military VII.
Military Science 1	Military Science I.

SECOND TERM.

†Pharmaceutical Chemistry 5	Chemistry XVII.
†Pharmacognosy 2	Pharmacy III.
Vertebrate Anatomy 5, 7	Zoology III.
†Pharmacy 3, 5	Pharmacy IV.
Literature 5	English VIII.
German 5	German V.
Military Drill 2½, 5	Military IX.
Military Science 1	Military Science II.

THIRD TERM.

†Quantitative Chemistry 5, 7	Chemistry V.
Physiology 5, 7	Zoology IV.
Plant Classification 5, 7	Botany VII.
†Pharmacognosy 2	Pharmacy I.
†Pharmacy 3, 5	Pharmacy VII.
German 5	German VI.
Military Drill 2½, 5	Military XI.
Military Science 1	Military Science III.

SENIOR YEAR.

FIRST TERM.

†Materia Medica and Therapeutics 3	Pharmacy VIII.
†Operative Pharmacy 4, 6	Pharmacy IX.
†Pharmaceutical Analysis 5, 10	Chemistry XVIII.
Bacteriology 5, 7	Bacteriology I.
Military Drill 2½, 5	Military XII.
Military Science 1	Military Science IV.

SECOND TERM.

†Materia Medica and Therapeutics 3	Pharmacy XIV.
†Prescription Practice 4½, 7	Pharmacy X.
†Pharmaceutical Analysis 5, 10	Chemistry XIX.
Bacteriology 5, 7	Bacteriology II.
Military Drill 2½, 5	Military XIV.
Military Science 1	Military Science V.

THIRD TERM.

†Pharmacognosy and Synonyms 3	Pharmacy XI.
†Prescription Practice 5½, 8	Pharmacy XV.
†Toxicology 1	Pharmacy XIII.
†Pharmaceutical Analysis 5, 10	Chemistry XX.
Bacteriology 5, 7	Bacteriology III.
Military Drill 2½, 5	Military XVI.
Military Science 1	Military Science VI.

A student may upon obtaining written consent of the heads of departments interested, substitute higher mathematics for any other branch of study.

* COURSE IN MINING.

FRESHMAN YEAR.

FIRST TERM.

†Algebra 5	Mathematics I.
†English Composition 5	English I.
†General History 5	History I.
Freehand Drawing 1½, 3	Drawing I.
Elocution 1, 2	Elocution I.
†Woodwork 2½, 5	Shopwork I.
†Military Drill 2½, 5	Military I.

SECOND TERM

Geometry 5	Mathematics IV.
†English Composition 5	English II.
†General History 5	History II.
Freehand Drawing 1½, 3	Drawing II.
Elocution 1, 2	Elocution II.
†Woodwork 2½, 5	Shopwork II.
†Military Drill 2½, 5	Military II.
†Physical Culture 1, 2	Physical Culture I.

THIRD TERM.

Geometry 5	Mathematics V.
†Composition and Rhetoric 5	English III.
Modern History 5	History III.
Freehand Drawing 2½, 5	Drawing III.
†Physical Geography 5	Physical Geography I.
†Military Drill 2½, 5	Military III.

* Students desiring to take a short course in mining will be given a certificate in mining after completing the studies marked [†].

SOPHOMORE YEAR.

FIRST TERM.

Chemistry 5, 7	Chemistry I.
Trigonometry 5	Mathematics VI.
†Rhetoric 5	English IV.
†Mechanical Drawing 5, 10	Mechanical Engineering I.
†Blacksmithing 2½, 5	Shopwork IV.
†Military Drill 2½, 5	Military IV.

SECOND TERM.

Physics 5, 7	Physics I.
Algebra 5	Mathematics II.
Chemistry 5, 7	Chemistry II.
†Mechanical Drawing 2½, 5	Mechanical Engineering II.
†Blacksmithing 2½, 5	Shopwork V.
†Military Drill 2½, 5	Military V.
Physical Culture 1, 2	Physical Culture II.

THIRD TERM.

Physics 3, 7	Physics II.
Algebra 5	Mathematics III.
Surveying 5, 7	Mathematics X.
Qualitative Analysis 6, 10	Chemistry XV.
†Military Drill 2½, 5	Military VI.

JUNIOR YEAR.

FIRST TERM.

Mine Surveying 3, 6	Mathematics XIII.
Analytical Geometry 5	Mathematics VII.
Descriptive Geometry 5	Mechanical Engineering V.
†Machine Shop 1½, 2½	Shopwork VII.
†Geology 5	Geology I.
Military Drill 2½, 5	Military VII.
Military Science 1	Military Science I.

SECOND TERM.

Tunneling and Leveling, 5	Mathematics XIV.
Geology 5	Geology II.
Descriptive Geometry 1½, 3	Mechanical Engineering XI.
Calculus 5	Mathematics VIII.
†Machine Shop 2½, 5	Shopwork VIII.
Military Drill 2½, 5	Military IX.
Military Science 1	Military Science II.

THIRD TERM.

Calculus 5	Mathematics IX.
Steam Engines and Boilers 4	Mech. Engineering VII.
Civics 5	Political Science II.
†Quantitative Analysis 5, 10	Chemistry V.
Military Drill 2½, 5	Military XI.
Military Science 1	Military Science III.

SENIOR YEAR.

FIRST TERM.

†Mineralogy 5, 7	Mineralogy I.
Mechanics of Engineering 5	Mechanical Engineering VIII.
Economics 5	Political Science I
†Physics 3½, 7	Physics III.
Military Drill 2½, 5	Military XII.
Military Science 1	Military Science IV.

SECOND TERM.

Mineralogy 5, 7	Mineralogy II.
†Assaying 3, 6	Chemistry IX.
Psychology 5	Mental Science I.
Mechanics of Engineering 5	Mechanical Engineering XII.
Military Drill 2½, 5	Military XIV.
Military Science 1	Military Science V.

THIRD TERM.

Mining Engineering 5	Mathematics XV.
Mining Hydraulics } and Ventilation 5 }	Mechanical Engineering XVII.
†Assaying 3, 6	Chemistry X.
Mechanics of Engineering 5	Mechanical Engineering XIV.
Mineralogy 5, 7	Mineralogy III
Military Drill 2½, 5	Military XVI.
Military Science 1	Military Science VI.

LITERARY COMMERCE COURSE.

FRESHMAN YEAR.

FIRST TERM.

General History 5	History I.
English Composition 5	English I.
Commercial Arithmetic 5	Arithmetic I.
Algebra 5	Mathematics I.
Elocution 1, 2	Elocution I.
Military Drill $2\frac{1}{2}$, 5	Military I.
Physical Culture $1\frac{1}{2}$, 3	Physical Culture I.

SECOND TERM.

General History 5	History II.
English Composition 5	English II.
Commercial Arithmetic 5	Arithmetic II.
Geometry 5	Mathematics IV.
Elocution 1, 2	Elocution II.
Military Drill $2\frac{1}{2}$, 5	Military II.
Physical Culture $1\frac{1}{2}$, 3	Physical Culture II.

THIRD TERM.

Modern History 5	History IV.
Composition and Rhetoric 5	English III.
Commercial Arithmetic 5	Arithmetic III.
Geometry 5	Mathematics V.
Penmanship 1	Penmanship I.
Military Drill $2\frac{1}{2}$, 5	Military III.
Physical Culture $1\frac{1}{2}$, 3	Physical Culture III.

SOPHOMORE YEAR.

FIRST TERM.

Bookkeeping 5	Bookkeeping I.
Latin 5 or	Latin I.
German 5	German I.
Rhetoric 5	English IV.
Penmanship 1	Penmanship II.
Floriculture 2, 3	Floriculture I.
Military Drill 2½, 5	Military IV.
Physical Culture 1½, 3	Physical Culture IV.

SECOND TERM.

Bookkeeping 5	Bookkeeping II.
Latin 5 or	Latin II.
German 5	German II.
Rhetoric 5	English V.
Penmanship 1	Penmanship III.
Algebra 5	Mathematics II.
Military Drill 2½, 5	Military V.
Physical Culture 1½, 3	Physical Culture V.

THIRD TERM.

Bookkeeping 5	Bookkeeping III.
Latin 5 or	Latin III.
German 5	German III.
Penmanship 1	Penmanship IV.
Algebra 5	Mathematics III.
Zoology 5, 7	Zoology I.
Military Drill 2½, 5	Military VI.
Physical Culture 1½, 3	Physical Culture VI.

JUNIOR YEAR.

FIRST TERM.

Bookkeeping 3.....	Bookkeeping IV.
Latin 5, or,	Latin IV.
German 5	German IV.
English 5	English VII.
Penmanship 1	Penmanship V.
Stenography 4	Stenography I.
Typewriting 4	Typewriting I.
Military Drill 2½, 5	Military VII.
Military Science 1	Military Science I.
Physical Culture 1½, 3.....	Physical Culture VII.

SECOND TERM.

Bookkeeping 3.....	Bookkeeping V.
Latin 5, or,	Latin V.
German 5	German V.
Penmanship 1	Penmanship VI.
Stenography 4.....	Stenography II.
Typewriting 4.....	Typewriting II.
English 5	English VIII.
Military Drill 2½, 5.....	Military VIII.
Military Science 1	Military Science II.
Physical Culture 1½, 3	Physical Culture VIII.

THIRD TERM.

Bookkeeping 3	Bookkeeping VI.
Latin 5, or,	Latin VI.
German 5	German VI.
Penmanship 1	Penmanship VII
Civics 5.	Civics I.
Stenography 4.....	Stenography III.
Typewriting 4.....	Typewriting III.
Military Science 1	Military Science III.
Military Drill 2½, 5	Military IX.
Physical Culture 2½, 5.....	Physical Culture IX.

SENIOR YEAR.

FIRST TERM.

Economics 5	Political Science I.
Commercial Law 3	Commercial Law I.
English 5	English X.
Aesthetics 5	Household Science XII.
Military Science 1	Military Science IV.
Military Drill $2\frac{1}{2}$, 5	Military X.
Physical Culture $\frac{3}{4}$, $1\frac{1}{2}$	Physical Culture X.

SECOND TERM.

Commercial Law 3	Commercial Law II.
English 5	English XI.
Aesthetics 5	Household Science XIII.
Psychology 5	Mental Science I.
Military Science 1	Military V.
Military Drill $2\frac{1}{2}$, 5	Military XI.
Physical Culture $\frac{3}{4}$, $1\frac{1}{2}$	Physical Culture XI.

THIRD TERM.

Astronomy 5	Mathematics XI.
Plant Morphology 5, 7	Botany I.
English 5	English IX.
Military Science 1	Military Science VI.
Military Drill $2\frac{1}{2}$, 5	Military XII.
Physical Culture $2\frac{1}{2}$, 5	Physical Culture XII.

COURSE IN PIANO.

SUB-FRESHMAN YEAR.

FIRST TERM.

5, Easy Exercises Technic A

SECOND TERM.

5, Exercises Technic B

THIRD TERM.

5, { Exercises Technic C
 { Little Pieces Pieces A

FRESHMAN YEAR.

FIRST TERM.

7½ { Exercises Technic I
 { Pieces Musical Literature I

SECOND TERM.

7½ { Exercises Technic II
 { Pieces Musical Literature II

THIRD TERM.

7½ { Exercises Technic III
 { Pieces Musical Literature III

SOPHOMORE YEAR.

FIRST TERM.

10 { Studies, Scales, etc Technic IV
 { Preludes and Fugues Polyphony I
 { Classic Pieces Musical Literature IV
 I, Theory Musical Science I

SECOND TERM.

10 { Studies, Arpeggios, etc Technic V
 { Preludes and Fugues Polyphony II
 { Sonatas, Pieces Musical Literature V
 I, Theory Musical Science II

THIRD TERM.

10 { Studies, Octaves, etc Technic VI
 { Fugues Polyphony III
 { Sonatas, Pieces Musical Literature VI
 I, Theory Musical Science III

JUNIOR YEAR.

FIRST TERM.

10	{	Studies, Rotation, Exercises	Technic VII
		Polyphonic Inventions	Polyphony IV
		Classic Solos	Musical Literature VII
5,		Harmony	Musical Science IV

SECOND TERM.

10	{	Octaves, Exercises	Technic VIII
		Polyphonic Inventions	Polyphony V
		Sonatas, Solos	Musical Literature VIII
5,		Harmony	Musical Science V

THIRD TERM.

10	{	Etudes, Exercises	Technic IX
		Polyphonic Inventions	Polyphony VI
		Classic Works	Musical Literature IX
5,		Harmony	Musical Science VI

SENIOR YEAR.

FIRST TERM.

12½	{	Very Difficult Etudes	Technic X
		Bach Clavichord	Polyphony VII
		Difficult Classic Works	Musical Literature X
5,		Harmony	Musical Science VII
2,		Musical History	Musical History I

SECOND TERM.

12½	{	Concert Etudes	Technic XI
		Bach Clavichord	Polyphony VIII
		Concert Works	Musical Literature XI
5,		Counterpoint	Musical Science VIII
2,		Musical History	Musical History II

THIRD TERM.

12½	{	Concert Etudes	Technic XII
		Bach Clavichord	Polyphony IX
		Concert Works	Musical Literature XII
5,		Counterpoint	Musical Science IX
2,		Musical History	Musical History III

DEPARTMENTS OF INSTRUCTION.

MENTAL AND POLITICAL SCIENCE.
AGRICULTURE.
HISTORY AND LATIN.
HOUSEHOLD SCIENCE.
MODERN LANGUAGES.
MECHANICAL AND ELECTRICAL ENGINEERING
CHEMISTRY AND PHARMACY.
ENGLISH LANGUAGE AND LITERATURE.
MATHEMATICS AND ENGINEERING.
ZOOLOGY.
BOTANY AND HORTICULTURE.
ELOCUTION.
FLORICULTURE AND GARDENING.
BACTERIOLOGY.
DRAWING.
MILITARY.
PHYSICAL CULTURE.
MINING.
LITERARY COMMERCE.
MUSIC.

MENTAL, AND POLITICAL SCIENCE.

THOMAS M. GATCH, A. M., PH. D.

Course I.—*Economics*.—Senior year; first term. During the first part of the term our aim is to familiarize the student with the principles of the science. The last part of the term is devoted principally to debates, informal discussions and theme work. Our library is well supplied with reference books in this department. Students are encouraged in original investigation. The labor question, socialism, taxation, money and tariff receive attention. Five hours a week. Gide's "Principles," with Lectures.

Course II.—*Civics*.—Junior year; third term. Practical information is presented as to the rights and duties which attach to American citizenship. Constant care is taken to give reasons as well as justification for each power exercised by our government, and to inculcate in every way the moral obligations of good citizenship. Five hours a week. Strong and Schafer's "Government of the American People," with lectures.

Course III.—*Psychology*.—Senior year; second term. This study presupposes a considerable acquaintance with the structure and functions of the brain and nervous system. Students acquire this knowledge in the laboratory under the direction of the professor of zoology. The intellectual faculties, the sensibilities and the will are carefully studied; the various schools of philosophy are criticised and compared and themes are often required from members of the class. Five hours a week. Lectures principally, with Buell's "Essentials" as a guide.

AGRICULTURE.

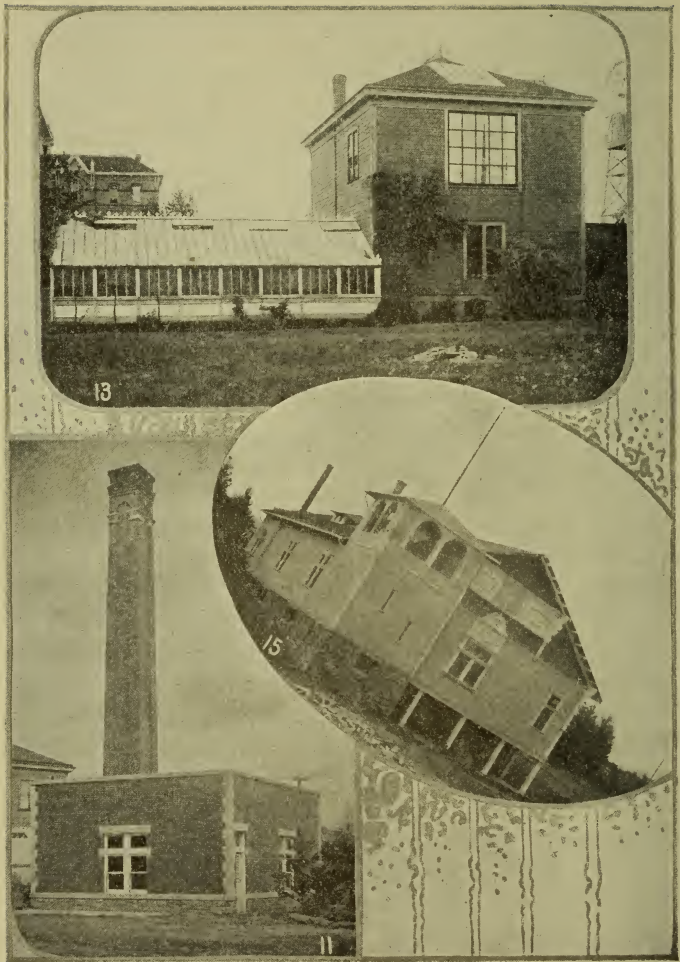
JAMES WITHYCOMBE, M. Agr., Professor of Agriculture.
F. L. KENT, B. Agr., Associate Professor of Agriculture.
W. J. KENT, Foreman.

The object sought throughout the entire agricultural course is to familiarize the student with the art and science of agriculture. This embraces the study of zoology, botany, chemistry and bacteriology, the sciences related to agriculture; and the supplementary studies of mathematics, economics, physics, history, language and other cultural branches, all of which broaden the course of study and tend to elevate the educated farmer to the intellectual level of other professions.

The college laboratories are strictly modern in their appointments and are supplied with up-to-date equipments, which afford the student unusual opportunities for making a thorough study of all the sciences related to agriculture.

While the theory of agriculture, as based upon the sciences, is being taught, the industrial side is not overlooked. Instruction is given in wood and iron working in the carpenter and blacksmith shops under competent supervision. The student is also taught how to handle and care for steam machinery, and is made thoroughly familiar with the mechanism of the farm traction engine.

The instruction given in the class-room is directly supplemented by actual demonstrations of the best agricultural practice on the college farm, thus giving to the student an



13. Horticultural Hall. 15. Armory. 11. Heating Plant and Power House.

opportunity to observe the methods employed, and enabling him to note from time to time the results of the practical applications of science to agricultural methods.

The college and station farm consists of 199 acres, 140 of which are devoted to farm crops, pasture, and experimental purposes. The farm is equipped with dairy building, horse-barn, cattle-barn, silos, piggery, tool-house, engine-house, etc., and with typical specimens of several breeds of stock.

Students laboring on the farm and in the gardens, receive from $12\frac{1}{2}$ to 20 cents per hour. Only comparatively few persons can be so employed, as the amount of work to be done is limited. Those only who by their work prove to be valuable laborers will be employed.

DAIRYING.

One of the purposes of the Oregon Agricultural College is to advance the business industries of the state. It is believed that dairying is one of the most important lines of work that can now be undertaken in Oregon. There is a large body of land in the state which is especially adapted to this industry. For this reason dairying has been introduced as a branch of study in the agricultural course. A separate building has been provided for such instruction and it is fitted up with all the necessary machinery for carrying on the work in the most approved way. An expert dairyman is in charge of this work.

All students in the agricultural department will be required to study dairying not only as a science but as an art. Those taking the household science course will have the same opportunities as the agricultural students.

This is a line of practical work which, it is believed, will prove of great advantage both to the student and to the

state. The practical instruction includes both butter and cheese making.

A short course has been provided, as described elsewhere in the catalogue, whereby practical instruction in dairying may be obtained by those who can not avail themselves of a college course.

The instruction in applied agriculture extends through the freshman, sophomore, junior and senior years, as shown in the following synopsis of courses :

Course I.—*Breeds of Stock*.—Freshman year; third term. The study of the history of the different classes of farm stock, their origin and characteristics. By means of charts, in the class-room the student is made familiar with the different points of animal form preparatory to the use of the score-card system for judging farm animals. This is followed by a practical application of this system in judging dairy cows, beef cattle, mutton sheep and swine. In this manner the student obtains useful information relative to animal form and function, and thus becomes acquainted with the points of excellence in the typical pure bred, as well as the points of merit in the animal designed for the butcher's block. Five hours a week.

Course II — *Theoretical Dairying*.—Sophomore year; second term. The principles of modern dairy practice will be taught in the classroom. Instruction will be given by text-book and lectures. Five hours a week for one half term.—Wing "Milk and Its Products."

Course III.—*Irrigation and Drainage*.—Sophomore year; third term. In the discussion of this subject it will be the aim to deal with those relations of water to soils and to plants which must be grasped in order to permit of a rational practice of applying, removing or conserving soil moist-

ure in crop production. The subject will be considered from the standpoints of the farmer, the fruit grower and the gardener rather than from that of the engineer. The various methods of applying water; the laying out and construction of farm drains; and the effect of irrigation and drainage on the chemical and physical conditions of the soil will be considered. Five hours a week. King's "Irrigation and Drainage."

Course IV.—*Soils and Manures*.—Sophomore year; second term. The origin and formation of soils; soil tillage; management and application of manures; green manuring; organic and mineral manures; soil exhaustion; rotation of crops, and methods of improving worn-out soils. Five hours a week for one half term. Robert's "Fertility of the Land."

Course V.—*Dairying*.—Junior year; first term. (a) Practical work in the dairy for agricultural students. The principles taught in the sophomore year will be put into practice in the actual work of the manufacture of butter and cheese. The Babcock test, rennet tests, and curd tests, as well as the subjects of creamery accounting will receive due attention. Five hours a week.

(b) Practical work in the dairy for household science students. This work is essentially the same as above. Wing's "Milk and its Products" will also be used as a text during a portion of the term. Five hours a week throughout the third term.

Course VI.—*Stock Feeding and Breeding*.—Senior year; third term. Stock feeding covers the subject of rations for milk and meat production; how best balanced for economical feeding. Stock breeding covers the subjects of atavism, heredity, in-and-in-breeding, variation, prepotency and care

of breeding animals. Opportunity is given for judging and scoring live stock, and for studying the essential points of breeds adapted to different purposes. Four hours a week. Shaw, Animal Breeding.

Course VII.—*Soil Physics*.—Senior year; third term. The work will include a study of various types of soils as to their mechanical structure and analysis; of conditions influencing temperature, capillary action and water-holding capacity of soil; effects of drainage and cultivation upon the conservation of moisture in soils; the texture of soils; the use of fertilizers and amendments and their effects on soils. Class room and laboratory work, seven hours a week.

Course IX.—*Veterinary Science*.—Senior year; third term. This subject will be taught by lectures covering the anatomy of the horse, and taking up the diseases most common to domestic animals, giving causes, symptoms, and treatment for the same. Special stress is placed upon proper treatment to prevent disease in domestic animals. Five lectures a week. Reynold's "Veterinary Studies."

Course X.—*Agricultural, Steam Engine*.—Discussions and practical work relative to the structure, care and operation of farm steam engines and boilers, with special reference to the principles involved.

Instruction is given largely by lectures, suitable books being selected for reference. Miles' book on drainage. Curtis' "Horses, Cattle, Sheep, and Swine." Warfield's "Cattle Breeding," Stewart's "Stock Feeding." Armsby's Manual of Cattle Feeding. Shaw's "Study of Breeds." "Soil," King. "Physics of Agriculture," King. "Feeds and Feeding," Henry.

HISTORY AND LATIN.

J. B. HORNER, A. M., LITT. D., Professor.

HISTORY.

Course I.—*Greek and Roman History*.—Freshman year; first term. Includes the study of general Hellenic development; the Athenian leadership; the Hellenistic or Alexandrian conquests and kingdoms. The political organizations of republican Rome in the prae- and post-Punic periods. Study of the pagan empire; Teutonic migrations. The Christian empire under Roman control. Five hours a week.

Course II.—*Mediæval History*.—Freshman year; second term. A study of social and political institutions of the fifth to the fifteenth centuries. Five hours a week.

Course III.—*History of Eastern Peoples*.—Sophomore year; second term. A survey of the history of China, Japan and India. Religion, arts and general culture of Egypt, Chaldæa, Assyria, Babylonia, Persia. Five hours a week.

Course IV.—*Modern History*.—Sophomore year; third term. This is a study of the era of the reformation and renaissance. (1490-1648). A general study of the age of Louis XIV., Frederick the Great, Anne and the Georges, Maria Teresa, and Peter the Great. The great French revolution and the wars of Napoleon. The states-general of 1789 to the congress of Vienna, 1815. German and Italian freedom and unity. Discussions touching the material progress of the age; famous works of art; foundations, inventions, discoveries, enterprises, improvements and investigations. Five hours a week.

The college is supplied with maps, charts, and a good working library of historical reference books.

In addition to the individual work of the student, as outlined above, lectures are given on the more important periods, such as the great reformation, thirty years' war, the English reformation, and the French revolution. Textbook, Myers' General History.

LATIN.

Course I.—Freshman year; first term. First eighty-five pages of Collar & Daniel's "First Year Latin," also synopsis of regular verb in each of the four conjugations.

Course II.—Freshman year; second term. Same textbook continued to page 151 with frequent reviews; also exercises in composition.

Course III.—Freshman year; third term. Irregular verbs. Conditional sentences. Periphrastic conjugation, etc. Caesar—Book II.

Course IV.—Sophomore year; first term. Caesar—Book I—Collar's edition. Allen & Greenough's Latin Grammar.

Course V.—Sophomore year; second term. Cicero's Oration. Allen & Greenough's Grammar.

Course VI.—Sophomore year; third term. Aeneid—Collar's edition. Allen & Greenough's Grammar.

If at any time there is a demand, classes desiring to pursue the study of Latin beyond Course VI may do so upon making application. The first year's instruction is largely grammatical, prominence being given to Latin writing as the best method of acquiring a mastery of the language, Latin composition is eminently helpful in scientific research, and it is suggestive to the student of English. This preliminary work done, the student is then trained to appreciate the literature. Attention is called, during the reading of various authors, to those numerous problems in the history, thought and institutions of the Romans which illustrate similar phenomena noticeable among ourselves. The contribution of the Romans to the language, literature, and institutions of our time is so great that a thorough acquaintance with their life is of the highest educational value.

HOUSEHOLD SCIENCE.

MARGARET C. SNELL, M. D., Professor.

MARY AVERY, Assistant in Sewing.

Self interest and public interest make it apparent to every intelligent person how greatly in need are subjects pertaining to the home of being "touched to fine issues;" hence their introduction as studies into college curricula.

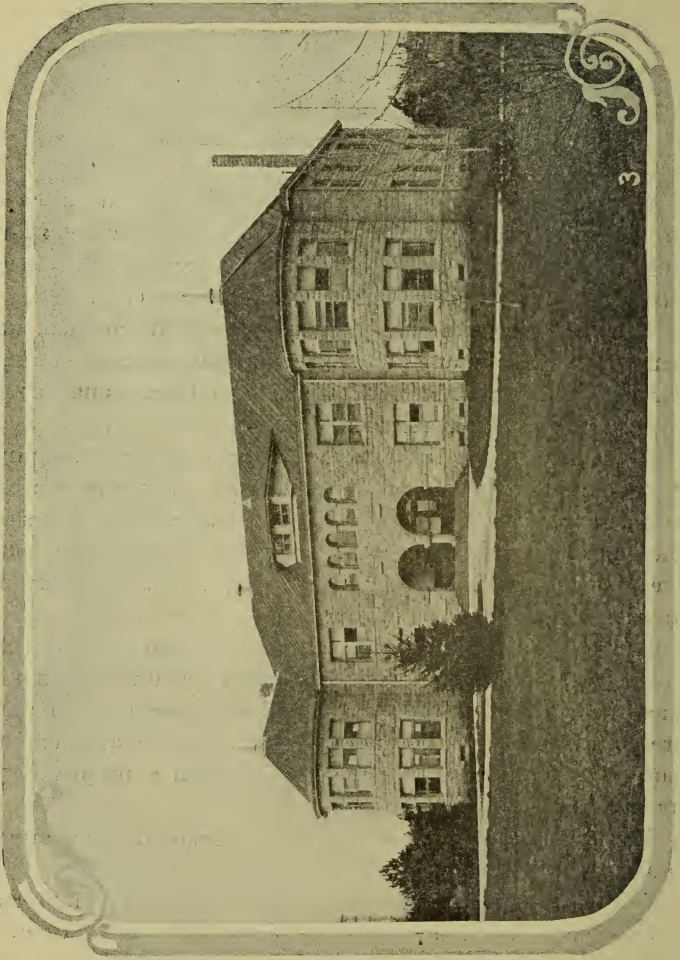
We have been reviled as "the most common schooled, and least cultivated, among all civilized nations," and this largely through our deplorable indifference to, and ignorance of, the common facts and necessities of life.

"The home as we find it to-day has scant warrant that anything born of its teaching is worth while to impart, yet the problem grows of how to get better results, how to lessen the labor of the farmer's wife, the washer-woman, the cook, the boarding-house keeper, the city missionary, the school teacher, the woman of fashion."

The solution requires something more than the knitting of the brow over theories; there must be actual testing of these theories by practice in the college laboratory, if they are to have value and permanence. The precious acquisition of the scholar who *knows*, must be further supplemented by that of the artist who *does*.

The various subjects pertaining to home life are taught under the following heads:

Course I.—*General Hygiene*.—Freshman year; first term. Good health is acknowledged as one of the prime factors of success in life; lectures and talks on this important subject are not neglected. The amenities of home, and readings on



Mechanical Hall. (See page 17.)

kindred topics, give mental occupation to the sewing hour. One hour a week.

Courses II, IV, V.—*Sewing*.—Freshman year. During the first term there are sewing lectures and practice work, one hour a day, on sewing samples. Here are acquired and strengthened those invisible impulses: industry, dexterity, patience, exactness. Five hours a week.

Second term, sewing continued. Five hours a week.

During the third term sewing is combined with the making of simple garments. Readings, conversation.

Courses VI, VII, VIII.—*Dressmaking*.—Sophomore year. Cleverness with scissors, tape line, and needle finds in dressmaking, millinery, home furnishing, a large field for the application of art principles to the living, moving canvas of actual life.

Instruction in dressmaking is an important branch of domestic science. Lectures will be given on the following subjects: The methods of manufacturing thread, cloths and other dressmaking material; hygienic principles of dressmaking; study and sketching of drapery; history of costume, etc.

During the first term the work includes draughting and making simple skirts, cutting, fitting and making lined waists from patterns; a study of the texture of goods. Five hours a week.

Throughout the second and third terms instruction is given in draughting and making lined waists, matching stripes and plaids, study of woolen textiles. Five hours a week.

Courses IX, X, XI.—*Cookery*.—Junior year. The first term's work includes instruction in canning of fruits, one-half term; three lectures; one hour a week practice work in

the kitchen laboratory; technological cookery; preparatory work in chemistry of foods. Two hours a week. Laboratory fee, \$3.

The second and third terms' instruction includes practice work in cookery. Three hours a week throughout the year.

Course III.—*Etiquette*.—Freshman year; second term. Lectures and talks on social forms and usages; the art of entertaining.

Course XII.—*Aesthetics*.—Senior year; first term. Lectures and recitations on the subject of aesthetics. "Aesthetics," Day.

This term is given to the general subject of aesthetics in its relations to the subjective and objective world; the kinds and laws of beauty; class readings from various authors on aesthetics; the application of aesthetic principles to discourse as we find it illustrated in the great master pieces of literature. Five hours a week.

Course XIII.—*Aesthetics*.—Senior year; second term. Application of aesthetic principles to the remaining fine arts, with a study of the best authors on these varied subjects. The two arts receiving especial attention during the coming year will be architecture and painting. Five hours a week.

Course XIV.—*Domestic Lectures*.—Senior year; third term. The term's work will include lectures on the following subjects: Special hygiene, including parentage, care of children, heredity, etc.; sanitation of the home; home furnishing; emergency lectures; fireside practice, etc. Five hours a week.

Course XIV—Helen Campbell's "Household Economics," and Pomeroy's "Ethics of Marriage."

MODERN LANGUAGES.

ELLEN J. CHAMBERLIN, A. M., Professor.

Opportunity to study German is offered throughout the different courses and is compulsory in the course in pharmacy during the sophomore and junior years. We teach in a large measure by the conversational method, and aim to bring the student so far that he can read with ease and facility, and understand so much of the language as will be most helpful to him in practical life. A knowledge of German is a business possession of undoubted value for any young man, or young woman.

Courses I to IV.—*Elementary German*.—Collar's Eysenbach—German grammar; First German Reader, Muller and Wenckebach's Glück Auf. Hewett's German Reader. Constant practice in translating into German and in conversation.

Courses IV, V and VI.—*Advanced German*; Schiller's Wilhelm Tell; Jungfrau von Orleans; Marie Stuart. Lessing's Nathan der Weise; Seume's Mein Leben. Lectures on the life and works of Lessing, Goethe and Schiller and some of the minor writers of the eighteenth century. Grammar reviewed; Composition, Syntax.

MECHANICAL AND ELECTRICAL ENGINEERING.

GRANT A. COVELL, M. E., Professor.

E. C. HAYWARD, E. E., Assistant.

M. CLYDE PHILLIPS, B. M. E., Instructor in Ironwork and Drawing.

E. P. JACKSON, Instructor in Woodwork.

Students in this department are allowed to choose either the course in mechanical engineering or the course in electrical engineering. Each course leads to the degree of Bachelor of Science, and the two courses are identical until the beginning of the junior year.

The course in mechanical engineering is intended especially for young men who expect to choose an industrial vocation and for those who are already, or expect to be, connected with some of the manufacturing establishments of the country.

The course in electrical engineering is designed to meet the needs of those who desire to turn their attention towards electrical science, the designing, the installation and the management of electric light and power plants, etc.

The shops are well equipped with tools and machinery from the best makers in the country; the idea being not only to have the shops well supplied with the necessary tools but also to make each shop a model as regards quality of equipment and systematic arrangement.

The uses of the various tools in the shop are taught by a series of exercise pieces which the student is required to make. After completing the exercises, the regular work consists in building and repairing machinery in the machine shop, mending farm implements, and making tools in the blacksmith shop, and other useful articles in the wood shop. So far as possible, all work in the shops is executed from drawings and blue prints, which must be followed accurately.

In the drafting room the student begins with linear drawing and follows a progressive course until he is able to make complete working drawings of whole machines, and finally he is encouraged to produce designs of his own and to make complete drawings and blue prints of them.

The scientific principles involved in machines and mechanical movements are taught in the class-room, as well as the application of mathematics to problems in mechanical engineering. The student is required to solve original problems and to depend upon his own judgment and ingenuity as far as possible.

EQUIPMENT.

The machine shop is equipped with one 24" x 24" iron planer, one universal milling machine, one universal tool grinder, one radial drill, one 20" drill press, one 20" engine lathe, one 16" engine lathe, three 14" engine lathes, one 15" shaper, one emery grinder, two 10" speed lathes, twelve bench vises, and numerous small tools, such as hammers, chisels, drills, reamers, taps and dies.

The blacksmith shop contains twenty stationary forges operated by an electric motor fan. Each forge is provided with anvil, hammers and tongs. The shop also contains two vises, a swedge block and a full set of swedges, fullers, and heading tools.

The woodshop contains one 4" four-sided moulder, one 24" surface planer, one iron saw table with rip and cut-off saws, one band saw, one jig saw, one 20" pattern-maker's lathe, one post boring machine, four 12" wood-turning lathes, and twenty hand benches, each equipped with a set of tools consisting of saws, planes, chisels and other small tools. Power is supplied by a 10 horse power electric motor.

The power house is combined with the heating plant and contains one 54 inch and two 60 inch tubular boilers with pumps, injectors and feed water heater. The electrical equipment consists of two $12\frac{1}{2}$ kilowatt direct current generators and one 30 kilowatt alternator, all driven by a 40 horse power, high speed, automatic engine. The direct current generators operate the motors in the several shops and laboratories, while the alternator furnishes lights for the College buildings and grounds.

The steam, electrical and heating plants of the college furnish opportunity for much valuable experimental work in engineering, such as tests of boilers, engines, dynamos, motors, fans, pumps and injectors. The department is supplied with indicators, gauges, planimeters and other instruments to facilitate this work.

A Riehle testing machine of 50,000 pounds capacity, operated by an independent motor, affords means of testing the strength of metals, woods, stones or brick.

The following is an outline of the work done in the mechanical department:

SHOPWORK.

Courses I, II and III.—*Woodwork*.—Freshman year. A course in woodwork which includes carpentry, joinery and wood-turning, also the care and use of tools. Five hours a week throughout the year.

Courses IV, V and VI.—*Blacksmithing*.—Sophomore year. In this course the student is taught how to make and manage a forge fire; to shape iron by bending, drawing, upsetting and welding, and finally to make and temper cutting tools for the shops. Five hours a week.

Course VII.—*Machine Shop*.—Junior year; first term.

This course is devoted principally to chipping, filing, polishing and hand work. Five hours a week.

Courses VIII and IX.—*Machine Shop*.—Junior year; second and third terms. These include a series of exercise pieces in turning, shaping, milling and drilling which the student is required to make from drawings. Five and four hours a week respectively.

Courses X, XII and XIV.—*Woodwork*.—Senior year. These courses are elective and are intended for students who desire to specialize in this branch. Particular attention is given to the care and management of wood-working machines and to pattern-making. Five hours a week throughout the year.

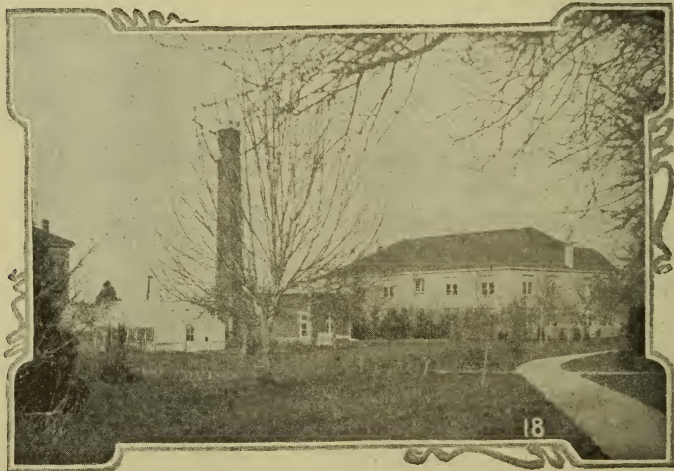
Courses XI, XIII and XV.—*Ironwork*.—Senior year. These are elective courses and follow course IX. The work consists of constructing parts of machines, repair work, and making tools for the shops. Five hours a week throughout the year.

MECHANICAL ENGINEERING.

Courses I, II and III.—*Mechanical Drawing*.—Sophomore year. In these courses the student begins at once to make mechanical drawings of simple objects and finally makes sketches of machines from which working drawings are made. Ten hours, the first term; five hours the second term and three hours the third term.

Course IV.—*Mechanism*.—Junior year; third term. This course treats of the motion of machine parts, and is introductory to the course in machine design. Seven hours a week.

Courses V and VI.—*Descriptive Geometry*.—Junior year; first and second terms. The work in these courses is largely drawing. It involves the solution of problems in projection and intersection of lines, surfaces and solids. Five and three hours a week respectively.



12. Blacksmith Shop. 18. Campus—N. W. Corner.

Course VII.—*Steam Engines and Boilers*.—Junior year; third term. A study of the construction, care and operation of steam engines and boilers; recitations and lectures. Four hours a week.

Course IX.—*Thermodynamics*.—Senior year; first term. Steam and other engines considered as heat engines. Two hours a week.

Courses VIII, XII and XIV.—*Mechanics of Engineering*.—Senior year. A course in applied mechanics. The first two terms are occupied with a discussion of statical and dynamical problems. During the last term the strength of materials is studied with special reference to beams, girders and trusses; also the mechanics of fluids relating to pressure, flow and carrying capacity of pipes and open ditches. Open only to those who have completed Mathematics VIII and IX. Five hours a week throughout the year.

Courses XI and XV.—*Machine Design*.—Senior year; second and third terms. A course applying the principles brought out in the courses in mechanism and mechanics to the design and construction of machine parts. Numerous practical problems are solved, the data for many of them being taken from machines used in the college, so that the student may compare his results with those used in practice. Considerable draughting is done in connection with this course. Seven hours a week.

PHYSICS.

Courses I and II.—*Elementary Physics*.—Sophomore year; second and third terms. These courses cover the usual topics of mechanics, heat, electricity and magnetism, sound and light. Instruction is given by means of lectures and recitations, alternating with laboratory practice. Seven hours a week.

Course III.—*Physics*.—Senior year; first term. A laboratory course, which is a continuation of the preceding courses, and deals more especially with experiments in heat, light, sound and electricity. Seven hours a week.

ELECTRICAL ENGINEERING.

Courses I, II and III.—*Electricity and Magnetism*.—Junior year; first, second and third terms. Dealing with the general theory of electricity and magnetism and their most common application; such as the telephone, telegraph, electro-plating, electric lighting, etc. In the laboratory the student becomes familiar with the usual measurements employed by the electrical engineer. Special attention is given to the calculation of magnetic circuits, thus leading up to the course in dynamo design. Lectures, recitation and laboratory work. Seven hours a week first and second terms; three hours third term.

Courses IV, V and VI.—(a) *Alternating currents*.—Senior year; first term. Being a brief development of the elementary theory of alternating currents, using both the graphical and analytical methods of calculation. A continuation of courses I, II and III. Open only to those who have completed Mathematics VIII and IX. Lectures and recitations. Three hours a week.

(b) *Dynamo Design*.—Second term.—Theory and practice of the design of direct and alternating current dynamos and motors, including calculation and construction of field magnets, armatures, commutators, etc. Lectures and recitations, supplemented by the making of models in the laboratory. Three hours a week.

(c) *Practical Electrical Engineering*.—Third term.—Considerable time will be devoted to practical engineering

problems, such as the calculation of circuits, installation of lighting and power plants, power transmissions, etc. Three hours a week.

(d) *Laboratory*.—An advanced course, being a continuation of the laboratory work carried on in courses II and III, including, in addition to the more common measurements, the measurement of insulation resistance, location of faults in cables, and construction of apparatus. Four hours a week throughout the year.

TEXT BOOKS.

BOOKS.	AUTHOR.	PUBLISHER.
Physical Laboratory Manual.....	Chute	D. C. Heath
High School Physics.....	Carhart & Chute.....	Allyn & Bacon
Theoretical Mechanics.....	W. W. Johnson.....	Wiley & Son
The Strength of Materials.....	Merriman.....	Wiley & Son
Steam Engines and Boilers.....	J. H. Kinealy.....	Spon & Chamberlain
Descriptive Geometry.....	Linus Faunce.....	Ginn & Co.
A Practical Course in Mechanical Drawing..	Fox & Thomas.....	Van Nostrand Co.
Machine Design, Part I.....	Jones.....	Wiley & Son
Elements of Machine Design.....	A. W. Smith.....	Stanford Un. Press
Electricity and Magnetism.....	Sylvanus Thompson.....	MacMillan
Elementary Practical Physics, Vol. II.....	Stewart & Gee.....	MacMillan
Electro-Magnetism and the Construction of Dynamos.....	D. C. Jackson.....	MacMillan
Alternating Currents and Alternating Cur- rent Machinery.....	Jackson & Jackson.....	MacMillan

CHEMISTRY AND PHARMACY.

A. L. KNISELY, M. S., Professor.
JOHN FULTON, B. S., Associate Professor.
C. M. MCKELLIPS, PH. G., PH. C., Instructor.
*FRANK E. EDWARDS, B. M. E., Instructor.

EQUIPMENT.

The Department of Chemistry occupies the entire south wing of Agricultural Hall. The various laboratories, lecture and recitation rooms are equipped for thorough, accurate work.

On the first floor are located the storeroom for chemicals and apparatus, and the laboratory for general and qualitative chemistry. This laboratory is supplied with gas, water and sinks to accommodate 100 students. A series of hoods extend along one side of the laboratory so as to keep the air in the room free from noxious gases and fumes.

The laboratory for careful quantitative analysis is located on the second floor. This laboratory is completely equipped for the work intended. A chemical library and balance room joins this laboratory. The chemical department of the college is equipped with two torsion balances, two high grade assay balances and four analytical balances.

On the third floor is located the lecture and recitation room for general chemistry; this room is provided with raised seats and has a seating capacity for 150 students. The lecture table in this room is supplied with gas, water and electric wires of sufficient size for a stereopticon or

* During Instructor Edward's absence, this chair has been filled by H. D. Gibbs, B. S.

electric furnace. On this floor are also two small recitation rooms, each capable of accommodating 20 to 25 students.

A dark room is available whenever work is being carried on with the polariscope or spectroscope.

One room on the third floor is available when the subject of gas analysis is being studied.

All recitation and lecture rooms are supplied with desks, gas and water so that at all times the instructor in charge can fully illustrate the subject under consideration.

CHEMISTRY.

The study of chemistry is begun in the first term of the sophomore year.

Course I.—*General Inorganic Chemistry*.—Non-metals.—Sophomore year; first term. A daily exercise throughout the first term is devoted to recitations, lectures and laboratory practice. In this course special attention is given to the fundamental principles of the science, which are suitably illustrated either by experiments performed by the student in the laboratory, or, when too intricate and expensive of time, by the instructor before the class in the lecture room. The elements are discussed individually as well as their more important compounds.

The *practicum* of this course consists of a series of laboratory exercises dealing with the elements studied and is designed to introduce the student to chemical manipulation. Seven hours a week.

Course II.—*General Inorganic Chemistry*.—Sophomore year; second term. The study of the metals is entered upon in the second term and is conducted similarly to the study of the non-metals. The more important metals are individually discussed under the following heads: history, occurrence

in nature, properties, preparation, uses, tests, and compounds. Special attention is given to metals and their compounds which are of industrial importance.

The laboratory work of the second term consists of a study of the properties of the metals, being an introduction to qualitative analysis. This course must be preceded by Chemistry I. Seven hours a week.

Course III—*Elementary Qualitative Analysis*.—Sophomore year; third term. The student is required to apply and study the reactions involved in the ordinary methods of separation and identification of substances. The study includes the reactions, ordinarily used in qualitative analysis, but deals with only those substances usually met with in chemical work. The student repeatedly works through a scheme of separation in making qualitative analyses of unknown substances. Prerequisite Chemistry I–II. Four hours a week.

Course IV.—*Agricultural Chemistry*.—Junior year; first term. This course deals with the more intimate relation of the science to agriculture. Such topics as soil composition, elements essential to plant growth, soil exhaustion, fertilizers; chemistry of cattle foods, nutrition, dairy products and food adulteration are dealt with as fully as time permits. Prerequisites, Chemistry I, II and III. Five hours a week.

Course IV-a.—*Agricultural Chemistry*.—Junior year; second term. This is a continuation of course IV and extends through the second term. Five hours a week.

Course V—*Elementary Quantitative Analysis*.—Junior year; third term. The student is required to make the ordinary fundamental determinations of moisture, aluminum, calcium, magnesium, copper, lead, potash, sulfuric acid, phosphoric acid, chlorine, and carbonic acid by gravimetric processes;

estimations by volumetric methods including alkalimetry, acidimetry, precipitation, and oxidation will be undertaken. The work is so planned as to familiarize the student with the standard gravimetric and volumetric methods. This is a required course for all pharmacy students and is elective for students who have completed chemistry I, II and III, or XV. Seven hours a week.

Courses VI, VII, VIII.—*Advanced Quantitative Analysis*.—Senior year; first, second and third terms. A continuation of course V. This work extends throughout the senior year and is arranged especially for students electing theses in the department of chemistry. Elective. Seven hours a week.

Course IX.—*Assaying*.—Senior year; second term. A course in practical assaying of gold, silver, iron, mercury and copper ores. Must be preceded by chemistry I, II, III, and mineralogy I. Elective. Six hours a week.

Course X.—*Assaying*. Senior year; third term. A continuation of course IX. Elective. Six hours a week.

Course XI.—*Chemistry of Common Life*.—Sophomore year; third term. This is a short course treating of organic compounds of common life. It alternates during the third term with course III. This work is required of all students in agricultural and household science courses. Prerequisites chemistry I–II. Three hours a week.

Courses XII, XIII and XIV.—*Chemistry of Foods*.—Senior year. An elective extending through the senior year in the household science course. It is an expansion of the work in course XI, but limited to a study of foods from a chemical and scientific standpoint. This work must be preceded by chemistry V. Seven hours a week.

Course XV.—*Qualitative Analysis*.—Sophomore year; third

term. This course which is more extensive than Course III is designed for students in pharmacy and mining. It gives practice in the analysis of unknown mixtures and chemical compounds for both acids and bases. Prerequisites chemistry I-II. Ten hours a week.

Courses XVI, XVII.—*Pharmaceutical Chemistry*.—Junior year; first and second terms. This subject is designed for students of the pharmacy course. It embraces inorganic chemistry the first term and organic chemistry the second term. Prerequisites I, II, XV. Five hours a week.

Courses XVIII, XIX, XX.—*Pharmaceutical Analysis*.—Senior year; first, second and third terms. This work consists of advanced qualitative and quantitative analysis, both organic and inorganic. Under this head are taken up the separation, identification and determination of the active constituents of alkaloidal drugs and galenical preparations. During the spring term practical laboratory work in Toxicology is given. Ten hours a week.

THESES.

Undergraduates desiring to elect theses in the department of chemistry and pharmacy must have passed in one course of quantitative analysis.

GRADUATE ELECTIVES.

Elective work in chemistry is offered as a major or a minor subject for two years to candidates for the degree of Master of Science.

Advanced Analysis.—This course is intended for those who may desire to specialize in chemical work. It provides a greater variety of analytical work than can be given in courses V, VI, VII, VIII. It offers the following: analysis

of limestone, coal, iron ores, milk, butter, cheese, water, urine, sugar, and various other materials. A student desiring to investigate along any particular line, as mineral, sanitary, or agricultural chemistry, may do so. This course is open as a major subject to students who have completed courses I, II, III, or XV and V, VI, VII and VIII. In addition, a parallel course of reading must be taken, upon which the student will be required to pass a satisfactory examination at the end of the year. The work of the last year will be left largely to the student's choice, subject to the approval of the head of the department, and will serve as the basis for a graduation thesis. Hours to be arranged with the instructor.

GEOLOGY.

Course I.—*Geology*.—Senior year; first term. The course opens with work designed to acquaint the student with the common rocks and minerals as to their physical characters and appearance. The geological and mineralogical cabinets offer abundant opportunity for the study of specimens. The remainder of the course consists in a study of the aqueous, atmospheric, igneous, and organic agents in the earth's history; the structure and arrangement of rocks and the order of succession of strata. Elective in household science course. Five hours a week.

Course II.—This is advanced geology, principally mining and economic and designed for mining students. Course I is required. Seven hours per week.

MINERALOGY.

Course I.—*Determinative Mineralogy*.—Senior year; first term. An elective laboratory course open to seniors in both agricultural and mechanical courses. The student will



10. Mines and Mining. 17. Insectary. 16. Pharmaceutical Laboratory.

make use of the blowpipe and reagents to determine and classify the more common metal-bearing rocks, and the ordinary gangues. Elective in all courses but mining. Six hours a week.

Course II succeeds course I, continuing blowpipe analysis. Six hours a week.

Course III.—This is a course in crystallography and consists of instruction in measurement of angles and crystal plotting. Six hours a week.

Course II.—*Metallurgy*.—Senior year; second term. The first part of the term will be devoted to the study of refractory materials, such as fire clay, etc., and to furnace construction. In the second part special attention will be given to fuels and to the proper methods of working metals and alloys. Seven hours a week.

PHARMACY.

In addition to the ordinary equipment in constant use in the pharmaceutical laboratory—mortars, percolators, evaporation dishes, graduates, beakers, pilltiles, spatulas, etc., the department is supplied with suppository moulds, compressors, drug mills, tablet triturate moulds, cachet and soft capsule filling and sealing apparatus, pill machine, pharmaceutical stills, etc.

Courses I and III.—*Pharmacognosy*.—Junior year; second and third terms. In these courses are considered both the gross structure and characteristics of the crude drugs and chemicals. The student is taught the appearance, taste, color, odor, fracture and habitat of the various crude drugs, and also receives careful drill on their Latin and English names. Special attention is directed toward the learning of the scientific classification of the vegetable drugs. The

student has access to the specimens for study, and special effort is made to train the senses to the recognition of each of the drugs considered.

The pharmacognosy of the senior year consists in a thorough review of the work of the junior year and practice in the recognition of powders, liquids, chemicals, and pharmaceutical preparations. Two hours a week, Spring term.

Courses II, IV and VII.—*Pharmacy*.—Junior year. By means of a series of lectures and recitations during the first term, the student is made familiar with the nature and objects of the practice of pharmacy, as well as with the scientific principles underlying it. His attention is directed particularly to the various classes of Pharmacopœial preparations, beginning with those of the more simple character and gradually advancing until a thorough understanding is acquired concerning those of the most complex formulæ.

Definitions are introduced wherever admissible, being supplemented by descriptive and theoretical considerations when necessary for a better understanding of the subject.

The work of the second and third terms is devoted largely to laboratory practice, during which time the student has ample opportunity for the practical application of the knowledge gained in the lecture room, and in the acquirement of pharmaceutical technique.

The preparations of the Pharmacopœia receive special attention, each student being required to make, independently, a sufficient number of these preparations to insure a thorough understanding of the processes and manipulations involved in their manufacture. Various unofficial preparations are also considered from time to time, especially those of the National Formulary.

The laboratory work is under the direct supervision of an

experienced pharmacist and each student receives personal attention. The character of the instruction is such as will be of much practical benefit to the student in the subsequent event of his becoming a dispensing pharmacist. Two hours a week, first term, and five during second and third.

Course V.—*Therapeutics and Doses*.—Junior year; first term. The therapeutical uses of medicines serve as a basis for classifying them in a manner which will facilitate study. The definitions of medical terms are given special attention in the junior year. In this connection the student also learns the minimum and maximum doses of all remedial agents in active use in the modern practice of medicine. Two hours a week.

Course VI.—*Nomenclature*.—Junior year. In this connection the student is shown the practical application and use of the Latin language in the professions of medicine and pharmacy.

The Latin titles of the Pharmacopœia, National Formulary and the more common terms that occur in the prescription are made the subject of a series of recitations. One hour a week, first term.

Courses VIII and XIV.—*Materia Medica and Therapeutics*.—Senior year; first and second terms. All substances which find use in medicine are here studied one by one as to source, Latin and English names, formulæ (in the case of chemicals), compounds and preparations, properties, method of preservation, industrial and domestic use, impurities and adulterations, antidote (in case of poisons) and dose.

In the consideration of crude organic drugs, attention is especially directed to the constituents responsible for the medicinal activity of the drug, e. g., alkaloids, glucosides, volatile oils, etc. Three hours a week.

Course IX.—*Operative Pharmacy*.—Senior year ; first term. This course is a continuation of that of the junior year and includes such preparations of the Pharmacopœia and of the newer classes of remedies as were not considered in the junior year. Attention is given to the manufacture of the more difficult preparations, both galenical and toilet, and to the correct methods of manipulation involved in preparing medicines for dispensing in cachets, soft capsules, etc.

The composition of the more important Pharmacopœial preparations, and of the percentage strength of the active constituents of each, are made the subject of close study. The work of the term ends with a final review of the entire subject of pharmacy. Six hours a week.

Courses X and XV.—*Prescription Practice*.—Senior year. The recitation work consists of reading, interpreting, criticising prescriptions and calculating doses. During the third term a series of general quiz recitations is held. This is preparatory to the State Board examination. Special attention is given to incompatibilities and to the solubility of chemicals. Unsightly, dangerous and explosive mixtures are also considered under this head. In this laboratory course and that of operative pharmacy the student gains experience for the prescription counter, learning the difficulties there met with and how best to overcome them. He also gains in manipulative skill in making extemporaneous preparations.

Each student is required to personally perform the operations under the direct supervision of the instructor. The student works not from book prescriptions, but from prescriptions written in the ordinary practice of physicians and found on file in the drug stores. Seven hours a week second term and eight hours a week third term.

Course XI.—*Pharmacognosy and Synonyms*.—Senior year; third term. The pharmacognosy of the senior year consists in a thorough review of the work of the junior year and practice in the recognition of powders, liquids, chemicals, and pharmaceutical preparations.

In addition to the knowledge of the scientific classifications of the medicines already considered up to this time, the student is further instructed regarding many "common names," or synonyms, in general use in the ordinary practice of pharmacy. Three hours a week.

Course XIII.—*Toxicology*.—Senior year; third term. The important active poisons—both mineral and vegetable—are studied. Their physiological action, characteristic symptoms that follow their use, treatment and antidote are noted and commented upon. Attention is directed to the conditions and regulations provided by the Oregon Pharmacy law for the handling and sale of poisons within the state. One hour a week.

From time to time special lectures are given on hygiene, pharmaceutical jurisprudence, etc.

STATE EXAMINATION AND REGISTRATION.

At its meeting held on December 14, 1898, the Oregon State Board of Pharmacy passed the following resolutions endorsing the course here offered:

WHEREAS, The Oregon State Agricultural College has established a course in pharmacy and chemistry that meets with the hearty approval of this Board, inasmuch as it offers a large proportion of practical work; therefore, be it

Resolved, That the Oregon State Board of Pharmacy acting in accordance with Sections 5 and 6 of the Oregon Pharmacy Law as amended, grant to students of the Oregon Agricultural College, who complete the full course and hold a diploma from said institution, after they shall have been subjected to such examination, at Corvallis, Oregon, as this Board may approve, on the completion of the senior year, a certificate to act as a registered pharmacist in this state.

Provided, That any student who may have taken the last two years of the course only and who does not hold the regular diploma from the said institution, on passing the examination aforesaid shall only be granted the certificate of a registered assistant.

The training in the pharmaceutical course is largely conducted in the laboratory for it is only by this means that the student can form an intimate personal acquaintance with the material and the best methods of manipulation. Thus it is that he receives systematic practice in dispensing, in the examination of drugs as to identity, purity, and strength, and in the manufacture of various preparations from crude drugs. The requirements of the U. S. Pharmacopœia are always kept in mind, and the student is always held strictly responsible for the purity of his preparations and the accuracy of his work. The course aims to teach students facts and principles of immediate use in the drug store, adapting the work to the needs of the practical pharmacist and manufacturing chemist. It is, however, further recognized that a thorough foundation must be laid for this work, and in view of this, two years of preparatory work are required in the college, or its equivalent in some other school. Students who have had equivalent work elsewhere can complete the course in pharmacy in two years.

EXPENSES IN CHEMISTRY AND PHARMACY.

Tuition is free at this institution, but to cover the cost of material used and wasted in the laboratories a small laboratory fee and a deposit for breakage will be charged in the chemical and pharmaceutical laboratories as is the custom in all institutions. These fees are payable each term strictly in advance.

Chemical laboratory: Courses I, II, III.

Material.....	\$2.00
Deposit for breakage.....	1.00

Qualitative Analysis XV or Quantitative Analysis:

Material.....	\$3.00
Deposit for breakage.....	2.00

Pharmaceutical Laboratory, per term:

Material.....	\$3.00
Deposit for breakage.....	2.00

Assaying and Metallurgy, each per term:

Material.....	\$3.00
Deposit for breakage.....	2.00

Laboratory work accompanying theses, per term:

Material.....	\$3.00
Deposit for breakage.....	2.00

Mineralogical Laboratory, per term:

Material.....	\$2.00
Breakage.....	1.00

Text and reference books in chemistry: General Chemistry, Bradbury, Newell, Young; Qualitative Analysis, Johnson and Prescott, Dennis and Whittlesey; Quantitative Analysis, Talbot, Smith and Cheever; Agricultural Chemistry, Johnson; Organic Chemistry, Remsen; Roscoe and Schorlemmer, Watt's Dictionary of Chemistry, Thorpe's Dictionary of Applied Chemistry, Thorpe's Industrial Chemistry, Wiley's Principles of Agricultural Chemistry, Fresenius, Crooke's Select Methods, Sutton's Volumetric Analysis, Stillman Engineering Chemistry, Official Methods, etc.

Text and reference books in pharmacy and materia medica: Handbook of Pharmacy, Coblentz; Practice of Pharmacy, Remington; Quantitative Analysis, Sturmer and Vanderkleed; Organic Analysis, Prescott; The Art of Compounding, Scoville; Medical Chemistry, Bartley; Materia Medica, Culbreth; same, White and Wilcox; Dose Book, Hoak; U. S. Dispensatory; King's Dispensatory; U. S. Pharmacopœia; same, of Homœopathy; National Formulary. Numerous other books and trade journals are to be found in the college library and are accessible to students.

ENGLISH LANGUAGE AND LITERATURE.

F. BERCHTOLD, A. M., Professor.

IDA B. CALLAHAN, B. S., Assistant Professor.

ELLEN J. CHAMBERLIN, A. M., Instructor.

English as a required study is found extending in most of our courses to, and including part of, the junior year. It is offered as an elective in two terms of the junior year, and in the senior year.

Courses S., B., F.—The course in preparatory English is designed to secure accuracy and freedom in expression. There is work in spelling, writing and simple grammatical constructions. Written exercises prepared under rules of form are constantly required, to obtain practice and secure confidence in expression. Reed and Kellogg, "Higher Lessons in English." "Seventy Lessons in Spelling." "Elementary English Composition," Scott and Denny.

It is well understood that the art of using one's native tongue correctly and forcibly is acquired for the most part through imitation and practice, and is not so much a matter of knowledge as of habit. To become familiar with good use, we must read the best literature; a student familiar with the best language of reputable writers and speakers will use good English without conscious effort. Indeed, good reading is indispensable to good speaking or writing; and rules and dictionaries are of little benefit without it.

Throughout the courses, therefore, there is required an amount of collateral reading equivalent to two books per term, or six per scholastic year. The student prepares

condensive abstracts of these books, and supplements this work by selecting and memorizing from each book six short quotations embodying general truths.

The books to be read and studied in the subfreshman year are: Defoe's "Robinson Crusoe;" Bunyan's "Pilgrim's Progress;" Hughes' "Tom Brown's School Days;" Edward Everett Hale's "The Man Without a Country;" R. D. Blackmore's "Lorna Doone;" G. W. Cable's "The Cavalier."

Courses I, II, III.—*Composition and Rhetoric*.—Freshman year; first, second and third terms. Review of English grammar; review of punctuation. Daily practice in spelling. Description; narration. Collection of material for a theme. The study of words, the sentence, the paragraph. Figures of speech. The burden of these courses is description and narration. Extracts from classic literature are read and analyzed in class. Written reports are handed in, giving distinctive features in the description or method of movement in the narration. Short descriptions and narrations are written on demand in the class under limit. There are also constant recitations and exercises under grammatical rules and constructions to secure order and accuracy. The work, here as well as in all other courses in English, is done with a view to the increase of the student's vocabulary, and to develop ease and exactness of expression in his compositions. Lockwood and Emerson's "Composition and Rhetoric." Collateral reading. Books to be read and studied in the freshman year:

"The Sketch Book," Washington Irving.

"Sir Roger De Coverley," Joseph Addison.

"Silas Marner," George Eliot.

Courses IV, V.—*Rhetoric*.—Sophomore year; first and second terms. This course is carried on co-ordinately with

Genung's Rhetoric. It emphasizes Criticism, Exposition and Argument.

A number of formal papers are required during the year. The subjects are assigned and the methods follow principles laid down by Genung, and Lockwood. Much attention is given to definition of terms and to making clear expositions of ideas contained in paper.

By way of review many short exercises are also written under the simple fundamentals of composition and in study of sentence and paragraph structure. Collateral reading.

Course VI.—*English Literature*.—Sophomore year; third term. The long course of English literature necessitates the division of it into a number of periods marked by the presence of new and weighty influences. In each period there are a few writers that stand, by reason of their ability and enduring work, in positions of recognized preeminence. We aim to extend the study of the works of such writers—our classic authors—sufficiently far to include considerable fulness of biographical and critical detail.

Formative Period.—Chaucer, "Canterbury Tales:" Prologue and Knight's Tale.

First Creative Period.—Spencer, "Faery Queene." Cantos I and II. Bacon, Essays. Shakespeare, "Merchant of Venice." Collateral reading.

Courses VII and VIII.—*English Literature*.—Junior year; first and second terms. Civil War Period: Of Milton's minor poems: "L'Allegro" and "Il Penseroso." The Restoration: Dryden, selections. Queen Anne Period: Addison. Pope, selections. Age of Johnson: Burns, selections. Goldsmith, "The Deserted Village." The Nineteenth Century: Scott, Byron, Wordsworth, Tennyson. Selections from each. Collateral reading.

Courses IX and X.—*American Literature*.—Junior year; third term, and senior year, first term. A study of the leading periods and principal writers of American literature, with particular emphasis of what is usually termed the First National Period, representing such authors as Irving, Cooper, Bryant, Poe, Emerson, Hawthorne, Longfellow, Lowell, Whittier and Holmes. Collateral reading as in other courses in English.

Courses XI and XII.—*Elective Courses in English Literature*.—Senior year; second and third terms. A critical study of four or five representative plays of Shakespeare and selections from Wordsworth, Tennyson and Browning. Papers on assigned topics and reports upon collateral reading are required throughout the courses.

MATHEMATICS AND ENGINEERING.

GORDON V. SKELTON, C. E., Professor.

CHARLES L. JOHNSON, B. S., Assistant Professor.

The course in Mathematics includes such of its branches as the distinctive aims of this institution require, and conforms itself, in general, to that in use in the most successful agricultural colleges.

That the study may to the fullest extent strengthen and discipline the mind for connected, logical thought, thoroughness and accuracy are insisted upon at all times. In the class-room all principles and demonstrations must be presented in an orderly and logical manner. The constant aim is to cultivate the powers of insight, judgment, and originality.

Course I—*Algebra*.—Freshman year; first term. From quadratic equations on. This course is open to students who have completed the sub-freshman work and to new students who can satisfy the department that they are prepared for the work. A review of about ten days will be devoted to the topics that precede quadratic equations. Five hours a week.

Course II—*University Algebra*.—Sophomore year; second term. From ratio and proportion to theory of numbers. This course is open to all students who have successfully passed course I. Five hours a week.

Course III—*University Algebra*.—Sophomore year; third term. From the theory of numbers on. This course is open

to students who have had courses I and II or their equivalent. Five hours a week.

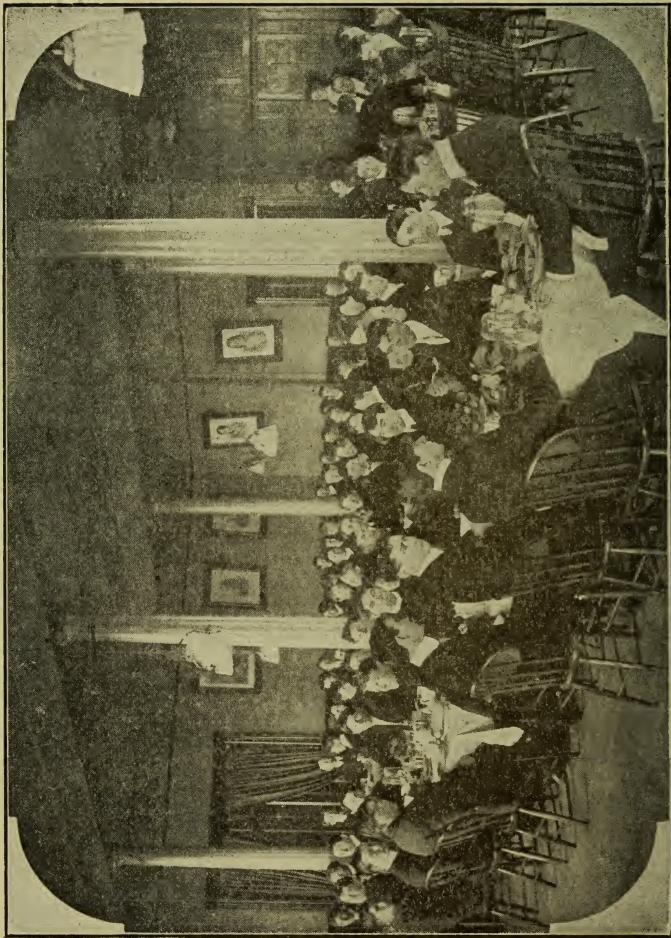
Course IV—*Plane Geometry*.—Freshman year; second term. This course includes all that is found in the first four books of plane geometry in any standard text, as Wentworth's. Special emphasis is laid upon definitions and principles. Original demonstrations are given and much time is devoted to "original" theorems and problems and at all times proofs and demonstrations are freely criticised and discussed in the class-room. Five hours a week.

Course V—*Plane, Solid and Spherical Geometry*.—Freshman year; third term. This course includes book V of plane geometry and all of solid and spherical geometry. Students must have had course IV before taking this. Five hours a week.

Course VI—*Trigonometry*.—Sophomore year; first term. Students must have had courses I, IV and V before taking this. Only enough time is given to spherical trigonometry to enable the student to solve the spherical triangle. Much time is devoted to practical triangulation and measurements. The department is supplied with all the necessary instruments which the students use under the direction of the instructor. Five hours a week.

Course VII—*Plane Analytical Geometry*.—Junior year; first term. This work is required of all students taking the mechanical and electrical engineering courses. The work embraces the subjects treated in Ashton's Analytic Geometry. Five hours a week.

Course VIII—*Differential Calculus*.—Junior year; second term. This course is required of the same students as is course VII. Among the topics considered are differentiation and applications, evaluation of indeterminate forms, ex-



Cadets at Cauthorn Hall.—Page 19.

pansion of functions, Taylor's and Maclaurin's theorems, maxima and minima, points of inflection, curvature, change of independent variable, functions of two or more variables, asymptotes, curve tracing, etc. Five hours a week.

Course IX—*Integral Calculus*.—Junior year; third term. Among the topics considered are direct integration, definite integrals and applications, integration of rational fractions, integration by rationalization, integration by parts, integration of trigonometric forms, etc.; applications to finding the lengths and areas of curves, surfaces and volumes of solids of revolution, etc.; double and triple integration and applications. In this course, as in course VIII, great stress is laid upon practical applications, and a large number of practical problems are solved. Five hours a week.

Course X—*Surveying*.—Sophomore, Junior and Senior years; third term. The greater part of the time is spent by the student in the field with the various instruments. He is required to make surveys from descriptions given him as well as to write descriptions from surveys made by himself. In all cases notes must be carefully kept and worked up in the office.

The engineering department is equipped with the necessary instruments, including a railroad compass, two transits with solar attachments, plane-table, Y level, hand-level, rods, chains, tapes, etc.

Course XI.—*Astronomy*.—Senior year; third term. That this most elevating and refining subject may be open to a greater number of students, it will be confined to descriptive astronomy and may be taken by students who have completed courses I to V, inclusive. Much time will be devoted to uranography. Five hours a week.

Course XII.—*Agricultural Engineering*.—Senior year; third term. This course is open to students who have completed course X. Under this head will be given instruction in road location and construction, including consideration of various road materials; designing of highway bridges; inspection of existing structures; designing, locating and constructing agricultural drainage systems; laying out farm buildings, etc. Instruction given in the class-room will be applied wherever possible. Five hours a week.

Course XIII.—*Mine Surveying*.—Junior year; first term. The instruments and their adjustments, form of field notes, maps and their construction, methods of connecting underground surveys with the surface, methods of traversing underground, etc., will be considered. This work must be preceded by course X. Six hours a week.

Course XIV.—*Tunneling and Leveling*.—Junior year; second term. The various problems of alignment, grade, and constructive details of tunneling and underground work will be considered. Much time will be devoted to the survey, location and construction of hydraulic works. Five hours a week.

Course XV.—*Mining Engineering*.—Senior year; third term. The subjects treated embrace preparatory and exploratory work, methods of mining, hoisting machinery, hoisting operations and conveyances, steam, water and electric power, underground traffic, pumping, ventilation, illumination, etc. Five hours a week.

TEXT BOOKS.

Arithmetics—Higher Arithmetic; Wentworth.

Higher Arithmetic; Beman and Smith.

Algebra—Essentials of Algebra; Wells.

College Algebra (Revised Edition); Wentworth.

Geometry—Plane and Solid Geometry (Revised Edition); Wentworth.

Trigonometry—Plane and Spherical Trigonometry; Ashton & Marsh.

Analytic Geometry—Plane and Solid Analytic Geometry; Ashton.

Calculus—Differential and Integral Calculus (Revis'd Edition); Taylor.

Astronomy—Elementary Astronomy; Young.

Surveying—Hand-Book for Surveyors; Merriman & Brooks.

Mining Engineering—A Manual of Mining; Ihlseng.

ZOOLOGY.

A. B. CORDLEY, M. S., Professor.

W. T. SHAW, B. Agr., M. S., Assistant.

The work in this department is designed to give the student that knowledge of biological laws which is to-day regarded as an essential part of a liberal education. It aims to create a growing interest in the study of our native birds, insects and other animals and their interrelations with one another, with native and cultivated plants and with rural life; to give a knowledge of the foundation facts of morphology and physiology on which depend many of the principles of scientific stock breeding and feeding, of veterinary science and of human physiology and hygiene; and above all from an educational standpoint, it aims to train the student's perceptive faculties, to teach him to see, to do and to reason from observed facts.

The laboratories of the department occupy six rooms on the third floor of the agricultural building. They are well supplied with necessary apparatus including compound and dissecting microscopes, camera lucidas, eyepiece and stage micrometers, an automatic microtome, dissecting sets, dry and steam sterilizers, incubators, reagent sets and numerous smaller articles, all of which are for the use of students.

For the purpose of illustration there are in addition to the general museum and the entomological collection a set of the celebrated Leuchart zoological charts, enlarged dissectable models of the human ear, eye, heart, brain and larynx and a large series of microscopic mounts.

The general museum, which occupies the main part of the fourth floor of the agricultural building, also contains a small but typical collection of mounted mammal skins; a collection of mounted skins of native birds; a collection of mounted bird skins from Alaska; a collection of more than one hundred species of eggs of native birds; a small collection of fishes and reptiles; a considerable number of marine invertebrates, including a small but beautiful collection of Philippine shells; a small but interesting collection of skulls and disarticulated and articulated skeletons; and the largest collection of Oregon insects in existence.

Course I.—*Invertebrate Zoology*.—Sophomore year; third term. A course devoted principally to the morphology, physiology and ecology of invertebrates. Particular attention is given to the study of the single celled forms since it is believed that the student can thus best gain an insight into the structure and physiological activities of the higher animals. Some of the types studied are the amœba, paramœcium, vorticella, sponge, hydra, starfish, crawfish, earthworm, mussel and grasshopper. Required in the agricultural, household science, pharmacy and literary commerce courses. Seven hours a week. Laboratory deposit, \$3.00.

Course II.—*Entomology*.—Junior year; first term. A study of the structure, classification and habits of insects, with particular reference to those which are beneficial or injurious. Instruction is given in methods of collecting and mounting insects and in studying their life-histories and in the preparation and use of insecticides. Required in the agricultural, household science and literary commerce courses. Prerequisite, course I. Seven hours a week. Laboratory deposit, \$1.00.

Course III.—*Vertebrate Zoology*.—Junior year; second

term. A course devoted principally to the morphology and physiology of vertebrates. A careful comparative study is made by dissections of several vertebrate types, particular attention being given to the Guinea pig as a type of the mammalia. The relation of function to structure is kept constantly in mind throughout the course which thereby becomes valuable as an introduction to the study of human physiology and veterinary science. Required in the agricultural, household science, pharmacy and literary commerce courses. Seven hours a week. Prerequisite, course I. Laboratory deposit, \$3.00.

Course IV.—*Physiology*.—Junior year; third term. A course in human physiology designed for students having a knowledge of general biology and of vertebrate anatomy. The student should also possess some knowledge of chemistry and physics. Required in courses in agriculture, household science and pharmacy. Prerequisites, courses I and III. Seven hours a week.

Course V.—*Physiology*.—Junior year; second term. A course in the elements of human anatomy and physiology designed for students with no previous biological training. Text-book, lectures and demonstrations. Martin's Human Body. Required in the course in mechanical engineering. Five hours a week.

Course VI.—(a) *Evolution*.—Senior year; first term. A course of lectures and collateral reading on organic evolution; covering such topics as the evolution of evolution, variation, struggle for existence, heredity, etc. Prerequisites, courses I and III. Two hours a week. Elective.

(b) *Systematic Zoology*—A discussion of the principles of zoological classification with particular reference to species

of economic importance. Prerequisites, courses I and III. Three hours a week. Elective.

(c) *Advanced Entomology*.—A laboratory study of some restricted group of insects, of some particular species of economic importance, or of the insects affecting some particular crop. In this course students have free access to the collections and the library and records of the experiment station. The course extends throughout the year. Prerequisites, courses I and II. Seven hours a week. Elective.

Course VII.—(a) *Histology*.—Senior year; second term. A course of laboratory practice in fixing, hardening, imbedding, sectioning, staining, mounting and studying the tissues of the higher animals. Prerequisites, courses I and III. Seven hours a week. Elective.

(b) *Advanced Entomology*.—A continuation of course VI c.

Course VIII.—(a) *Embryology*.—Senior year; third term. Mainly a laboratory course in the study of the development of the frog and the chick, supplemented by a study of the general facts and principles of embryology. Prerequisites, courses I, III and VII a. Seven hours a week. Elective.

(b) *Advanced Entomology*.—A continuation of courses VI c and VII b. Seven hours a week. Elective.

TEXT-BOOKS AND REFERENCES.

Courses I and III.—Texts, "Animal Life," Jordan and Kellogg and "Animal Forms," Jordan and Heath. References, "Outlines of Zoology," Thompson; "Text-Book of Zoology," Parker and Haswell; "Text-Book of Comparative Anatomy," Lang; "Invertebrate Morphology," McMurrich.

Course II.—Text, "Insect Life," Comstock. References, "Manual for the Study of Insects," Comstock; "Insects Injurious to Fruits," Saunders; "Economic Entomology," Smith. Bulletins and reports of the various experiment stations and of the United States Entomologist.

Courses IV and V,—Text, "Human Body," Martin (Fitz edition). References, "An American Text-Book of Physiology," Howell; "Practical Physiology," Sterling.

BOTANY AND HORTICULTURE.

EDWARD R. LAKE, M. S., Professor.

BOTANY.

The aim of the regular course in botany is to give the student such a working knowledge of plants and plant-life as will enable him to intelligently consider the various problems of vegetable life on the farm, in the garden or forest.

The student is taught to observe plants; to become familiar with them through a working association; to ascertain by actual field work and observation what plants do, and what relations they bear to each other, and to other forms of life.

The chief features of the work in this subject are field and laboratory exercises, supplemented by lectures and recitations. Text and reference books are used merely as guides, or for the purpose of furnishing suggestions to the end that the student may be the better enabled to make the field, garden, greenhouse and laboratory work the more effective.

The department has a good working equipment for the courses outlined. Individual sets, comprising dissecting and compound microscopes, laboratory glassware and other apparatus are supplied each student at a moderate rental fee. The collection of mounted and unmounted plants, especially rich in Oregon types, together with charts, models and preserved specimens furnish ample material for both the regular and special advanced work in the several courses.

Course I.—*Plant Morphology*.—Freshman year; third term. Laboratory and field exercises, together with recitations. The gross structure of our common flowering plants is the main topic of the term's work, though incidentally germination, growth, fertilization and fructification are considered. Each student is required to collect, mount, label and classify specimens of the common field plants, and samples of seeds of native plants. Seven hours a week. Laboratory deposit, \$1.00. Leavitt, *Outlines of Botany*; Coulter, *Plants*.

Course II.—*Plant Histology*.—Sophomore year; first term. Laboratory work with the dissecting and compound microscopes. The exercises of this course cover the minute structure of the higher plants, together with a brief consideration of the lower forms of plant life. Seven hours a week. Laboratory deposit, \$2.50. Coulter, *Plants*; Strassburger and Hillhouse, *Practical Botany*.

Course III.—*Plant Physiology*.—Junior year; first term. Laboratory exercises and recitations. The subject is considered with special reference to the needs of the agriculturist and horticulturist. The principal part of the discussion is upon those phases of the subject that bear directly upon our cultivated crops. Seven hours a week. Pre-requisite, course II. Laboratory deposit, \$3.00. Sorauer, *Physiology of Plants*; McDougal, *Plant Physiology*.

Course IV.—*Plant Classification*.—Junior year; third term. This course is designed to meet the demands of the pharmacist for a working knowledge of plants in general. Much stress is laid upon field and laboratory work. Plant relationships, plant societies, regional types, plant products, the medicinal and poisonous species of our common plants, together with a discussion of the various parts of plants used

in pharmacy are some of the topics considered during the term's work. Required in the course in pharmacy. Seven hours a week. Laboratory deposit, \$1.50.

Course V.—*Plant Pathology and Hygiene*.—Senior year; first term. Laboratory and field work supplemented by lectures and recitations. The common fungous foes of the cultivated field, orchard and garden crops, together with the means of prevention and remedy are considered at length. Seven hours a week. Elective. References, Lodeman, Weed and Masee.

Course VI.—*Plant Products*.—Senior year; second term. Economic plants and their various preparations and uses. History, development, and distribution of the plants that furnish the world with its chief supply of material for food, shelter, clothing, fuel, medicine and the arts. Elective. Seven hours a week.

Course VII.—*Systematic or Cryptogamic Botany*.—Senior year; third term. The work of this course is arranged to meet the needs of those electing it. In the systematic work, the student collects and classifies a hundred or more of the local plants, giving data as regards habitat, and distribution, and prepares a synopsis of the orders considered and species collected. Some time is also devoted to a study of current botanical literature.

In the cryptogamic work, the exercises are confined chiefly to a study of the comparative morphology of the fungi, algæ and other low forms of plant life. Seven hours a week. Elective. Laboratory deposit, \$2.50.

The laboratory deposits in courses I, II, III, IV, VII, VIII, IX, X and XI are required of all students, and are made to cover possible loss and breakage of apparatus used. At the close of each term such balance as may remain, is re-

turned to the student. All deposits are required to be made in advance.

Course VIII.—*Forestry*.—Senior year; first term. Lectures, laboratory exercises and field work. The topics of the course are: Pacific coast forests; forest areas, type trees, and products; forest trees, chief characteristics, particular uses, and identification. Five hours a week. Elective.

Course IX.—*Forestry*.—Senior year; second term. Lectures. Forest culture; forest management; forest protection; forest laws. Five hours a week. Elective.

Course X.—*Forestry*.—Senior year; third term. Lectures, laboratory exercises and field work. Plant diseases, especially those affecting forest trees. Fungous foes of timber. Timber preservation. Seven hours a week. Elective. Laboratory deposit, \$2.50.

Course XI.—*Construction of Woods and Metals*.—Senior year; second term. A course designed to supply the student with a practical knowledge of the minute structure of the leading kinds of timber and metals used in construction. No better designs of structures for strength, elasticity, buoyancy, compactness and rigidity are offered than those devised by nature for use in plant structures. The value of metals for constructive purposes depends very largely upon fibre, molecular structure and crystallinity. A microscopic examination of these features of metals gives the student an insight into the fundamental properties of these materials. Timber and metal diseases are considered at some length. Lectures and laboratory exercises. Seven hours a week. Elective. Laboratory deposit, \$2.50.

Course XII.—*Agrostology*.—Senior year; first term. A brief course designed to meet the needs of those students who desire to get a working knowledge of the more common

forage grasses, particularly the local native and introduced species. The economic aspect of the subject so far as relating to culture and feeding-value will be considered by the agriculturist.

HORTICULTURE.

The work in horticulture is so arranged as to give the student a working knowledge of the principles and practices of modern horticulture, especially applicable to Pacific Coast conditions and requirements.

The experiment station orchard of over two thousand fruit trees, shrubs and vines furnishes ample material for all phases of the work of the several courses.

Course I.—*Plant Propagation*.—Senior year; first term. House and field exercises in seeding, grafting, cutting, layering, pruning and budding, together with recitations. Two and one-half, or five hours a week. Goff, Principles of Plant Culture.

Course II.—*Plant Culture*.—Senior year; second term. Lectures and recitations on orchard, garden and vineyard fruit crops, including selection of soils, planting, cultivating, pruning, harvesting, storing and marketing. Two and one-half, or five hours a week. Bailey, Principles of Fruit Growing.

Course III.—*Plant Evolution and Improvement*.—Senior year; third term. Lectures and recitations covering the various phases of evolution as bearing especially upon our cultivated plants, together with a discussion of the principles and practices of plant-breeding, and improvements by selection and cross-fertilization. Five hours a week. Bailey, Plant-Breeding; Bailey, The Survival of the Unlike.

ELOCUTION.

HELEN V. CRAWFORD, B. S., Professor.

“There is one accomplishment, in particular, which I would earnestly recommend to you, Cultivate assiduously the ability to read well. Good reading is the natural exponent and vehicle of all good things. It seems to bring dead authors to life again, and makes us sit down familiarly with the great and good of all ages.”

It is the purpose of this department to train the pupils to become thoughtful, intelligent, and agreeable readers. To give them the power to extract thought from the printed page, and by systematic drill both in physical culture and voice work to give them adequate vocal expression. To instill in the minds of pupils a love for good literature, and a genuine pleasure in interpreting and rendering the same.

Courses I and II.—*Elocution*.—Freshman year; first and second terms. Analysis and rendering. Voice culture, physical culture. Two hours a week. *Evolution of Expression*, Vol. I., C. W. Emerson.

Course III.—*Elocution*.—Sophomore year; first term. Voice culture, bodily expression, analysis and rendering. Two hours a week. *Evolution of Expression*, Vol. II., C. W. Emerson.

Junior year.—Rhetorical exercises will be required first term of junior year.

Courses IV, V and VI.—*Advanced Elocution*.—Senior year; first, second and third terms. Voice culture, rhythmic movements, literary analysis and rendering. Elective. Two hours a week. “*Steps to Oratory*,” F. Townsend Southwick.

FLORICULTURE AND GARDENING.

GEORGE COOTE, Professor.

Instruction in floriculture is given to the classes in household science. Floriculture is intended to acquaint students with the habits and requirements of the many hardy plants for outside decoration and also with the propagation and management of tropical and subtropical varieties. Thus students are enabled to acquire considerable insight into the proper care of greenhouses. In order that this plan may be carried into effect, lectures supplemented by practical work in the propagation, potting and care of plants, are regularly given in the classes.

Course I.—Sophomore year; first term. Propagation of spring and summer plants for adorning the home grounds.

Course II.—Senior year; third term. Propagation of soft wooded plants, care of greenhouse, propagation and care of winter flowering plants.

Course III.—Senior year; third term. Landscape Gardening is treated as a fine art. Introductorily the arts of design in general are discussed. Then are discussed the principles, aims and methods of artistic gardening. The principles, when once understood, are applied to the embellishment of home grounds, cemeteries, parks and highways.

BACTERIOLOGY.

EMILE F. PERNOT, M. S., Professor.

Within the last decade bacteria have laid a very strong hold on the thought and imagination of the scientific world, and have come to be looked upon as playing a most important part, not only in the production of disease and in fermentation, but also in many everyday processes hitherto supposed to be dependent on very different causes.

In consequence of this, bacteriology has been raised to the dignity of a science, and its ramifications have become so numerous and widespread that many of the other sciences, and even some of the arts, have been freely pressed into the service of one or the other of its branches.

The study of bacteriology has made great strides both in the pathological and the technical branches of the subject; and just as investigations into the physiology of higher plants gave the first impetus to the establishment of agricultural experiment stations in all countries; so, in like manner, the physiology of fermentation and technical bacteriology have called into existence, within the last few years, a number of stations and laboratories for the development of those branches of industry wherein microorganisms play an important part.

This college has a well equipped bacteriological laboratory for the investigation and study of bacteriological diseases, both animal and vegetable.

The following courses of lectures and laboratory work have been added to the college curriculum as electives in the senior year.

Course I.—*Bacteriology*.—Senior year; first term. A course in the elements of bacteriology, including lectures, and laboratory practice in sterilizing, making culture media, inoculating and growing cultures, studying cultural characteristics of certain definite species of bacteria, mounting, staining and examining slides, classification.

Course II.—*Dairy Bacteriology*.—Senior year; second term. Study of the bacterial diseases of milk, bacteria in the dairy; study of bacteria in butter making and in cheese making; study of yeasts and ferments.

Course III.—*Bacteriology*.—Senior year; third term. Lectures and laboratory work in pathogenic germ diseases of stock and poultry; a study of vaccines, their manufacture and use; of the nitrifying bacteria in leguminous plants; of bacteria in the soil and the bacterial analysis of water.

Text-book used, "Essentials of Bacteriology," M. V. Ball.

REFERENCE BOOKS.

Manual of Bacteriology, Sternberg; Manual of Determinative Bacteriology, Chester; Bacteriology and Infective Diseases, Crookshank; Principles of Bacteriology, Abbott; *Traité de Bacteriologie*, Mace; *Pathogenic Bacteria*, McFarland; *Ptomains, Leucomains, Toxins and Antitoxins*, Vaughan & Novy; *Micro-organisms and Disease*, Klein; *Microbes, Ferments and Moulds*, Trouessart; *The Hygienic Laboratory*, Kenwood; *Traité de Microbiologie*, Duclaux; *Pathological Histology*, von Kahlde; *Pathological Technique*, Mallory and Wright; *Clinical Diagnosis*, Simon; *Micro-organisms in Water*, Frankland; *Technical Mycology*, Lafar; *Bacteriology (Text and Atlas)*, Lehmann and Neumann; *Micro-organisms and Fermentation*, Jorgensen; *Dairy Bacteriology*, Von Freudenreich; *Practical Studies in Fermentation*, Hansen; *Practical Bacteriology*, Kanthack and Drysdale; *Fungi and Fungicides*, Weed; *Bacteria and Their Products*, Woodhead; *The Methods of Bacteriological Investigation*, Huppe; *Agricultural Bacteriology*, Conn. Publications of the Department of Agriculture.



9. Evaporator. 8. The Old Creamery. 14. Piggery. 7. Barn.

DRAWING.

ALTHEA BELLE WILLIAMS, Instructor.

Of the five senses, or gateways of knowledge, two, seeing and hearing, belong to the intellectual part of our nature, while the others chiefly supply our animal wants. The sense of seeing is at once the most active, the most comprehensive and the most intellectual of them all. It is the servant of the soul and through it we receive the richest ideas.

The chief aim of the course in drawing is to teach the student to see truly, to obtain quicker perceptions of the natural world and to preserve something of a true image of beautiful things that pass away. Few among us see truly what we see and then only what we have been educated to see. While no teaching can make an artist in the full sense of the word, any more than the study of the forms and methods of poetry can make a poet, yet drawing, as surely as rhetoric, should form a part of any thorough education; for besides the general quickening of perception and the training of the eye to accuracy of sight, it affords the means of noting the forms of objects such as no written descriptions can secure. At its lowest estimate it is an accomplishment perhaps larger in resources of pleasure than any other, while at its highest, it affords a mode of expression second only to language itself.

In considering the study of drawing, its importance is too often lost sight of, and yet it may be safely said that not only is drawing a corner stone in the foundation of an industrial education, but of a scientific education as well.

In engineering courses, for instance, a knowledge of drawing is one of the first requirements.

In the first and second terms of the freshman year the work is principally outline drawing, realizing that as an aid in other branches of study, careful outline is of more importance than shading. Exactness of outline and accuracy of proportions are the aim.

Course I.—*The Elements of Drawing*.—Freshman year; first term. The work includes the first principles of drawing and of freehand perspective, drawing from simple block casts, still life and nature. Three hours a week.

Course II.—*The Elements of Drawing*.—Freshman year; second term. A continuation of course I, drawing from same subjects. Three hours a week.

Course III.—*The Elements of Drawing*.—Freshman year; third term. Everything that is seen in the world around us presents itself to our eyes in an arrangement of spots or patches of different colors variously shaded, or patches of light and shade, and to this course III is shaped making a decided change. To one not having a knowledge of the work, it might seem as though it were carried far to the other extreme, for now we use no outlines at all, but work in patches or spots, and give our attention to areas and values of light and shade. The work is from casts of geometric figures from simple still-life studies and nature. Students taking the mechanical or mining engineering courses are given two hours a week in machine sketching and light and shade drawing of machine forms. Five hours a week.

Courses IV, V and VI.—*Advanced Drawing*.—Senior year. Facilities for advanced work are offered as an elective throughout the senior year. The work includes still-life, cast drawing, carried to the antique and leading to work from life as the pupil exhibits ability. Five hours a week.

PIANO COURSE.

MORDAUNT GOODNOUGH, Instructor.

TECHNIC.

Courses I and II.—Mason's Technics.—Freshman year; first and second terms. Scales and arpeggios through four octaves with rhythmical treatment. Mathews' Studies, Vol. 3, and supplementary studies by Czerny and others.

Course III.—Technic.—Freshman year; third term. Canon scale exercises in the keys of D^b, G^b and E^b Etudes.

Courses IV, V and VI.—Technic.—Sophomore year; first, second and third terms. A speed of five or six hundred tones a minute is acquired this year. Doring Octaves, Op. 24, Part 1. Mathews' Studies, Vols. 4 and 5.

Courses VII, VIII and IX.—Technic.—Junior year; first, second and third terms. Mason's scales in thirds and sixths. Rotation exercises. Speed, 736 tones a minute. Mathews' Studies, Vol. 6. Doring Octaves, Op. 24, Part 2.

Course X.—Technic.—Senior year; first term. Clementi Gradus, Nos. 3, 6, 7, 26, 28 and 29. Chopin Study, Op. 10, No. 5. Kullak Octave Studies, Nos. 5 and 6.

Courses XI and XII.—Technic.—Senior year; second and third terms. Difficult concert studies from various composers. The student must acquire a speed of 920 tones a minute. Also learn several etudes of great difficulty from memory, including Kullak's Octave Study, No. 7.

POLYPHONY.

Courses I, II and III.—Sophomore year; first, second and third terms. A course in Bach's Little Preludes and Fugues.

Courses IV, V and VI.—Polyphonic Playing.—Junior year; first, second and third terms. A continuation of contrapuntal compositions. Bach's two- and three-voiced Inventions will be mastered.

Courses VII, VIII and IX.—Polyphonic Playing.—Senior year; first, second and third terms. Six or more of the most difficult preludes and fugues from Bach's "Well Tempered Clavichord" will have to be memorized this year.

MUSICAL LITERATURE.

Courses I, II and III.—Musical Literature.—Freshman year; first, second and third terms. A taste for good music is formed during the various courses in musical literature by adhering strictly to classic music. Sonatinas and Pieces.

Courses IV, V and VI.—Sophomore year; three terms. Salon pieces of the fifth grade of difficulty (scale of ten), such as "First Mazurka," C. Saint-Saens. Three of Mozart's Sonatas.

Course VII.—Junior year; first term. Nos. 6, 8, 9, 14, 21, 25, 27, 28, from Mathews' Fifth and Sixth Grade Pieces.

Course VIII.—Junior year; second term. Beethoven Sonatas, Nos. 5 and 13. Chopin Waltzes, Nos. 5, 7 and 9.

Course IX.—Junior year; third term. Beethoven Sonatas, No. 12. Classic pieces, sonatas and etudes, will be used in all the courses from various composers, especially Brahms, Chopin, Schumann, Grieg and Beethoven.

Courses X and XI.—Senior year; first and second terms. "Scherzo E^b Minor," Brahms' "En Route" Godard. "Valse De Concert," D^b. Wieniawski, and other works of similar difficulty. Beethoven Sonatas, Nos. 3 and 17.

Course XII.—Senior year; third term. The ability to execute the following pieces from memory: "Valse Caprice,"

E^b, Rubinstein; "Militar Marsch," Schubert-Tausig; Nocturne, No. 12, Chopin, will be necessary before graduation. Concert work of great difficulty.

MUSICAL SCIENCE.

Courses I, II and III.—Theory.—Sophomore year; three terms. The usual subjects of notation, form, orchestration, etc., will be studied. Examples of the various forms of music will be given before the class by the instructor. Text-book, Elson's Theory of Music.

Course IV.—Harmony.—Junior year; first term. Text-book Emery's Elements of Harmony, lessons 1 to 18.

Course V.—Junior year; second term. Lessons 18 to 36.

Course VI.—Junior year; third term. Lessons 36 to 59.

Course VII.—Senior year; first term. Lessons 59 to 80. Emery's Harmony.

Courses VIII and IX.—Counterpoint.—Senior year; second and third terms. Text-book, Bridge's Counterpoint, with supplementary work by the instructor.

MUSICAL HISTORY.

The course in the history of music is principally a lecture course with examinations at the close of each term.

Course I.—Senior year; first term. Text-book, Mathews' History of Music. Chapters 1 to 16. Includes the study of music of the ancient world; apprentice period of modern music.

Course II.—Senior year; second term. The dawn of modern music. Flowering time of modern music. Chapters 17 to 31.

Course III.—Senior year; third term. Epoch of the Romantic. Chapters 31 to 39.

GRADUATION.

A diploma of graduation in Piano, Harmony, Theory, and History of Music, will be given pupils who complete this course.

TUITION.

Piano, two 30 minute lessons a week, per term of four weeks-----\$2.80
 Harmony, class instruction, per term of four weeks----- 1.50

ADVANTAGES.

Tuition in Theory and Musical History is free to all piano students. Public recitals both by the instructor and pupils will be given during each term.

RULES AND REGULATIONS.

The course in Piano is intended for those who desire to become professional pianists and teachers, and all students taking this course will have to practice as follows: Sub-freshman year, two hours per day; Freshman year, three hours per day; Sophomore and Junior years, four hours per day; Senior year, five hours per day.

Students who do not expect to graduate, and who can not devote as much time as required in the Course in Piano, may take piano alone, but no diploma will be given for such work.

No student can receive our diploma with less than one full year's study in this school. The tuition is payable monthly in advance to the director, and no pupil will be enrolled on any other terms.

No deduction for missed lessons, except in cases of protracted illness; and any pupil enrolling, will be expected to continue for the term of three months. Music may be obtained of the department; also pianos for practice at reasonable rates.

VIOLIN COURSE.

RUTHYN TURNEY, Instructor.

Experience has taught us that it is neither practical nor wise to specify a set of studies through which all must pass alike. Music, unlike mathematics, is an art, and as such the individuality of each pupil must be carefully studied and such works selected as will be productive of the best results. It is possible for a fairly talented student to complete the course in violin in five years, if sufficient time is devoted, even though he begin with the rudiments. If the pupil possesses a fair rudimentary knowledge, it is thought that with application he can complete the course in four years.

The regular course is divided into three parts, and the works enumerated simply serve as an outline of what is required.

Preparatory.—“A B C of Violin Playing” by Schoen; 1st, 2d, 3d and 4th books of “Garland of Flowers” by Weiss; Etudes by Kayser, Dancla and others. Little solos by Haessner, Hauser, Dancla, Alard, Farmer, Mazas and others.

Intermediate.—Scale studies by Blumenstengel. Etudes by Dancla, Mazas, Turney, Fiorillo. Solos by DeBeriot, Leonard, Hauser. Sonatas of Haydn and Weber.

Graduation.—Etudes de Artiste by Mazas and Kreutzer, Concert solos by Sarasate, Raff, Wieniawski, Vieuxtemps, Turney, DeBeriot. Sonatas by Mozart and Beethoven. Concertos by Accolay, Ghys, Mozart, DeBeriot.

REMARKS.

For graduation the student must pass a satisfactory

examination in History of Music, Harmony and Theory of Music, each three terms. The student must also be able to perform in a creditable manner, a violin concerto of the degree of difficulty of the A major concerto of Mozart or the 7th concerto of DeBeriot. On the completion of the above course a diploma will be awarded by the College. Students who are candidates for graduation must attend all ensemble rehearsals when they are requested to do so by the instructor in this department.

Students not expecting to graduate, can take violin alone, but in such case no diploma can be granted.

No student will be granted a diploma for less than one year's study in this department.

TERMS.

Violin.—Lesson of one hour	\$1.00
Lesson of 45 minutes .....	.75
Lesson of 30 minutes .....	.50
Theory of Music.—Per term of three months	2.50

No single half-hour lesson on violin per week will be given. Tuition for violin instruction payable monthly, in advance. Tuition for Theory of Music payable in advance per term of three months. All fees payable to the instructor of this department.

VOCAL MUSIC.

FLORENCE MCDOWELL GREEN, MUS. B., Instructor.
(University of Wooster.)

Voice Culture—Based on two lessons a week.

Grade I—Vocal exercises for placing the voice. Vaccai Italian Studies. Bonaldi, Bk. I in part. One term. Course I.

Grade II—Bonaldi completed. Conconi 50 Studies. Lutgen Trill Studies, Bk. I, Sieber Elementary Exercises. Two terms. Courses, II, III.

Grade III—Lutgen, Bk. II—Studies in phrasing by all composers. Bk. I, Scales and Exercises. Nava Studies, Bk. I, op. 36 and op. 22. Three terms. Courses IV, V, VI.

Grade IV—Bordogni, Bk. I. Exercises in Bravura work and rapid scales by Lamperti. Oratorio and opera selections. Six terms. Courses VII, VIII, IX, X, XI, XII.

Pieces suited to the pupil with all studies.

Drill in part singing through 3d and 4th grades.

Three grades of the Pianoforte course are required for graduation.

Recitals, both public and private, will aid the students in obtaining mastery of themselves before an audience.

Harmony.

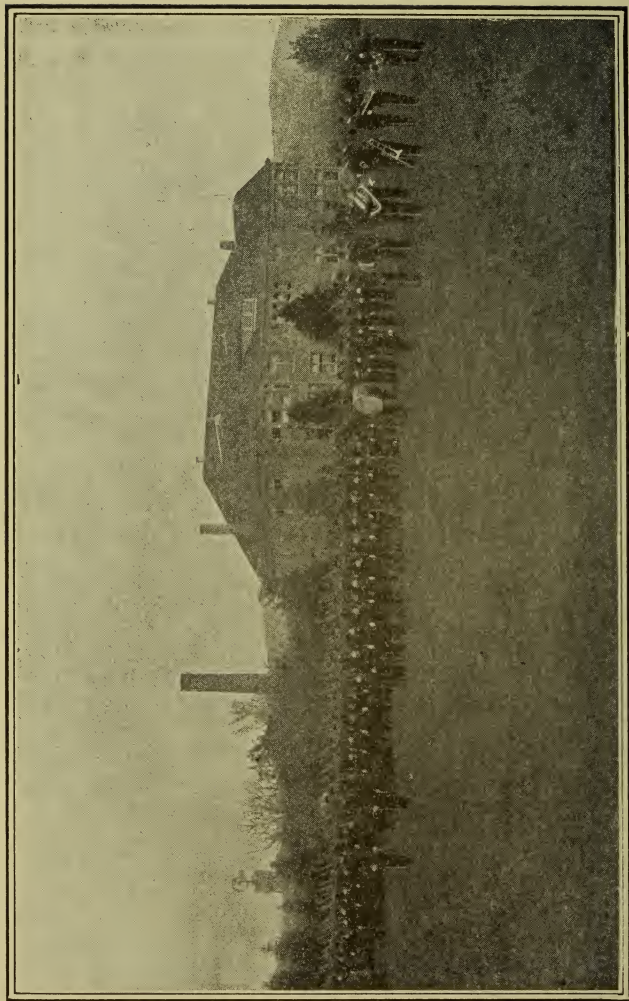
First Year—Simple Chords. Inversions. Modulation. Analysis.

Text-book, Gœtschius' Tone Relations.

Second Year—Polyphonic forms. Composition work.

Theory and History.

First Year—Elson's canons of String. The laws of



O. A. C. Battalion.

Sound. The history of Orchestral Instruments. The history of Forms. Musical terms and expressions.

Second Year—General history of the Scale. Jewish music. The Grecian Tetrachord. The Gregorian Chant. The Folk Songs of Germany; of France. The rise of Opera 1600 A. D. The Period of Bach and Handel. The modern orchestra. The rise and development of pianoforte playing through the Golden and the Classic Age to the present day. America's history in early Boston and elsewhere.

Harmony, Theory and History are required for graduation in Pianoforte and Voice Culture.

The Choral Classes—Based on three lessons a week.

First Year—History of music in relation to national history. Tone relations. The major and minor second 3d and 6th. Practical work in reading and writing intervals. Chorus from Oratorio. Glee and simple chorus work. The Chant. Courses I, II, III.

Second Year—The history of the scale. The pitch of the orchestra. Perfect 4ths and 5ths. Practice in writing intervals. Keys. Chorus and quartet work. "Joan of Arc." The "St. Paul Oratorio complete. Courses IV, V, VI.

Third Year—Musical terms and forms. The history of the German Folk Song, the English Ballad and the American Song. Lectures on Schubert, Wagner, Mozart, Beethoven. Practice with the 7th, all diminished, minor and augmented intervals. Brahms's "Vivetta." Chorus from Messiah, Elijah, The Holy City. Selections from the Operas. Courses VII, VIII, IX.

This course is designed to give those of limited time and means an intelligent understanding of the origin and development of song and instrumental music, as well as the ability to read at sight.

Graduation.—Upon completion of any course in music, the student will receive a certificate of graduation. While none of the regular college studies are required in the department of music, a broad, general education is earnestly recommended as necessary to success in the musical profession.

Tuition, in this department, is payable to the instructor and strictly in advance.

Private lessons, of one-half hour, two a week, \$4.00 a month; of one hour, one a week, \$3.00 a month.

Choral Class, for drill in the fundamental elements of music, one lesson a week, fifty cents a term.

College Chorus, for advanced study, one lesson a week, \$1.50 a term.

Students registering in music are expected to pursue the study throughout the term. No deduction for missed lessons, except in cases of protracted illness.

Music may be obtained from the Instructor.

Piano rent, when the piano is desired, for practice, \$1.00 a month for one hour a day.

MILITARY.

MAJOR C. B. HARDIN, 20th U. S. Infantry, Commandant.

The object of this department is so to instruct the cadet that upon graduation he will be thoroughly competent to hold a commission as company officer in the national guard or volunteer army. Military drill improves the habits and manners of the student, develops him physically and gives him that military knowledge which it is desirable every citizen should possess that he may render intelligent aid to his country or state in time of need. It cultivates a manly spirit, ready and implicit obedience, respect for authority and self-restraint—all qualities of inestimable value to a young man.

Instruction in the course is prescribed for all undergraduate male students. Male students excused from active military work will be assigned some light duty by the head of the department. The instruction is both practical and theoretical.

The Cadet band; with twenty instruments, is under the instruction of a competent officer as leader. Ordinarily no cadet will be assigned to the band until he is well instructed in the "school of the soldier" and the "school of the company."

The armory contains a drill room 70 x 100 feet in extent, an office, and suitable rooms for storing guns and other ordnance. Three hundred Springfield cadet rifles with equipments, two light artillery field pieces, twenty cavalry sabers, and a liberal allowance of blank and ball cartridges are fur-

nished by the ordnance department, U. S. army. The college has purchased the necessary band instruments, swords, bugles, colors, and signal apparatus for the thorough equipment of the department.

It is the intention to hold an encampment for two or three days annually when suitable camp equipage can be secured.

The commissioned officers are selected from the senior class, the sergeants from the junior class and corporals from the sophomore class. Appointment of officers and non-commissioned officers and their relative rank, is determined according to the military standing of cadets based upon a careful consideration of the following points: (1) Knowledge of drill and duties as determined by examination, practical application and recommendations of superior officers; (2) zeal, soldierly bearing and aptitude for command; (3) character; (4) military record; (5) general standing in the college.

Cadets are required to wear a uniform at all drills and other military exercises. This uniform costs about \$16.50. It is of dark blue cloth of an excellent quality and makes a very neat and serviceable school suit.

Drill.—Freshman, sophomore, junior and senior years. The practical course in infantry includes the schools of the soldier, company and battalion, in close and extended order; ceremonies; guard and outpost duty; target practice and battle tactics. In artillery it includes the schools of the soldier, cannoneer and platoon, dismounted; the mechanism, nomenclature and care of the 3.2 inch breech-loading field pieces; the use of artillery in the field.

Those physically unable to bear arms, together with a limited number from the senior and junior classmen, may

be assigned to the signal corps, and instructed in the usual methods employed in military signaling.

Courses I, II, III, IV, V, VI.—*Military Science*.—Junior and senior years. The theoretical course embraces recitations in U. S. infantry and light artillery drill regulations, and outpost and guard duty manuals; instruction in reports and returns pertaining to a company; lectures on organization and administration of the U. S. army in peace and in war; the volunteers and militia; tactics, strategy and logistics, and other military subjects.

Text and reference books: U. S. Infantry Drill Regulations; Blunt's Small Arms Firing Regulations; U. S. Light Artillery Drill Regulations; Gidding's Manual of Signaling; Burnham's Duties of Outposts and Manual of Guard Duty; Wagner's Elements of Military Science; Tutherly's Elementary Military Science and the Art of War; U. S. Army Regulations.

ROSTER.

Cadet Officers and Non-Commissioned Officers.

STAFF AND NON-COMMISSIONED STAFF.

A. S. Hall.....	Captain and Adjutant
P. A. Cupper.....	Captain and Quartermaster
D. Hirstel.....	Captain and Commissary
F. A. Williams.....	Sergeant Major
R. C. Shephard.....	Quartermaster Sergeant

BAND.

E. D. Wetmore.....	Chief Musician and Leader
H. L. Fryer.....	Principal Musician
W. H. Wicks.....	Sergeant
G. E. Moore.....	Sergeant
J. Henkle.....	Corporal
D. W. Proebstel.....	Corporal

BATTALION INFANTRY.

H. C. BrodieMajor

COMPANY A.	COMPANY B.	COMPANY C.	COMPANY D.
<p><i>Captain:</i> T. W. Scott.</p> <p><i>Lieutenants:</i> C. L. Shepard, O. A. Horton, J. C. Burns.</p> <p><i>Sergeants:</i> H. C. Darby, K. Steiwer, J. S. Tannock, J. C. Knapp, P. L. Adams, J. S. Sewell.</p> <p><i>Corporals:</i> C. L. Gardiner, R. C. Jackson, H. B. Auld, M. Hinrichs, R. C. Cutsforth, A. E. Burns, G. L. Weaver.</p>	<p><i>Captain:</i> M. W. Bartmess.</p> <p><i>Lieutenants:</i> C. C. Cate, C. L. Proebstel, T. W. Espy.</p> <p><i>Sergeants:</i> J. W. Carlson, O. A. Webber, M. B. Moores, W. T. Martin, L. R. Harlan, R. L. Stout.</p> <p><i>Corporals:</i> H. Branden, F. E. Rowland, J. L. Ringo, L. Schoal, F. C. Ewing, C. V. Swann.</p>	<p><i>Captain:</i> J. T. Witty.</p> <p><i>Lieutenants:</i> E. Hinrichs, A. S. Wells, J. C. Rinehart.</p> <p><i>Sergeants:</i> F. C. Stimson, B. T. Jordan, M. B. Belden, J. R. S. McCormick, G. S. Moore, T. A. Garrow, E. Eddy.</p> <p><i>Corporals:</i> E. Ames, J. MacKenzie, O. G. Simpson, W. E. Wade, H. C. Getz, W. L. Stevens.</p> <p><i>Musician:</i> F. Smithson.</p>	<p><i>Captain:</i> C. W. Beaver.</p> <p><i>Lieutenants:</i> V. C. Staats, J. C. Clark, J. W. Buster.</p> <p><i>Sergeants:</i> W. G. Abraham, E. W. Wallace, F. A. Galloway, W. A. Schoel, A. B. Bower, F. B. Davis.</p> <p><i>Corporals:</i> G. A. Anderson, R. Esson, G. H. Root, E. V. Hawley, C. S. Benson, G. Cate, G. A. Good.</p> <p><i>Musician:</i> H. B. Carter.</p>

PHYSICAL CULTURE.

WILL ORIAN TRINE, Physical Director.

The aim of this department is to secure and maintain perfect health. To this end we strive to develop a symmetrical and graceful body. No pretense is made at developing actors, and no one is required to do what is known as "heavy work." However, there are always classes and special teams in various lines of artistic gymnastics, and those enjoying the work are welcome.

The chief aim is to benefit the weak and to guard against developing any tendencies to weakness or disease that so often exist. To this end every man entering the department is given a rigid physical examination. In these examinations the exact condition of the man is noted and special exercises are prescribed to meet his particular case. Records are kept making it possible by later examinations to note results of work and progress made.

The work is largely selected from the German and Swedish systems of gymnastics and "The Grading of Gymnastic Exercises" by George M. Martin. A progressive course is followed. The class work which is carefully planned aims primarily to cure the common physical defects, such as narrow chest, stooping shoulders and weakened muscular system.

The gymnasium is well equipped for thorough work. The basement is provided with lockers and bath rooms for both men and women. The main floor is equipped with horizontal bar, parallel bars, buck, horse, rings, ladders, trapeze, dumb-bells, clubs, wands and other apparatus. South of the gymnasium is a large athletic field, with a quarter-mile track, grandstand, 100-yard straight-away track, tennis courts and foot-ball grounds.

MINES AND MINING.

JOHN FULTON, B. S., Mineralogy and Assaying,

Instruction is given in this department to familiarize the student with the most approved methods of successfully carrying on mining operations as practised on the Pacific coast. The student is taught the uses of the various surveying instruments and is given ample opportunity for practical application in both field and mine surveying.

For courses in mine surveying, leveling, tunneling, etc., see page 100.

The student is also taught how to care for and handle such machinery as boilers, engines, motors, pumps, hoists, etc., by practical study and use in the machine shops. Abundant facilities for such instruction are offered here.

For description of equipment of the mechanical department see pages 75 and 76.

The courses in chemistry are practically the same as those for the mechanical student, excepting that an additional term in qualitative analysis is required of the mining student.

The courses in mineralogy are largely laboratory practice, and consist to a great extent of blowpipe-analysis of most of the metal-bearing rocks. The student is also taught how to recognize specimens in the field by aid of simple instruments, such as the pocket knife, lens, and small acid bottle.

The study of economic geology is also fully considered in this department, and much assistance may be derived by study of specimens in the mineral cabinet.

The courses in assaying cover analysis of gold, silver, mercury and lead ores, by the fire or dry assay, and the estimation of copper, iron, and zinc, by the volumetric or wet assay.

Instruction in rapid estimations of various metals is also given when time permits.

The equipment of the assay laboratory consists of one simplex ore crusher, one wall cupel machine, one Becker button balance, one Spohrhaese button balance, two pulp scales, one bucking board, two crucible furnaces, two muffle furnaces, one combination muffle and crucible furnace. All above furnaces are heated by Hoskins' gasoline burners, supplied by pressure from one fifteen-gallon pressure tank. In addition, there are furnaces for coal or coke, both stationary and movable, anvils, moulds, tongs, scorifier-crucible and cupel-hand cupel machines, etc.

Nothing has been omitted in the equipment of a first class assay laboratory, so that students completing the full course will have no difficulty in taking up the duties usually incumbent upon the assayer.

There have been added during the past year, a Fuess reflecting goniometer, a quantitative balance, two sets of crystal models and an extensive mineral collection.

Texts.—Scott's Geology, Furman's Assaying, Eakle's Physical Mineralogy, Moses & Parsons Blowpipe Analysis. References.—Kemp's Ore Deposits, Dana's Geology, Leconte-Geikie, etc.

LITERARY COMMERCE COURSE.

T. H. CRAWFORD, A. M., Professor.

J. B. HORNER, A. M., Penmanship.

HELEN L. HOLGATE, B. H. E., Stenography and Typewriting.

This course leads to the degree of Bachelor of Science. The requirements for entrance to this course are the same as those for entrance to any one of the Freshman years in any of the other courses. See page 25.

One of the most attractive features of this course is the prominence given to English. Every term in the entire four years—with but two exceptions—presents the subject of English, making this emphatically a literary course.

Along commercial lines, the subjects of book-keeping, stenography, typewriting and commercial arithmetic are made prominent in the freshman, sophomore and junior years and in the junior and senior years commercial law, civics and economics are studied.

The subject of penmanship is taken up in the third term of the freshman year and made prominent every term until the close of the junior year.

In mathematics—in addition to commercial arithmetic—there are algebra and geometry. All the mathematics come in the first two years.

During the sophomore and junior years either Latin or German is studied continuously. In these years will also be found the subjects of general and modern history, aesthetics, psychology, and astronomy.

A fee of \$1.00 per month during term time will be charged for the use of the typewriting machines.

THE EXPERIMENT STATION.

The station bears an important relation to the college, as the scientific investigations conducted at the station strongly support the instruction given in the class-room. Aside from the original investigations of an economic significance to agriculture, the work of the station affords daily object lessons in good modern farming.

About one hundred acres of the college farm are devoted to scientific and experimental farming. Animal husbandry is an important feature of station work. For this branch of the work Shorthorn and Jersey cattle, Cotswold and Shropshire sheep, and Berkshire swine are maintained. Among these, animals can be found of rare individual excellence, thus offering the student in agriculture an opportunity to study the highest types of the respective breeds.

Extensive field trials are made in the growing of many varieties of cereals, grasses and forage plants, which are utilized in various feeding experiments conducted for the purpose of determining their value as stock foods. This work embraces the study of plant environment and the correlated subject of animal nutrition, thus supporting in a practical manner the science of agriculture as taught in the college.

Dairying is also a prominent feature of the station work. For this purpose a herd of typical dairy cows and a well equipped creamery are maintained. Many problems of vital interest to practical dairymen are constantly being worked out along the lines of rations for cows and methods for handling the herd. The student himself frequently assists in the work and thus obtains tangible evidence of the practical utility of the sciences in dairy husbandry.

The horticultural work of the station affords the student an admirable opportunity for comparing the work of the class room with the practices of the field. Plant breeding, cross pollination of fruits, as well as modern methods of planting, pruning, grafting, spraying and cultivation are all brought immediately under the observation of the student, thus affording him an excellent opportunity to become thoroughly conversant with the science and practice of horticulture.

THE SHORT COURSE IN AGRICULTURE.

To give Oregon farmers who are unable to pursue a four-year course in the Agricultural College, a share in the advantages of higher education, the College has for many years conducted Farmers' Institutes in various parts of the State. But the Institute, while it has its place, has developed another movement of perhaps greater importance, that of holding a more extended Institute, known as the Short Course in Agriculture, Horticulture and Dairying.

The main conception of such schools is, that they are places where people from the farm and orchard—practical farmers and fruit growers—can understandingly study the application of some of the fundamental laws of their occupation. In announcing the Short Course we feel that we can make it thoroughly practical for any intelligent agriculturist, and that we can make scientific agriculture and horticulture both educational and useful. Such a course covers a field which on account of lack of time and apparatus for illustration cannot be undertaken in the regular Farmers' Institutes.

The course consists of a series of popular lectures along lines suited to aid horticulturists, dairymen and others engaged in agricultural pursuits in developing the great

natural resources of our state. The lectures are all supplemented by laboratory work under the supervision of experts who strive to make the course thoroughly practical by adapting the work as far as possible to the needs of each individual. The primary study is of things rather than books, and there is always kept in mind the practical side of the matter under discussion. Little time is spent in purely theoretical discussion.

There will be no educational test. No special preparation is necessary as the instruction will be given by lectures and practical work. It is the aim of this course to give to the student the largest possible amount of practical information regarding the various phases of agriculture and horticulture.

An important source of information for those attending this course is the Station and College library where the best books on agriculture, horticulture, and dairying are found. The bulletins of the experiment stations of all the states in the Union are on file at the College and will be at the command of anyone wanting them. These bulletins are invaluable as being about the only source from which one can get information as to the present status of, and the progress that is being made in agricultural and horticultural matters.

An effort will be made to direct the reading along particular lines in such a way that the reader will get in touch with the progressive work that is being done in his particular occupation.

The first lecture of the series will be given at 9 a. m., January 9, 1905, and the course will close on Friday, January 19, 1905.

SPECIAL COURSE IN DAIRYING.

The establishment of the Dairy department of the Oregon Agricultural College on the first floor in the new Agricultural

Hall makes it possible for the institution to give a special course in butter and cheese making and subjects closely related thereto. The management of the institution will offer such a course of eight weeks duration, beginning on the Monday following the close of the short course in agriculture.

The course is designed to familiarize students with the modern forms of dairy apparatus, and to teach the underlying principles of the production, care, and manufacture of milk into butter and cheese. Both the *how* and the *why* will be the aim of the instructors, and it is the intention that the ideas set forth will be applicable to the farm dairy as well as the larger creamery or cheese factory.

ADMISSION.—The dairy course is open to all persons of good moral character, both male and female, who are at least eighteen years of age and who have a common school education. No entrance examinations will be required, but it is expected that those seeking admission will be able to intelligently understand lectures, take notes, and perform a small amount of text-book work.

EQUIPMENT.—More than one-half of the floor space on the first floor of Agricultural Hall is devoted to the dairy department. At the left of the main entrance is the dairy instructor's office, and to the right are located the dairy rooms proper. The main work room, located in the northwest corner, is 24 x 44 feet with cement floor sloping from all directions toward the center where a bell trap connects with the sewer system of the building. This room is equipped with five of the modern styles of cream separators, operated by either steam or hand power. There are also combined churns and workers, box churns, table workers, receiving and ripening vats, and the necessary apparatus for the manufacture of full cream Cheddar cheese.

Adjoining the main work room are lockers for students' use, a well lighted boiler room 16 x 18 and a wood and store room.

In the northeast corner of the building is the Dairy Laboratory 22 x 40 feet which will be equipped with all the modern devices for testing milk and its products, such as hand and turbine Babcock tests, curd tests, cream scales and automatic acid measures.

Two commodious cheese-curing rooms, 10 x 16 and 12 x 16 feet, complete the quarters of the dairy department.

The college library located in the Administration Building will be open to students of the dairy course. Here access may be had to the leading farm and dairy papers of the United States as well as some foreign publications. Full sets of the bulletins of the various experiment stations and the U. S. Department of Agriculture are on the library shelves, also many valuable books pertaining to dairy matters.

CHARACTER OF WORK.—Students will meet for work six days per week. The forenoon of each day will be devoted to practical work in the dairy rooms. Two days per week will be devoted to cream separation and butter-making, two days to cheese-making, and two will be spent in the dairy laboratory. In the afternoons of all days except those devoted to cheese-making, lectures and recitations will occupy two or three hours. The object of this class-room work is to give the student a better knowledge of the underlying principles upon which the practical dairy operations are based. An outline of the work is given below:

LECTURE WORK.—*Soil Chemistry and Physics.*—This includes a study of the origin and composition of soils and of the plant food contained in them. Such questions as the conservation of moisture; conditions affecting the water-

holding capacity of soils; temperature of soils, etc., discussed and illustrated by experimental work. In this connection the composition and use of fertilizers is considered, including the discussion of both farm manures and commercial fertilizers, their composition, and when and how to use them.

Feeds and Feeding.—This includes the study of forage plants, growth, adaptability, chemical composition and their relationship to successful dairy husbandry—the study of the fundamental principles of animal nutrition, including digestion, assimilation—the composition and feeding value of the different grains and commercial feed stuffs and how they should be fed for best results in milk production.

Milk and Its Products.—For this work a text-book, “Milk and its Products,” by H. H. Wing, is used, supplemented by lectures. Some of the topics covered by the text are: secretion and composition of milk; pasteurization; market milk; the ripening of cream; principles of the Babcock Test; milk for cheese-making; varieties of cheese, etc. Creamery accounts and herd records will also be taken up in this connection.

Dairy Bacteriology.—Lectures and laboratory demonstrations are given relative to the various forms of bacteria which are of interest to the dairyman.

Breeds and Breeding.—A necessary requirement of a successful dairyman is the ability to harmonize breed and environment. Hence this work embraces the study of the origin and characteristics of the leading dairy breeds, adaptability, form as related to function and a general discussion of types.

The College maintains a typical herd of dairy animals comprising representatives of three popular breeds, thus

affording the student an excellent opportunity to make comparisons. Stock judging both by the card system and by comparison is a feature of this work.

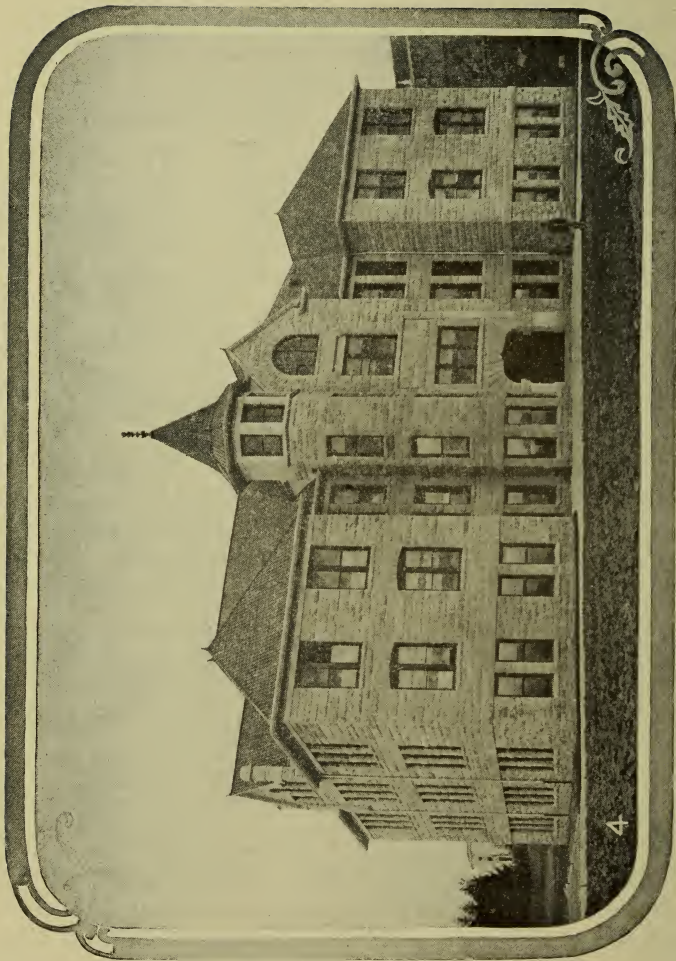
Chemistry of Dairy Products.—In these lectures the comparison of dairy products is dealt with more in detail than it is possible for the lecturer on dairying to do. In order to bring out and emphasize certain points, these lectures are accompanied by experiments and the examination of dairy products.

Veterinary Science.—This will consist of a general discussion of the causes of the common diseases of cattle, their treatment and best means of prevention. It will also include discussions relative to the usual management and care of the herd and individual members thereof, in health or disease.

Steam Engine.—Discussions and practical work relative to the structure, care and operation of steam engines and boilers, with special reference to the principles involved are held. Four boilers and a like number of engines are available for illustration in this work.

LABORATORY.—Practical Dairy Work.—This work consists of extended practice in the use of the Babcock test in determining the percentage of butter fat contained in milk, skim milk, buttermilk, cream, whey, butter, and cheese. Particular attention is given to the use of scales in connection with cream testing. The use of acid tests for determining the ripeness of the cream is considered. Daily practice in the application of results obtained is afforded.

Butter-Making.—Five latest style cream separators furnish practice in the removal of cream from milk. A combination churn, a trunk churn, and a table worker will illustrate the operations of churning and working butter.



Agricultural Hall. (See page 17.)

One and two-pound molds, and cutting boxes illustrate the methods of finishing. All work in this line is performed by students under the direction of the instructors.

Cheese-Making.—The manufacture of full cream Cheddar cheese is considered. Attention is given to the small sizes known as Young Americas. Some partly skimmed milk cheese is made to illustrate the effect of the removal of a portion of the cream. The use of various rennet tests is taught, also the hot iron test. Small vats are used in this work in order that each student may have an opportunity to carry the work through from start to finish.

EXPENSES.

Fees.—There will be no fees except a breakage deposit of \$3.00, a portion of which will be returned at the close of the term. This deposit is mainly to cover breakage of glassware in the laboratory, and in case of no breakage the fee will all be returned, except a small fee for material.

Board and Lodging is obtainable in Corvallis at \$3.00 to \$4.00 per week. A list of places may be seen at the office of the Dairy Instructor.

Clothing.—Students are ordinarily required to wear white suits while at work. These can be purchased in the Corvallis stores at \$1.00 to \$1.50 per suit, consisting of cap, trousers and jacket. A pair of colored overalls will also be found useful at times.

Books.—This item will not exceed \$2.00. The only regular text-book will be "Milk and Its Products," by Wing. Some note books will be needed by those who wish to make the most of the course. Anything required in this line can be obtained in Corvallis.

Since only a limited number of students can be accom-

modated in this course, application for admission should be made to the department of dairying at least two weeks preceding the opening.

The course will open on Monday, January 22d, immediately following the close of the Short Course in Agriculture.

For further particulars regarding the Special Dairy Course address F. L. Kent, Corvallis, Oregon.

FARMERS' INSTITUTES.

One of the most useful methods of diffusing agricultural education is the farmers' institute. These institutes are especially helpful both to the farmer and the experiment worker. The former secures scientific information upon topics of immediate interest to him and is instructed in its practical application to the farm; while the latter is brought to realize more vividly the needs and perplexities of the farmer. It is gratifying to note the growing demand for more of these institutes, and while the station is ever ready to accede to these demands, it is, however, becoming annually more difficult on the part of the station officials to fulfill these obligations, owing to the constant increase in the work of the station.

LIBRARY.

RICHARD JEFFREY NICHOLS, B. S., Librarian.

The library occupies a large, well-lighted room on the first floor of the administration building, and contains nearly 4000 bound volumes of standard works on history, literature, arts, sciences, general subjects and fiction; as many more bound volumes of U. S. government publications and about 10,000 pamphlets and bulletins. Care has been exercised in the selection of books in order that each department may have proper works of reference at the disposal of the student.

A card catalogue is used and the books are indexed according to subject by the decimal system, and alphabetically according to title and author, so that the use of the library is greatly facilitated and its resources upon any subject easily ascertained.

The library receives the leading literary and scientific magazines and journals, all of which are kept on file.

The library is open for the issuing of books every school-day from 8 a. m. to 5 p. m., and during that time the librarian is in constant attendance. Books, excepting cyclopedias and works of general reference, may be drawn out by students for a period not exceeding two weeks.

TEXT-BOOKS.

- Agriculture—**
 Book on Drainage, Miles;
 Cattle Breeding, Warfield;
 Feeds and Feeding, Henry;
 Horses, Cattle, Sheep and Swine, Curtis;
 Manual of Cattle Feeding, Armsby;
 Physics of Agriculture, King;
 Soil, King;
 Stock Feeding, Stewart;
 Study of Breeds, Shaw.
- Bacteriology—**
 Essentials of Bacteriology, Ball.
- Botany—**
 Outlines of Botany, Leavitt;
 Physiology of Plants, Sorauer;
 Plant Physiology, McDougal;
 Plants, Coulter;
 Practical Botany, Strassburger and Hillhouse.
- Chemistry—**
 Agricultural Chemistry, Johnson;
 Crooke's Select Methods;
 General Chemistry, Bradbury, Newell, Young;
 Organic Chemistry, Remsen;
 Qualitative Analysis, Johnson and Prescott, Dennis and Whittlesey;
 Quantitative Analysis, Talbot, Smith and Cheever;
 Stillman Engineering Chemistry;
 Sutton's Volumetric Analysis;
 Thorpe's Dictionary of Applied Chemistry;
 Thorpe's Industrial Chemistry;
 Wiley's Principles of Agricultural Chemistry.
- Dairying—**
 Milk and Its Products, Wing.
- Elocution—**
 Evolution of Expression, Emerson;
 Steps to Oratory, Townsend.
- English and Literature—**
 American Literature, Painter;
 Composition, Lockwood and Emerson;
 Elementary English Composition, Scott and Denny;
 Handbook of Rhetorical Analysis, Genung;
 Higher Lessons in English Grammar, Reed and Kellogg;
 History of English Literature, Moody and Lovett;
 Practical Elementary Rhetoric, Genung;
 Seventy Lessons in Spelling.
- Entomology—**
 Animal Forms, Jordan & Heath;
 Animal Life, Jordan & Kellogg;
 Bulletins and Reports, U. S. Entomologist;
 Human Body, Martin-Fitz edition;
 Insect Life, Comstock.
- History—**
 General History, Myers;
 U. S. History, Thomas.
- Household Science—**
 Ethics of Marriage, Pomeroy;
 Household Science Helen Campbell.
- Horticulture—**
 Principles of Fruit Growing, Bailey;
 Plant Breeding, Bailey;
 Principles of Plant Culture, Goff.
 The Survival of the Unlike, Bailey;
- Latin—**
 Aeneid, Collar's edition;
 Allen & Greenough's Latin Grammar;
 Caesar—Books I and II—Collar;
 Cicero's Orations, Collar;
 First Year Latin, Collar & Daniell.
- Mathematics—**
 Algebra—Essentials of Algebra, Wells;
 Analytic Geometry—Plane and Solid Analytic Geometry, Ashton.
 Arithmetics—Higher Arithmetic, Wentworth;
 Astronomy—Elementary Astronomy, Young;
 Calculus—Differential and Integral Calculus (Revised Edition), Taylor.
 College Algebra (Revised Edition) Wentworth;
 Geometry—Plane and Solid Geometry (Revised Edition); Wentworth;
 Higher Arithmetic, Beman & Smith;
 Mining Engineering—A Manual of Mining, Ihlseng;
 Surveying—Hand-Book for Surveyors, Merriman & Brooks;
- Trigonometry—Plane and Spherical Trigonometry, Ashton & Marsh.**
- Mechanical and Electrical Engineering: Alternating Currents and Alternating Current Machinery, Jackson & Jackson;**
 A Practical Course in Mechanical Drawing, Fox & Thomas;
 Descriptive Geometry, Linus Faunce;
 Electricity and Magnetism, Sylvanus Thompson;
 Electro-Magnetism and the Construction of Dynamos, D. C. Jackson;
 Elements of Machine Design, A. W. Smith;
 Elementary Practical Physics, Vol. II, Stewart & Gee;
 High School Physics, Carhart & Chute;
 Machine Design, Part I, Jones;
 Physical Laboratory Manual, Chute;
 Steam Engines and Boilers, J. H. Kincaid;
 Theoretical Mechanics, W. W. Johnson;
 The Strength of Materials, Merriman.

- Literary Commerce—
 Modern Book-keeping, Montgomery;
 Commercial Law, Richardson.
- Mental and Political Science—
 Essentials of Psychology, Buell;
 Government of the American People,
 Principles of Economics, Gide;
 Strong & Schafer.
- Military—
 Manual of Guard Duty, Burnham;
 Manual of Physical Drill, Butt;
 U. S. Infantry Drill Regulations.
- Mining—
 Assaying, Furman;
 Blowpipe Analysis, Moses & Parsons;
 Geology Scott;
 Physical Mineralogy, Eakle.
- German—
 Collar's Eysenbach—German Gram-
 mar;
 Hewett's German Reader;
 Jungfrau von Orleans;
- Lessing's Nathan der Weise;
 Marie Stuart;
 Mueller and Wenckebach's Gluck
 Auf, First German Reader;
 Schiller's Wilhelm Tell;
 Seume's Mein Leben.
- Pharmacy and Materia Medica—
 Dose Book, Hoak;
 Handbook of Pharmacy, Coblenz;
 King's Dispensatory;
 Materia Medica, Culbreth;
 Medical Chemistry, Bartley;
 National Formulary;
 Organic Analysis, Prescott;
 Practice of Pharmacy, Remington;
 Quantitative Analysis, Sturmer and
 Vanderkleed;
 The Art of Compounding, Scoville;
 U. S. Dispensatory, Pharmacopœia,
 Homeopathy.



Class Fountain, '02.

LIST OF STUDENTS.

GRADUATES.

NAME.		POSTOFFICE.	COUNTY.
John Frederick Allen,	B. M. E.,	Corvallis,	Benton.
Rosamond Leolene Chipman,	B. S.,	Tillamook,	Tillamook.
Carrie Agnes Danneman,	B. S.,	Clem,	Gilliam.

SENIORS.

NAMES.	COURSE.	POSTOFFICE.	COUNTY.
Meigs William Bartmess,	Elec.,	Hood River,	Wasco.
Clarence Warner Beaver,	Phar.,	Salem,	Marion.
Horace Carpenter Brodie,	Mech.,	Lents,	Multnomah.
John Charles Burns,	Agri.,	Cleone,	Multnomah.
John William Buster,	Phar.,	Sheridan,	Yamhill.
Carrie Ann Byerlee,	H. S.,	Hood River,	Wasco.
Etta Belle Carter,	L. C.,	Halsey,	Linn.
Claude Clifton Cate,	Agri.,	Hillsboro,	Washington.
Jesse Claude Clark,	Agri.,	Newberg,	Yamhill
Maud Elizabeth Cochran,	H. S.,	Aurora,	Clackamas.
Percy Alfred Cupper,	Mech.,	Monument,	Grant.
Lucy Aramintha Dilly,	H. S.,	Wren,	Benton.
Thomas Willard Espy,	Min.,	Oysterville,	Wash. State.
Clara Etta Fuller,	H. S.,	Corvallis,	Benton.
Albert Sidney Hall,	Elec.,	Cleone,	Multnomah.
Edna Blanche Hershner,	Phar.,	Gresham,	Multnomah.
Ernst Hinrichs,	Elec.,	Hood River,	Wasco.
Dave Hirstel,	Mech.,	Portland,	Multnomah.
Alva Otis Horton,	Phar.,	Bridal Veil,	Multnomah.
John Ransom Howard,	Agri.,	Prineville,	Crook.
Elmer Polic Jackson,	Elec.,	Cleone,	Multnomah.
Guy Erwin Moore,	Agri.,	Prineville,	Crook.
Nellie Lillian Pate,	H. S.,	Jefferson,	Marion.
Bert Pilkington,	Phar.,	Oakland,	Douglas.
Chester Lloyd Proebstel.	Min.,	Portland,	Multnomah.
Harvey Garfield Pugh,	Elec.,	Shedd,	Linn.

Jackson Carle Rinehart,	Elec.,	The Dalles,	Wasco.
Juanita Rosendorf,	L. C.,	Independence,	Polk.
Alyce Leena Rusk,	Phar.,	Milwaukie,	Clackamas.
Teroah Winfield Scott,	Phar.,	Carson,	Wash. State.
Claiborne Lockley Shepard,	Agri.,	Salem,	Marion.
Cecil Vivian Staats,	Agri.,	Airlie,	Polk.
Inez St. Germain,	H. S.,	Yuba,	Wash. State.
Mary Elizabeth Sutherland,	H. S.,	Shedd,	Linn.
Irving Melville Underwood,	Mech.,	Grass Valley,	Sherman.
Albert Sidney Wells,	Min.,	Portland,	Multnomah.
William Hale Wicks,	Agri.,	Maroa,	Illinois.
Isabel Harris Whitby,	H. S.,	Corvallis,	Benton.
John Thomas Wittby,	Phar.,	Summerville,	Union.

JUNIORS.

NAMES.	COURSE.	POSTOFFICE.	COUNTY.
William Gustave Abraham,	Elec.,	Albany,	Linn.
Percival Lysander Adams,	Elec.,	Hood River,	Wasco.
William Henry Beaty,	Elec.,	Ballston,	Polk.
Miles Bebee Belden,	Min.,	Cove,	Union.
Albert Burton Bower,	Elec.,	Silverton,	Marion.
John Will Carlson,	Elec.,	Portland,	Multnomah.
Henry Clay Darby,	Phar.,	Silverton,	Marion.
Floyd Bushnell Davis,	Mech.,	Newport,	Lincoln.
Earnest Eddy,	L. C.,	Kings Valley,	Benton.
Joel Emily,	Mech.,	Troutdale,	Multnomah.
Lura Lovene Flett,	H. S.,	Corvallis,	Benton.
Harry Lee Fryer,	Elec.,	Carlton,	Yamhill.
Eunice Evelyn Garfield,	H. S.,	Oswego,	Clackamas.
Theodore Alexander Garrow,	Mech.,	Oregon City,	Clackamas.
LeRoy Harlan,	L. C.,	Republican,	Nebraska.
Maggie Maude Hayes,	H. S.,	Tangent,	Linn.
Fred Harrison Hazard,	Min.,	Jefferson,	Marion.
Joseph Clare Henkle,	Elec.,	Corvallis,	Benton.
Georgia Ellen Herbert,	H. S.,	Corvallis,	Benton.
Walter Ralph Horton,	Elec.,	Bridal Veil,	Multnomah.
Alice Jones,	H. S.,	Corvallis,	Benton.
Mark McCallister,	Mech.,	Pratum,	Marion.

John Roderick McCormick,	Mech.,	Lebanon,	Linn.
Guy Sherwood Moore,	Elec.,	Albany,	Linn.
Merrill Bruce Moores,	Min.,	Oregon City,	Clackamas.
Edna Marie Osburn,	H. S.,	Corvallis,	Benton.
Delbert Waldorf Proebstel,	Elec.,	Portland,	Multnomah.
Earl Rinehart,	Agri.,	The Dalles,	Wasco.
James Ambrose Sewell,	Elec.,	Hillsboro,	Washington.
Ralph Curtis Shepard,	Agri.,	Salem,	Marion.
Benjamin Trueblood Smith,	Agri.,	Salem,	Marion.
Edna Louisa Smith,	H. S.,	Latourell,	Multnomah.
Ray Marie Smith,	L. C.,	Salem,	Marion.
Karl Steiwer,	Agri.,	Jefferson,	Marion.
Frederick Charles Stimson,	Phar.,	Amity,	Yamhill,
Francis Marion Stokes,	Min.,	Portland,	Multnomah.
Ray Lewis Stout,	Mech.,	Mehama,	Marion.
John Smith Tannock,	Elec.,	Hillsboro,	Washington.
Lena Belle Tartar,	H. S.,	Airlie,	Polk.
Zophar Tharp,	Phar.,	Bellevue,	Yamhill.
Earl Wayne Wallace,	Mech.,	Hillsboro,	Washington.
Ward Perry Webber,	Min.,	Medford,	Jackson.
Leone Charlotte Weber,	Phar.,	Corvallis,	Benton.
Otto Adam Weber,	Phar.,	Corvallis,	Benton.
Alice Minerva Wicklund,	L. C.,	Monroe,	Utah.
Floyd Alexander Williams,	Agri.,	Airlie,	Polk.

SOPHOMORES.

NAME.	COURSE.	POSTOFFICE.	COUNTY.
Chester W. Abrams,	Mech.,	Lincoln,	Polk.
Elvin Ames,	Mech.,	Silverton,	Marion.
George Anthon Anderson,	Mech.,	Harrisburg,	Linn.
Harry Benjamin Auld,	L. C.,	Woodburn,	Marion.
Hamon Shelly Bilyeu,	L. C.,	Athena,	Umatilla.
Leigh Gatch Bolton,	Agri.,	Antelope,	Wasco.
George Vernon Bolton,	Agri.,	Antelope,	Wasco.
Arthur George Bouquet,	Agri.,	Purley,	England.
Alfred Leroy Bradley,	Mech.,	Portland,	Multnomah.
Hugh Brandon,	Phar.,	Halsey,	Linn.
Reva Buell,	H. S.,	Sheridan,	Yamhill.

Lyman Albert Bundy,	Phar.,	Galena,	Grant.
Archibald Eugene Burns,	Mech.,	Beaverton,	Washington.
Wallace Welcome Colbert,	Phar.,	Fayette,	Iowa.
Clarence Curtis Currin,	Phar.,	Montague,	California.
Edward Robert Currin,	Agri.,	Heppner,	Morrow.
Hugh Cochran Currin,	Agri.,	Heppner,	Morrow.
Lillie Florence Currin,	H. S.,	Heppner,	Morrow.
Rodney Curtis Cutsforth,	Mech.,	Gervais,	Marion.
Mary Cecil Danneman,	L. C.,	Clem,	Gilliam.
Oral Everett Davidson,	Agri.,	Rowland,	Linn.
Clara Myrtle DeHaven,	H. S.,	Winslow,	Illinois.
Frank Amos Dowty,	Agri.,	Currinsville,	Clackamas.
William James Dunlap,	Mech.,	Shedd,	Linn.
Alice Leora Edwards,	H. S.,	Bellfountain	Benton.
Hugh Bonham Esson,	Phar.,	Gervais,	Marion.
Fred Clarke Ewing,	Agri.,	Oswego,	Clackamas.
Seth Lee Fawk,	Mech.,	Salem,	Marion.
Margaret Isabel French,	H. S.,	Corvallis,	Benton.
Margaret Ruth Frey,	L. C.,	Heppner,	Morrow.
Charles Warren Fullerton,	Mech.,	Corvallis,	Benton.
Clifford Le Mont Gardiner,	Min.,	Astoria,	Clatsop.
Arthur Amos Garrett,	Mech.,	Albany,	Linn.
Howard Clayton Getz,	Min.,	Portland,	Multnomah.
George Arnold Good,	L. C.,	Elgin,	Union.
John Maxfield Graham,	L. C.,	Kings Valley,	Benton.
Frank Edward Hall,	Min.,	Milwaukie,	Clackamas.
Earl Vincent Hawley,	Mech.,	Monroe,	Benton.
Arthur Donald Hill,	Mech.,	Hood River,	Wasco.
Fred Austin Hills,	Agri.,	Jasper,	Lane.
Max Hinrichs,	Mech.,	Hood River,	Wasco.
Robert Combs Jackson,	Agri.,	Portland,	Multnomah.
Bert Trew Jordan,	Phar.,	Albany,	Linn.
Mabel Bee Keady,	H. S.,	Salem,	Marion.
Harry Edward Kerker,	Mech.,	Tuscola,	Illinois.
John Gilbert Kilpack,	Agri.,	Sutton,	England.
Ruth Laura Lilly,	H. S.,	Corvallis,	Benton.
Charles David Little,	Min.,	Houlton,	Columbia.
James Mackenzie,	L. C.,	Newberg,	Yamhill.

Charles Edward MacLean,	Min.,	Vancouver,	Wash. State.
Estella Mary Madden,	L. C.,	McMinnville,	Yamhill.
Weaver Thomas Martin,	Mech.,	McMinnville,	Yamhill.
Margaret Kathryn McCormick,	H. S.,	Lebanon,	Linn.
Eber David Mossey,	Mech.,	Ukiah,	Umatilla.
Roderick Nicholson Nash,	Agri.,	Nashville,	Lincoln.
Minnie Ethel Phillips,	H. S.,	Corvallis,	Benton.
Amos Alfred Post,	Agri.,	Dayton,	Yamhill.
Hazel Blanche Raber,	L. C.,	Corvallis,	Benton.
Elmer Philander Rawson,	L. C.,	Orchards,	Wash. State.
Joseph Lucine Ringo,	Min.,	Molalla,	Clackamas.
Maude Ethel Roberts,	H. S.,	Medford,	Jackson.
Fred Miller Roth,	Min.,	Canby,	Clackamas.
Floyd Elba Rowland,	Mech.,	Halsey,	Linn.
Louis Schoel,	Mech.,	Halsey,	Linn.
William Amile Schoel,	Mech.,	Halsey,	Linn.
Otto Gerald Simpson,	Agri.,	Suver,	Polk.
Nellie Vernon Skelton,	H. S.,	Seattle,	Wash. State.
Carl Bryant Smith,	Phar.,	Carson,	Wash. State.
Claude Vivian Swann,	Mech.,	Corvallis,	Benton.
Albert Pearl Tedrow,	Mech.,	Monmouth,	Polk.
Wallace Atwood Thomson,	Agri.,	Echo,	Umatilla.
Archie Clifford Van Cleve,	Phar.,	Baker City,	Baker.
Walter Eakin Wade,	Mech.,	Summerville,	Union.
Guy Gilboa Walker,	L. C.,	Independence,	Polk.
Guy Leonard Weaver,	Phar.,	Salem,	Marion.
Candace Estella Wicklund,	L. C.,	Monroe,	Utah.
Robert Vernon Williamson,	L. C.,	Wells,	Benton.
Bessie Hart Wilson,	L. C.,	Roseburg,	Douglas.
Walter Asa Winniford,	Agri.,	Wren,	Benton.
Elbert Yates,	L. C.,	Corvallis,	Benton.

FRESHMEN.

NAME.	COURSE.	POSTOFFICE.	COUNTY.
Fred Adams,	Pharm.,	Roseburg,	Douglas.
Kate Dolores Adams,	L. C.,	Myrtle Creek,	Douglas.
Ross Brayton Adams,	Mech.,	Warren,	Columbia.
Stella Rowe Adams,	L. C.,	Warren,	Columbia.

Henry Allen Airth,	Mech.,	Warrenton,	Clatsop.
Edna Grace Allen,	H. S.,	Corvallis,	Benton.
Ralph Wilmer Allen,	Agri.,	Rickreall,	Polk.
Jessie Applegate Applegate,	Mech.,	Jacksonville,	Jackson,
Avery Applewhite,	Agri.,	Tillamook,	Tillamook.
Ernest Avery,	L. C.,	Corvallis,	Benton.
Arthur Rex Barnett,	Mech.,	Athena,	Umatilla.
Wharton Baughman,	Mech.,	Hillsboro,	Washington.
Fred Lawrence Beach,	L. C.,	Glencoe,	Washington.
Elizabeth Nina Bell,	H. S.,	Beaver City,	Nebraska.
William Frank Bell,	Mech.,	Beaver City,	Nebraska.
Clifford Stuart Benson,	Mech.,	Roseburg,	Douglas.
Chester Livingstone Berchtold,	L. C.,	Corvallis,	Benton.
Oliver Wilberforce Berchtold,	Phar.,	Corvallis,	Benton.
Arthur Karl Berman,	Phar.,	Corvallis,	Benton.
Ethel Alberta Berman,	H. S.,	Corvallis,	Benton.
Anna Emma Bleeg,	H. S.,	Fulton,	Multnomah.
Roydan Miller Bodley,	Min.,	Lents,	Multnomah.
Daniel Vivian Bolton,	Agri.,	Antelope,	Wasco.
Belle Rebecca Bonney,	H. S.,	Woodburn,	Marion,
Charles Edwin Bowen,	Min.,	Oysterville,	Wash. State.
Thomas Reeves Brown,	Mech.,	Ashland,	Jackson.
Myrtle Ruth Burnap,	L. C.,	Philomath,	Benton.
*Andrew Jackson Burnaugh,	Phar.,	Elgin,	Union.
William Edward Byerlee,	Mech.,	Hood River,	Wasco.
Frank Ross Cady,	Agri.,	Holbrook,	Nebraska.
Henry Bernard Carter,	Mech.,	Ashland,	Jackson.
Grover Cate,	Agri.,	Hillsboro,	Washington.
Collie Flint Cathey,	Agri.,	Corvallis,	Benton.
James Carroll Cecil,	Agri.,	Burns,	Harney.
William Frederick Chapman,	Phar.,	Roseburg,	Douglas.
Phillip Jodrell Cherry,	Mech.,	Astoria,	Clatsop.
Elva Chrisinger,	L. C.,	Pendleton,	Umatilla.
Cecil Carl Clark,	Agri.,	Logan,	Clackamas.
John Jay Clark,	Mech.,	Portland,	Multnomah.
Laura Belle Clark,	H. S.,	Heppner,	Morrow.
Ansel Roscoe Clarke,	L. C.,	Portland,	Multnomah.

*Deceased.

Alton Bernard Coates,	Mech.,	Albany,	Linn.
Waldo Whitney Colbert,	Phar.,	Fayette,	Iowa.
Kenneth Leigh Cooper,	Agri.,	The Dalles,	Wasco.
Harry Kratz Cronise,	Mech.,	Corvallis,	Benton.
Ray Bert Culver,	Mech.,	Hillsboro,	Washington.
Walter Griffin Cumming,	Mech.,	Corvallis,	Benton.
Charles Clarence Curry,	Mech.,	Shedd,	Linn.
Samuel Lyman Damon,	L. C.,	Independence,	Polk.
John Wernier Darling,	Mech.,	Oregon City,	Clackamas.
Pauline Davis,	H. S.,	Newport,	Lincoln.
Glen DeHaven,	Phar.,	Winslow,	Illinois.
Oscar Daniel Dickson,	L. C.,	Antelope,	Wasco.
George Julius Dodson,	Agri.,	Albany,	Linn.
Edgar Wade Donnelly,	Agri.,	Richmond,	Wheeler.
Ridgely Rupert Draper,	Phar.,	Prineville,	Crook.
Samuel Leland Eddy.	L. C.,	Hoskins,	Benton.
Ellis Hartley Edgington,	Agri.,	Wasco,	Sherman.
Mary Adeline Elgin,	Phar.,	Corvallis,	Benton.
Clyde Engle,	L. C.,	Molalla,	Clackamas.
Minor John Erskine,	L. C.,	Lebanon,	Linn.
Ronald Esson,	Phar.,	Gervais,	Marion.
Gosper Loyd Fields,	Mech.,	Forest Grove,	Washington.
Villa Mae Fields,	H. S.,	Forest Grove,	Washington.
Percy Marvin Finley,	Agri.,	Corvallis,	Benton.
Thomas Nathaniel Fitchard,	Mech.,	Independence,	Polk.
Merle Verne Forrest,	Agri.,	Wheatland,	Yamhill.
Warren Forsythe,	Phar.,	Enterprise,	Wallowa.
Samuel Lane Foster,	Agri.,	Junction City,	Lane.
Frank Luverne Fowells,	Mech.,	Fayette,	Iowa.
Henry Sidney French,	Agri.,	Corvallis,	Benton.
William Douglas Fry,	Phar.,	Grants Pass,	Josephine.
Julia Ella Fuller,	H. S.,	Corvallis,	Benton.
Frank Asberry Galloway,	Phar.,	Elgin,	Union.
Frances Violet Gellatly,	L. C.,	Philomath,	Benton.
Mary Louise Gilbert,	L. C.,	McMinnville,	Washington.
Helen Margaret Gilkey,	H. S.,	Montesano,	Wash. State.
Vernon William Gilkey,	Mech.,	Montesano,	Wash. State.
Nell Glassford,	L. C.,	Corvallis,	Benton.

Maude Essie Gleason,	H. S.,	Corvallis,	Benton.
Glenroy Goodman,	Mech.,	Independence,	Polk.
Maud Crenshaw Graves,	H. S.,	Odell,	Klamath.
Roy Leslie Greear,	Phar.,	Hillsboro,	Washington.
Everett Richard Green,	Mech.,	Oregon City,	Clackamas.
Benjamin Howard Greenhaw,	Min.,	Boring,	Clackamas.
Dell Roy Groves,	Mech.,	Portland,	Multnomah.
Heman Hilton Hall,	Mech.,	Corvallis,	Benton.
Charles William Hamilton,	L. C.,	Lebanon,	Linn.
Vern Leonard Hamilton,	Mech.,	Lebanon,	Linn.
Claude Joe Hanscom,	L. C.,	Pendleton,	Umatilla.
Arthur Edwin Harder,	Agri.,	Melville,	Clatsop.
Cyrus Ashley Harlan,	L. C.,	Beatrice,	Nebraska.
Myrtle Edith Harrington,	H. S.,	Corvallis,	Benton.
Samuel Kelly Hartsook,	Phar.,	Albany,	Linn.
Floy Naoma Hawley,	H. S.,	Bellfountain,	Benton.
Blaine Hays,	Mech.,	Tillamook,	Tillamook.
Bessie Ruth Herbert,	H. S.,	Corvallis,	Benton.
Annie Laura Hill,	L. C.,	Hood River,	Wasco.
Mary Alicia Hill,	H. S.,	Hood River,	Wasco.
Fred Miller Hofer,	Min.,	Marshfield,	Coos.
Vera Delle Horner,	L. C.,	Corvallis,	Benton.
Robert Owsley Horning,	Agri.,	Silver Lake,	Lake.
Lois Susanna Horton,	H. S.,	Bridal Veil,	Multnomah.
Golda Ethyl Howard,	H. S.,	Bellfountain,	Benton.
Charles Eugene Hubler,	L. C.,	Corvallis,	Benton.
Jacob Floyd Huff,	Phar.,	Corvallis,	Benton.
Clyde William Hughes,	Min.,	Oregon City,	Clackamas.
Hanson Hughes,	Min.,	Portland,	Multnomah.
Calvin Asa Ingle,	Phar.,	Corvallis,	Benton.
Rose Mildred Ingram,	H. S.,	Monroe,	Benton.
Mabel Sarah Ireton,	Phar.,	Salem,	Marion.
Frank Leslie Jackson,	L. C.,	Glencoe,	Washington.
Hugh William Jones,	Phar.,	Oregon City,	Clackamas.
James Blanco Jones,	Mech.,	Corvallis,	Benton.
William Robert Jones,	L. C.,	Suver,	Polk.
James Garfield Kelly,	Agri.,	Lents,	Multnomah.
Willis Edgar Kelsey,	L. C.,	Woodburn,	Marion.

Verna Kerker,	H. S.,	Tuscola,	Illinois.
John Carl Knapp,	Phar.,	Oregon City,	Clackamas.
Alice Althea Knerr,	L. C.,	Salem,	Marion.
Frederick Knaus,	Mech.,	Oswego,	Clackamas.
Golda Velma LaMar,	L. C.,	Shedd,	Linn.
Arleigh Vance Laramore,	Agri.,	Summerville,	Union.
Jens Lingaas,	Min.,	Portland,	Multnomah.
Agnes Swan Love,	H. S.,	Medford,	Jackson.
Oliver Porter Lumm,	Mech.,	Dayton,	Yamhill.
Margaret May Martin,	Phar.,	McMinnville,	Yamhill.
Mabelle Matteson,	H. S.,	Gaston,	Washington.
Guy McCallister,	Mech.,	Pratum,	Marion.
Cyrus Ross McCormick,	Min.,	Lebanon,	Linn.
James Stewart McMahan,	L. C.,	Corvallis,	Benton.
Lenna Louise Meeker,	H. S.,	Laurel,	Nebraska.
Louis Metzger,	Mech.,	Gresham,	Multnomah.
Frank Roland Miller,	Phar.,	Corvallis,	Benton.
Clarence Moore,	Mech.,	Albany,	Linn.
Leonard James Moses,	L. C.,	Philomath,	Benton.
Alpha Robert Murray,	Agri.,	Corvallis,	Benton.
Madeline Lenore Nichols,	H. S.,	Glenbrook,	Benton.
Sylva Grace Nichols,	L. C.,	Glenbrook,	Benton.
Wallace Hubert Pasley,	Agri.,	Hillsboro,	Washington.
James Donald Paul,	Mech.,	Montavilla,	Multnomah.
Pearl Anna Persinger,	L. C.,	Monroe,	Benton.
Fred Poorman,	Mech.,	Woodburn,	Marion.
Edith Carrie Price,	H. S.,	Bellfountain,	Benton.
Reta Myrtle Price,	H. S.,	Bellfountain,	Benton.
Lulu Ruth Rice,	L. C.,	Clear Lake,	Iowa.
Arthur James Rich,	Phar.,	Astoria,	Clatsop.
Letha Lenore Rickard,	H. S.,	Inavale,	Benton.
Estley Brown Rinehart,	Agri.,	Portland,	Multnomah.
Lucile Jean Roberts,	L. C.,	Hood River,	Wasco.
George Herbert Root,	Agri.,	Wasco,	Sherman.
Leo Joseph Rosenstein,	Mech.,	Oregon City,	Clackamas.
Harold Goltra Rumbaugh,	Min.,	Albany,	Linn.
Arlinda Rose Rutherford,	H. S.,	Huntington,	Baker.
Henry Salvon,	Phar.,	Astoria,	Clatsop.

Charles Vernon Schrack,	Agri.,	Tangent,	Linn.
Otto Harrison Schrader.	Mech.,	Tillamook,	Tillamook.
John Godfrey Schroeder,	L. C.,	Portland,	Multnomah.
Royal Ramond Selleck,	Mech.,	Boyd,	Wasco.
Royal James Shaw,	Mech.,	Albany,	Linn.
Clarence Washington Short,	Mech.,	Goldendale,	Wash. State.
Ralph Edward Smith,	Agri.,	Salem,	Marion.
Leroy Frank Smith,	Phar.,	Corvallis,	Benton.
Forest Custer Smithson,	Mech.,	Woodlawn,	Multnomah.
Frank John Spagle,	L. C.,	Aurora,	Marion.
Roger Spicer,	Mech.,	Antelope,	Wasco.
Paul Herman Spillman,	Agri.,	Mt. Tabor,	Multnomah.
Irene Brown Sproat,	H. S.,	Hood River,	Wasco.
Carl Marion Stebinger,	Mech.,	Portland,	Multnomah.
William Loren Stevens,	Mech.,	Hillsboro,	Washington.
Byron James Taylor,	L. C.,	Corvallis,	Benton.
Darwin Greene Thayer,	Agri.,	Rainier,	Columbia.
Edward Sprague Thayer,	Mech.,	Rainier,	Columbia.
Herbert Augustus Thompson,	Mech.,	Canby,	Clackamas.
Luella Van Cleve,	H. S.,	Baker City,	Baker.
Clarence Cornelius Vincent,	Agri.,	Kings Valley,	Benton.
Ira Lester Vincent,	L. C.,	Kings Valley,	Benton.
Ralph Oliver Vincent,	L. C.,	Kings Valley,	Benton.
Agnes von der Hellen,	L. C.,	Wellen,	Jackson.
Laura Benton Waggoner,	H. S.,	Corvallis,	Benton.
Dow Vernon Walker,	L. C.,	Portland,	Multnomah.
Rae Walker,	L. C.,	Independence,	Polk.
Bertha Estella Watrous,	L. C.,	Rainier,	Wash. State.
Mark Vern Weatherford,	L. C.,	Olex,	Gilliam.
Harold Wilkins,	L. C.,	Corvallis,	Benton.
Jessie Agnes Wilson,	L. C.,	Roseburg,	Douglas.
John Franklin Winniford,	Mech.,	Wren,	Benton.
Harry Calvin Witman,	Mech.,	Lebanon,	Linn.
Lavina Wood,	H. S.,	Corvallis,	Benton.
Joseph Clinton Wright,	Agri.,	Silver Lake,	Lake.
Olive Isabelle Wright,	H. S.,	Silver Lake,	Lake.

SUB-FRESHMEN.

NAME.	POSTOFFICE.	COUNTY.
Arvid Anderson,	Albany,	Linn.
Harry Asbahr,	Hillsboro,	Washington.
Edward Wray Aylsworth,	Montavilla,	Multnomah.
Alice Bahr,	Adams,	Umatilla.
Edward Horace Boyer,	Mount Tabor,	Multnomah.
Guy Ercil Brown,	Corvallis,	Benton.
James Grover Brown,	Myrtle Point,	Coos.
Cyril Gideon Brownell,	Umatilla,	Umatilla.
William Cullen Bryant,	Hubbard,	Marion.
Norris Everard Chapin,	Walla Walla,	Washington State.
Paul Childers,	Alicel,	Union.
Roy Francis Cooper,	Corvallis,	Benton.
Grace Minerva Cramer,	Holbrook,	Nebraska.
George Richmond Cummings,	Canby,	Clackamas.
Charlton Straw Currin,	Montague,	California.
William Harling Davolt,	Catlin,	Washington State.
Louis Dixon,	Antelope,	Wasco.
Archie Guy Erskine,	Plainview,	Linn.
Carl Wright Ewan,	Morrison,	Colorado.
Jesse Gilkey,	Montesano,	Washington State.
John Benjamin Gooch,	Shelburn,	Linn.
Samuel Herman Graf,	Montavilla,	Multnomah.
Newell Addison Haines,	Latourell Falls,	Multnomah.
George Calvin Havelly,	The Dalles,	Wasco.
Cora Alice Hawley,	Monroe,	Benton.
Ivan Hawley,	Bellfountain,	Benton.
Ralph Hamilton Hawley,	Monroe,	Benton.
Henry Clay Henness,	Gates,	Marion.
Ethel Winona Heslin,	Cleone,	Multnomah.
Charles Ludlow Huff,	Portland,	Multnomah.
Alvin Hulbert,	Narrows,	Harney.
Mary Hulbert,	Narrows,	Harney.
Finley Imbert,	Kellogg,	Douglas.
Harry Elliot Jenkins,	Portland,	Multnomah.
Halsey Morrill Johnson,	Malheur,	Malheur.

Lawrence Rowland Johnson,	Vale,	Malheur.
Benton Killin,	Hubbard,	Marion.
Joseph William King,	Wren,	Benton.
Eugene Kirkwood,	Hopewell,	Yamhill.
Charles Curtis Lundy,	Burns,	Harney.
Lawrence Walter Madden,	McMinnville,	Yamhill.
Isabelle Mallett,	Ontario,	Malheur.
Sanford Roy Matteson,	Gaston,	Washington.
Grant McElhiney,	Albany,	Linn.
Herbert Berry McLane,	Lyons,	Linn.
Margaret Alice Miller,	Ontario,	Malheur.
Vincent Irving Miller,	Ontario,	Malheur.
Clark Miller Mundy,	Mount Tabor,	Multnomah.
Luman Charles Needham,	Thurston,	Lane.
Marcellus Needham,	Thurston,	Lane.
Charles Francis Newton,	Portland,	Multnomah.
Louise Edith Oleman,	Kings Valley,	Benton.
Mary Iva Oleman,	Kings Valley,	Benton.
Margaret Ethel Owen,	Monmouth,	Polk.
Thomas Albert Owen,	Monmouth,	Polk.
Maple Carman Page,	Rainier,	Washington State.
Bessie Florence Parsons,	Albany,	Linn.
Winnie Nellie Parsons,	Albany,	Linn.
Robert Earl Peery,	Crabtree,	Linn.
Laura Myrtle Persinger,	Monroe,	Benton.
George Pewtherer,	Crowley,	Polk.
Malcolm Pewtherer,	Crowley,	Polk.
Ethyl Leota Pierce,	Harrisburg,	Linn.
Asa Holcolm Post,	Dayton,	Yamhill.
Martin James Ramsay,	Portland,	Multnomah.
Lafayette Oren Roberts,	Silverton,	Marion.
Henry Rooper,	Antelope,	Wasco.
John Augustus Rooper,	Antelope,	Wasco.
Ira Lewis Rowe,	Corvallis,	Benton.
Henry McGee Shanon,	Forest Grove,	Washington.
John Shepherd,	Butler,	Polk.
William Cowan Silvertooth,	Antelope,	Wasco.
Earl Royal Smith,	Harrisburg,	Linn.

Fred James Stevens,	Hillsboro,	Washington.
Mabel Mattie Stovall,	Philomath,	Benton.
Daniel Murry Sutherland,	Shedd,	Linn.
George von der Hellen,	Wellon,	Jackson.
Robert Zahniser Walker,	Gold Beach,	Curry.
Edward David Wetmore,	Cleone,	Multnomah.
Inez Lillian Williams,	Bellfountain,	Benton.
Clyde Everett Williamson,	Albany,	Linn.
Charley Elsworth Witham,	Kings Valley,	Benton.
Earnest Rowland Woods,	Albany,	Linn.
Albert James Wyatt,	Albany,	Linn.
Robert Cecil Wygant,	Toledo,	Lincoln.

SPECIAL STUDENTS.

NAME.	POSTOFFICE.	COUNTY.
Florence Kimball Adams,	Warren,	Columbia.
Ethel May Alexander	Corvallis,	Benton.
George Andrew Cathey,	Corvallis,	Benton.
James Ralph Chambers,	Kings Valley,	Benton.
Juliet Hamilton Cooper,	Palo Alto,	California.
Louise Cooper,	Palo Alto,	California.
Kathryn Blanche Daniel,	Grants Pass,	Josephine.
Bessie Guss Danneman,	Clem,	Gilliam.
Annie Christina Ewing,	Oswego,	Clackamas.
Margaret Herron,	Bruce,	Benton.
Maud Bell Holt,	Corvallis,	Benton.
Nora Christine Jensen,	Mapleton,	Iowa.
Mabel Harriet Kennison,	Baker City,	Baker.
Winnie Logan,	Portland,	Multnomah,
Belle Kate Mattley,	Lewisville,	Polk.
Adah McDonald,	Grants Pass,	Josephine.
Gladys Gwendoline Moore,	Prineville,	Crook.
Gertrude Ellen Moores,	Oregon City,	Clackamas.
Cora Lydia Newton,	Corvallis,	Benton.
Edgar Warren Phillips,	Portland,	Multnomah.
Ruby Agnes Post,	Dayton,	Yamhill.
Edwin Hart Pratt.	Mound City,	Missouri.
Laura Frances Pratt,	Mound City,	Missouri.

Mrs. Alfred Schmitt,	Albany,	Linn.
Una Ellner Stewart,	Prineville,	Crook.
Lula Annetta Turner,	Perrydale,	Polk.
Florence Wicks.	Corvallis,	Benton.
Bessie Margaret Yates,	Corvallis,	Benton.

SHORT COURSES: AGRICULTURE AND DAIRYING.

NAME.	POSTOFFICE.	COUNTY.
John David Carl,	Norway,	Coos.
William Norvel Carl.	Norway,	Coos.
Henry Sidney French,	Corvallis,	Benton.
David Glen Gibbons,	Corvallis,	Benton.
Edward D. Godwin	Chemawa,	Marion.
Mrs. Edward D. Godwin,	Chemawa.	Marion.
William Roy Jephcott,	Riverton,	Coos.
Trevor Lewis,	London,	England.
Eugene McCornack,	Florence.	Lane.
Lameck Peterson,	Mist,	Columbia.
John Westley,	Salem,	Marion.

PIANO STUDENTS.

NAME.	POSTOFFICE.	COUNTY.
Annie Bleeg.	Portland,	Multnomah.
Juliet Hamilton Cooper,	Palo Alto,	California State.
Louise Cooper,	Palo Alto,	California State.
James Ralph Chambers,	Kings Valley,	Benton.
Winnifred Cameron,	Corvallis,	Benton.
Kathleen Daniel,	Corvallis.	Benton.
Annie Christina Ewing,	Oswego,	Clackamas.
Kate Gerhard,	Corvallis,	Benton.
Frank Hout,	Corvallis,	Benton.
Frances Hodes,	Corvallis,	Benion.
Dolly Blanche Hawks,	Huntsville,	Washington State.
Heman Hilton Hall,	Corvallis,	Benton.
Pearl Horner,	Corvallis.	Benton.
Calvin Asa Ingle.	Philomath,	Benton.
Mabel Harriet Kennison,	Baker City,	Baker.

Fred Kerr,	Corvallis,	Benton.
Verna Kerker,	Tuscola,	Illinois.
Grace Maud Lowell,	Corvallis,	Benton.
Agnes Swan Love,	Medford,	Jackson.
Alpha Murray,	Corvallis,	Benton.
Gertrude Ellen Moores,	Oregon City,	Clackamas.
Adah McDonald,	Grants Pass,	Josephine.
Ruby Agnes Post,	Dayton,	Yamhill.
Eythel Leota Pierce,	Harrisburg,	Linn.
Elvie Bell Page,	Rainier,	Washington State.
Lillian Ranney,	Corvallis,	Benton.
Una Ellner Stewart,	Prineville,	Crook.
Irene Brown Sproat,	Hood River.	Wasco.
Mattie Strong,	Corvallis,	Benton.
Grace Smith,	Corvallis,	Benton.
Pearl Freemont Thomas,	Corvallis,	Benton.
Luella VanCleve,	Baker City,	Baker.
Frank Arch White,	Corvallis,	Benton.

VIOLIN STUDENTS.

NAME.	POSTOFFICE.	COUNTY.
Bessie Danneman,	Clem,	Gilliam.
George Good,	Elgin,	Union.
Joseph Clare Henkle,	Corvallis,	Benton.
Clay Henness,	Gates,	Marion.
Clara Hurlburt,	Corvallis,	Benton.
Joseph Howard,	Prineville,	Crook.
Verna Kerker.	Tuscola,	Douglas, Illinois
Harry Kerker,	Tuscola,	Douglas, Illinois.
Max Miller,	Corvallis,	Benton.
Lester Porter,	Corvallis,	Benton.
Frank Strong,	Corvallis,	Benton.
William Silvertooth,	Antelope,	Wasco.
William Stevens,	Hillsboro,	Washington.
Pearl Thomas,	Corvallis,	Benton.
Frank White,	Corvallis,	Benton.

MANDOLIN STUDENTS.

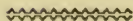
NAME.	POSTOFFICE.	COUNTY.
John Howard,	Prineville,	Crook.
Henry Hout,	Corvallis,	Benton,
Una Stewart,	Prineville,	Crook.

VOCAL MUSIC STUDENTS.

NAME.	POSTOFFICE.	COUNTY.
Edna Grace Allen,	Corvallis,	Benton
Kate Delores Adams,	Myrtle Creek,	Douglas.
Rosa Lee Adams,	Corvallis,	Benton.
Martha Christine Berchtold,	Corvallis,	Benton.
Mayme McLouth-Cordley,	Corvallis,	Benton.
Mable Cady,	Corvallis,	Benton.
Claude Cate,	Hillsboro,	Washington.
Mayme Alice Crawford,	Corvallis,	Benton.
Helen Virginia Crawford,	Corvallis,	Benton.
John Jay Clark,	Portland,	Multnomah.
Maude Elizabeth Cochran,	Aurora,	Clackamas.
Walter Corbett,	Corvallis,	Benton.
Grace Minerva Cramer,	Holbrook,	Nebraska.
Clay Darby,	Lewisburg,	Marion.
Oral Everett Davidson,	Rowland,	Linn.
Kathryn Daniel,	Corvallis,	Benton.
Alice Leora Edwards,	Bellfountain,	Benton.
Maude Graves,	Odell,	Klamath.
Hubert McDowell Green,	Corvallis,	Benton.
Isabel Gordon Green,	Corvallis,	Benton.
Roy Groves,	Portland,	Multnomah.
Frank Edward Hall,	Milwaukie,	Clackamas.
Cyrus Harlan,	Beatrice,	Nebraska.
Cora Hawley,	Monroe,	Benton.
Earl Hawley,	Monroe,	Benton.
Floy Hawley,	Bellfountain,	Benton.
Annie Laurie Hill,	Hood River,	Wasco.
Arthur Donald Hill,	Hood River,	Wasco.
Helen Lucile Holgate,	Corvallis,	Benton.

Golda Ethel Howard,	Bellfountain,	Benton.
Charles Ludlow Huff,	Portland,	Multnomah.
Ora Dell Jones,	Corvallis,	Benton.
Alice Jones,	Corvallis,	Benton.
Mabel Bee Keady,	Salem,	Marion.
Edith Keady,	Salem,	Marion.
Jean Marian Kent,	Corvallis,	Benton.
Jack Kilpack,	Sutton,	England.
Hettie Alice Lilly,	Corvallis,	Benton.
Lillian May Lake,	Corvallis,	Benton.
Minnie Elston Lee,	Corvallis,	Benton.
Jens Lingaas,	Portland,	Multnomah.
Mable Matteson,	Gaston,	Washington.
Isabelle Mallett,	Ontario,	Malheur.
May Martin,	McMinnville,	Yamhill.
Frances Vidella Miller,	Corvallis,	Benton.
Frank Moore,	Corvallis,	Benton.
Mattie Layman Moore,	Corvallis,	Benton.
Guy Moore,	Prineville,	Crook.
Cora Newton,	Corvallis,	Benton.
Margaret Ethel Owen,	Monmouth,	Polk.
Edith Coote-Pernot,	Corvallis,	Benton.
Ethyl Leota Pierce,	Harrisburg,	Lincoln.
Asa Holcolm Post,	Dayton,	Yamhill.
Marjorie Ellen Richards,	Corvallis,	Benton.
Joseph Lucine Ringo,	Molalla,	Clackamas.
Maude Ethel Roberts,	Medford,	Jackson.
Mary Simpson,	Corvallis,	Benton.
Ray Smith,	Salem,	Marion.
Benjamin Trueblood Smith,	Salem,	Marion.
Una Stewart,	Prineville,	Crook.
Margaret Comstock Snell,	Corvallis.	Benton.
Marion Stokes,	Portland,	Multnomah.
Mary Skelton,	Corvallis,	Benton.
Inez St. Germain,	Yuba,	Washington State.
Anna Louisa Walker,	Corvallis,	Benton.
Guy Leonard Weaver,	Salem,	Marion.
William Wicks,	Maroa,	Illinois.

Harold Wilkins,	Corvallis,	Benton.
Belle Althea Williams,	Corvallis,	Benton.
Isabel Harris Whitby,	Corvallis,	Benton.
Emma Jean Woodcock,	Corvallis,	Benton.
Rose Wilson,	Corvallis,	Benton.
Luella Van Cleve,	Baker City,	Baker.



RECAPITULATION.

	Men	Women	Dept. Total	Class Total
GRADUATES	1	2		3
SENIORS—				
Mining	3		3	
Mechanical	4		4	
Electrical	6		6	
Literary Commerce		2	2	
Household Science		8	8	
Agricultural	8		8	
Pharmacy	6	2	8	
Total seniors				39
JUNIORS—				
Mechanical	7		7	
Electrical	12		12	
Mining	5		5	
Literary Commerce	2	2	4	
Household Science		8	8	
Agricultural	5		5	
Pharmacy	4	1	5	
Total juniors				46
SOPHOMORES—				
Mechanical	22		22	
Mining	7		7	
Literary Commerce	9	6	15	
Household Science		11	11	
Agricultural	16		16	
Pharmacy	9		9	
Total sophomores				80
FRESHMEN—				
Mechanical	49		49	
Agricultural	30		30	
Household Science		33	33	
Literary Commerce	27	18	45	
Pharmacy	22	3	25	
Mining	9		9	
Total freshmen				191
SUB-FRESHMEN	69	16		85
SPECIAL	4	24		28
SPECIAL AGRICULTURE AND DAIRYING	10	1		11
MUSIC	41	83		124
Total	387	220		607
STUDENTS COUNTED TWICE—				
Music	32	44	76	
Special Agriculture and Dairying	1		1	
Total				77
Number of students in college	354	176		530

Students Classified by Courses of Study.

MECHANICS.		Freshmen.....	25— 47
Seniors.....	4	LITERARY COMMERCE.	
Juniors.....	7	Seniors.....	2
Sophomores.....	22	Juniors.....	4
Freshmen.....	49	Sophomores.....	15
ELECTRICAL ENGINEERING.		Freshmen.....	45— 66
Seniors.....	6	MINING.	
Juniors.....	12—100	Seniors.....	3
HOUSEHOLD SCIENCE.		Juniors.....	5
Seniors.....	8	Sophomores.....	7
Juniors.....	8	Freshmen.....	9— 24
Sophomores.....	11	GRADUATES.....	3
Freshmen.....	33— 60	SPECIAL STUDENTS.....	28
AGRICULTURE.		MUSIC.....	124
Seniors.....	8	SUB-FRESHMEN.....	85
Juniors.....	5	DAIRYING & AGRICULTURE.....	11
Sophomores.....	16	GRAND TOTAL.....	607
Freshmen.....	30— 59	COUNTED TWICE.	
PHARMACY.		Music.....	76
Seniors.....	8	Short Course.....	1— 77
Juniors.....	5	NUMBER OF STUDENTS.....	530
Sophomores.....	9		

Students Classified by Counties, States and Foreign Countries.

Baker.....	4	Lincoln.....	4
Benton.....	138	Linn.....	46
Clackamas.....	24	Malheur.....	5
Clatsop.....	6	Marion.....	36
Columbia.....	7	Morrow.....	5
Coos.....	5	Multnomah.....	48
Crook.....	6	Polk.....	22
Curry.....	1	Sherman.....	3
Douglas.....	8	Tillamook.....	4
Grant.....	2	Umatilla.....	8
Gilliam.....	4	Union.....	8
Harney.....	4	Wallowa.....	1
Jackson.....	8	Wheeler.....	1
Josephine.....	3	Wasco.....	25
Klamath.....	1	Washington.....	21
Lake.....	3	Yamhill.....	17
Lane.....	5		
Number of counties in Oregon.....			33
Total number of counties represented.....			33
Whole number of students from Oregon.....			483
California.....			4
Colorado.....			1
England.....			3
Illinois.....			5
Iowa.....			5
Missouri.....			2
Nebraska.....			7
Utah.....			2
Washington.....			18
Total.....			530

Comparative Statement of Enrollment.

<i>Year.</i>	<i>Music, Special.</i>	<i>Prepar- atory.</i>	<i>Fresh- men.</i>	<i>Sopho- mores.</i>	<i>Juniors</i>	<i>Seniors</i>	<i>Grad- uate Stu- dents.</i>	<i>Special</i>	<i>Dairy- ing.</i>	<i>Total.</i>
1888-1889..		36	33	14	14	0	0	0		97
1889-1890..		67	55	17	6	0	6	0		151
1890-1891..		76	83	24	15	0	3	0		201
1891-1892..		86	63	28	19	9	3	0		208
1892-1893..		98	123	31	18	7	5	0		282
1893-1894..		36	103	71	21	5	4	0		240
1894-1895..		47	85	64	52	13	0	0		261
1895-1896..		80	175	63	54	9	14	2		397
1896-1897..		<i>Sub-</i> 157	80	29	17	11	22			316
1897-1898..		<i>Fresh-</i> 151	75	45	26	15	24			336
1898-1899..		164	79	30	36	15	14			338
1899-1900..		42	145	74	40	36	20	48		405
1900-1901..		44	177	72	42	37	9	55		436
1901-1902..	14	38	247	83	30	38	10	28		488
1902-1903..	21	54	232	97	40	36	12	32	17	541
1903-1904..	48	85	191	80	46	39	3	28	10	530



Alumni Directory.

This list will be revised in 1907.

E. E. Wilson, '89.....President, Corvallis, Oregon
 Mrs. Leon Louis-Hayward, '92..Vice President, Corvallis, Oregon
 Miss Frances Belknap, '02.....Secretary, Wasco, Oregon
 Harry Buxton, '00.....Treasurer, Corvallis, Oregon

1870.

James K. P. Currin, B. S., Cottage Grove, Ore.
 Surveyor.

Robert M. Veatch, B. S., Cottage Grove, Ore.
 Merchant; ex-Register U. S. Land Office; ex-State Senator.

Alice E. Biddle- Moreland, B. S., Healdsburg, Cal.

1871.

George F. Burkhart, B. S., Lebanon, Ore.
 Farmer.

Hugh McNary Finley, A. B., Bruce, Ore.
 Horticulturist.

James D. Fountain, B. S., Portland, Ore. (255 Thirteenth Street.)
 With Southern Pacific.

*William Riley Privett, B. S.

Mary Harris-Whitby, B. S., Corvallis, Ore.

*Fannie J. Kendall-Henkle, B. S.

1872.

*Thomas C. Alexander, B. S.

*John Eglin, B. S.

Rose Jacobs-Selling, B. S., Corvallis, Ore.

*Alonzo Jacob Locke, B. S.

James K. Weatherford, B. S., Albany, Ore.

Attorney-at-Law; President Board Regents, O. A. C.

1873.

Leander N. Liggett, B. S., Prineville, Ore.

Teacher.

Clara M. Thayer-Harding, B. S., Corvallis, Ore.

William Franklin Herrin, B. S., San Francisco, Cal.

Attorney-at-law; Chief Counsel Southern Pacific Railroad.

Oscar L. Ison, B. S., Baker City, Ore.

Lawyer.

1874.

*John R. Bryson, B. S.

Thomas H. Crawford, B. S., Union, Ore.

Attorney-at-Law.

Emmett H. Taylor, B. S., Corvallis, Ore.

Dentist.

*Emma Thayer-Rice, B. S.

George A. Grimes, Harrisburg, Ore.

Surveyor and Farmer.

*William C. Crawford.

1875.

Reuben A. Fuller, B. S., Independence, Ore.

Farmer and Teacher.

*See Memorial Page.

Phillip Edward Linn, B. S., Garfield, Ore.

Farmer.

1876.

Minnie M. White-Arnold, B. S., Berkeley, Cal.

Franklin Cauthorn, A. M., Portland, Ore.

M. D., 1878; Surgeon.

*Isaac Jacobs, B. S.

George P. Lent, B. S., Portland, Ore. (205½ E. Morrison Street.)

Lawyer.

Addie M. Allen-Thompson, B. S., Seattle, Wash.

Newton A. Thompson, B. S., Seattle, Wash.

Assistant Labor Commissioner.

1878.

Mrs. Laura Thompson-Booth, B. S., Corvallis, Ore.

Elvin J. Glass, B. S., Helena, Mont.

Section Director, U. S. Weather Bureau.

Samuel T. Jeffries, A. B., Nome, Alaska.

Lawyer.

Moses S. Neugass, B. S., San Francisco, Cal. (432-434 Fourteenth Street.)

West Coast Furniture Manufacturing Company.

Frederick W. Vincent, B. S., Pendleton, Ore.

Physician.

1879.

Dayton Elliott, B. S., Sisters, Ore.

Teacher.

Marion Elliott, B. S., Prineville, Ore.

Lawyer.

Bartholomew T. Soden, B. S., Portland, Ore. (342 Russell Street.)

Merchant.

*Ernest White, A. M.

1880.

Lillian Glass, A. B., Corvallis, Ore.

Teacher.

Edgar Grimm, B. S., Nome, Alaska.

Lawyer.

Hattie M. Hanna-Hovendon, B. S., Portland, Ore.

Shubel, G. McCann, A. B.

Surveyor.

William E. Yates, A. M., Corvallis, Ore.

Lawyer; Member Board of Regents, O. A. C.

1881.

Elmer E. Charman, A. B., Oregon City, Ore.

Druggist.

T. Leonard Charman, B. S., Oregon City, Ore.

Real Estate Agent.

Ida Burnett-Callahan, B. S., Corvallis, Ore.

Assistant Professor English, O. A. C.

*Jessie L. Taylor-Lesh, B. S.

1882.

Bertha Neugass-Greenberg, A. B., San Francisco, Cal. (2293 Franklin Street.)

Alice M. Horning, B. S., Mesilla Park, N. M.

Professor Domestic Science, O. A. C.

Eda Jacobs, A. B., Corvallis, Ore.

William Y. Masters, A. M., Portland, Ore. (605 Sixth Street.)

Lawyer.

Nettie Spencer, B. S., Lenoir, N. C.

Teacher. (Graduated also at University of Chicago.)

Abbie Wright, B. S., Portland, Ore. (167 Eleventh Street.)

Teacher.

1883.

William G. Emery, A. B., Corvallis, Ore.

Photographer.

William H. Holman, B. S., Minneapolis, Minn.

Proprietary Medicines.

George B. Hovendon, B. S., Portland, Ore.

Merchant.

1884.

Lizzie Bayley, A. B., Salem, Ore.

David H. Glass, A. B., Oregon City, Ore.

Merchant.

Isador Jacobs, A. B., Portland, Ore. (60 Third Street.)

Traveling Salesman.

*William E. Newton, A. B.

Herbert G. Ray, A. B., Portland, Ore. (Third and Morrison Streets.)

Pharmacist.

1885.

Alonzo Allen, A. B., Portland, Ore. (Corner Sixteenth and Marshall Streets.)

Druggist.

Andrew S. Buchanan, B. S., New York City. (16 East Twenty-third Street.)

Assistant Manager and Cashier New York Viavi Company.

Henrietta Harris, B. S., Portland, Ore. (560 Hoyt Street.)

Kindergarten Teacher.

J. E. Whitney, B. S., Portland, Ore. (243 Monroe Street.)

Secretary Allen & Gilbert Company.

J. Fred Yates, A. B., Corvallis, Ore.

Attorney-at-Law.

1886.

*B. F. Collins, B. S.

Frances Harris, B. S., Portland, Ore. (560 Hoyt Street.)

Teacher.

Harry L. Holgate, B. S., Washington, D. C.

Census Clerk.

Herbert Kittredge, A. M., Eureka, Cal.

Teacher.

Minnie McFarland, B. S., Gilroy, Cal.

Diana Newton-McCoy, B. S., Oaxdale, Wash.

O. W. Robbins, B. S., Molalla, Ore.

Contractor and Builder.

Charles D. Thompson, A. B., Hood River, Ore.

Teacher and Fruit Grower; S. B. Agricultural College, Michigan.

Robert J. Wilson, B. S., New York City.

Physician and Surgeon with Board of Health.

1887.

Laura Korthauer-Ireland, B. S., Whatcom, Wash. (2111 Walnut Street.)

*Robert Cooper, B. S.

1888.

Ira Allen, A. B., Portland, Ore. (Sixteenth and Hoyt.)

Pharmacist.

James H. Collins, A. B., Clatskanie, Ore.

Teacher.

Lillie Groves, A. B., Corvallis, Ore.

William Hall, B. S., Salem, Ore.

Ex-County Clerk; Farmer.

Jessie Groves- Kittredge, A. B., Eureka, Cal.

Ella Jane Lilly-Mason, B. S., Wren, Ore.

Teacher.

Anna Lilly-Robbins, B. S., Molalla, Ore.

Gertrude M. Davis-Strange, B. S., Oakland, Cal.

Mary Newton-Slayton, B. S., Cotton Wood, Idaho.

William S. Stock, B. S., Portland, Ore. (Blumauer-Frank Drug Company.)

Manufacturing Chemist.

1889.

John C. Applewhite, B. S., San Francisco, Cal.

Lawyer.

Clarence Avery, B. S., Bigham Springs, Ore.

Lawyer.

Harry Lea Arnold, B. S., Manila, P. I.

United States Army.

John Buchanan, B. S., Inavale, Benton County, Ore.

Farmer.

*Robert G. Buchanan, B. S.

Bertha Davis, B. S., Corvallis, Ore.

Clara Fisher, B. S., Corvallis, Ore.

Clara Irvine-Hembree, B. S., McMinnville, Ore.

Teacher.

Thomas A. Jones, B. S., Corvallis, Ore.

County Surveyor; Pharmacist.

Emma Webber-Irish, Mt. Clemens, Mich. (267 S. Gratiot Ave.)

Emma Kittredge-Mahoney, B. S., San Francisco, Cal. (808 Van Ness Avenue.)

Mollie Fisher-Thompson, B. S., Los Angeles, Cal. (1730 Los Angeles Street.)

*Jessie Wilkins, B. S.

E. E. Wilson, B. S., Corvallis, Ore.

Attorney-at-Law.

1890.

A. Sidney Additon, B. S., Oakland, Cal.

Metallurgist.

M. Boyd Hamilton, B. S., Portland, Ore. (532 Williams Avenue.)

Physician and Surgeon.

May Warren-Woodward, B. S., Philomath, Ore.

*C. Otto Wells, B. S.

1891.

Anna Allen, B. S., Portland, Ore. (Corner Sixteenth and Marshall Streets.)

Joseph F. Alexander, B. S., Portland, Ore.

D. D. S., Professor Portland Dental College.

John Henry Starr, B. S., Junction City, Ore.

Bookkeeper.

1892.

Ida M. Ray-Brandes, B. L., Portland, Ore. (252 Eleventh Street.)

Anna Mary Denman, B. L., Union, Ore.

Teacher.

Nellie M. Davidson, B. H. E., Fossil, Ore.

B. L., '93; Teacher.

Lulu Chandler-Eppinger, B. H. E., Baker City, Ore.

John Fulton, B. S., Corvallis, Ore.

S. B., '03, Harvard; Associate Professor of Chemistry, O. A. C.

Mattie Avery-Fulton, B. L., Corvallis, Ore.

Nellie M. Hogue, B. H. E., Stanford, Cal.

Student, Stanford University.

Rose M. Horton, B. L., Corvallis, Ore.

Teacher.

Charles Leslie Johnson, B. S., Corvallis, Ore.

Assistant Professor Mathematics, O. A. C.

Leon Louis-Hayward, B. S., Corvallis, Ore.

Matron Alpha Hall, O. A. C.

Barney S. Martin, B. S. A., Brownsville, Ore.

Lawyer.

James W. Storms, B. S. A., Kansas.

Teacher.

Richard W. Scott, B. S. A., Inavale, Benton County, Ore.

Farmer.

Marie Lois Stewart, B. S., Baker City, Ore.

Teacher.

Minnie Waggoner-Lilly, B. L., LaGrande, Union County, Ore.

1893.

Lee Applewhite, B. S. A., St. Louis, Mo.

Physician.

Brady Burnett, B. S. A., Washington, D. C.

Clerk in Census Bureau.

George W. Denman, B. S., Corvallis, Ore.

County School Superintendent.

Ross Finley, B. S. A., Sumpter, Ore.

B. S., '94; Assayer.

Hortense P. Greffoz, B. H. E., Portland, Ore. (E. Forty-third
and Salmon Streets.)

B. L., '95; Teacher in Portland Public School.

W. Scott Goodall, B. S. A., LaGrande, Ore.

Real Estate.

Altha Leach, B. H. E., Heppner, Ore.

Milliner.

Erma Laurence-Jones, B. H. E., Oregon City, Ore.

Horace Lilly, B. M. E., Corvallis, Ore.

Manager Wade & Co.

Percival Nash., B. S. A., Dawson, Y. T., Canada.

Gold Mining.

Ora Spangler-Porter, B. H. E., Oregon City, Ore.

George Walter Palmer, B. M. E., Baker City, Ore.

Jeweler.

Norman J. Rowan, B. S. A., Geiser, Ore.

Master Mechanic, Empire Mining Company.

Anna Samuels, B. H. E., Portland, Ore. (331 E. Twelfth Street)

Teacher of Elocution and Music.

Leolin L. Swan, B. S. A., Albany, Ore.

Attorney-at-Law.

Hattie Bronson Sibley, B. H. E., Dallas, Ore.

Mary C. Voorhees, B. H. E., Woodburn, Ore.

1894.

David P. Adamson, B. S. A., Prineville, Ore.

B. S., '95; Druggist.

Mark Baily Bump, B. S. A., Hillsboro, Ore.

Lawyer.

Charles S. Chandler, B. S. A., San Francisco, Cal. (530 California Street.)

B. S., '95; Attorney-at-Law.

Sarah A. Currier, B. H. E., Inavale, Benton County, Ore.

Henry M. Desborough, B. M. E., Dawson, N. W. T.

Gold Mining.

Edward Getty Emmett, B. M. E., Ionia, Mich.

Draftsman and Machinist, Pere Marquette Railroad Company.

Delia Elizabeth Gellatly-Dentler, B. H. E., San Francisco, Cal.

Ina Vivia Gould, B. H. E., Spicer, Ore.

Teacher.

James H. Gibson, B. S., Portland, Ore.

Attorney-at-Law.

W. Frank Holman, B. M. E., Albany, Ore. (R. F. D. No. 4.)

B. S., '95; Farmer.

Lona George-Looney, B. H. E., Jefferson, Ore.

Jennie M. Gellatly-Palmer, B. H. E., Baker City, Ore.

Frank Josephine Parsons, B. H. E., Mayville, Ore.

Teacher.

Hattie Friendly-Rosenbaum, B. H. E., Salt Lake, Utah.

Alice Lettie Wicks, B. H. E., Hemet, Riverside County, Cal.

Teacher.

Evelyn Maud Currier-Scott, B. H. E., Inavale, Benton County,
Ore.

1895.

James Edward Adamson, B. S. A., Mitchell, Ore.

Postmaster.

John F. Allen, B. M. E., Corvallis, Ore.

Pharmacist; Member of Firm of Allen & Woodward.

Thomas Beall, B. S. A., Central Point, Ore.

Farmer.

Clara Duncan-Baker, B. H. E., Trenton, Mo.

Teacher.

- Adda M. Bristow, B. H. E., Spokane, Wash.
Teacher in Spokane City School.
- Lulu C. Thornton-Brown, B. H. E., Farmington, Cal.
- Austin T. Buxton, B. M. E., Forest Grove, Ore.
Farmer; Lecturer Oregon State Grange.
- Lucie Brandon-Chamberlain, B. H. E., Athena, Ore.
- Frederick C. Caples, B. S. E., Spokane, Wash.
- Inez Cooley-Carpenter, B. H. E., Bakersfield, Cal.
- Seth L. Casto, B. S. A., Portland, Ore.
Express Messenger.
- Edwin R. Doughty, B. S. A., Lind, Wash.
B. S., '96; Teacher.
- Frank E. Edwards, B. M. E.
Instructor of Chemistry, O. A. C.
- Minnie L. Hodes-Denman, B. H. E., Corvallis, Ore.
- Edna Finley, B. H. E., Corvallis, Ore.
Teacher in Corvallis School.
- Anna Hannah, B. H. E., Baker City, Ore. (2437 Auburn Avenue.)
- Alice Buchanan-Herron, B. H. E., Bruce, Ore.
- Helen L. Holgate, B. H. E., Corvallis, Ore.
Stenographer and Instructor in O. A. C.
- Delphena L. Heanel, B. H. E., Monroe, Ore.
Teacher.
- Verna Keady-Brewer, B. H. E., Portland, Ore. (228 Hall Street.)
- *Elsie Long-Irion.
- Andrew B. Kidder, B. S. A., Portland, Ore.
Railway Mail Service.

William B. Lacy, B. S. A., Corvallis, Ore.

Salesman.

Lester M. Leland, B. S. A., Portland, Ore. (314 Broad Street,
Montavilla Station.)

Railway Postal Clerk.

Arthur Clay Lewis, B. M. E., Klamath Falls, Ore.

Butcher and Stockraiser.

Louise Leuenberger-McDonald, B. M. E., Farmington, Wash.

Olive L. Hamilton-McKellips, B. H. E., Corvallis, Ore.

Assistant Postmaster.

A. D. Morrison, B. S. A., Carlton, Ore.

Physician and Surgeon.

Amelia M. McCune, B. H. E., Shedd, Ore.

Farmer.

Kate B. McCune, B. H. E., Shedd, Ore.

Farmer.

Dorothea Nash, B. H. E., Monmouth, Ore.

Teacher of Music, Oregon State Normal School.

Janie J. Newton, B. H. E., Corvallis, Ore.

Milliner.

Lewis W. Oren, B. H. E., Portland, Ore.

Postal Clerk.

William D. Porter, B. S. A., Shedd, Ore.

Farmer.

Samuel P. Smith, B. H. E., Cando, N. D.

Veterinarian and Veterinary Surgeon.

Mary E. Stout-Mulkey, B. H. E., Portland, Ore. (511 Roselawn
Avenue.)

Milton O. Stemmler, B. S. A., St. Louis, Mo.
Physician.

Mary Smith-Streumeyer, B. H. E., Astoria, Ore.

W. Claude Williams, B. M. E., McMinnville, Ore.
Hardware Salesman.

Effie Willis, B. H. E., Dillard, Ore.
Teacher.

Kittie Ruth Emmitt-Von Pessl, Melrose, Ore.

Milton A. Wyatt, B. S. A., Corvallis, Ore.
Farmer.

Lena Willis-Froggat, B. H. E., Portland, Ore. (312 Sherman Street.)

Willard W. Smith, B. M. E., LaGrande, Ore.
Physician.

Henrietta Campbell-Wilson, B. H. E., Albany, Ore.

Mary Henderson-Valencia, B. H. E., Santa Cruz, Cal. (354 Pacific Avenue.)

Kate Buchanan-Veatch, B. H. E., Cottage Grove, Ore.
B. L., '96.

1896.

Lyman B. Andrews, B. S. A., Portland, Ore.
Clerk, Y. M. C. A.

Julia Augusta Casto-Andrews, B. H. E., Milwaukie, Ore.

Lulu Lindsay-Atwood, B. H. E., Spicer, Ore.

Louisa Maude Barnett, B. H. E., Oswego, Ore.
B. L., '97; Teacher.

Lee Beal, B. S. A., Lakeview, Ore.

Druggist.

Walter H. Becker, B. S. A., Odessa, Wash.

Hardware and Implement Dealer.

Sheldon C. Brown, B. S. A., Sunnyside, Wash. (R. F. D. No. 2.)

B. S., '98; Farmer.

E. Arthur Buchanan, B. M. E., Inavale, Benton County, Ore.

Farmer.

*Lewis E. Cooper, B. S. A.

Mattie Wright-Davidson, B. H. E., Calistoga, Cal.

Lizzie A. Wyatt-Elliott, Perrydale, Ore.

Postmaster.

Herbert M. Friendly, B. M. E., Portland, Ore. (187 Sixteenth Street.)

Electrician with Pacific States Telegraph and Telephone Company.)

Marion R. Johnson, B. S. A., Portland, Ore. (Sellwood Station.)

Deputy Clerk Circuit Court.

Mary Buoy-Gerking, B. H. E., Pendleton, Ore.

Bessie Barker-Harrison, B. H. E., Portland, Ore. (550 Fifth Street.)

William F. Keady, B. M. E., Portland, Ore.

Custom Examiner.

Harry W. Kelly, B. S. A., The Dalles, Ore.

Clerk.

Emma Warrior-Kerr, B. H. E., Corvallis, Ore.

William T. Lee, B. S. A., Hanford, Cal.

Farmer.

Edith Lilly, B. H. E., Corvallis, Ore.

Carrie Alberta Lyford, B. H. E., Lansing, Mich.

B. L., '97; Instructor Household Economy, State Agricultural College.

Joseph Granger McCune, B. S. A., Shedd, Ore.

Farmer.

Bertie Linville-Morrison, B. H. E., Carlton, Ore.

Gertrude E. Mackay-Masterson, B. H. E., Astoria, Ore.

Emery J. Newton, B. S. A., Corvallis, Ore.

Farmer.

Charles L. Owsley, B. M. E., LaGrande, Ore.

Stockman.

Charles G. Porter, B. M. E., Corvallis, Ore.

Salesman.

Mildred Linville-Patterson, B. H. E., Baker City, Ore.

Edwina M. Avery-Powell, B. H. E., Salem, Ore.

Gordon C. Ray, B. M. E., Grass Valley, Cal.

Martin L. Spangler, B. M. E., San Francisco, Cal.

Engineer.

Lilly M. Read, B. H. E., Culver, Ore.

Teacher.

Clyde M. Phillips, B. M. E., Corvallis, Ore.

Instructor Mechanical Drawing and Iron Work, O. A. C.

V. Esther Simmons, B. H. E., Huron, Cal.

Teacher.

Joseph C. Smith, B. S. A., Corvallis, Ore.

Farmer.

Josie Moses-Trask, B. H. E., Yaquina City, Ore.

Henry H. Veatch, B. S. A., Cottage Grove, Ore.

Hardware Merchant.

Ida E. Ward, B. H. E., Albany, Ore.

Teacher.

Minnie A. Wilson, B. H. E., Corvallis, Ore.

Stenographer in First National Bank.

Marion F. Wood, B. S. A., Moscow, Idaho.

Teacher, Idaho Agricultural College.

Arthur W. Wood, B. M. E., California.

1897.

Ina Barclay-Bryan, B. H. E., Ontario, Ore.

Clarence L. Bump, B. M. E., Forest Grove, Ore.

Teacher.

Herbert J. Elliott, B. M. E., Perrydale, Ore.

Miller.

Robert E. Golden, B. M. E., Portland, Ore.

Physician.

Frank William Groves, B. M. E., Bremerton, Wash.

Head Store Clerk, U. S. Navy Yard, Puget Sound.

J. Wallace Harrison, B. M. E., Portland, Ore.

Railway Postal Clerk.

Edwin J. Hufford, B. S. A., Portland, Ore. (228 Sherman Street.)

B. S., '98; Bank Clerk.

William Thomas Johnson, B. S. A., St. Louis, Mo.
Student Marion-Sims Medical College.

Emma Martyn, B. H. E., Portland, Ore. (832 E. Twenty-eighth
Street.)

Milliner.

Harvey L. McAlister, B. S. A., Lexington, Ore.
Farmer.

Charles R. Porter, B. M. E., Grass Valley, Ore.
Merchant.

William H. Schmidt, B. S. A., San Francisco, Cal.
Merchant.

Charles E. Small, B. M. E., Corvallis, Ore.
Merchant.

Charles Otis Taylor, B. M. E., Halsey, Ore.
Farmer.

Ralph W. Terrell, B. M. E., Roseburg, Ore.
Clerk.

David Henry Bodine, B. S., Albany, Ore.
Farmer.

*Frank H. Crawford, B. S.

Thomas Chester Colt, B. S., Longmount, Colo.
Chemist with Kilby Manufacturing Company.

John Robert Cooley, B. S., Brownsville, Ore.
Secretary Eagle Woolen Mills.

Frank Sitton Fendall, B. S., Seattle, Wash.
Engineer.

Mary Edna Groves, B. H. S., Hood River, Ore.
Teacher.

Edith H. Gibson, B. H. S., Portland, Ore.

Music Teacher.

William J. Gilstrap, B. S., Sheridan, Ore.

Physician and Surgeon.

Hulda Holden-Guild, B. H. S., San Francisco, Cal.

Teacher.

Georgie Eleanor Hartless, B. H. S., Corvallis, Ore.

Lionel Alexander Johnson, B. S., Portland, Ore.

Special Correspondent, Oregonian.

Erwin J. Lea, B. S., Aiea, Oahu, Honolulu Territory.

M. S., '00; Chemist.

Emma D. Beach-Lingo, B. H. S., Sellwood, Ore. (612 Multnomah Avenue.)

Colista Margaret Murray, B. H. S., Portland, Ore. (245½ Morrison Street.)

Artist.

Charles F. McKnight, B. S., Marshfield, Ore.

Lawyer.

Sarah E. Morrison, B. H. E., Olympia, Wash.

Teacher.

Dora P. Porter, B. H. S., Moscow, Idaho.

Instructor in University of Idaho.

George L. Plummer, B. S., Elko, Nev.

Merchant.

Arthur J. Stimpson, B. S., Portland, Ore.

Postal Railway Clerk.

Myrtle Shonkwiler, B. H. S., Oregon City, Ore.

Teacher.

Laura Cauthorn-Smith, B. H. S., Corvallis, Ore.

Dennis H. Stovall, B. S., Grant's Pass, Ore.

Story Writer.

Ena Mabel Kyle-Swingle, B. H. S., Pendleton Ore.

Jesse A. Tharp, B. S., Portland, Ore.

Engineer.

Nettie Lyle Gellatly-Thayer, B. H. S., Astoria, Ore.

George E. Weaver, B. S., San Francisco, Cal. (14 Sansome Street.)

Lawyer.

1899.

*Leona Smith-Ainslie, B. H. S.

John G. Aldrich, B. S., North Yakima, Wash.

Hotel Clerk.

W. H. Beach, B. S., Oregon City, Ore.

Foreman, Spooling Department, Oregon City Woolen Mills.

Harry Beard, B. S., Salem, Ore.

Teacher, Chemawa Training School.

Ella M. Casto, B. H. S., Park Place, Ore.

Teacher.

Cleora Wells-Colt, B. H. S., Summerville, Ore.

Jessie V. Cox-Cooley, B. H. S., Brownsville, Ore.

Mabel Cora Davis, B. H. S., Corvallis, Ore.

B. S., '01; Pharmacist.

Fred Allan Edwards, B. S., Mayville, Ore.

Farmer.

Robert Gellatly, B. S., Philomath, Ore.
Diversified Farming.

Rosalie Greffoz, B. H. S., Portland, Ore.
Bookkeeper.

Fanny Getty, B. H. S., Coquille, Ore.
Teacher.

R. Henry Howell, B. S., Toledo, Ore.
County Assessor.

Jesse Huffman, B. S., Portland, Ore.
Architect.

Mary Jones, B. H. S., Corvallis, Ore.
Teacher.

Alice Josephine Kidder, B. H. S., Carlton, Ore.
B. S., '00.

Clara Lane, B. H. S., Corvallis, Ore.
Teacher.

Lyle Laurence-Levinger, B. H. S., Baker City, Ore.

Genevieve Lyford, B. H. S., Hawarden, Ia.
Kindergarten Teacher in Public School.

Horace McBride, B. S., Beaver Hill, Ore.
Clerk.

Idella Florence McBride, B. H. S., Shedd, Ore.

Frankie Cauthorn-McIntire, B. H. S., Athena, Ore.

Robert McKee, B. S., Salem, Ore.

Leslie Walter Murray, B. S., Philadelphia, Penn. (2807 N.
Ninth Street.)
Structural Steel Draftsman, Minitt & Company, 1026 Ridge
Avenue.

Woodson L. Patterson, B. S., Baker City, Ore.
Lawyer.

Loren T. Powers, B. S., Wallowa, Ore.
Farmer.

Esther Madeline Purdy, B. H. S., Corvallis, Ore.
Milliner.

Hubert A. Scoggin, B. S.

Nolan Smith, B. S., Dallas, Ore.
Farmer.

Minnie Leona Burnett-Wiley, B. H. S., Portland, Ore.

James C. G. Van Groos, B. S., Portland, Ore. (1298 E. Taylor
Street.)

Postal Railway Clerk.

John Van Groos, B. S., Portland, Ore.
Professor of Mathematics in Portland Academy.

Arthur Roy Woodcock, B. S., Corvallis, Ore.
M. S., '01; Bank Clerk.

Walter Carleton Abrams, B. S., Salem, Ore.
Statesman Reporter.

Edwin Burton Aldrich, B. S., Fossil, Ore.
Clerk.

Arthur Julius Bier, B. S., Portland, Ore.
Mechanic.

Harry Edward Buxton, B. S., Eugene, Ore.
Mechanic.

Minnie Maud Buxton, B. S., Portland, Ore.
Trained Nurse.

Reuben Davisson Burgess, B. S., San Francisco, Cal.
Medical Student.

William Ray Dilley, B. S., Corvallis, Ore.
Teacher.

James Grant Elgin, B. S., Corvallis, Ore.
Ex-County Recorder; Bookkeeper, Benton County Flouring
Mills.

Inez Fuller, B. S., Portland, Ore.
Clerk.

Arthur Homer Frazier, B. S., Pendleton, Ore.
With the O. R. & N. Railroad Company.

Joseph Gilbert Garrow, B. S., Hazel Creek, Cal.
Lumberman.

Wilbur William Garrow, B. S., McCloud, Cal.
Hotel Proprietor.

John Hubert Gallagher, B. S., Houghton, Mich.

Joyce Lillian Hershner, B. S., Condon, Ore.
Teacher.

Garlin Hill, B. S., Pomeroy, Wash.
Teacher.

Edwin Scott Harris, B. S., Elgin, Ore.
Pharmacist.

Meldora Jackson, B. S., Hoskins, Ore.
Teacher.

Herbert Eugene Junkin, B. S., Portland, Ore. (735 Bush Street.)
Clerk, Accounting Department, O. R. & N. Company.

Fred Kruse, B. S., Marshfield, Ore.

Aubert Leavens, B. S., Portland, Ore. (512 Albina.)

Florence Maxfield, B. S., Corvallis, Ore.

Teacher.

John Elmer McBride, B. S., Shedd, Ore.

Teacher.

James Cowing McCaustland, B. S., Spokane, Wash.

Manager, Land Department, Hay Brothers.

Leigh Alonzo Noel, B. S., Gardner, Ore.

Farmer.

Letitia Ownsbey, B. S., Oregon City, Ore.

Thomas Edward Palmer, B. S., San Francisco, Cal. (929 O'Farrell Street.)

Collector, Tesla Coal Company, Tenth and Channel Streets.

Hugh Elmer Penland, B. S., Eugene, Ore.

Physician.

Elsie Mathilde Rueter, B. S., Portland, Ore.

Stenographer and Bookkeeper.

Lillian Ada Ranney, B. S., Corvallis, Ore.

Student in Music.

Etta Agnes Smith, B. S., Corvallis, Ore.

Teacher.

Charles Alfred Saunders, B. S., Oakland, Cal. (1161 E. Fifteenth Street.)

Machinist, Pacific Steel & Wire Company, East Oakland.

Mira Eva Starr, B. S., Corvallis, Ore.

Fred Cecil Walters, B. S., Elmira, Lane County, Ore.

Lumberman.

Glenn Winslow, B. S., Pendleton, Ore.
Jeweler.

1901.

Lizzie Hoover-Bowerman, B. S., Condon, Ore.

Ivan C. Brown, B. S., Portland, Ore.
Railway Postal Clerk.

Ivy Grace Burton, B. S., Independence, Ore.
Teacher.

Alfred Campbell, B. S., Ballston, Ore.
Farmer.

Fred LeRoy Colvig, B. S., Grant's Pass, Ore.
Druggist.

Carrie Agnes Danneman, B. S., Clem, Ore.
Teacher.

Myrtle Vine Herbert, B. S., Corvallis, Ore.
Dressmaker.

Stanley Darle Herbert, B. S., Whitney, Ore.
Civil Engineer with Sumpter Valley Railroad Company.

William Bennett Hillman, B. S., Pittsburg, Penn.
With Westinghouse Company.

Esther Blanche Holden, B. S., Oregon City, Ore.
Teacher.

Maud Hoover, B. S., Fossil, Ore.

Charles Herbert Horner, B. S., Condon, Ore.
Postal Clerk.

Mabel Lenore Jones, B. S., Brooks, Ore.

Martin Luther Johnson, B. S., Portland, Ore. (635 E Ninth Street.)

William Sumner Junkin, B. S., Portland, Ore.
Lineman.

Leo J. Kraps, B. S., Salem, Ore.

Ethel Blond Kyle, B. S., Corvallis, Ore.
Teacher in Corvallis High School.

Bessie Lea Michael, B. S., Rochester, N. Y.
Stenographer.

William L. Pate, B. S., Plainview, Ore.
Farmer.

Ernest Winfield Redd, B. S., Portland, Ore.
Druggist.

Blanche Eglantine Riddle, Riddle, Ore.
Teacher.

Edgar Raymond Shepard, B. S., Berkeley, Cal.
Student, University of California.

Bessie Gertrude Smith, B. S., Salem, Ore.
Teacher in Salem Public School.

Fred Newton Stump, B. S., Eugene, Ore.
Student, University of Oregon.

John Louis Stalker, B. S., Carson, Ore.

Henrietta Campbell-Van Groos, B. S., Portland, Ore. (1298 E. Taylor Street.)

Frank S. Ward, B. S., Salem, Ore. (122 State Street.)
Pharmacist.

Grace Michael-Wallace, B. S., Rochester, N. Y. (165 East Ave.)

John Thomas Wiley, B. S., Portland, Ore.

Marcus Clyde Williams, B. S., Independence, Ore.
Druggist.

Flora Wilson, B. S., Canyonville, Ore.

Mabel Withycombe, B. S., Corvallis, Ore.

Thomas Robert Withycombe, B. S., Union, Ore.
Assistant in Eastern Oregon Experiment Station.

1902.

Ina Pearl Allen, B. S., North Yamhill, Ore.
Teacher.

Augustus M. Alspaugh, B. S., Eagle Creek, Ore.
Timekeeper for Winters, Parsons & Boomer, Railroad Contractors.

Frances Edna Belknap, B. S., Wasco, Ore.
Teacher.

Ralph Billings, B. S., Ashland, Ore.
Farmer.

Marion Forrest Bridges, B. S., Schenectady, N. Y.
Tester, General Electric Company.

Thomas Bilyeu, B. S., Ithaca, N. Y.
Student, Cornell University.

Gertrude Elizabeth Ewing, B. S., Wasco, Ore.
Teacher.

Rena Jane Garrett, B. S., Corvallis, Ore.
Teacher.

Wilford Edmond Hanley, B. S., Hillsboro, Ore.
Farmer.

*Fred Chauncey Houston.

Roy P. Howard, B. S., Des Moines, Ia.
Student, Drake University.

Chester W. Laughlin, B. S., Gray's River, Wash.
Clerk.

Noble William Leadbetter, B. S., Corvallis, Ore.
Solicitor for Columbia Publishing House, Chicago.

Harry Lindon Lusted, B. S., Cotterell, Ore.
Engineer.

Kirby Alexander MacLean, B. S., Phoenix, Ariz.
Civil Engineer with Arizona Southern Railroad.

Alexander Edward McGillivray, B. S., Portland, Ore.
Clerk 275 Russell Street, with Watts-Matthiew Company.

Christal Miner, B. S., Olex, Ore.
Teacher.

Leroy Garfield Mattley, B. S., Union, Ore.
Assistant at Eastern Oregon Experiment Station.

Maud Mattley, B. S., Corvallis, Ore.
Teacher.

*Edward Rosendorf, B. S.

Ethel F. Smith, B. S., Salem, Ore.
Druggist.

Malinda Alice Small, B. S., Silver Lake, Ore.

Victor C. Spencer, B. S., Portland, Ore. (395 E. Burnside
Street.)
Druggist.

Elizabeth Ney St. Germain, B. S., Buckingham, Wash.
Teacher.

- Maud Sturgeon, B. S., Tillamook, Ore.
Pharmacist.
- John Eliphalet Smith, B. S., Eugene, Ore.
- Orla Thompson-Stimpson, B. S., Portland, Ore. (640 Belmont Street.)
- James Franklin Scott, B. S., Tangent, Oregon.
- Fred Steiwer, B. S., Eugene, Ore.
Student, State University.
- George Harris Thompson, B. S., Macleay, Ore.
Farmer.
- Herman Vance Tartar, B. S., Portland, Ore.
Chemist with Oregon Dairy and Food Commission.
- Arthur Edgar Tully, B. S., Wallowa, Ore.
Dairyman.
- William Van Groos, B. S., San Francisco, Cal.
- Edith Slayton Howard-Zurcher, B. S., Enterprise, Ore.

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- Mabel Maud Abbe, B. S., Summit, Ore.
Teacher.
- Clauda Leola Anderson, B. S., Lents, Ore.
Teacher.
- Edith Jane Berthold, B. S., Olex, Ore.
Teacher.
- Edward Benjamin Beaty, B. S., Portland, Ore.
Instructor of Mechanical Drawing and Manual Training,
Bishop Scott Academy.

Samuel Lewie Burnaugh, B. S., Enterprise, Ore.
Druggist.

Claude Buchanan, B. S., Inavale, Benton County, Ore.
Farmer and Stockraiser.

Leolene Rosamond Chipman, B. S., Corvallis, Ore.

Laura Lillian Chipman, B. S., Corvallis, Ore.

Elsie May Canfield, B. S., Dallas, Ore.
Lady Dean; also Professor of Science, Dallas College.

Sibyl Alice Cummings, B. S., Shaw, Ore.
Teacher.

Ada Eudora Finley, B. S., Bruce, Ore.
Teacher.

Albert David Gerking, B. S., Stayton, Ore.
Farmer.

Beulah Harden, B. S., Stayton, Ore.

Alice Odalite Horning, B. S., Silver Lake, Ore.

Grace Whiteman-Hansen, B. S., Albany, Ore.

William David Jamieson, B. S., Portland, Ore. (446 E. Everett Street.)
Electrician.

John Edwin Johnson, B. S., Vale, Ore.
Surveyor.

Lillian Johnson, B. S., Vale, Ore.

Viola Ethel Johnson, B. S., Vale, Ore.

Ethel Eleanor Linville, B. S., Corvallis, Ore.

Byram Mayfield, B. S., Enterprise, Ore.

Pharmacist.

Effie Laurie Michael, B. S., Corvallis, Ore.

Stenographer.

Floyd Francis Millhollen, Portland, Ore. (574 First Street.)

Druggist.

Joseph Paulson, B. S., University Park, Portland, Ore.

Electrician.

Harvey Pugh, B. S., Shedd, Ore.

Farmer.

Emma Imogen Rusk, B. S., Portland, Ore.

Cashier with Woodard-Clarke Company.

Ida Mae Smith, B. S., Salem, Ore.

Teacher.

Minnie Grace Smith, B. S., Latourell Falls, Ore.

Teacher.

Irving Melville Underwood, B. S., Sherar's Bridge, Wasco, Ore.

Farmer.

Walter Stanley Wells, B. S., Portland, Ore. (395 E. Burnside Street.)

Druggist.

Elmer Gifford Wicklund, B. S., Caldwell, Idaho.

Nurseryman.

IN MEMORY.

LEONA SMITH-AINSLIE, born in Corvallis, Oregon, September 27, 1881. B. H. S., 1899. Completed a course of music at St. Helen's Hall. Married to Dr. George Ainslie, of Portland, Oregon, March 12, 1903. Spent several months in Europe. Died in Corvallis, Oregon, August 18, 1903.

THOMAS C. ALEXANDER, born in Corvallis, Oregon, 1852. B. S., 1871. Occupation, lawyer. Died in Corvallis, 1884.

JOHN R. BRYSON, born in Linn County, Oregon, August 9, 1854. B. S., 1874. Occupation, attorney at law. Married Mary C. St. Clair, Corvallis, Oregon. Died in New York City, May 21, 1897.

ROBERT G. BUCHANAN, born in Benton county, Oregon, January 17, 1867. B. S., 1889. Occupation, farmer. Died, January 5, 1892, in the room in which he was born.

WILLIAM C. CRAWFORD, born in Arkansas, May 13, 1850. Crossed the plains in 1870. Graduated in moral philosophy and mathematics in 1874. Occupation jeweler. Married Miss Viola Briggs, Corvallis, Oregon. Died in Portland, Oregon, April 17, 1900.

LEWIS E. COOPER, born in Corvallis, Oregon, October 22, 1876. B. S. A., 1896. Occupation, teacher. Was president of Benton county Endeavor society. Died in Alsea, Oregon, August 22, 1898.

FRANK H. CRAWFORD, born in Salem, Oregon, December 9, 1877. Completed mechanical course with degree of B. S., 1898. Pursued graduate course one year. Occupation, engineer. Died in Corvallis, Oregon, August 13, 1899.

JOHN B. EGLIN, born in Valparaiso, Indiana, March 26, 1853. B. S., 1872. Admitted to the bar, March, 1875. Law partner of Judge W. R. Willis, Roseburg, Oregon. Married Clara M. Thayer, Corvallis. Died in The Dalles, Oregon, November 14, 1877.

FRED CHAUNCY HOUSTON, born on the Mohawk, Lane county, Oregon, June 22, 1882. B. S., 1902. Assistant Eastern Oregon Experiment Station, Union, Oregon, where he died May 11, 1904.

FANNIE KENDALL-HENKLE, born in Illinois, November 20, 1850. Crossed the plains in 1852. Spent her childhood near Oak Ridge, Benton county, Oregon. B. S., 1871. Married to George W. Henkle, November 15, 1871. Died in Corvallis, Oregon, August 21, 1873.

- ALONZO JACOB LOCKE, born on Locke donation claim, Benton county, September, 1848. B. S., 1872. Occupation, farmer and civil engineer. Married Miss Nancy Holman, June 20, 1879. Elected county surveyor. Died near Corvallis, Oregon, May 2, 1904.
- ISAAC JACOBS, born in Corvallis, Oregon, April 18, 1859. B. S., 1876. Occupation, merchant. Died in Corvallis, March 9, 1879.
- JESSIE LEE TAYLOR-LESH, born in Columbus, Mississippi, December 8, 1863. B. S., 1881. Married W. H. Lesh in St. Paul, Minnesota, 1886. Died in Portland, Oregon, December, 1900.
- ELSIE LONG-IRION, born in Illinois, January 13, 1877. Orphan at six. In her eleventh year made her way to Oregon. B. H. E., 1895. Occupation a teacher. Married to H. T. Irion, principal of high school, Elberton, Washington, April, 1902. Died at Elberton, April 7, 1904.
- WILLIAM E. NEWTON, born in Benton county, Oregon, July 4, 1863, A. B., 1884. Occupation, Physician. Married Miss Mamie Frink, Spokane Falls, Washington, 1888. Died in Corvallis, Oregon, March 31, 1901.
- WILLIAM RILEY PRIVETT, born in Missouri, 1847. B. S., 1871. Married Miss Mary Shelton, Linn county, Oregon, 1874. Occupation, teacher. School superintendent of Baker county several terms. Died at Baker City, Oregon, April, 1901.
- EMMA THAYER-RICE, born in Benton county, July 2, 1857. B. S., 1874. Married S. W. Rice December 25, 1878. Died in San Francisco, California, January 22, 1891.
- EDWARD ROSENDORF, born in Tombstone, Arizona, January 26, 1882. B. S., 1902. Occupation, pharmacist. Pursued medical course in University of Pennsylvania, where he died of pneumouia, March 6, 1904.
- OTTO WELLS, born in Corvallis, Oregon, January 6, 1870. B. S., 1890. Assistant in chemical department of O. A. C. Graduated from New York college of pharmacy, 1893. Same year became a member of the firm of Graham & Wells, druggists and book-sellers, of Corvallis, which partnership continued until his death, May 19, 1895.
- JESSE WILKINS, born in Choctaw county, Alabama, September, 19, 1858. B. S., 1889. Occupation, hotel keeper. Married Miss Estella Hey, Hubbard, Oregon, 1891. Drowned near Skagway, Alaska, February 5, 1898.
- EARNEST WHITE, born in Mississippi, 1861. A. M., 1879. Died in Albany, Oregon, 1881.

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