1-1-1906

1906-1907 Course Catalog

University of Montana--Missoula. Office of the Registrar

BULLETIN, UNIVERSITY OF MONTANA, NO. 42
ISSUED QUARTERLY, JUNE, 1907

THE UNIVERSITY OF MONTANA

REGISTER, 1906-7

Entered August 24, 1901, at Missoula, Montana, as second class matter, under act of Congress July 16, 1894

UNIVERSITY OF MO

THE

TWELFTH REGISTER

OF THE

UNIVERSITY OF MONTANA

MISSOULA, MONTANA

1906-1907

WITH AN OUTLINE OF THE COURSES OF STUDY AND THE DEPARTMENTS OF INSTRUCTION FOR 1907-1908

MISSOULA, MONTANA
MISSOULIAN PUBLISHING COMPANY
1907

COLLEGE CALENDAR FOR 1907-1908

1907

Entrance Examination, Monday, September 9.
Registration Day, Tuesday, September 10.
Instruction begins Wednesday, September 11, 8:30 A. M.
Thanksgiving Vacation begins Wednesday, November 27, 12:30 P. M.
Thanksgiving Vacation ends Monday, December 2, 8:30 A. M.
Christmas Holidays begin Friday, December 20, 4:00 P. M.

1908

Christmas Holidays end Tuesday, January 7, 8:30 A. M.
First Semester ends Friday, January 24.
Registration Day, Second Semester, Tuesday, January 28.
Instruction begins Wednesday, January 29, 8:30 A. M.
Charter Day, Friday, February 14.
Annual Entertainment of the Hawthorne Society, Friday, February 28, 8:30 P. M.
Annual Entertainment of the Clarkia Society, Friday, March 6, 8:30 P. M.
Annual Recital, Department of Elocution and Physical Culture, Friday, April 3, 8:30 P. M.
Oratorical Contest, Preliminary to State Contest, Friday, April 17, 8:30 P. M.
Interscholastic Meet, Wednesday, Thursday, Friday and Saturday, May 13, 14, 15 and 16.
Instruction ends Friday, May 29.
Prize Contest in Declamation, Preparatory Students, Friday, May 29, 8:30 P. M.
H. N. Buckley Oratorical Contest, Saturday, May 30, 8:30 P. M.
Baccalaureate Day, Sunday, May 31.
Annual Recital, School of Music, Monday, June 1, 8:30 P. M.
Class Day, Tuesday, June 2.
Annual Lecture before Literary Societies, Tuesday, June 2, 8:30 P. M.
Field Day, Wednesday, June 3.
Alumni Reunion, Wednesday, June 3, 8:30 P. M.
Commencement, Thursday, June 4, 10:30 A. M.

CALENDAR, 1907-8

1907

JULY.

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1908

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Montana State Board of Education

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ALBERT J. GALEN, Attorney General.
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APPOINTED

JOHN M. EVANS, Missoula	Term	Expires	February	1, 1910
CHARLES R. LEONARD, Butte	"	"	"	1, 1910
O. W. McCONNELL, Helena	"	"	"	1, 1911
E. O. BUSENBERG, Lewistown	"	"	"	1, 1911
O. P. CHISHOLM, Bozeman	"	"	"	1, 1908
S. D. LARGENT, Great Falls	"	"	"	1, 1908
CHAS. N. KESSLER, Helena	"	"	"	1, 1909
G. T. PAUL, Dillon	"	"	"	1, 1909
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EXECUTIVE COMMITTEE OF THE STATE UNIVERSITY

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T. C. MARSHALL, Secretary	Missoula
HIRAM KNOWLES	Missoula

THE FACULTY

OSCAR J. CRAIG, Ph. D. . . . University Place, University Avenue

President.

A. B., Asbury University, 1881; A. M., De Pauw University, 1884; Ph. D., University of Wooster, 1887; Superintendent of City Schools, Sullivan, Indiana, 1881-1883; Professor of History and Political Economy in Purdue University, 1883-1895; President of University of Montana since 1895.

CYNTHIA ELIZABETH REILEY, B. S. . . . 120 S. 5th St. West

Professor of Mathematics.

B. S., Glasgow College, Ky., 1889; Student at Moore's Hill College, Ind., National Normal University, Ohio, and Cornell University; Principal of Schools, Alexandria and Ft. Thomas, Ky.; Teacher in High School, Missoula; Professor of Mathematics, University of Montana since 1895.

W. M. ABER, A. B. . . . . No. 26 Hammond Block

Professor of Latin and Greek.

Graduate from Normal School at Oswego, N. Y., 1872, and from Yale in 1878; Graduate Student at Johns Hopkins, Cornell and University of Chicago; taught in Oswego Normal School and University of Utah; Professor of Latin and Greek in University of Montana since 1895.

FREDERICK C. SCHEUCH, B. M. E., A. C. . . 309 S. 5th St. West

Professor of Modern Languages and Secretary of the Faculty.

Attended Public Schools, Barcelona, Spain; Graduate Gymnasium, Frankfurt on the Main, Germany; B. M. E., Purdue University, 1893; A. C., same, 1894; Professor of Modern Languages and Secretary of the Faculty, University of Montana, since 1895.

MORTON JOHN ELROD, Ph. D. . . . . 205 S. 5th St. East

Professor of Biology.

B. A., Simpson, 1887; M. A., Simpson, 1890; M. S., Simpson, 1898; Ph. D., Illinois Wesleyan University, 1905; Adjunct Professor of Science, Illinois Wesleyan University, 1898-9; Professor of Biology and Physics, Illinois Wesleyan University, 1891-7; Professor of Biology, University of Montana, since 1897; Director University of Montana Biological Station since 1899.

FRANCES CORBIN, B. L. . . . . Woodford Street

Professor of Literature.

Chicago Woman's College, 1885-1887; New York State Normal School, Graduated 1888; Student in Vassar College, 1890-1892; B. L., Ohio College, 1902; Student in Harvard Summer School, 1904; Teacher of Literature, Butte High School and Principal Butte High School, 1893-1900; Professor of Literature, University of Montana since 1900.

WILLIAM D. HARKINS, A. B., Ph. D. . . . . 521 E. Pine St.

Professor of Chemistry.

Graduate of the Department of Chemistry, Stanford University, 1900; Graduate Student, University of Chicago, 1901 and 1904; Graduate Student, Stanford University, 1905-1906; Assistant in Chemistry, Stanford University, 1898-1900; Instructor in Analytical Chemistry, Stanford University, 1900; Professor of Chemistry, University of Montana since 1900.

JESSE PERRY ROWE, Ph. D. . . . . 118 S. 4th St. West

Professor of Physics and Geology.

B. S., University of Nebraska, 1897; M. A., 1903; Ph. D., 1906; Student, University of Oregon, 1893; Student, University of California, summer 1901; Student, Chicago University, summer 1905; Assistant in Geology, University of Nebraska, 1894-7, Fellow and Instructor, 1897-8; Assistant Principal High School, Butte, Montana, 1898-9; Principal Lincoln School, Butte, Montana, 1899-00; Instructor in Physics and Geology, University of Montana, 1900-1, Professor of Physics and Geology, since 1901; Director University of Montana Geological Survey since 1902; Assistant United States Geological Survey, 1906.

ROBERT SIBLEY, B. S. . . . . University Avenue

Professor of Mechanical and Electrical Engineering.

Graduate Los Angeles High School, 1898; Graduate College of Mechanics, University of California, 1903; Electrical Engineer for Mariposa Mining Co., Mariposa, Cal., June-Sept. 1903; Instructor University of California, Sept.-Oct. 1903; Professor of Mechanical Engineering, University of Montana, 1903-1906; Professor Mechanical and Electrical Engineering, University of Montana since 1906.

WILLIAM FREDERICK BOOK, Ph. D. . . . . 522 S. 2d St.

Professor of Psychology and Education.

A. B., Indiana University, 1900; Ph. D., Clark University, 1906; Graduate Student Chicago University, 1901; Fellow in Psychology, Clark University, 1903-06; Principal High School, Princeton, Indiana, 1900-03; Lecturer in Psychology Summer School, Indiana University, 1907; Professor of Psychology and Education, University of Montana since 1906.

JAMES S. SNODDY, A. M. . . . . 212 South 5th St. East

Professor of English and Rhetoric.

B. L., University of Missouri, 1885; A. M., University of Nebraska, 1898; Graduate Student, University of Chicago, Winter Session, 1893-94, Summer Sessions, 1895, 1896, 1899; Stanford University, 1902-03; Assistant Librarian, University of Missouri, 1885-87; Instructor, high school, Westport, Missouri, 1888-91, and Educational Institute, Kansas City, Missouri, 1891-93; Instructor in English, Woodson Institute, Richmond, Missouri, 1894-97; Teaching Fellow in English, University of Nebraska, 1897-98; Instructor in English, State Normal School, Valley City, North Dakota, 1898-1902; University of Montana since 1904.

JOSEPH HARDING UNDERWOOD, M. A., Ph. D. . 304 South 2d St.

Professor of History and Economics.

B. A., Western College, 1902; M. A., State University of Iowa, 1904; Ph. D., Columbia University, 1907; Student, Shenandoah Institute, Virginia, Central College, Kansas, Western College, Iowa, Mt. Morris College, Illinois, Beloit College, Wisconsin; Graduate Scholar in Economics, State University of Iowa, 1902-03; Fellow in Economics, State University of Iowa, 1903-04; University Fellow in Sociology, Columbia University, 1904-05; Student Chicago School of Philanthropy, 1906; Instructor in English and History, Nora Springs, (Iowa) Seminary, 1905-06; Professor of History and Political Science, Leander Clark College, Iowa, 1906-07; Professor of History and Economics, University of Montana, 1907.

ELOISE KNOWLES, Ph. B. . . . . South 2d St. West

Instructor in Drawing.

Boston Art School, 1892-1893; Ph. B., University of Montana, 1898; Chase Art School, Shinnecock Hills, 1899; School of Education, University of Chicago, 1904; Art Institute, Chicago, 1904; abroad part of 1903 and 1906; Instructor in Drawing since 1898.

MRS. BLANCHE WHITAKER . . . . . 322 South 5th St. East

Director School of Music.

Educated in England in Private Schools, taking by examination the Degree of Associate in Arts of the University of Oxford. Her musical training was under Dr. Cedric Bucknall and Edward Roeckel. Her professional career began in 1888, and she has been Dean of Music in the University of Montana, since 1896.

RUTH ELISE KELLOGG, M. O. . . . . 310 South 5th St. East

Instructor in Elocution and Physical Culture.

M. O., Manning College of Oratory, Dramatic Art and Music, 1900; Instructor in Elocution, University of Montana since 1901.

FREDERICK WILLIAM SCHULE, A. M. . . . . 522 South 2d St.

Director of the Gymnasium.

B. S., University of Wisconsin, 1901; Bacteriologist, Chicago Sanitary District, 1901; Teacher of Science, Wausau, Wisconsin, High School, 1902-1903; A. M., University of Michigan, 1904; Director of Gymnasium, University of Montana since 1905.

ALICE YOUNG, B. L. . . . . Woman's Hall, University Grounds

Dean of Women.

B. L., University of Minnesota, 1896; Teacher in Public Schools, Indianapolis, San Diego and Duluth, 1881-1893; Assistant and Instructor in English, University of Minnesota, 1894-1900; Dean of Women and Assistant Professor of English, University of Iowa, 1900-1903; Dean of Women and Registrar, University of Iowa, 1903-1904; Dean of Women, University of Montana since 1905.

GERTRUDE BUCKHOUSE, B. S. . . . . 120 South 5th St. West

Librarian.

B. S., University of Montana, 1900; Illinois State Library School, 1900-1901; Special Course in Government Documents, Wisconsin State Library Commission, 1902; Librarian, University of Montana, since 1902.

FRED E. BUCK, B. S. . . . . 124 South 5th St. West

Assistant, Mechanical Engineering.

ANNA F. CARTER, B. S. . . . Woman's Hall, University Grounds

Assistant in Preparatory School.

RALPH GILHAM . . . . . 204 South 6th St. West

Laboratory Assistant in Chemistry.

JOSIAH MOORE . . . . . 328 University Avenue

Laboratory Assistant in Biology.

JOSEPH W. STREIT . . . . . 124 South 5th St. West

Laboratory Assistant in Physics.

CHARLES S. DIMMICK . . . . . 501 Worden Avenue

Laboratory Assistant in Mechanical Engineering.

COMMITTEE ON GRADUATE WORK.

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Aber, Knowles, Young.

COMMITTEE ON STUDENT AFFAIRS.

The President, Rowe, Corbin, Scheuch, Harkins.

COMMITTEE ON ATHLETICS.

Schule, Book, Kellogg.

COMMITTEE ON PUBLIC PERFORMANCES.

Snoddy, Kellogg, Corbin.

GENERAL INFORMATION

HISTORICAL SKETCH

The University of Montana had its origin in a grant of seventy-two sections of land made by the federal government to the state of Montana for University purposes. It was provided that the land should be used to form a principal that could never be diminished, and the income from which would form a fund to be applied to the maintenance of the University.

The land selected for the University was amongst the best in the state, and as a result it almost at once began to bring in a revenue. This revenue arises from three sources —leases, licenses to cut timber and the interest arising from the investment of money derived from the sale of lands. It was in this way that the money was accumulated that was used for opening the University in 1895.

The legislative act providing for the organization of the University bears date of February 17, 1893. In accordance with the provisions of the state constitution this act placed the University under the control of the State Board of Education. This act also gave general directions concerning the organization of the different departments of the University, the courses of instruction, duties of the president, fees, etc.

At the December meeting, 1894, the University committee of the State Board of Education reported in favor of opening the University in September, 1895. In order to facilitate the opening of the University the citizens of Missoula donated the use of their elegant and commodious South Side public school building to the state until permanent buildings could be constructed. About $3,500 was spent in improving this building and in putting it in proper order for the use of the state. The amount was raised by special tax, levied for this purpose.

A local executive committee was appointed to assist the board in their work. This commitee consisted of J. H. T. Ryman, Judge Hiram Knowles and Col. T. C. Marshall, all of Missoula. This committee has served until the present time without any change in its membership.

The University was formally opened with appropriate ceremonies on Wednesday, September 11, 1895.

Arbor Day, 1896, is a memorable date in the history of the University. On this day the beautiful grounds, donated to the state by Mr. E. L. Bonner and Mr. F. G. Higgins, were dedicated to University purposes. The grounds, comprising forty acres, had already been fenced by the Missoula Board of Trade. Five hundred shade trees were planted. These exercises were participated in by a large concourse of school children, civic societies and citizens.

The Legislative Assembly of 1897 gave the University authority to issue bonds to the amount of $100,000, bearing not more than 6 per cent interest, due in thirty years and payable in twenty. These bonds are secured by the income from the University land.

The bonds were sold at a premium, a building commission appointed, and the work of constructing the buildings vigorously pushed to completion.

An ample sewerage system was planned and completed, and an abundant water supply secured.

Two buildings were then constructed, one known as University Hall, containing the library, museum, biological lecture room and laboratory, president's office, assembly room, literature, etc.; the other, known as Science Hall, contains the necessary rooms for work in chemistry, physics and mechanical engineering. Science Hall also contains the steam plant for heating the buildings and furnishing power for the mechanical laboratory.

The interiors were planned with especial reference to the present needs of the University as indicated by the work already in progress, as well as to anticipate future demands. These buildings were completed and formally presented to the State Board of Education, February 18, 1899.

The Legislative Assembly of 1901 authorized the issuing of $70,000 additional in 5 per cent bonds, due in thirty years and payable in twenty. It was also provided that $40,000 of these bonds should be issued at once and the remainder at the discretion of the State Board of Education. With the proceeds of this bond issue a Woman's Hall and a Gymnasium were erected and equipped.

Before the $30,000 issue was sold the Attorney General of Montana gave an opinion, which was sustained by the Supreme Court of Montana and also by the Supreme Court of the United States, that the income from the lands could not be applied to the interest on bonds, but must be devoted to the maintenance of the University.

In accordance with this decision the General Assembly of 1907 passed an act looking towards the assuming of this bonded debt by the state, and the payment of the interest due. An act was also passed granting the University an appropriation of $50,000 for a Library building, and $10,000 for the enlargement of the heating plant and other improvements.

THE UNIVERSITY CAMPUS

The University Campus is forty acres in extent, and lies near the southeastern limit of the city of Missoula, at the base of the hills which enclose the eastern end of the valley. To the north lies the Missoula river; westward stretches a wide plain, whose western and southern horizons are bounded by the Bitter Root Mountains. A substantial beginning has been made toward the improvement of the campus. A double row of trees was planted along the north, west and south sides ten years ago. Near the center an oval lawn of about three acres in extent is marked out by a broad graveled driveway; around this is a sidewalk, with a space between the walk and the driveway for grass, flowers and shrubbery. The entrance to this driveway is at the western side, from University avenue.

A double row of trees is planted around the drive, one on the lawn around the inner edge of the drive, the other on the outer side of the walk. The trees and the lawns started around the buildings and within the oval have made an excellent growth and already present a beautiful appearance.

BUILDINGS

University Hall, the largest building, stands on the east side of the oval, directly opposite the entrance to the driveway, facing the west. A little to the south stands Science Hall, which faces toward the northwest, and like University Hall, fronts upon the oval.

University Hall is 140 by 65 feet in its ground dimensions, and its central tower rises to a height of one hundred and twelve feet. This building has four floors, including the basement, which is so largely above the ground as to be well lighted and fit for any sort of use. The basement walls are of granite; above rise double brick walls of the most substantial character; the inner partition walls are also of brick.

Throughout the building, from basement upwards, is a

uniform handsome finish of dark tamarack and white pine wainscoting, in alternate strips; above this are white plaster walls.

The whole building contains thirty-one rooms, without including six small rooms in the rear of the Assembly Hall—three on the second and three on the third floor. These rooms furnish a passageway from one end of the building to the other, without going through the Assembly Hall, and may also serve as cloak rooms; those on the second floor give access from the rear to the platform of Assembly Hall.

The most important of these rooms in University Hall are the Assembly Room, Library, Museum, Literary Society Hall, Offices, Biological Laboratory and seven lecture rooms of uniform size, for the departments of History, Drawing, Biology, Mathematics, Literature, Modern Languages and Ancient Languages.

Science Hall contains in the first floor eight rooms, a lecture room and laboratory for the department of Physics, and an office, a drawing room, a wood working shop, a machine shop, a forge room and a foundry room for the Department of Mechanical Engineering. The chemical and geological laboratories, and chemistry lecture room are on the second floor.

In the basement are the boilers for the heating plant of all the buildings and the engine which runs the machinery of the shops.

The Woman's Hall was constructed to furnish a home for students. It is 136 by 46 feet in its ground dimensions and has four floors, including the basement, which is so largely above ground as to be well lighted and fit for any use.

In the basement are the dining room, laundry room, storage rooms, etc. The first floor contains the office, parlors and some students' room. The second and third floors are entirely devoted to students' rooms. On each floor are closets and bath rooms. The entire building is well furnished and amply supplied with electric lights, steam heat and every sanitary convenience. It is designed to accommodate 72 students.

The Gymnasium, north of University Hall, is 114 by 58 feet in its ground dimensions. The main unbroken gymnasium floor is 114 by 43 feet. In the rear of this are the dressing and bath rooms for men and for women. These are supplied with hot and cold water, and the building is lighted

by electric lights and heated with steam radiators. In the rear of the building, facing the track and athletic grounds, is a commodious and comfortable grandstand.

THE UNIVERSITY AND ITS ENDOWMENT

The University of Montana was created by an act of the Montana State Legislature, approved February 17, 1893. The following extracts give the title of the act, and also certain sections that indicate the purpose of the University and the scope of its work.

"An Act to establish, locate, maintain and govern the University of the State of Montana.

"Section 1. There is hereby established in this State at the City of Missoula an institution of learning under the name of and style of the University of Montana."

"Section 6. The object of the University of Montana shall be to provide the best and most efficient manner of imparting to young men and young women on equal terms, a liberal education and a thorough knowledge of the different branches of Literature, Science and the Arts, with their varied applications; and to this end there shall be established the following colleges or departments, to-wit:

"First—A Preparatory Department.

"Second—A Department of Literature, Science and the Arts.

"Third—Such professional and technical colleges as may from time to time be added to or connected therewith.

"The Preparatory Department may be dispensed with at such date and in such wise as may seem just and proper to the State Board of Education.

"Section 7. Such duties or courses of instruction shall be pursued in the Preparatory Department as shall best prepare the students to enter any of the regular colleges or departments of the University.

"The college or department of Literature, Science and the Arts shall embrace courses of instruction in Mathematical, Physical and Natural Sciences with their applications to the Industrial Arts; a liberal course of instruction in the Languages, Literature, History, Philosophy, and such other

branches as the State Board of Education may prescribe. And, as soon as the income of the University will allow, and in such order as the demands of the public seem to require, the said courses of instruction in the Sciences, Literature and the Arts shall be expanded into distinct colleges or departments of the University, each with its own faculty and appropriate title."

"Section 9. Tuition shall ever be free to all students who shall have been residents of the State for one year preceding their admission; except in the Law and Medical Departments, and for extra studies. The State Board of Education may prescribe rates of tuition for any student in the Law or Medical Department, or who shall not have been a resident as aforesaid, and for teaching such studies."

ENDOWMENT

"Section 10. For the support and the endowment of the University there is annually and perpetually appropriated—

"First—The University Income Fund and all other sums of money appropriated by law to the University Income Fund.

"Second—All tuition and matriculation fees.

"Third—All such contributions as may be derived from public or private bounty.

"Section 11. Any person contributing a sum not less than fifteen thousand dollars ($15,000) shall have the privilege of endowing a professorship in the University, or any department thereof, the name and object of which shall be designated by the State Board of Education."

By an act of Congress dated February 18, 1892, 46,080 acres of land were donated to the State of Montana for University purposes. This land was granted by the Federal Government upon condition that the proceeds from the sale of such land should become a permanent University fund.

The University lands have all been selected. They comprise some of the best lands in the state and are rapidly increasing in value.

THE LIBRARY

Until the Library building is erected the General Library is housed in a large well lighted room on the first floor of University Hall. The Library contains 18,400 volumes and 7,800 pamphlets. It is open six days in the week. From Monday until Friday, the hours are from 8:30 a. m. to 4:30 p. m.; Saturday from 9 a. m. to 12 noon.

Students have free access to the shelves and the right to draw out books from the Library for home use.

The system of department libraries prevails to a limited extent, small collections of books specially needed in connection with laboratory and class room work being deposited in several departments.

Donations to the Library are acknowledged in the President's annual report to the Board.

The following are the rules governing the Library and Reading Room:

1. The Library shall be open for reading and study at such hours as the Faculty may prescribe, and in these hours conversation, or other conduct which may divert attention or otherwise annoy, shall not be allowed.

2. Any one wishing any book or periodical (dictionary excepted) must apply to the Librarian for it; and (if the book is not regularly drawn out) must return it to the Librarian before leaving the room.

3. Books not marked "Reference Book" may be drawn from the Library and retained one week, and then may be redrawn for another week; but no books may be kept by one person longer than two weeks.

4. If a book is not returned within the week for which it was drawn, the holder shall be subject to a fine of 10 cents; if not returned within two weeks from the time it was drawn, a fine of 25 cents; if not returned within a month, a fine equal to the price of the book.

5. Reference books, current periodicals and papers cannot be taken from the Library room except by special permission of the Librarian, and then only from the closing of the Library to the first succeeding hour of opening.

6. A violation of any of the foregoing regulations, or other rules which may from time to time be prescribed, may

UNIVERSITY HALL

forfeit a student's right to the use of the Library for such time as may be designated.

7. No student may have in possession from the Library at any one time in any one line of work more than two books, except that the Librarian may in special cases allow additional volumes to be drawn on the recommendation of the professor in charge.

8. It is the duty of the Librarian to enforce the above regulations.

The following is a list of the periodicals on file for the use of members of the University:

American Architect.
American Chemical Journal.
American Electricial.
American Geologist.
American Journal of Science.
American Journal of Physiology.
American Machinist.
American Naturalist.
American Physical Educational Review.
Analyst.
American School Board Journal.
Analytische Chemie Zeitschrift Fur.
Annals and Magazine of Natural History.
Anorganische Chemie, Zeitschrift Fur.
Anorganischen Chemie.
Bird-Lore.
Book Buyer.
Bookman.
Botanical Gazette.
Brick.
Archaeology.
Associated Engineering Societies, Journal of.
Athenaem.
Atlantic Monthly.
Auk.
Brush and Pencil.
Cassier's Magazine.
Century.
Chautauquan.
Chemishes Central Blatt.
Chemisches Societe de Paris.
Classical Journal.
Classical Philology.
Classical Review.
Cosmopolitan.
Craftsman.
Critic.
Current Literature.
Deutsche Rundschau.
Dial.
Economic Geology.
Education.

Educational Review.
Engineering (London).
Engineering Magazine.
Engineering News and American Railway Journal.
Engineering and Mining News.
Entomological News.
Fels zum Meer.
Fliegende Blatter.
For California.
Forest and Stream.
Foundry.
Genera Insectorum.
Gute Kamerad.
Harper's Magazine.
Harper's Weekly.
Illinois Staats Zeitung.
Independent Studio.
Journal of American Chemical Society.
Journal of Chemical Society (London).
Journal of Geology.
Journal of Sociology.
Journal of the Royal Microscopical Society.
Ladies' Home Journal.
Library Journal.
Literary Digest.
Literary World.
Living Age.
Literary News.
McClure's.
Masters of Art.
Mathematics.
Mind and Body.
Mines and Minerals.
Mining World.
Monist.
National Geographic Magazine.
Nature.
Die Naturlichen Pflanzenfamilien.
Nautilus.
Neurology, Comparative.
N. Y. Botanical Garden.
Nineteenth Century.
North American Review.
Outing.
Outlook.
Photographic Times (Bulletin).
Physical Review.
Plant World.
Poet Lore.
Political Science Quarterly.
Popular Science Monthly.
Power.
American Journal of Psychology and Scientific Methods.
Public Libraries.
Public Opinion.
Public Library Quarterly.
Public School Journal.
Publisher's Weekly.
Queen's Quarterly.

Railway and Locomotive Engineering.
Reader's Guide to Periodical Literature.
Review of Reviews.
School and Home Education.
School of Mines Quarterly.
School Review.
Science.
Scientific American and Supplement.
Scribner's.
Success.
Torreya.
Uber Land und Meer.
Western Homeseeker.
World's Work.
Zeitschrift fur Wissenschaftliche Mikroscopie.
Zoologischer Anzieger.
Zoologist.
Anaconda Standard.
Helena Independent.
Butte Miner.

The following papers are donated by their respective publishers:

Belt Valley Times.
Basin Progress.
The Big Timber Pioneer.
The Yellowstone Leader, Big Timber.
The Billings Times.
The Sentinel, Boulder.
The Avant-Courier, Bozeman.
The Tribune-Review, Butte.
The Butte Evening News.
The Butte Inter Mountain.
The Reveille, Butte.
The Chinook Opinion.
The Conrad Observer.
The Dillon Examiner.
The Dillon Tribune.
The Forsyth Times.
The Glendive Independent.
The Western News, Hamilton.
Ravalli Republican.
The Valley County News, Glasgow.
The Havre Herald.
The Havre Plaindealer.
The Kalispell Bee.
The Inter-Lake, Kalispell.
The Montana Daily Record.
The Independent, Miles City.
The Madison County Monitor.
Madisonian, Virginia City.
The Philipsburg Mail.
Pony Sentinel.
The Rocky Mountain Husbandman.
The Rocky Mountain Leader, Boulder.
The Silver State.
The Stevensville Register.

The Northwest Tribune, Stevensville.
River Press, Fort Benton.
Rosebud County News.
The Choteau Acantha.
Rocky Mountain Leader.

STATEMENT.

Number of volumes in the Library	18,400
Number of pamphlets	7,800
Number of periodicals regularly received	168

THE MUSEUM

THE ROOMS

The Museum proper is on the first floor of the main building. One room in the basement is allotted for storage of the collections, and is packed full. The Museum is filled with cases, along the walls and in the interior. The cases are made of native lumber after the best patterns, and display the collections to advantage. The walls are covered with insect cases containing mounted insects. Above the cases toward the ceiling are arranged the agricultural exhibits received from the Omaha Exposition, the large mounted fishes, collected and donated by Mr. R. A. Eddy, and the mounted birds of large size.

The Geological and Biological storeroom in connection with the Museum, is located in the basement of University Hall and has for the storing of specimens shelves built on the four walls. These shelves are almost entirely filled. Part of this valuable storeroom collection has been named and catalogued, but owing to lack of space in the Museum proper very little has been put out. However, as soon as more room is offered the Museum will have a showing second to none in the Northwest.

The Museum material not stored in the room set apart for the collections is housed in the different departments. Indeed much of it is indispensable to department work. As a result much of the Museum is scattered. Considering the time during which material has been gathered, and the amount expended, the collections have made remarkable growth.

The intention is to make the Museum a depository of the material representing the natural, mineral and scientific wealth of the state.

COLLECTIONS

The collections of the Museum, from various sources, are as follows: A collection of over a thousand bird skins, almost entirely from the state; a collection of shells, partly collected in the state, and partly through donations from several sources; a collection of plants, embracing about 3,000 species, with many thousand duplicates, received largely through donations, by collecting and from the exhibit at Omaha; a collection of insects, partly through purchase, but largely by collecting; a collection of fossils, almost entirely from the state, partly donated and for the remainder collected; a collection embracing money, historical relics, souvenirs and promiscuous articles; a collection of fishes, partly from the U. S. Fish Commission, the remainder collected in the state; a collection of fresh water entomostraca from the lakes and rivers of Montana; a collection embracing coals, rocks, concentrate samples, building stones, brick, tile and pottery, developed and produced in the state; a set of the series of educational rocks prepared by the U. S. Geological Survey; the Wiley collection of over a thousand species of Lepidoptera.

During the past year much work has been done on the Museum collections. Many hundreds of insects have been arranged permanently in Comstock insect cases, more than a hundred of these cases being now required to house the collection, with a large number as yet in papers.

Drawer space has been arranged for the collection of bird skins, now numbering more than a thousand, and the collection is now systematized so as to be accessible for any species.

Many hundreds of botanical specimens have been mounted, and all the identified Montana specimens have been systematically arranged in the case made especially for the collection, and are easily accessible. This work is being continued as fast as possible.

A shipment of glassware has been received from a German firm for displaying the alcoholic material that has accumulated and is not placed on exhibition. The containers are square boxes, with lids ground to fit. The boxes display the material to the best advantage, without the distortion so noticeable in round containers. The material already placed in these boxes makes a handsome exhibit.

A supply of paper-lined paste-board trays is kept on hand, and the various collections as they come in are placed

in these neat trays, are properly labeled, and are shown to the best advantage.

It is most earnestly requested that all who are interested in the University, and especially in the preservation of valuable material for scientific work, should take special pains to contribute to the material in the Museum. Time and circumstances are fatal to nearly all specimens, but being properly cared for and placed in the Museum of the University they will be preserved.

The University has come into possession of the insect collection of the late C. A. Wiley of Miles City. It embraces over a thousand specimens of Lepidotera. Most of these are from the eastern end of the state, but many obtained by exchange. It is thus rich in native species from the state, and at the same time has many of the showy forms from Europe and the Orient. This is a great addition to the entomological collection of the University, and together with those gathered from other sources gives the University an excellent exhibition of Lepidoptera, as well as a fine series for student study.

Correspondence is solicited concerning material which may be donated. All donations will be properly acknowledged, and the articles properly labelled and the donor's name recorded.

Collegiate Departments of Instruction

NOTE—Roman numerals indicate the number of the course; Arabic indicate the number of recitations per week. Courses extend through one semester.

DEPARTMENT OF HISTORY AND ECONOMICS

GENERAL INFORMATION.

The courses in History seek to give: (1) Knowledge of the economic conditions and organization of the nations and periods studied as a basis for (2) comprehending, if possible, the significance of political institutions and the course of social evolution. (3) It is sought to give training in the methods of historical research through the study of the sources of history. Copies of original documents, treaties, laws, journals and reports are available. The University Library is also well equipped with standard secondary works in history.

The courses in Economics apply the historical method to the study of present day life and institutions and social problems. Since it is believed that our present problems cannot be intelligently considered without a knowledge of historical evolution, it is hoped that these courses will be preceded and accompanied by as many of the historical courses as possible.

All of the courses in this department will be lecture courses, with daily references for library reading and periodical reports of library research.

COURSES IN HISTORY

I. EUROPEAN HISTORY.—The economic bases and the development of political and ecclesiastical institutions from the disintegration of the Roman Empire, and the feudal system, to the establishment of modern nationality. First semester. Three hours.

II. EUROPEAN HISTORY.—The economic and political evolution of modern Europe from the period of ecclesiastical wars, through the French Revolution to the development of constitutional governments in the XIXth century. Continuation of Course I. Second semester. Three hours.

III. HISTORY OF ENGLAND.—Development of economic and political institutions from their primitive origins, through the feudal stage to the unity of Tudor absolutism. Prerequisite: Courses I and II. First semester. Three hours.

IV. HISTORY OF ENGLAND.—The development of constitutional government from the revolutions of the Seventeenth century, through the political and industrial revolutions of the Eighteenth century to the development of democratic ideas in the Nineteenth century. Continuation of Course III. Second semester. Three hours.

V. AMERICAN HISTORY.—The development of American economic and social organization and the sources and establishment of the Constitution. The journals of the Federal Convention, the "Federalist" and the writings of Adams and Jefferson as interpretations of American political ideas. The early history under the Constitution. Prerequisite: Courses I and II. First semester. Three hours.

VI. AMERICAN HISTORY.—The historical and judicial interpretation of the Constitution; political parties and the principles of political obligation. The present working of the government of the United States. Current political literature. Continuation of Course V. Second semester. Three hours.

Courses III-IV and V-VI will be given in alternate years. Courses III and IV will be given in 1907-8.

COURSES IN ECONOMICS

I. ECONOMICS.—The fundamental laws of the production and distribution of wealth as developed in economic theory. Comparison and criticism of economic theories. Illustrations of economic theory from current industrial life. Survey of the economic schools. First semester. Three hours.

II. CURRENCY AND BANKING.—The theory of money. The history and present organization of the American monetary system. The theory of credit and the history and description of the banking system of the United States. The conditions of a sound financial system. Prerequisite: Course I. Second semester. Three hours.

III. ECONOMIC EVOLUTION.—The historical analysis of property. The evolution of methods of distribution and production from ancient times to the XIVth century, with especial reference to the industrial development of the United States, preparatory to an understanding of present economic problems. Prerequisite: Course I in Economics and one year in history. First semester. Two hours.

IV. ECONOMIC PROBLEMS.—A consideration of the problems of corporate organization and speculation, wages and pauperism, and of the ideals and institutions for social reform and of equitable distribution, in the light of economic theory and of the history of property. The relation of government to industry. The cooperative movement. Continuation of Course III. Second semester. Two hours.

V. HISTORY OF POLITICAL THEORY.—An outline of the course of political thought and of Historical Philosophy, with especial attention to Plato and Aristotle and the modern sociologists. Prerequisite course I in Economics and at least one year in History. First semester. Two hours.

VI. SOCIOLOGY.—The structure and evolution of society and an examination of contemporary society. Survey of Sociological theory, Methods of sociological study and endeavor. Prerequisite: Course I in Economics and at least one year in History. Second semester. Two hours.

Courses III-IV and V-VI will be given in alternate years. Courses III and IV will be given in 1907-8.

VII-VIII. CURRENT HISTORY CLUB.—Discussion of political and social questions of the present with especial reference to their historical significance. Open to all students. First and Second semesters. One hour.

UNIVERSITY HALL

SCIENCE HALL

DEPARTMENT OF PHILOSOPHY AND EDUCATION

GENERAL INFORMATION

The best introduction to work in this department is obtained from Courses I and II. Usually students will not be admitted to other courses until they have completed one semester in Psychology. It is hoped the department may be found helpful in two ways: First, to all advanced students by assisting them to coordinate the results acquired from other studies and from their own thinking; second, to all students who expect to become teachers, by laying the foundation of all professional training.

The Library is fairly well supplied with standard works on Psychology and Education. A liberal allowance is made each year for additional books. Nearly all periodicals in English which can be used to advantage by undergraduates are on the Library tables.

Some excellent models of brain and sense-organs, and a fine collection of microscopic slides of human brain and cord are available. A good beginning has been made towards equipping a psychological laboratory. Much of the apparatus belonging to the departments of Biology, Physics and Chemistry has been generously placed at the service of students in Experimental Psychology. It is already possible to illustrate most of the standard experiments in a beginning course. Students will be encouraged to improvise apparatus and to invent new problems which can be solved by arrangement of available material.

COURSES IN PSYCHOLOGY

Courses in Philosophy and Education are not open to first year students. Courses III, VI, VII, VIII, IX, X, XIII, XIV and XV, are given on alternate years. This year courses VI, VII, XIV, XV will be omitted.

I. GENERAL PSYCHOLOGY.—An introductory course. Lectures, textbook and demonstrations. First semester. M., W., F. 9:30. Required of all students for A. B. or B. S. degrees.

II. EXPERIMENTAL PSYCHOLOGY.—Typical experiments from the various manuals upon sensation, perception, attention, association, memory, movement, affective expression, imagery, rhythm, fatigue, learning, etc. Lectures and discussions interspersed as needed. Five hours per week. Two hours credit. Second semester. T., Th. 1:30-4:00. Open to students who have passed in Course I and required for A. B. and B. S. degrees.

XI. GENETIC AND APPLIED PSYCHOLOGY.—A study of the gradual unfolding of the mind in the animal series and in the child; the role of consciousness in biological evolution; origin and development of instincts, habits and intelligence; some applications of Psychology in Pedagogy, Law and Medicine. Recitations and lectures. Second semester. M., W., F. 9:30. May be taken in connection with Course II.

XII. ADVANCED PSYCHOLOGY.—Original investigations in experimental or educational Psychology. The student will be encouraged to take up problems in which he can make a real contribution to science, and the results collected in the form of a thesis which, if worthy, will be published. Open to advanced and graduate students. Throughout the year at an hour to be arranged. Two or more credits according to work done.

XIII. GENERAL AND APPLIED PSYCHOLOGY FOR TECHNICAL STUDENTS.—An introductory study of human nature with special reference to the psychic forces behind material progress, the types of individuals, the instincts, interests and ideals which impel and control human activity. The unfolding of human consciousness and its operation in the more complex fields of man's activity will be treated. Lectures, assigned readings and discussions. First semester at an hour to be arranged. Two hours credit. Open to Junior and Senior Engineers and others prepared for the work.

XVI. PSYCHOLOGICAL SEMINARY.—Members meet once a week for discussion of general topics selected for study at the beginning of each semester. There will be readings, discussions and reports of researches. First and Second semesters. Open to all special students of Psychology and Education. Two hours credit.

COURSES IN PHILOSOPHY

VI. LOGIC—Recitations and exercises in logical analysis, with a study of Scientific Method. First semester. T., Th., at 8:30. Omitted in 1907-08.

VII. ETHICS.—Lectures and assigned readings. Second semester. T., Th., at 8:30. Omitted in 1907-08.

III. INTRODUCTION TO PHILOSOPHY.—A general survey of the fundamental problems of Philosophy. Should be preceded by elementary courses in the biological and physical sciences. Open to students who have taken Course I. First semester. T., Th., at 8:30.

Hibben, Problems of Philosophy.
Paulsen, Introduction to Philosophy.

X. HISTORY OF PHILOSOPHY.—An introductory course. First semester a general survey of the intellectual work of the Ancients, with a more careful study of Plato and Aristotle. Second semester enough of Mediaeval thought will be reviewed to show the historic connection between the ancient and modern views. Special attention will be given to a few great thinkers in modern times—Descartes, Hume, Kant, Spencer, etc. Lectures and discussions. M., W., F., at 8:30. Must be preceded by or taken with Course III.

Weber History of Philosophy used as a text.

COURSES IN EDUCATION

It is the purpose of the work in Education to give such instruction in the principles and history of education as a truly liberal humanistic culture requires and to provide adequate professional preparation for those University students who intend to teach. Students intending to pursue work in

Education or desiring the University Certificate of Qualification to teach are urgently advised to begin their Psychology in their second year. This should be followed by an elective course in Philosophy the Junior year leaving the electives for the teachers' certificate for the Senior year. All courses in education must be preceded by Courses I and II.

IV. HISTORY OF EDUCATION.—An outline of the leading educational ideals and practices from earliest times to the present. Special attention will be given to a few great influences and to the work of such educational reformers as Socrates, Comenius, Pestalozzi, Froebel, Horace Mann, and G. Stanley Hall. Open to third and fourth year students. Should be supplemented by Course V. First semester. M., W., F. 11:30. Monroe Text-book on History of Education.

V. EDUCATIONAL CLASSICS.—It is the purpose of this course to supplement the work of Course I by studying more intensively the life-work and classical productions of a few great educators. Two or more of the following books will be studied: Plato's Republic, Lock's Thoughts Concerning Education, Rosseau's Emil, Pestalozzi's Leonard and Gertrude, Froebel's Education of Man, Spencer's Education. To be taken with or preceded by Course IV. First semester. T., Th. 11:30.

XIV. HIGH SCHOOL PEDAGOGY.—For students who wish to prepare to teach in the high school. The history and general principles of high school methods and discipline. Relation of secondary schools to the higher and lower schools. The psychology of adolescence, and adaption of the high school to the needs of different careers; the course of study. General history of secondary education; its present organization in the different countries of Europe; the history of secondary education in the United States. Second semester. M., W., F. 10:30. Omitted in 1907-08.

VIII. PRINCIPLES OF TEACHING.—Studied from the standpoint of present-day Psychology and recent studies in Experimental Pedagogy. The chief emphasis will be placed on the psychology of teaching and learning, instead of on methods of teaching the various school subjects. Thorndike, Principles of Teaching. Second semester. T., Th. 10:30.

IX. EDUCATIONAL PSYCHOLOGY.—The lectures and readings in this course will cover some of the more important chapters in psychology in their educational aspects, such as habit, attention, memory. Education of the senses. Apperception and association. Feeling and interest in relation to instruction and training. The instincts of children as the basis of apperception and interest. Motor education and education of the will. Certain aspects of mental hygiene and hygiene of instruction. Second semester. M., W., F. 10:30.

XV. STUDY OF CHILDREN.—An investigation of the development of the individual from birth to maturity with special reference to means and methods of education. The development of consciousness and the Psychology of Learning will be made the central theme of the course. Lectures, assigned readings and text-book work. Second semester. T., Th. 4. Omitted in 1907-08.

DEPARTMENT OF ENGLISH AND RHETORIC

FIRST SEMESTER

I. ELEMENTARY RHETORIC.—An elementary course in composition and rhetoric. Required of all first year college students. Prerequisite to all other courses in English and rhetoric, and to all courses in literature. M., T., W., Th. 9:30.

III. ARGUMENTATION.—Study of argumentation with a view of the acquisition of an effective style in debate. Practice in brief-writing. Open to a limited number of students. M., W. 10:30.

V. VERSIFICATION.—Study of the forms of English verse. Topics assigned for individual study and reports. T., Th. 10:30.

VII. OLD ENGLISH.—Selections in old English translated into modern English. Some work in historical English grammar. Open to students who have had one semester of German. M., Th. 11:30.

IX. HISTORY OF THE ENGLISH LANGUAGE.—An elementary course in English philology. A basis for the study of English grammar. T., F. 11:30.

XI. MYTHS AND BALLADS.—A course for graduate students. F. 9:30.

SECOND SEMESTER

II. DESCRIPTION.—Critical study of literary models. Frequent written exercises. T., Th. 9:30.

IV. NARRATION.—Critical and constructive work in short-story writing. M., W., F. 9:30.

VI. PROSE.—Study of English prose style. Topics assigned for individual study and reports. T., Th. 1:30.

VIII. MIDDLE ENGLISH.—Selections from Chaucer. M., F. 11:30.

X. BALLADS—Selections from early English popular poetry. T., Th. 11:30.

XII. MYTHS AND BALLADS.—(Continued from First semester.) Hour to be arranged.

DEPARTMENT OF LITERATURE

COURSES IN LITERATURE

I. WRITERS OF THE ELIZABETHAN PERIOD.—This course is the study of Spenser, Marlowe, and Bacon.

A brief history of the pre-Shakespearean drama in lectures.

Reports on Woodbridge's "Technique of the Drama." Open to all students. First semester. Rec., T., Th. 9:30.

II. SHAKESPEAREAN DRAMA.—The critical study of eight plays, so selected as to illustrate the author's range and the variations of his art in the successive periods of his life. Open to students who have completed Course I. Second semester. Rec., M., W., F. 9:30. Lib., T., Th.

III. ENGLISH LITERATURE OF THE EIGHTEENTH CENTURY.—Lectures and written papers. Special attention will be given to the works of Pope, Goldsmith, Gray, Addison and Swift. Text Book, Gosse's

"History of the Eighteenth Century Literature." Open to all students. First semester. Rec., T., Th. 1:30.

IV. ENGLISH LITERATURE OF THE NINETEENTH CENTURY.—Prose—Carlyle, George Eliot, Arnold, Lamb and Ruskin. Lectures on the literature of the nineteenth century. Open to all students. Second semester. Rec., T., Th. 1:30. Lib., M., W., F.

V. THE ROMANTIC MOVEMENT.—Wordsworth, Coleridge, Byron, Shelly, Keats and Scott are studied in representative selections. Open to advanced students. First semester. Rec., M., W., F. 8:30. Lib., T., Th.

VI. TENNYSON AND BROWNING.—The critical study of selections from Tennyson and Browning, comparing the style, philosophical ideas and theories of the authors. Second semester.—3. Rec., M., W., F. 8:30.

VII. AMERICAN LITERATURE.—A survey of American literary history and the discussion of notable works in prose. Open to all students. First semester. Rec., M., W., F. 11:30. Lib., T., Th.

VIII. AMERICAN LITERATURE.—Selections from the verse of the greatest American poets. Open to all students. Second semester. Rec., T., Th. 11:30.

IX. THE EXTENDED AND CRITICAL STUDY OF THE POEMS OF BROWNING.—Graduate Course.

X. Some department, subject or figure in literature will be selected as the basis of the work of this course. Graduate Course.

XI. INTRODUCTORY LITERATURE.—Elementary work in essays, poetry, drama and fiction. Open to first year students. Second semester. Rec., M., F. 9:30.

Note.—Rhetoric I is prerequisite to the work in this department.

LIBRARY SCIENCE

The purpose of this course is to give students systematic instruction in the use of the library. An effort is made to familiarize the student with such catalogues, bibliographical aids and general reference books as will enable him to investigate a subject with intelligence.

Course I. General Reference.—Lectures, reading and reference work. Required of all students. Lectures will be given on the following topics: The arrangement of the library and the privileges granted students, the use and value of the card catalogue, dictionaries and encyclopedias, Poole's index and periodical literature, classification, cataloguing, atlases and gazeteers, note-taking, book-binding and the care of books, government publications, and reference books on English and American literature, history, and science. One lecture or recitation per week. One afternoon laboratory work. One hour credit. Either semester.

DEPARTMENT OF ELOCUTION

This department offers an opportunity for culture invaluable to all students in the University. It combines the study of the best literature with the art of interpretation and expression. It gives the student control of his own powers and gives him easy, simple, and effective delivery.

Courses I and II are required of all students except those in the School of Engineering.

Course I. ELEMENTS OF PRACTICAL ELOCUTION.—Pantomimic action, recitation and oration. First semester. T., Th. 8:30.

Course II. PRACTICAL ELOCUTION.—Recitations from classical writers, Shakespeare, Tennyson, Browning and others. Second semester. T., Th. 8:30.

Course III. PRACTICAL ELOCUTION.—Program construction and production. Program to consist of five or more numbers from varied sources or the works of a single writer.—3 hours.

Course IV. PROGRAM WORK CONTINUED.—Attention will be given to a one theme program.—2 hours.

Course V. ORATION AND DEBATE. This course is entirely for the production of oration and debate, with special work in extemporaneous speaking.—2 hours.

PREPARATORY ELOCUTION. This course is offered to preparatory students. The work is suited to the needs of students in this department.—2 hours.

DEPARTMENT OF LATIN AND GREEK

GENERAL INFORMATION

1. Primary aims of this department are the acquisition of such a mastery of the languages as to enable the student to read them with some degree of facility, to read the greatest possible amount of the best Greek and Roman literature, and to make the work subservient to general culture in the English language and literature.

The scope of this department is conceived to include, not only the study of the language and literature of the ancient Greeks and Romans, as narrowly defined, but also some attention to all phases of their civilizations. Without this broader view some of the most important results of classical studies cannot be attained. For this reason, the study of the arts, institutions and life of the Greeks and Romans will be given due prominence, and provision has been made for this part of the work.

2. In the required courses, the study of grammar will be pursued in connection with the reading, not as an end in itself, but as a means of intelligently reading the language, with or without translation.

3. In connection with the prose reading, exercises in writing Latin and Greek will be used. The training in syntax will be largely given in connection with this work.

4. There will be almost daily practice in reading and translating at sight, generally from that portion of the text assigned for the next day's reading.

5. "Bennett's Latin Grammar" and "Hadley-Allen's Greek Grammar" will be used for the ordinary class room work. Editions of the texts will be chosen as far as possible from those which have references to these grammars. Students are advised to bring with them any Latin and Greek text books they may have, but not to purchase books before definite directions are given. The most essential aids for study, such as maps, charts, and works of reference, are provided by the University.

COURSES IN LATIN

I VERGIL'S AENID.—First three books. Elements of Prosody. 5 hours. 10:30.

II. VERGIL'S AENID.—Books IV, V, and VI. 5 hours. 10:30.

III. HORACE.—Selected odes. First half of semester. 5 hours. 8:30.

IV. LIVY AND TACITUS.—Selections. Second half of semester. 5 hours. 8:30.

V. PLAUTUS.—First semester. T., Th., F. 11:30.

VI. TERENCE.—Second semester. T., Th., F. 11:30.

VII. PRIVATE LIFE OF THE ROMANS.—Descriptive; no knowledge of Latin required for this course; open to all students. M., W., F. 1:30.

This course is given in the second semester and should be preceded by the course in Greek life.

COURSES IN GREEK

I. A FIRST GREEK BOOK.—Elements of Greek grammar.—5.

II. FIRST BOOK OF ANABASIS.—Sight reading, writing Greek; study of grammar in connection wth the reading and writing.—5.

III. ANABASIS CONTINUED.—Sight readng, writing Greek, grammar with topical outline.—5.

IV. HOMER'S ILIAD.—Selections.—5.

V. HERODOTUS AND THUCYDIDES.—Selections.—5.

VI. DEMOSTHENES.—Selections.—5.

VII. PLATO.—Selections.—5.

VIII. GREEK DRAMATISTS.—One play of each from Aeschylus and Sophocles. Selections from Aristophanes.—5.

IX. PRIVATE LIFE OF GREEKS.—Descriptive; no knowledge of Greek required for this course; open to all students; given in first semester. M., W., F. 1:30.

DEPARTMENT OF MODERN LANGUAGES

GENERAL INFORMATION

The aim of the beginning year of the Modern Language Courses is to give the student a thorough knowledge of grammar; to this is added reading of easy prose; this is followed in the second year with syntax and intermediate readings. Writing short essays in the languages will be required during the year, and some conversation will be given. In the third year, which is elective, more difficult readers will be used, such as "Faust" or "Wallenstein" in German; "Esther, Athalie," Moliere in French, and Cervantes in Spanish.

During the third year conversation and composition will be made one of the chief aims of instruction. Extracts from modern authors will be read, and the study of the literatures will be made a special topic.

Tests will be given in the different classes from time to time. Elective classes will be organized only upon application of three or more students for the work.

COURSES IN GERMAN

A course of three years has been planned.

I and II, Becker's German Grammar wll be used, and Carruth's German Reader, followed by Wilhelm Tell, Bernhardt's Composition, Drei Kleine Lustspiele. M., T., W., Th., F. 8:30. 4 credits each.

III and IV. Readers: Schiller's, Wallenstein, Minna von Barnhelm, Schiller's Ballads. Sight Readers: Geschichten aus Deutchen Staedten, Karl Heinrich, etc. M., W., F. 11:30. 3 or 4 credits each.

V and VI will be devoted to a study of the classics, some of Schiller's and Goethe's works, as Schiller's Ballads, Goethe's Faust, Part I, and scientific monographs, Max Mueller's Deutsche Liebe. These latter will be given to those students taking the scientific course. Essays will be required in the various subjects which students are pursuing, such as chemical, biological, etc. M., W., F. 1:30. 3 credits each.

COURSES IN FRENCH

I and II are devoted to the study of Chardenal's complete French course. Readers: Daucet, Trois contes modernes, Pour apprendre a parler, La Tulipe Noire, L'Abbe Constantin, Colomba. M., T., W., Th. 9:30. 4 credits.

III and IV consist of intermediate readings such as Hugo's Hernani, Quatre vingt treize. M., W., F. 10:30. 3 or 4 credits.

V and VI (elective) will be devoted to the study of French classics, scientific writings and Duval's Histoire de la Literature francaise, Souvestre, Un philosophe sous les toits. Sight Readers; Les Miserables, Notre Dame de Paris.

CORNER OF MUSEUM

COURSES IN SPANISH

A three years' elective course will be given, if called for. The first year, or I and II, will be taken up with the study of grammar and easy readings from modern prose, followed by Courses III and IV, which will be devoted to readings of Spanish Classics and Literature. Syntax and exercises in composition and conversation will be given. M., W., F. 2:30. 3 credits each.

A third year, Courses V and VI, will be continuation of Courses III and IV. Composition and conversation. Recitations will be held in Spanish. Readers: El Capitan Veneno—El Si de las Ninas. Extracts from Don Quixote. Hours to be arranged. 3 credits each.

DEPARTMENT OF CHEMISTRY

THE CHEMICAL LABORATORIES

The Department of Chemistry occupies most of the second floor of Science Hall, which contains eight rooms and a hall. The student laboratories, two in number, are on the north side of the hall, the lecture room, store room, and office and private laboratory are on the south side. The balance room, also used for a library and reading room, is at the end of the hall and opens into the quantitative laboratory.

Of the two laboratories, the larger is for the work in general chemistry and qualitative analysis. This is fitted with two rows of desks, underneath which are arranged the drawers, forty in number, for the students' apparatus. Each desk is provided with a water faucet over a sink, with taps for water on the desk, and tips for gas. The laboratory will accommodate thirty-two students in all, with a maximum number of sixteen in one section. Each student is given a full set of apparatus. Each desk is locked by a single padlock.

The reagents are stored in large glass-stoppered, tubulated bottles, in one corner of the room. The ventilation for the laboratory is procured through five hoods, each connected with a separate steam-heated flue. Water and gas are brought into each hood.

The quantitative laboratory will accommodate sixteen students at once. This room has northern and western exposures, and is therefore well lighted. The arrangement of hoods and flues is the same as in the other laboratory. Eight separate drawers or closets, all locked by one padlock, are given each student. This insures perfect safety for the

many pieces of apparatus and solutions in use. The desks are all fitted with stationary iron stands, of the universal type, which allows the desk to be used in all of the many ways necessary for analytical work. Each desk has also an iron plate heated by gas burners. The gas is furnished to the student either by the ordinary gas tip, with rubber connection, or by a stationary swinging gas jet, fitted with a Bunsen burner. Water is brought to each desk in taps, and to the sinks in the usual manner. Brass suction pumps are attached to the latter, and a good suction obtained for filtration processes. The reagents are provided at each desk and in more complete sets in a suitable case in one corner. The sets of apparatus issued to each student are very complete and consist of beakers, flasks, crucibles, burettes, pipettes, bottles, etc.

In the balance and reading room are two Becker balances, sensitive to .2 m., for the beginners in quantitative analysis. Shelves are fastened to the solid wall, and independent of the floor, for four balances.

The Department Library, placed in this room, is under the direction of the General Library and subject to such restrictions as will insure the safety of the books. It contains over 200 volumes in English and German, including Dammer and Beilstein, dealing with analytical, inorganic, physical, organic and industrial chemistry, and toxicology; and, a complete set of the Zeitschrift fur Analytische Chemie, and the Berichte.

The following Chemical Journals are kept on file:

American Chemical Journal, Journal of the American Chemical Society, the Analyst, Journal of the Chemical Society, Chemisches Central-Blatt, Zeitschrift fur Anorganische Chemie, Zeitschrift fur Analytische Chemie.

The lecture room, on the south side of the hall will seat forty persons, and is provided with the usual accommodations for taking notes from lectures. The lecture table 4x14 feet, is provided with water and gas for lecture experiments.

The private laboratory and office is a well-lighted room, 12x17 feet in size, located in the corner of the building. It opens into the lecture room and into the store room. It is provided with a laboratory desk, a hood, and is supplied with water and gas. An accurate analytical balance and a first class assay balance, sensitive to 1-200 milligram, are used for the most accurate determinations.

The store room adjoins the office, and opens also into the lecture room. Students can obtain material from this room through a small window opening into the hall. In this way the room is easy of access to the students when working in the laboratories. The store room contains, besides shelves and cases for storage, a desk provided with gas, water and suction. This is used for preparation work and is a great convenience. Ventilation is secured by means of a hood of ample size. The laboratories and rooms are all lighted by electricity, or by gas light from Welsbach burners.

Distilled water is made in a block tin still, placed in the attic above the laboratory, and is conducted to the large laboratory through a block tin pipe. The still is connected with the steam heating system and is so arranged that it is impossible for any solid or other foreign substance to pass from the system into the condenser. The water is collected in a 20-gallon stone reservoir, thence conducted to the rooms below. The still is so connected as to require no attention, as it is connected with an overflow in the sewer. On the whole, this plant is a model of its kind for small laboratories.

The electro-chemistry laboratory is supplied with storage-batteries, and with alternating and direct current under various voltages. Voltmeters, ammeters, and a type K, Leeds and Northrup potentiometer, are used to measure voltage and current. The latter has a range of from 0.00001 to 1500 volts. Apparatus for the electro deposition of metals, a Lippmann capillary electrometer, a delicate galvanometer and various forms of other instruments are available for use.

The gas is made from gasoline by means of a machine from the Detroit Gas Machine Co., of Detroit, Mich. The capacity of the carburetter is 465 gallons of gasoline, and is ample for all uses of the present laboratories connected with it. The plant is provided with a combination mixer, furnished by this company, which is believed to be a valuable adjunct to the machine.

ASSAY LABORATORY

The Assay Laboratory is fitted with a large two muffle brick furnace, a Case gasoline furnace, and a Brown's portable furnace, a cupel machine, rock crushers and other necessary apparatus. The assay balance, made by Wm. Ainsworth of Denver, is sensitive to 1-200 milligram.

COURSES IN CHEMISTRY

The courses in chemistry cover the field of pure chemistry, and are also designed for those who expect to engage in technical work.

As an introduction to all courses in this subject, a course in General Chemistry extending over two semesters is given. This is presented by recitations, lectures and laboratory work, and is required of all students in the University. It should be taken in the Freshman year. In this year's work students gain a clear conception of chemical elements, chemical changes, and the philosophy of chemistry in general—principles too often indistinctly learned, but absolutely essential for all future work in this science. The student will be expected to do a large amount of quantitative work in connection with the laboratory course.

One-half year in Qualitative Analysis follows this work. It is taught by lectures and recitations, but the larger proportion of the student's time is spent in the laboratory. It is expected that another semester will be devoted to Quantitative Analysis which involves the principles of analysis by both gravimetric and volumetric methods.

These two years of work should be considered as essential for all other work in Chemistry and for advanced work in Mineralogy. It is recommended that Assaying be not taken up until after this amount of work has been finished, although only the first three semesters of work are required.

Advanced courses in Chemistry are taken up at the student's option. A course in Organic Chemistry involving lectures and laboratory work on the chemistry of the compounds of carbon is offered for those students fitted for the work.

The course in Physical Chemistry should be taken by all students specializing in either Physics or Chemistry. It is of great value to students of Philosophy.

CHEMISTRY AS A PROFESSION

There is a large demand in Montana for chemists who have a thorough mastery of their profession. The principal lines of work open to professional chemists are:

I. Teaching in colleges and secondary schools.

II. As chemists and assayers for smelters and mines.

III. Other technical work. There is a steadily increasing demand for chemists in many industries, including iron and steel works, sugar refin-

eries, color works, print works, chemical manufactories, railroads and all large corporatons. Manufacturing chemistry is a field of great profit, especially to those who introduce or develop new industries.

IV. Analytical chemistry and assaying. There is always a demand for chemists who can give their whole time to questions in legal and technical chemistry. The most profitable fields are: Toxicology, minng chemistry, sanitary chemistry, industrial applications and physical chemistry.

V. Government and state work. The geological surveys, the Philippine service, boards of health, agricultural experiment stations and the food inspection service, employ many chemists.

COURSES IN CHEMISTRY

I. GENERAL INORGANIC CHEMISTRY.—Non-Metals. Required of all students. Open to all students who have no entrance conditions in mathematics. Two lectures or recitations per week. Two afternoons of laboratory work. Four hours. First semester. Lectures, 9:30-10:30. T., Th.

II. GENERAL INORGANIC CHEMISTRY.—Metals. A continuation of Course I. Required of all students. Four hours. Second semester.

III. (a) QUALITATIVE ANALYSIS.—Required of all students specializing in chemistry, and must be preceded by Courses I and II, or their equivalent in some laboratory of acknowledged standing.

Two lectures and two or three afternoons of laboratory work.

Four or five hours first semester.

III. (b) ADVANCED QUALITATIVE ANALYSIS.—A continuation of Course III. Required of mining and chemistry students.

Four or five hours second semester.

IV. QUANTITATIVE ANALYSIS.—Introductory; must be preceded by Courses I, II and III (a). The principles of gravimetric and volumetric analysis are presented in this course. Required of all students specializing in Chemistry, Mineralogy and Assaying. Four afternoons of laboratory work, with explanatory lectures. Four hours. Either semester.

V. WET ASSAYING.—This course is designed for those who expect to become chemists in smelters and for those who are interested in mining work. Three afternoons. Either semester.

VI. MINERAL ANALYSIS.—Systematic. Quantitative analysis of representative minerals. Required of all students specializing in chemistry. Four afternoons. Either semester.

VII. ORGANIC CHEMISTRY.—Lectures and recitations on the chemistry of the compounds of carbon, including the fatty and the aromatic series. The aim of the course wll be to take up very thoroughly the simpler compounds, going with great detail into a study of the relationships and characteristic reactions of the different classes of organic compounds. Noyes' Organic Chemistry is used as a text and Richter's or Bernstein's Organic Chemistry will be used as a reference book. Must be followed by Course VIII.

Prerequisite: General Chemistry and Qualitative Analysis. Two hours. First semester in alternate years.

VIII. ORGANIC CHEMISTRY.—A continuation of Course VII. Two hours. Second semester in alternate years.

IX. ORGANIC PREPARATIONS.—Laboratory work. Open in connection with Course VII to students who have completed Course III. Two afternoons. First semester in alternate years.

X. ORGANIC PREPARATIONS.—A continuation of Course IX. Open to students who are taking Course VIII. Two afternoons. Second semester in alternate years.

XI. PHYSICAL CHEMISTRY.—Lectures, assigned readings and reports. Morgan's Physical Chemistry is used as a text. Course XI is necessary for all students who wish to acquire more than a very elementary knowledge of chemistry. Must be preceded by Courses I, II and III, and by Courses I and II in physics. Three hours. First semester, alternate years.

XII. PHYSICAL CHEMISTRY.—A continuation of Course XI. One lecture and two afternoons of laboratory work. Three hours. Second semester.

XIII. ELECTRO-CHEMISTRY AND ELECTRICAL MEASUREMENTS.—Required of Engineering students. Two lectures and two afternoons of laboratory work.

* XIV. (a). DRY ASSAYING.—Must be preceded by Courses I and II and if possible by III (a) and IV. Students specializing in chemistry and assaying will not be permitted to take this course unless preceded by Course II and Mineralogy and accompanied or preceded by Course III. Includes laboratory work in grinding and sampling ores, and the fire assay for gold, silver, lead and copper, and the bullion assay. Determinations involving volumetric methods, or the so-called wet methods, will be given as part of Courses IV, V or VI, depending upon the needs of the student.

Lectures on occurrences of ores, methods of sampling and fluxing for the assays of all of the principal metals will be given. Students desiring to specialize in this work should precede the course by Mineralogy. Required of students preparing for mining. One lecture and two afternoons. Three hours. Second semester.

XV. FUELS AND THE METALLURGY OF IRON, STEEL, COPPER AND LEAD.—Lectures, assigned reading and reports. Two lectures will be given per week, and each student will be expected to hand in a paper on some practical subject at least once a week. Three hours. First semester, alternate years.

XVI. INDUSTRIAL CHEMISTRY. A continuation of Course XII. Will be given only when a sufficient number of students desire to continue the work through this semester. Acid and alkali manufacturing, sugar making and refining, petroleum, etc. Thorp's Industrial Chemistry is used in reference book. Three hours. Second semester, alternate years.

XVII. GAS ANALYSIS.—A short course in the technical analysis of gases with Hempel's apparatus. One or two afternoons. Either semester.

XVIII. ORGANIC ANALYSIS.—Open to students who have completed Courses IV, VII, IX and X. Two afternoons. Either semester.

XIX. INORGANIC PREPARATIONS.—A laboratory course in the preparation and purification of inorganic compounds. Lengfeld's Inorganic Chemical Preparations will be used as a text. Two or four afternoons. Either semester.

XX. ADVANCED INORGANIC PREPARATIONS.—A continuation of Course XVI. Two or four afternoons. Either semester.

XXI. PHYSIOLOGICAL CHEMISTRY.—Including Toxicology. Four hours. First semester.

* Note—Any of the courses XIV to XXV, inclusive, will be given when five students desire to take the special course.

XXIII. SANITARY WATER ANALYSIS.—Two or four afternoons. Either semester.

XXIV. PHOTOGRAPHY. Lectures on the Chemistry of Photography for students taking this course in the Department of Biology.

GRADUATE WORK.—Many of the above courses are suitable for Graduate Work. Courses VII and XXIII, inclusive, will be accepted for advanced degrees when taken with the following:

XXV. RESEARCH.—Special problems in Organic Chemistry, Analytical Chemistry, Water Analysis or Inorganic Toxicology. For Graduates or Fourth Year Students. Four to twenty hours. Both semesters.

DEPARTMENT OF PHYSICS AND GEOLOGY

COURSES IN PHYSICS

This subject is taught by both lectures and laboratory work. In the preparatory courses the students perform nearly all of the experiments after having had the subject presented and explained to them in the recitations.

For the advanced work the subject will be presented also by lectures and laboratory work. In this way the illustrative part of the subject is presented to the student by the lecturer, and the quantitative part is done by the student himself. This arrangement gives the greatest efficiency to the department, both for the student and the professor. The equipment in the way of apparatus is well arranged for both lecture experiments and for physical measurements, while the laboratories are equipped with the modern forms of tables, as described under Equipment.

I. COLLEGE PHYSICS.—Mechanics and Heat. Required of all students in the Engineering and Scientific courses. Must be preceded by Courses I and II Preparatory, or their equivalent, and by Mathematics I and II. Four hours credit, two lectures and two laboratory periods. First semester.

II. COLLEGE PHYSICS.—Electricity and Magnetism. A continuation of Course I, and cannot be taken independent of that course. Four hours credit. Second semester.

III. LIGHT.—Primarily a laboratory course. A few lectures will be given on the past theories of light and on manipulation of apparatus. Must be preceded by Courses I and II. Two hours credit. First or second semester.

IV. SOUND.—A careful study of the subject of sound by both lectures and laboratory work. Must be preceded by Courses I and II. First or second semester. Two hours credit.

V. HEAT.—A laboratory course. A more advanced course than that given in Course I. Must be preceded by Courses I and II. First or second semester. Two hours credit.

VI. ADVANCED EXPERIMENTAL PHYSICS.—Hours to be taken, optional with the student, but not less than two hours may be taken. Must be preceded by Courses I, II, III, IV and V, and Mathematics I, II, III, IV and V. First or second semester.

VII. SPECIAL PHYSICS.—Research work or for the advanced students in Physics. Must be preceded by Physics I, II, III, IV and V, and Mathematics I, II, III, IV and V. First or second semester. The amount of credit given will depend upon the amount and character of work done.

COURSES IN GEOLOGY AND MINERALOGY

At present this work is included in one department and all courses offered are elective. The subjects treated will be general work in Mineralogy and Petrography, and in Dynamic Geology, and Physical Geography. Courses in Paleontology and Stratigraphic Geology will be given and the subjects will receive treatment as part of Dynamic Geology. This region offers unsurpassed opportunities for study of the many and varied processes and geological formations, while the state of Montana and neighboring states are noted for the large number of crystallized minerals found within their borders. As these states are distinctively mining states, all must realize the importance of a thorough knowledge of the principles of Mineralogy and Geology as applied to ores of economic importance. Special attention is given to Economic Geology after the students have prepared themselves in the fields of these two sciences.

The subjects are taught by lectures and laboratory work. For Mineralogy and Lithology, the laboratory work is the examination of the minerals by megascopic and blow-pipe tests. For Geology the laboratory work is applied as field work and excursions to the different exposures of characteristic rocks, and to localities where important geological changes have taken place and left their trace.

I. GENERAL GEOLOGY.—Dynamical and Structural Geology. Two illustrated lectures per week. A study of the common minerals and rocks, in the laboratory. Field excursions to interesting geological points. Four hours credit. First semester.

II. HISTORICAL GEOLOGY.—A general study of the geological history of North America, especially the United States. Two illustrated lectures per week and a laboratory study of the most characteristic fossils of each geological period. Four hours credit. Second semester.

III. MINERALOGY.—A study of minerals from their crystallographic and physical properties. Crystallography will be thoroughly reviewed before the study of minerals is taken up. Should be preceded by Chemistry I. Two lectures and two laboratory periods per week. Four hours credit. First semester.

HALL VIEW IN MAIN BUILDING

HALL VIEW IN MAIN BUILDING

IV. BLOW-PIPE ANALYSIS.—Mainly laboratory work. A study of the chemical, physical and crystallographic properties of minerals. Must be preceded by Course III and Chemistry I and II. Two or four hours credit. Second semester.

V. ECONOMIC GEOLOGY.—A general study of the non-metallic and metallic economic geology of the United States and especially of Montana. Under the non-metallic products, coal, clay, gypsum, oil, gas, building stones, etc., will be taken up; and under the the metallic products, the ores of gold, silver, copper, lead, zinc, etc., will be studied. Geological excursions will be taken to nearby mines and mills. Must be preceded by Courses I, II and III. Two or four hours credit. First or second semester.

VI. LITHOLOGY.—A general study of rocks from their physical and (a few) chemical properties. This course must be preceded by Courses I, II and III. Lectures and laboratory work. Two hours credit. First or second semester.

VII. INVERTEBRATE PALEONTOLOGY.—A careful study of invertebrate fossils and their places in the geological time scale. Special attention will be paid to Montana fossils. Lectures and laboratory work. Must be preceded by Courses I and II. Two or four hours credit. First or second semester.

VIII. ADVANCED GEOLOGY.—A more careful study of the principles of Geology. Field and laboratory work, and a thorough review of past and recent geological literature. Must be preceded by Courses I and II. Two or four hours credit. First or second semester.

IX. PHYSIOGRAPHY.—A study of the chief physiographic features of the earth, their origin, history, etc. Illustrated lectures, laboratory and field work. This course is especially adapted for those desiring to teach physical geography in the secondary schools. Four hours credit. First semester.

X. SPECIAL WORK.—For students desiring to specialize in Geology and Mineralogy. Work to be outlined upon application.

XI. GRADUATE WORK.—The department is especially equipped for advanced students in General Geology, Economic Geology and Paleontology. The state has many unworked geological fields, and by means of the summer geological expeditions much new and valuable museum material has been collected. This material includes rocks, minerals, invertebrate and vertebrate fossils, from almost all of the geological periods, together with a large collection of Cretaceous and Cenozoic leaves, and offers many problems for original investigation.

DEPARTMENT OF MATHEMATICS

All students are required to take one course in Mathematics. Students in Scientific Course must take Courses I and II. In addition to these, students in Engineering Course are required to take Courses III, IV and V. Students in Classical Course or the Course in Letters may choose between Courses I and II.

Courses not required are open to all students as electives, but must be taken in the order prescribed under courses in Mathematics.

COURSES IN MATHEMATICS

I. TRIGONOMETRY.—First semester, M., T., Th., F. 11:30.

II. HIGHER ALGEBRA.—Ratio; Proportion; Variation; Binominal Theorem; Arithmetic, Geometric and Harmonic Progressions; Permutations and Combinations; Undetermined Co-efficients; Summation of Series; Higher Equations; Graphical Representation. Second semester, M., T., Th., F. 11:30.

III. ANALYTICAL GEOMETRY.—First semester, M., T., W., Th., F. 10:30. Must be preceded by Courses I and II.

IV. DIFFERENTIAL AND INTEGRAL CALCULUS.—Second semester, M., T., W., Th., F. 10:30. When required, must be preceded by Courses I, II and III. If elected, may be taken after Courses I and II.

V. DIFFERENTIAL AND INTEGRAL CALCULUS.—First semester, M., W., F. 9:30. Must be preceded by Course IV.

VI. ELECTIVE GEOMETRY.—Devoted entirely to original work. Either semester. 1. May be taken by any one who has passed the entrance requirements in Mathematics.

VII. ELECTIVE GEOMETRY.—Devoted entirely to original work. Either semester. 1. Must be preceded by Course VI or its equivalent.

VIII. THEORY OF EQUATIONS.—Second semester. 3.

IX. ASTRONOMY.—First semester. T. and Th. 9:30. In addition to recitations, one laboratory period per week is required. Elementary course. Must be preceded by Course I.

X. ADVANCED ANALYTIC GEOMETRY.—Second semester. Must be preceded by Courses III, IV and V.

XI. HISTORY OF MATHEMATICS.—Second semester. Must be preceded by Courses III and IV.

For work in Surveying and Differential Equations see School of Mechanical Engineering.

DEPARTMENT OF BIOLOGY

GENERAL STATEMENT

The Biological Laboratories are in University Hall. On the first floor are two rooms and the Museum. In the basement, reached by a private stairway, are the dark room for photography, a store room, and two rooms for laboratory. Across the hall is another room, 24x30, used as an unpacking room and room for general work, and used conjointly by the departments of Biology and Geology.

The tables are of a special pattern, and are admirably adapted to the work. They are 28 inches high, 48 inches long, 28 inches wide. Each table contains on either side two drawers and a space below with a door. The drawers are locked by a wooden bar, and the door has a combination lock. One lock, therefore, locks three compartments. The tops are of oak, 1½ inches thick. Each student works individually at a table and the tables are just high enough to permit the use of a microscope vertically without discomfort. Each desk is fitted with gas, and when artificial light is needed the rooms are well lighted by incandescents. The paraffin baths are kept in the fume hood, and by thermostats may be kept at constant temperature night and day.

EQUIPMENT

The microscopical equipment is as follows: There are two compound microscopes by Leitz. One of these microscopes is the best made by this firm, and has the following accessories: Three eye pieces, a series of five objectives, one being a one-twelfth oil immersion. It has also revolving stage, with substage condenser after Abbe, and with the iris diaphragm. It has eye and stage micrometers and accessory Nicol prisms for polarization, and also a camera lucida after Abbe. The other Leitz instrument has two eye pieces and three objectives, and will take the accessory apparatus mentioned under the preceding. By this same maker there is a dissecting microscope with lenses and camera lucida.

There are eighteen microscopes by the Bausch and Lomb Optical Company. Five of these are fitted with substage condensers for illumination. They are all provided with two-thirds and one-sixth objectives and double nose piece. There

are two dissecting microscopes made by the same firm, with lenses.

In addition to the microscopes as previously described there is a battery of extra objectives, two inch, one inch, one-half inch, one-fourth inch, one-eighth inch, one-tenth inch, and two one-twelfth inch oil immersion. This gives a wide range of work, and is sufficient for most fields of work.

The additional microscopic and other acceseory apparatus is as follows:

A pair of balances; a Miller paraffin bath and a Naples water bath, each with thermostat; an adjustable drawing board for camera lucida; an incubator, with thermostat, for use in bacteriology and embryology; a Castle sterilizer and a hot air sterilizer; a Minot microtome; a student microtome; three Abbe camera lucidas; a Thoma haemacytometer for counting blood corpuscles; a centrifuge apparatus for analysis of blood, milk, wine, and for determination of quantity in lacustrine investigations; a mechanical stage for searching slides for minute objects; Wolfhengel's counting apparatus for bacteria. A filar micrometer eye-piece for measurement of minute objects, as bacteria and blood corpuscles; two cases for storing microscopic slides, containing nearly 1,500 slides; the usual hardware and glassware constantly used in all biological work.

An important part of the equipment of the department is a good collection of necessary chemicals, stains, and reagents for general histological and physiological study. This includes a series of chemicals representing most of the organic compounds of the human body, for elementary and advanced physiology. There is a large series of stains, dyes, oils and fixatives, imported from Germany, made by Gruebler & Co. This collection is complete enough to permit extensive study and research in animal and vegetable histology.

The working material in photography is as follows; Anthony's copying, reducing and enlarging camera, with accessories for making lantern transparencies; a Leitz vertical camera for photo-micrography; a set of lenses for general photography, Bausch & Lomb Optical Company's Set D, consisting of three anastigmat lenses, one of focus 9⅛ inches, one of focus 11½ inches, one of focus 14 inches; these may be used separately or in any combination of two, making thus the

equivalent of six lenses; this set is provided with diaphragm shutter, ray filter, fitted in case; the outfit is one of the best on the market, and its range of usefulness is very great; a Folmer & Schwing camera box for preceding lenses, 6½x8½, with double holders and kits for 18 plates, and capable of taking sizes 6½x8½, 5x7, and 4x5; it has 26 inch bellows, and is fitted with carrying case, especially adapted to outdoor work; a stand for use in horizontal and vertical work indoors; a focal plan shutter; a camera 11x14 for making larger transparencies and negatives.

For projection the department has a stereopticon, used conjointly with the departments of Geology and Art. The lantern has both electric and vapor attachments for illuminant, and accessories for use of microscopical slides and live animals in water. There is a series of several hundred lantern slides, made largely from original negatives. Many of these are colored. The stock of negatives now numbers several thousand, and includes much valuable material. Each year the stock of negatives and slides is materially increased, and at the present writing there is a very creditable accumulation.

WORKING MATERIAL

There is now on hand enough material for original investigation in several fields. The collection of Montana lepidoptera has been arranged, spread, and labelled, a total of about 3,500 specimens. The arrangement of the dragon flies has also been completed. There is yet much material to be worked out, within the ability of undergraduate students, and to which they will be directed as speedily as possible. The collections of working material are being constantly augmented. In addition to those mentioned under the head Museum there is a good series of marine alcoholics, containing both vertebrates and invertebrates, and a good collection of alcoholics from this region. For comparison in elementary work there is a collection of several thousand mounted slides, additions being constantly made. The University is situated under the shadow of Mt. Sentinel, altitude 6,000 feet. A few miles away Mt. Lo Lo rises to an altiture of 9,500 feet. The opportunities botanically and zoologically are excellent.

PLAN OF WORK

The aim of the department is to bring the student into

direct contact with the truths of nature. To do this there are lectures and recitations to give broad and general views, while in the laboraory each student is taught to get the facts for himself first hand. The rich new field in which the University is located gives students good opportunity for work.

In all laboratory work of the department the students work individually at separate tables. Each student is supplied with microscope, glassware, and necessary apparatus, the material being kept in the drawer space of the table. The material is charged to the student and he is held accountable for it. At the close of the semester when the material is returned, in good order, he is credited with the amount returned.

COURSES OF STUDY

The following courses are offered for the year 1907-1908; for the year of required Biology the students may take Courses I and II, or V and VI.

I. GENERAL BIOLOGY.—An introduction to the study of living things. It is designed to illustrate by the study of a few organisms the fundamental structure and properties of living matter. A series of animal and vegetable forms is studied in the laboratory to harmonize with recitations. Two lectures and five hours of laboratory per week.

This course is required of all students. First semester. Lecture at 10:30 Tuesday and Thursday, laboratory from 1:30 to 4, two afternoons per week.

II. GENERAL BIOLOGY.—Continuation of Course I, and necessary for the completion of the work therein indicated. Second semester. Four hours credit. Lecture and laboratory at same hours as Course I.

III. INVERTEBRATE ZOOLOGY.—A general course in the morphology and classification of Invertebrates. Laboratory and Class Work. Dissection of typical Invertebrates.

Lectures or recitations occur twice a week. In the latter Weysse's Zoology is taken as a basis for study. First semester. Four hours credit. Elective. Lectures or recitations at 8:30 Tuesday and Thursday. Laboratory, five hours, at times to be arranged.

IV. A CONTINUATION OF COURSE III.—Vertebrate Zoology. The dissections include Balanoglossus, Amphioxus, Trout, Frog, Cat, etc. Second semester. Elective. Lectures and laboratory at same hours as in Course III.

V. BOTANY.—In this course the plan is to give an intelligent idea of the scope of modern Botany. Recitation twice and laboratory practice five hours per week. First semester. Four hours credit. Recitations at 11:30, M. and F.

VI. SYSTEMATIC BOTANY.—To be preceded by Course V. The region near the University has a rich flora, of great botanical interest. The Valley has an altitude of 3,225 feet above the sea, and plants may be

had from this height to 9,500 feet, the height of Mt. Lo Lo some miles distant.

Laboratory and field work, with lectures or recitations. Second semester. Four hours credit. Recitations at 11:30 M. and F.

VII. ORGANIC EVOLUTION.—This course is given conjointly by the departments of Biology, Geology and Psychology, and will consist of a series of lectures accompanied by library references for reading. Those entering the class will be expected to have had a year in Biology. Elective. First semester, T and Th., at 11:30.

Courses VIII and IX will be under the instruction of F. W. Schule.

VIII. BACTERIOLOGY.—A general course will be given. The subject for discussion in the recitation room will follow that included in Newmann's and Fisher's Texts. The laboratory work will be conducted in the manner outlined in Frost's Manual. First semester. Four hours credit. T. and Th., at 9:30.

IX. THE HUMAN BODY.—An advanced subject for mature students, requiring a good foundation in Biology, Chemistry and Physics. The work given will, in a general way, be similar to the course of study outlined in Martin's Advanced Course on the Human Body. In addition the skeleton and models will be studied, and outside readings assigned. The anatomy and physiology of the supporting tissues, motor tissues, nervous system, and metabolism in general will be considered. M., T., Th. and F. 10:30. Second semester.

X. ENTOMOLOGY.—A course in the systematic entomology; a study of the anatomy and morphology of insects, followed by systematic study of the different orders, and families, with use of keys for determination of species. Comstock's Insect Life is the basis for the specific determinations. Special attention is given to injurious insects, with means employed for their control. Three or four hours credit. Second semester. Elective. T. and Th., at 8:30, laboratory at hours to be arranged.

XI. PHOTOGRAPHY.—A study of lenses, cameras, paper, developers, etc. Practical demonstration in printing, toning, developing, negative making and the various manipulations necessary to produce a completed and perfect picture. This is not an elementary study, but demands a knowledge of both physics and chemistry, which are prerequisites for admission. One lecture or recitation, laboratory Friday afternoon. If this is selected it must be for the year.

XII. PHOTOGRAPHY, CONTINUATION OF THE PRECEDING.—The student is taught how to make lantern plates, transparencies bromide enlargements, is made to copy various subjects of different colors, is given scientific objects to photograph, and is given all the important details of general photography. No attempt is made in either this or Course XI at portraiture. One conference hour and four hours of laboratory.

XII and XIII. RESEARCH WORK.—Under this heading additional study along biological lines will be outlined for students desiring it, considering both the demands of the students and the capacity of the department for carrying on the work. Those entering this work must have finished four of the preceding courses, and must have a reading knowledge of French and German. Laboratory work, ten hours per week for four hours credit, or twelve and one-half hours for five hours credit, with work in Seminary. One day each week will be devoted to reports on reading of current magazines, one to discussion of the work in progress. Magazine reading at 9:30 Tuesday. Seminary, 9:30 Thursday. Laboratory at hours to be arranged.

GRADUATE COURSES

Graduate students applying for work will be given every facility for study. Individual work will be outlined, considering the facilities of the department and the previous work of the applicant. Problems in variation, ecology and histology are readily found, and candidates will be encouraged to pursue studies for which they are fitted and for which they have preference.

BIOLOGICAL STATION

In addition to the courses here offered students are referred to the description of the work of the Biological Station, carried on under the direction of the Professor of Biology. The courses of summer work are open to all who may choose to attend, and credit on the University record is given for the amount of work satisfactorily completed during the summer.

DEPARTMENT OF FREE-HAND DRAWING

GENERAL STATEMENT

The department occupies a large and well lighted studio on the third floor of University Hall. It is well equipped. Geometric solids, casts, and still life furnish ample material for elementary work; tools for work in metal and leather aid designing; while fruit, flowers, and the draped model give opportunity for advanced study. The campus and surrounding landscape offer excellent opportunities for outdoor sketching.

The aim is (1) to give thorough instruction in drawing and painting, to teach as far as possible the technique of this work; (2) to inculcate by similar effort an appreciation of the difficulties and purposes of the great masters; (3) to broaden the student's comprehension of ideal and spiritual beauty, a side of his nature usually neglected.

The arrangement of the courses follows the general trend of the best art schools. Care is taken that the work does not become narrow and mechanical, the desire being to foster originality, and breadth of understanding and of execution. As much freedom in the exercise of individual taste is allowed as is consistent with thorough work. It is expected, however, that all who undertake the courses offered will wish to study progressively and systematically.

Preparatory work, the equivalent of two and a half hours once a week for two years, or one-half unit, is required

UNIVERSITY IN 1895

of all students desiring collegiate courses in drawing and painting.

The collegiate courses are free electives and the student may take from two and one-half to five hours per week, credit being given according to the time spent. For the student who wishes to do certain special kinds of work, four lines are given. Black and White Work, Water Color Painting, Oil Painting and Design.

In addition two courses of a more general character are offered. The work of these courses will be found profitable to all desiring a short general course, but they are intended primarily for students expecting to teach, and the latest standards of practical work, supplemented by lectures, and discussions of principles will form the essential features. The first course outlines the chief points, the second is supplementary to the first, and gives an opportunity for more thorough training. Each course counts two credits.

Three courses are given in the History of Art; the History of Architecture, the History of Sculpture, and the History of Painting. The library method is followed, the University Library being well supplied with the standard reference books in Art. The work consists of recitations and lectures illustrated by an excellent collection of photographs and the sciopticon. The study of the History of Art is conducive to culture and refinement and some course in it should be taken by all students. It gives an understanding of the emotional and spiritual life of man.

A course in Artistic Anatomy is offered and will be found profitable, and even necessary, to the student who intends to pursue the study of Art.

COURSES IN DRAWING AND PAINTING

I. BLACK AND WHITE WORK.—Elective. 2.

a. Drawing in charcoal from full length cast.
b. Drawing in pen and ink and wash from still life.
c. Composition.

II. BLACK AND WHITE WORK.—Elective. 2.

a. Drawing in charcoal from full length cast.
b. Quick sketching from the draped model.
c. Outdoor sketching.
d. Memory sketching.

III. BLACK AND WHITE WORK.—Elective. 2.

a. Drawing in charcoal from draped model.
b. Quick sketching from model and interiors.
c. Newspaper illustration.

IV. BLACK AND WHITE WORK.—Elective 2.

a. Work from draped model and interior in any medium.
b. Drawing from landscape and street scenes.
c. Costume study.
d. Magazine illustration.

V. WATER COLOR PAINTING.—Elective. 2.

a. Painting from still life.
b. Painting from flowers.
c. Painting from fruit.

VI. WATER COLOR PAINTING.—Elective. 2.

a. Painting from flowers and still life.
b. Outdoor sketching.
c. Composition.

VII. WATER COLOR PAINTING.—Elective. 2.

a. Drawing in charcoal from full length cast.
b. Painting from draped model.
c. Painting from landscape.
d. Posters.

VIII. WATER COLOR PAINTING.—Elective. 2.

a. Drawing in charcoal from human head.
b. Painting from human head.
c. Painting from landscape.
d. Painting from draped model and interiors.
e. Costume study.

IX. OIL PAINTING.—Elective. 2.

a. Painting from still life.
b. Painting from fruit and still life.

X. OIL PAINTING.—Elective. 2.

a. Painting of flowers and still life.
b. Sketching and painting from landscape.
c. Composition.

XI. OIL PAINTING.—Elective. 2.

a. Drawing in charcoal from full length cast.
b. Painting from draped model.
c. Painting from landscape.

XII. OIL PAINTING.—Elective. 2.

a. Drawing in charcoal from human head.
b. Painting from the human head.
c. Painting from landscape.
d. Painting from model and interiors.
e. Costume study.

XIII. DESIGN.—Elective. 2.

a. Principles of design.
b. Lettering.
c. Patterns.
d. Book covers.

XIV. APPLIED DESIGN.—Elective. 2.

a. Principles of design.
b. Design variously applied.
c. Designing in leather.
d. Designing in metal.

XV. TEACHERS' DRAWING.—Elective. 2.

a. Lectures on principles.
b. Drawing from still life in various mediums.
c. Sketching from fruit, flowers, landscape, model.
d. Design with applications in clay, metal and leather.
e. Water Color Painting. Color Theory.

XVI. TEACHERS' DRAWING.—Elective. 2.

a. Lectures on principles.
b. Course XV more thoroughly developed.

COURSES IN THE HISTORY OF ART

I. HISTORY OF PAINTING.—Elective. 2.
II. HISTORY OF ARCHITECTURE.—Elective. 2.
III. HISTORY OF SCULPTURE.—Elective. 2.

COURSE IN ARTISTIC ANATOMY

I. ARTISTIC ANATOMY.—Elective. 2.

SCHOOL OF MECHANICAL ENGINEERING

The School of Mechanical Engineering has been especially designed to meet the growing demand in the state of Montana for bright energetic young engineers to cope with the vast problems which must be solved before the unlimited resources of the state can be fully developed. To this end the Engineering laboratories have been designed to offer facilities for tests and experimental inquiry, such as (1) submitting to actual test, and verifying directly, principles developed in the lecture room; (2) building and testing machinery designed by the students; (3) investigating such subjects and engineering problems as are calculated to impart training in methods of investigation, and to yield results, which may prove of value in engineering science; (4) ascertaining the character and proper treatment of materials, and acquiring familiarity with the appliances and processes necessary for the construction of designs. Opportunity is afforded the student to acquire skill in the working of metals by hand and machine tools, in wood-turning, planing, and carpentry, in molding and pattern-making, in forging and tempering tools. These processes are well illustrated in the construction of machines for experimental work. After the student has become sufficiently acquainted with these pro-

cesses, and is able to recognize the differences in appliances and methods, visits of inspection are made to manufacturing establishments and power stations in the vicinity, in order to give him familiarity with engineering operations on a large scale.

The quarters in Science Hall devoted to Mechanical Engineering consist of the following: Mechanical drawing room and office on the first floor of the two story front of the building; wood shop, machine shop, forge shop and foundry, located in the two story extension of the building; and the engine room, located in the basement under this extension.

The draughting tables are located in a well lighted room 23x24 feet in size. The office of the Professor of Mechanical Engineering is adjacent to it. Fourteen drawing tables furnish accommodations for twenty-eight students. A library of over two hundred volumes of standard works, as well as a large number of engineering catalogues, pamphlets, etc., furnish the student with valuable references.

Passing from the hall of the front part of the building into the two story extension above referred to, the wood shops, forge shops and foundry, occupy rooms, in the order mentioned. The wood shop is 30x40 in size, and is well lighted on both the north and south sides. Work benches with vices and tool cupboards, furnish accommodation for ten students at bench work, while ten lathes of 11-inch swing enable an equal number to engage in wood turning. There is also an excellent wood turning lathe of 16-inch swing and 12-foot bed, with double-ended spindle, for turning large work. A double circular sawing machine, with cross-cutting and rip saws. A scroll saw, a wood trimmer and a grindstone complete the equipment of this shop.

The machine shop is adjacent to the wood shop. It is 30x27 1-3 feet in size, and is lighted from both north and south sides.

The equipment comprises one 16-inch by 8-foot engine lathe, with taper-turning attachment, chuck, large and small face plates, a 32-inch swing drill press, a sensitive drill, a 16-inch stroke, shaper, a power hack saw, a wet emery grinder, a double emery grinder, and benches with four machinist's vises.

The forge shop opens off the machine shop. It is 30x30 feet in size. Eight Buffalo down draft forges are placed in

this shop, and a Buffalo combination blower and exhaust fan furnishes blast and carries off the smoke. There is also a small portable forge with blower attached. A combination shearing and punching machine, and a complete outfit of anvils, hammers, tongs and other necessary tools, complete the equipment of this shop.

The foundry also opens off the machine shop. It is a well lighted room, 30x30 feet. The equipment consists of a No. 0 whiting Cupola, a Sturtevant steel pressure blower, core oven, core making bench, and the small tools and supplies needed.

In the machine shop there is partitioned off a small tool room. Here are kept all the small tools, such as calipers, taps, scales, etc., for the machine shop, and also many tools for the wood shop. Also a complete stock of supplies, such as machine and wood screws, sand paper, etc., is conveniently stored. A checking system enables the instructor to give out these tools for student's use, without danger of their being lost or mislaid.

It is the purpose of this department to give the student a thorough training in those branches of science that underlie the profession of Mechanical Engineering, as well as technical instruction in the practical lines of shop practice, mechanical drawing, and machine design.

Below is given the special work required in this department. For the general work, and for the arrangement of the work according to years, see the Course of Study of the School of Mechanical Engineering. The hours per week given are the number of hours credit, each one of which requires one hour's work in recitation or lecture, or two and one-half hours in laboratory, shop or drawing room.

STEAM ENGINEERING

A 50- horsepower Automatic Atlas engine, located in the basement, furnishes power for the shops. This engine is used for testing purposes by the students in steam engineering. The department is furnished with a Prony brake, two improved Crosby indicators with a reducing wheel and also a pantagraph, one improved Crosby steam gauge tester, speed counters and all necessary attachments for taking power, steam consumption, etc.

ELECTRICAL ENGINEERING

Equipment has been added during the year for those students who wish to specialize in Electrical Engineering.

During this time there has been added the following complete equipment for electrical testing and alternating current work: A full set of Weston standard measuring instruments consisting of voltmeters, ammeters, wattmeters, etc. Three static transformers for tests in single, two and three phase circuits. A two and three phase induction motor, a synchronous motor, a rotary converter and direct current dynamo for electrolytic testing, etc.

Belt-connected to the Atlas engine is a 125-light 6250-volt Brush Arc Machine. For alternating current work connections are made to the city supply circuit. Through the generosity of the Missoula Light & Power Co. the department has been presented with many forms of ammeters, voltmeters, wattmeters, etc., for electrical testing work in addition to the above.

CIVIL ENGINEERING

For those students who wish to specialize in Civil Engineering work, the department is well supplied with an excellent surveying outfit, consisting of a transit, Y level, compass, planimeters, solar attachments, leveling rods, chains, tapes, etc.

SHOP WORK

Instruction in shop work is given in the afternoon throughout the first and second years, and a half year in the third and fourth year work. There are three shop periods per week of two and one-half hours each.

I. FIRST YEAR SHOP WORK.—During the first semester attention is given to acquiring a knowledge of the use and care of tools in this shop. A systematic course of exercise has been laid out to accomplish this, involving the use of the tools at the disposal of the student. On the bench, the exercises in carpentry consist in sawing, planing, joining, splicing, mortising, dovetailing, framing and paneling. On the lathe exercises are given in the turning of cylinders, cones, beads, ogee curves, etc., and chucking and face turning. The last four weeks of this semester will be devoted to pattern making.

In the second semester pattern making is continued. This work consists in making patterns of machine parts, and also core boxes for the same should they be required. The making of patterns involves a knowledge of both lathe and carpentry work and requires careful and accurate workmanship. A portion of the time in this semester is given

to molding and casting. This work is designed to give a general knowledge of foundry practice, and includes making of molds in green sand, core making, and charging and operating in cupola furnace.

During part of each period lectures are given in the use and care of tools, and in the elements of wood construction. Lectures are also given on the elements of pattern making, followed by a description of a variety of representative pieces of pattern construction.

Seven and one-half hours throughout the year; 3 units per half year. Prescribed for first year.

II. SECOND YEAR SHOP WORK.—Molding and casting is continued for the first six weeks, and followed by twelve weeks of iron and steel forging. Exercises in drawing out, upsetting, welding, punching, and forming, are followed by a course in steel working and the forging and tempering of tools.

The latter part of the semester's work is in the machine shop. The work consists first, of exercises in vice work, involving practice in the use of hammer and cold chisel, file and scraper; and second, of exercises designed to give practice in the working of the various machine tools. The preliminary exercises are followed by work on complete machines.

Part of each period is taken up in lectures on the use of tools such as hammers, cold chisels and files. The engine lathe and other machine tools are described, and various shop processes and operations are given, the purpose being to give the student such knowledge of shop practice as would be most likely to be useful in his future work.

Seven and one-half hours second semester; 3 units per half year. Prescribed second year. Prerequisite: Course I.

III. THIRD AND FOURTH YEAR SHOP WORK.—During the third year and first semester of the fourth year, machine practice is continued. Additional practice is given in the use of lathe, shaper, and other machine tools. Various machines designed by the students will be built.

Five hours throughout the year; 2 units per half year. Prescribed third and fourth years.

DRAWING

I. INSTRUMENTAL DRAWING.—Instrumental drawing, solving of geometrical problems, cross-hatching, line shading, drawing from copy, and orthographic projection. In the second semester drawings to scale are made of simple machines and machine parts.

Five hours throughout year; 2 units. Prescribed first year.

IIA. DESCRIPTIVE GEOMETRY.—The correct representation of the point, line, plane and solid space; sections and intersections of various geometrical figures.

Five hours first half year; 2 units. Prescribed second year.

IIB. DESCRIPTIVE GEOMETRY.—Shades and shadows, isometric projection.

Five hours second half year. Prescribed second year. Prerequisite: Course IIA.

III. MECHANICAL DRAWING.—Drawing of simple machine parts. Complete sets of working drawings are made of existing machines. The necessary sketches and measurements are first made of existing machines, thus gaining additional training in free-hand drawing, and from these sketches the finished drawing is made.

Five hours second half year. Prescribed second year. Prerequisite: Course I.

IV. MACHINE DESIGN.—Elementary Machine Design. This work consists of the designing of such elementary machine parts as fastenings, riveted joints, keys, journals, bearings, etc. Both rational and empiracal formulas are used, and standard authorities are consulted.

Five hours first half year. Prescribed third year. Prerequisite: Courses I and III.

V. STEAM ENGINE DESIGN.—Continuation of Course IV. In the latter part of the year the work in steam engine design is commenced. A series of ideal indicator diagrams are drawn so as to give diagrams of actual force transmitted to crosshead and crank pin.

Five hours second half year; 2 units. Prerequisite: Course IV.

VI. GRAPHIC STATICS.—General theory of graphic statics with applications. Graphical analysis of stresses in Engineering structures and includes the designing of engineering structures, such as roof-trusses, bridges, etc.

Five hours first half year; 2 units. Prerequisite: Course II.

VII. ELECTRICAL DESIGN.—This work consists in the design of simple parts in electrical machinery.

One hour lecture, 3 hours drawing; 2 units.

MECHANICAL ENGINEERING

I. ANALYTICAL MECHANICS.—The mathematical treatment of the important principles of dynamics and statics, fully illustrated by problems and applications. Hoskins' Analytical Mechanics is used.

Four hours throughout the year; 4 units per half year. Prerequisite: Courses III and IV in Mathematics and Course I in Physics.

II. HYDRODYNAMICS.—Investigation of the action of forces producing equilibrium or motion in liquids; pressure, stability, flow, etc., as affected by gravity, inertia, outer and inner friction. General theory and construction of hydraulic motors and pumping machinery.

Three hours first half year. Prescribed fourth year. Prerequisite: Course I.

III. HYDRAULICS AND HYDRAULIC MACHINERY.—Discussion of such machines and apparatus as operate through the agency of fluids, ceither in modifying motion or transmitting power.

IV A. THERMODYNAMICS AND THE THEORY OF THE STEAM ENGINE.—Mechanical theory of heat, thermodynamics of gases and vapors, and the theory of the steam engine; discussion of the effects of compounding, jacketing and superheating; efficiencies of the steam engine.

Three hours first half year. Prescribed fourth year. Prerequisite: Course I.

IV B. CONSTRUCTION AND OPERATION OF HEAT ENGINES.—Power plant equipment; construction and operation of steam, gas, oil and air engines, boilers, refrigerating machines, air compressors, steam turbines, etc.

Three hours second half year. Prescribed fourth year. Prerequisite: Course I.

V A. KINEMATICS.—Theoretical: Treatment of motion without reference to the cause which produces it, comprehending the study of pure mechanism, or the mutual dependence of the movements in the parts of a machine. Applied: Application of the preceding to the various kinematic problems connected with machine design and construction, such as link motion, transmission by rolling and sliding contact, teeth of wheels, cams, form and production of the steam engine and other motors.

Two hours throughout the year. Prescribed third year. Prerequisite: Course I.

V B. KINEMATICS.—Draughting and designing.

Two and one-half hours second half year; 1 unit. Prescribed fourth year. Prerequisite: Course I.

VI A. SURVEYING.—Theory of surveying; modern surveying instruments; methods employed in topographic, land, city, mining, and hydrographic surveys, and in making maps and calculations from field-notes. Full illustration by practical problems. Lectures and recitations.

Three hours throughout the year. Prescribed second year.

VI B. FIELD PRACTICE AND MAPPING.—The adjustment of surveying instruments in the field; taking of notes for plane and topographical surveys and making of maps from them to illustrate the theoretical work of the class-room. Completed maps of all surveys will be required.

Seven and one-half hours first semester; 3 units per half year. Prescribed second year.

VII. STRENGTH OF MATERIALS.—Discussion of the elastic and the ultimate resistance of the materials used in construction; of the first methods in designing parts of structures, such as suspension rods, pillars, girders and shafts; and of parts of uniform strength. Lectures and problems.

Four hours second half year. Prescribed third year. Prerequisite: Thoroughly satisfactory standing in the first half year of Course I.

VII A. LEAST SQUARES.—Mathematical discussion and treatment of errors arising in engineering work. Solution of problems, computing the probable error, mean values, etc.

Two hours first semester; 2 units. Prescribed third year. Prerequisite: Course I, II, III, IV, in Mathematics.

VII B. DIFFERENTIAL EQUATIONS.—Solutions of equations involving differentials arising in strength of materials and especially those involved in the theory of electrical phenomena.

VIII. MECHANICAL LABORATORY, EXPERIMENTAL ENGINEERING.—Experiments in steam engineering, hydraulics, testing of machinery, materials, etc.

Five hours first half year; 2 units. Prescribed fourth year.

IX A. ELECTRICAL MACHINERY AND CONSTRUCTION.—Discussion of the construction and operation of electrical machinery and its application to electric lighting and power distribution. The location and construction of electric lighting and power systems for cities, street railways and mines.

Two hours second half year. Prerequisite: Mathematics IV and V. Prescribed third year.

IX B. ELECTRICAL MACHINERY AND CONSTRUCTION.—Continuation of Course IX A.

Two hours first half year. Prescribed fourth year.

X. ALTERNATING CURRENT AND ALTERNATING CURRENT MACHINERY.—The theory of the generation of single-phase and poly-phase alternating currents, the use of the complex quantity, and the calculation of the regulation and behavior of alternating-current apparatus and transmission lines. In the latter part of the year is taken up the theory of the single-phase and poly-phase induction motor, synchronous motor and rotary converter, and their effects and operation in transmission lines.

Four hours throughout the year; 4 units per half year. Prescribed fourth year Prerequisite: Courses I and III in Physics.

XI. MECHANICAL ENGINEERING SEMINARY.—Critical discussion of special mechanical or electrical installations. Special tests and laboratory work.

Hours and credit value to be arranged. Primarily for graduates.

XII. THESIS.—A candidate for a degree in the mechanical engineering course is required to write a thesis upon some subject in Mechanical or Elecrical Engineering.

DEPARTMENT OF MUSIC

The Department of Music of the University of Montana provides instruction in vocal and instrumental music and opportunity for the study of chorus work.

There is a Glee Club which has accomplished excellent work under the direction of Mr. J. Franklin Thomas, and an orchestra, which is a regular utility feature, under the direction of Mrs. Whitaker. Both these organizations have a capital esprit de corps, and are worked for faithfully. Intending students who know a little of some orchestral instrument are requested to enroll and to benefit both themselves and the orchestra by practice and improvement.

One of the principal features is the Pianoforte School, which is in a very satisfactory and encouraging condition, both as regards number of students and the proficiency. The school is divided into Upper and Lower, and each of these again into two grades, Senior and Junior. The Juniors of the Lower School use as studies the New England Conservatory Method, Bertini's Czerny's or Heller's Easier Exercises, little pieces by Bach, Reinecke, Gurlitt and others.

The Seniors continue the above with scales in similar and contrary motion, and major arpeggios of the common chord. More advanced pieces are given.

In the Upper School the work of the Junior grade comprises scales in thirds, sixths and tenths, similar and contrary motion. Major and minor chord arpeggios. Cramer's Etudes, Czerny's Virtuosen Schule and Clementi's Gradus ad Parnassum. The Senior grade, in addition to the above, take Arpeggios of the Dominant and Diminished Sevenths and studies by Chopin, Henself, Moscheles and others.

Exercises are given in sight reading, elementary harmony, ear tests and history of music.

Public recitals are given by the students three times in each year, and have proved of great service in encouraging effort and overcoming nervousness.

A medal is presented yearly by Mrs. E. L. Bonner of Missoula, for the most proficient player in advanced technique. Other medals are awarded by the director.

One lesson, weekly ..... $20 the Semester
Two lessons, weekly ..... $40 the Semester

DEPARTMENT OF PHYSICAL CULTURE

EXERCISES FOR MEN

The work for the men consists of exercises with Indian clubs, dumb bells and parallel bars; and, in addition, some attention is given to Swedish Gymnastics, tumbling and Corrective Gymnastics. The object is to build up the weaker parts of the body, enlarge the thorax and form correct carriage. The younger students are given light work and elementary exercises, while the older students are given heavier work and more complicated exercises. All students in the Preparatory Department and in the first and second collegiate years are required to take two hours of gymnasium work per week. One-half hour credit is given each semester for this work.

The light Gymnastics consist of exercises with Indian clubs, dumb bells, and ordinary military set-up exercises; while the heavy gymnastics consist of Swedish gymnasium work, corrective gymnastics, and chest-weight and parallel bar work.

EXERCISES FOR WOMEN

The work in this department is made as practical as possible. The aim is to make the Gymnasium practices progressive and systematic. General development of the body, a correct carriage, ease and grace of movement, and a correct method of breathing are the objects in view.

Two hours per week in the gymnasium are required of all young women in the Preparatory school and for two years in the College. Preparatory gymnasium, Tuesday and Thursday at 11:30. Collegiate gymnasium at 2:30.

BIOLOGICAL STATION

OSCAR J. CRAIG, M. A., Ph. D.,
President of the University, Lecturer.

MORTON J. ELROD, M. A., Ph. D.,
Director, General Zoology, Plankton Methods.

P. M. SILLOWAY,
Superintendent of Schools, Lewistown, Bird Study.

C. H. SCHERF, M. S.,
Flathead County High School, Physiography.

MAURICE RICKER, M. A., M. S.,
Principal West Des Moines High School, Photography, Nature Study.

MRS. EDITH BROWN RICKER,
Artist.

Postoffice, Bigfork, Flathead Co., Montana, July 1 to September 1.

COURSES OF STUDY FOR 1907

The laboratory work of the Station for 1907 will open July 9, and continue until August 15.

For a week or ten days before the Station opens and for two or three weeks after the work closes some one of the Station staff will be at or near the Station, and will aid any who may choose to work during such time. The laboratory is at the disposal of students, if it is wanted, from June 15 to September 1.

EQUIPMENT

The Station is located on the bank of Swan River at its outlet into Flathead Lake. It was established in the spring of 1899.

The laboratory is a one-story frame structure, 18x24, containing a small store room, a dark room, and tables for twelve students. It is substantially built, well lighted, and well suited to outdoor work.

The Station is in possession of three boats for use in the work: A gasoline launch, "Missoula," a row boat, "Culex," and a canvas boat, "Daphnia." These boats enable the Station force and those attending to get around very nicely. In addition to the above the Station is in possession of numerous smaller pieces of material, a pump after plans of Ricker, plankton net after plans of Kofoid, insect nets, dredges, camp material, and other necessary appliances are supplied for the work. Microscopes, chemicals, glassware, and books are taken annually from the University for use at the Station.

PURPOSES OF THE STATION

To serve as a field for research work in Botany, Zoology and Geology. To offer research work to candidates for a degree, such work being accepted by the University of Montana. To furnish a general course to college students, or to those preparing to teach. To make a place for high school students where they may be permitted to work under the most favorable opportunities. To afford opportunity to teachers to collect material for class use and for their own laboratories. To provide lectures, field excursions, and laboratory exercises so as to give the best insight into the proper method of nature study. To see some of the grandest scenery in the world, and to receive the inspiration felt by those who see grand panoramas. To offer a place where healthful recreation may be had, free from care, under inspiring conditions, accompanied by an environment stimulating observation and investigation. To offer a place where kindred spirits in the state may meet and exchange ideas and by this friendly meeting receive added stimulus and enthusiasm for work.

LOCATION

The University of Montana Biological Station was opened in 1899. For the past eight summers the station has been occupied from June until September or October. During this time some fifteen states have been represented. The station has become well known to many American naturalists, and all are enthusiastic in their praise of opportunities afforded in the vicinity of Montana's large inland lake.

For scenery the vicinity cannot be surpassed. Few places offer more varied points of interest. The roaring rapids of Swan river are at the door of the building. Flathead Lake, covering more than 300 square miles of territory, with its beautiful islands and precipitous shores, has great attractions. The Mission range, beginning on the burnt hills by the laboratory, and rising higher and higher as they extend southward, culminate in snow-capped peaks 10,000 feet in height. A few miles to the east is the Swan range, its high summits constantly in view. These two mountain ranges afford some of the most beautiful panoramas to be seen in the Rocky Mountains, and rival the Alps in magnificent scenery. Farther to the east, reached in a short time by pack train, the main chain of the Rocky Mountains breaks the horizon with lofty peaks and precipitous summits. Untrod summits invite the courageous naturalist who seeks the unknown animal and vegetable life. West of Flathead Lake are the almost unexplored Cabinets. Within a few miles are many lakes, Swan, Echo, Rost, and others, while many ponds and swamps are in the immediate vicinity. The waters of Swan and Flathead rivers supply Flathead Lake, the former at the laboratory door, the latter but two miles distant. East and south of the Laboratory the forests extend unbroken for a hundred miles, with here and there a settler's cabin. Such a combination of lakes, rivers, mountains, forests, at elevations from 3,000 to 10,000 feet, one will find in few places in America.

The present site of the Station was chosen because of the advantages mentioned above. The seaside will always have its attractions and devotees. But there are those who love the mountains, who delight in craggy heights, and who find abundance of material for study because it is new and the field unexplored. There are many who cannot take long trips to the seashore, others who wish to spend a summer on

the inland lakes in the primeval forest and among the snow-clad hills. Then there is the home field. Montana needs a wider dissemination of knowledge of outdoor study. Here may be had healthful recreation, beautiful surroundings, congenial associates, and rare opportunities for observation and study.

The climate is delightful. Rarely does it rain in July and August. In the shade it is always pleasant. Long trips may be planned without danger from the elements. One may sleep out without fear. In a day from the laboratory one may reach huge snowbanks in middle August. There is an abundance of sunshine, no fogs nor dreary days and few days of excessive heat.

COLLEGIATE COURSES OF STUDY

The University offers the following general courses of instruction:

A.—A classical course, leading to the degree of A. B.

B.—A course in letters leading to the degree of A. B.

C.—A science course, leading to the degree of B. S.

D.—A pre-medical course, leading to the degree of B. S.

E.—A course in mechanical engineering, leading to the degree of B. S. in Engineering.

The work of the year is divided into equal semesters. One hour's work is one hour recitation or lecture through one semester, with the required preparation. Two and one-half hours of laboratory work, shop work, or drawing counts the same as one of the lecture or of recitation. At least one hundred and thirty hours as here defined are required for graduation. A student's choice of elective work is subject to the approval of the Faculty, which reserves the right of refusing to give any elective course for which there are less than three approved applicants.

ADMISSION TO COLLEGIATE COURSES

Candidates for admission to the first year class in any of the collegiate courses of the University, must be at least sixteen years old and present evidences of good moral character.

Students coming from other colleges and universities must bring certificates of honorable dismissal.

Admission may be made:

(a)—By certificate.

1. Graduates of the accredited high schools of Montana are admitted to the collegiate departments of the University on presentation of their diplomas, accompanied by a certificate from the superintendent of their respective schools.

2. Students coming from any other school or college are required to bring all grade cards, certificates or diplomas that they may possess, together with written statements from teachers, superintendents or principals, in order that a proper estimate may be made of their past work.

(b)—By examination.

Examinations for entrance will be given on days set in calendar of this catalogue.

REQUIREMENTS FOR 1907-1908

Preparation is required or may be presented in the following subjects:

I. ALGEBRA.—Fundamental operations (including special rules for multiplication and division); Factoring; Highest Common Factor; Lowest Common Multiple; Equations of the First Degree containing one or more unknown quantities (including problems in the same); Involution and Evolution; Fractional and Negative Exponents; Radicals; Quadratic Equations of one or two unknown quantities. The equivalent of Chapters I—XVII, XIX and XX, of Wentworth's New School Algebra.

II. GEOMETRY, PLANE AND SOLID.—Demonstrations, construction and the solution of numerical problems involving the metric system and logarithms. The equivalent of Wentworth's text and Estill's Numerical Problems in Plane Geometry.

III. ENGLISH LANGUAGE AND LITERATURE.—

The requirements are:—

1. GRAMMAR.—A good knowledge of the elements of grammar, including the parts and properties of speech, the various kinds of sentences as to form and meaning, parsing, sentential analysis, and the classification of the elements of sentences.

2. COMPOSITION.—Ability to write clear and idiomatic English, and make practical use of the essentials of composition, not only form, construction, syntax and punctuation, but also the principles of good style and rhetorical figures.

3. LITERATURE.—Applicants will be expected to be familiar with the form and substance of the works in group (a), and to possess a general knowledge of the subject matter in two or more of the classics in group (b).

(a) Shakespeare's **Macbeth, Merchant of Venice,** and **Julius Caesar,** Macaulay's **Essay on Milton,** or **Essay on Addison,** Tennyson's **Idylls of the King** and **Princess,** Gayley's **Classic Myths.**

(b) Scott's **Kenilworth** or **Ivanhoe,** DeQuincy's **Revolt of the Tartars,** Eliot's **Silas Marner,** Dickens' **Tale of Two Cities** or **David Copperfield,**

Wallace's **Ben Hur**, Blackmore's **Lorna Doone**, Kingsley's **Westward Ho!**

IV. HISTORY.—ANCIENT HISTORY.—The equivalent of one year's work, with special reference to Greece and Rome.

V. HISTORY.—MEDIAEVAL AND MODERN HISTORY.—The equivalent of one year's work.

VI. PHYSICS.—One year of Elementary Physics, the equivalent of Carhart and Chute's Elementary Physics, Gage's Principles of Physics, or Avery's Elements, one-half of the time having been devoted to laboratory work. The student's note book in laboratory practice will be considered evidence of having done this work.

VII. LATIN.—The reading of four books of Caesar, and four orations of Cicero, or their equivalents, with the grammatical knowledge which must be acquired in the preparation for and performance in a thorough manner of this reading. Practice in writing Latin to the extent presented in Bennett's or Jones' Latin Composition or similar works. This amount is usually covered by three years' work.

VIII. GERMAN.—Grammar, Joyne's-Meissner, Whitney's or their equivalents. Ability to read easy prose fluently, and to translate at sight such work as "Hauff's Maerchen" (Goold).

IX. FRENCH.—Grammar, Chardennal's Complete, Edgren's or their equivalents. Ability to read easy prose fluently and to translate at sight such work as "La Pierre de Touche" (Harper).

X. BIOLOGY.—One year's work in Biological Science, with half the time given to Laboratory work, the equivalent of Davenport's Elementary Zoology for class, and Kingsley or Colton in Laboratory, with accompanying special reading or study.

XI. CHEMISTRY.—One year's work, the equivalent of Remsen's Beginning Course. One-half of the time must be given to laboratory work, as certified by student's note book.

XII. PHYSICAL GEOGRAPHY.—One-half year, the equivalent of Tarr's Elementary Physical Geography.

XIII. PHYSIOLOGY.—A half year. Martin's Human Body, Briefer Course, or its equivalent, with laboratory work representing a minimum of 5 hours of work.

XIV. MECHANICAL DRAWING AND SHOP WORK.—One year.

REQUIRED FOR ADMISSION

The subjects required for admission to the various courses are as follows:

Classical Course, I, II, III, IV, V, VI and VII.

Scientific Course, I, II, III, IV or V, VI, X or XI. Two years study of either ancient or modern languages, and one of IV, X, XII and XIII.

Literary Course, I, II, III, IV, V, VI, VII. For VII, wholly or in part, the student may substitute two years of Modern Languages and one year of Science.

Mechanical Engineering Course, I, II, III, IV, V, VI, VII, with any one of the following: For VII, wholly or in part, may be substituted an equivalent amount of VIII, IX, X, XI, XII, XIII, XIV.

REQUIREMENTS FOR 1908-1909

On the basis of a four years' preparatory course, fifteen units will be required for admission.

The term unit means one subject pursued for at least thirty-six weeks with not less than four recitations per week, of not less than forty minutes each.

The following is the list of the subjects from which choice must be made, and of the number of units which may be selected in each subject:

English Composition and Literature, 3 or 4.
Mathematics (Algebra and Geometry), 3.
Mathematics (Trigonometry), ½.
History, 1, 2 or 3.
Latin, 2, 3 or 4.
German, 2, 3 or 4.
French, 2, 3 or 4.
Physics, 1.
Chemistry, 1.
Biology, 1.
Botany, 1.
Zoology, 1.
Free-Hand Drawing, ½.

When Biology is elected, credit cannot be given for Botany and Zoology.

The fifteen units required for admission must include the following:

English Composition and Rhetoric, 3.
Mathematics (Algebra, Geometry—Plane and Solid), 3.
Physics, 1.
History, 1.
Latin, German or French, 2.

The remaining five units may be selected from the list above.

GRADUATION AND DEGREES

In order to secure the recommendation of the Faculty for graduation from the University in any of the respective lines of work that have been outlined, it is necessary for the student to complete the equivalent of at least one hundred and thirty hours work, as already defined in the section concerning collegiate courses.

That the needs and special inclinations of the different students may be consulted as far as possible, certain of these hours are required for each of the respective degrees and the rest are left for the student's selection.

The work required for the completion of the three courses in the College of Letters and Science shows at a glance the difference in the courses. Certain subjects are required of all students, others are required in special courses, others must be elected from definite lines of work and still others are free elective. It is understood that the choice in free electives must in part be governed by the arrangement of subjects on the daily program, and that precedence will always be given to required work for the different degrees and the number of partial elective hours allowed.

Special students in the Department of Education will select a major and two related minor subjects. At least half and not more than two-thirds of their work must be done in these three departments.

GENERAL WORK REQUIRED FOR DEGREES, EXCEPTING B. S. IN ENGINEERING

Rhetoric, I	4 hours
Political Economy, I	3 hours
Psychology, I	5 hours
Literature,	7 hours
Biology, I, II	8 hours
Chemistry, I, II	8 hours
Elocution, I, II	4 hours
History, I	3 hours
Library Science	1 hour
Physical Culture	2 hours
General required work	45 hours

WORK REQUIRED FOR DEGREE B. A.

(Classical Group.)

General required work (given above)	45 hours
Special required work, Latin	24 hours
Special required work, Greek Life	3 hours
Special required work, Roman Life	3 hours
Partial Electives, in Greek, Latin, Modern Languages	22 hours
Partial Electives, Trigonometry or Higher Algebra	4 hours
Free Electives	29 hours
Total	130 hours

(Literary Group.)

General required work (given above)	45 hours
Partial Electives, Ancient and Modern Languages	22 hours
Partial Electives, History, Literature and Philosophy	32 hours
Partial Electives, Trigonometry or Higher Algebra	4 hours
Free Electives	27 hours
Total	130 hours

(Pedagogical Group.)

General required work (given above)	45 hours
Latin and Greek	28 hours
Philosophy and Education	23 hours
Mathematics	4 hours
Restricted Electives	15 hours
Free Electives	15 hours
Total	130 hours

WORK REQUIRED FOR DEGREE B. S.

(General Science Group.)

General required work (given above)	45 hours
Special required work, Trigonometry	4 hours
Special required work, Higher Algebra	4 hours
Special required work, Physics	8 hours
Partial Electives, Modern Languages	16 hours
Partial Electives, Science and Mathematics	24 hours
Free Electives	29 hours
Total	130 hours

(Pedagogical Group.)

General required work (given above)	45 hours
Mathematics	8 hours
Physics	8 hours
Modern Language	16 hours
Philosophy and Education	23 hours
Restricted Electives	15 hours
Free Electives	15 hours
Total	130 hours

(Pre-Medical Group.)

General required work (given above)	45 hours
Partial Electives, Modern Language	16 hours
Special required work:—	
Mathematics; Trigonometry and Higher Algerbra	8 hours
Biology; Vertebrate Zoology, Bacteriology, Embryology, Human Anatomy	14 hours
Chemistry; Qualitative Analysis, Quantitative Analysis, Organic, Physical Chemistry	16 hours
Physics	8 hours
Free Electives	23 hours
Total	130 hours

(Pre-Mining Group.)

General required work	45 hours
Mathematics	20 hours
Courses I, II, III, IV and V.	
Geology	8 hours
Courses I and II.	
Chemistry	20 hours
Courses III A, III B, IV, V, VI.	
Mineralogy	8 hours
Courses III and IV.	

Mechanical Engineering Courses 2A, 3, 6A and 1.	21 hours
Physics Courses I and II.	8 hours

(Technical Chemistry Group.)

Physics, I and II	8 hours
Rhetoric, I	4 hours
Algebra (Higher)	4 hours
Trigonometry	4 hours
German, I and II	10 hours
Psychology	3 hours
Political Economy	3 hours
Literature	7 hours
Biology, I and II	8 hours
Chemistry:—	
I, II, Inorganic	8 hours
III, Qualitative Analysis	8 hours
IV, VI, Quantitative Analysis	8 hours
VII, VIII, IX, X, Organic Chemistry	8 hours
XI, XII, Physical Chemistry	6 hours
XIII, Electro Chemistry	4 hours
XVIII, Inorganic Preparations	4 hours
Journal Club (No credit)	1 hour
V, Assaying	3 hours
Industrial Chemistry or Water Analysis	2 hours
Mineralogy	4 hours
Advanced Mathematics:—	
Calculus	8 hours
Analytic Geometry	5 hours
Mechanical Engineering:—	
Mechanical Drawing	4 hours
Descriptive Geometry	4 hours
Analytic Mechanics	4 hours
Machine Design	2 hours
Electrical Machinery	3 hours

The above group constitutes the first four years of a course in Chemical Engineering. Students who are preparing for work as Analytical Chemists or Teachers may substitute for the Advanced Mathematics and Mechanical Engineering, the following:

Partial Electives in Chemistry, Geology, Biology, Mathematics or Engineering	10 hours
Free Electives	12 hours

WORK REQUIRED FOR DEGREE OF B. S. IN ENGINEERING

In Mathematics, I, II, III, IV, V	20 hours
Physics, I, II	8 hours
Chemistry, I, II, V, XIII	14 hours
Literature, II	2 hours
Library, I	1 hour
English, I	4 hours
Physical Culture	2 hours

For the technical work required in the School of Mechanical Engineering see the tabular statement, page 75.

BACCALAUREATE DEGREES

The University grants the following baccalaureate degrees for undergraduate work:

I. The degree of Bachelor of Arts to those who complete either the Classical group or the Literary group in the College of Liberal Arts.

II. The degree of Bachelor of Science to those who complete the Scientific course.

III. The degree of Bachelor of Science in Engineering to those who complete the course in Mechanical Engineering.

ADVANCED DEGREES

Master of Arts, Master of Science. The Degree of Master of Arts or Master of Science, will be conferred upon resident graduates on the following conditions:

I. The candidate must be a graduate of this University, or a University or College of good standing, as approved by the Faculty.

II. He must have pursued, during one or more years, a course of graduate study at this University, the minimum requirement of work being represented by forty hours of credit.

III. The candidate may pursue one major study and two minors, one major and one minor, or may devote his entire time to the major, the division of time and arrangement of work to receive the recommendation of the department in which the major work is taken and the approval of the Faculty. In any case one-half of the candidate's work must be on the major subject.

IV. The minor, or minors, must be closely allied to the major subject, provided, however, that any candidate, in residence for two or more years, may select any approved subject as a second minor for a degree.

V. All courses of study leading to advanced degrees are subject to approval, first, by the head of the department of the University in which the major subject for each student belongs; second, by the Faculty. The signatures of the heads of the departments in which chosen minor subjects belong must also be obtained. This list of studies with the approval signatures must be deposited with the secretary of the Faculty. No changes may subsequently be made except under the same line of approvals, but extension of time may be arranged with the professors concerned.

VI. He must submit a thesis showing marked attainment in some branch of learning. The subject of the thesis must be announced to the Faculty for approval, not later than the second Friday in December, and the thesis itself must be presented to the examining committee at a date to be set by the professor in charge of the thesis work, not later, in any case, than May 20th of the year in which the degree is expected.

VII. He must, at the close of his course, pass a satisfactory examination, either oral or written, or both, conducted by a committee which shall consist of three professors, selected by the Faculty for this purpose.

VIII. The degree of Master of Arts will be conferred only upon the completion of a course mainly literary in character, and the degree of Master of Science upon one mainly scientific. The degree of Mechanical Engineer will be conferred on those holding the degree B. M. E. on the same conditions as in the other courses.

IX. Graduate students pursuing courses for the Master's degree may by special permission of the Faculty, carry on a portion of the work in absentia; but at least one-half the work must be done in residence.

SCHEME OF COURSES OFFERED BY THE UNIVERSITY

*These courses are the general requirements for college courses.

**Technical courses in Engineering.

Roman numerals indicate the number of the course; Arabic indicate the number of recitations per week.

ENGLISH AND RHETORIC

FIRST SEMESTER	SECOND SEMESTER
*Elementary Rhetoric, I. M., T., W., Th. 9:30.	Description and Exposition, II. T., Th. 9:30.
Argumentation and Persuasion, III. M., W. 10:30.	Narration, IV. M., W., F. 9:30.
Versification, V. T., Th. 10:30.	Prose, VI. T., Th. 1:30.
Old English, VII. M., Th. 11:30.	Ballads, X. T., Th. 11:30.
History of the English Language, IX. T., F. 11:30.	Middle English, VIII. M., F. 11:30.
	XII. Myths and Ballads. 1.

LITERATURE

Literature, I. 2. T., Th. 9:30.	Literature, II. 5. M., W., F. 9:30.
Literature, III. 2. T., Th. 1:30.	Literature, IV. 5. T. Th. 1:30.
Literature, V. 5. M., W., F. 8:30.	Literature. VI. 3. M., W., F. 8:30.
Literature, VII. 5. M., W., F. 11:30.	Literature, VIII. 2. T., Th. 11:30.
Literature, IX.	Literature, X.
	Literature, XII. 2. M., F. 9:30.

ELOCUTION AND PHYSICAL CULTURE

*Elocution, I. T., Th. 8:30.	*Elocution, II. T., Th. 8:30.
Elocution, III. 3.	Elocution, IV. 2.
Oration and Debate. 2.	Sight Reading. 2.
*Physical Culture. 2.	*Physical Culture. 2.

LATIN

Latin, I. Vergil. 5. 10:30.	Latin, II. Vergil. 5. 10:30.
Latin, III. Horace and Cicero's Essays. 5. 8:30.	Latin, IV. Livy and Tacitus. 5. 8:30.
Latin, V. Comedy. T., Th., F. 11:30.	Latin, VI. Comedy. T., Th., F. 11:30.
	Roman Life, VII. M., W., F. 1:30.

GREEK

Greek, I. Grammar and Lessons. 5.	Greek, II. Anabasis. 5.
Greek, III. Anabasis. 5.	Greek, IV. Iliad. 5.
Greek, V. Herodotus, Thucydides. 5.	Greek, VI. Demosthenes. 5.
Greek, VII. Plato. 5.	Greek, VIII. Greek Dramatists. 5.
Private Life of the Greeks, IX. M., W., F. 1:30.	

GERMAN

FIRST SEMESTER	SECOND SEMESTER
German, I. Becker—Grammar. M., T., W., Th. 8:30.	German, II. Same. Carruth Reader. M., T., W., Th. 8:30.
Grammar, III. Bernhard—Composition, Conversation. M., T., Th., F. 11:30.	German, IV. Wilhelm Tell. Composition and Conversation. M., T., Th., F. 11:30.
German, V. Schiller's Wallenstein—Conversation and Composition. 3.	German, VI. Faust. 3.
	Deutsche Lit. Geschichte. Conversation and Composition. Aus dem Reich Friedrichs des Grossen.

FRENCH

French, I. Chardenal's Complete Grammar. M., T., Th., F. 9:30.	French, II. Chardenal's Complete Grammar. Contes, Daudet. M., T., Th., F. 9:30.
French, II. Napoleon. L'Abbe Constantin. M., W., F. 10:30.	French, IV. Colomba. M., W., F. 10:30. Racine— Esther. Athalie.
French, V. Histoire de la Lit. Francaise. Composition and Conversation. T., Th., 10:30. F., 2:00.	French, VI. Modern Writers and Classics. Composition and Conversation. T., Th., 10:30. F., 2:00.

SPANISH

Spanish, I. Schilling's Spanish Grammar. 3. M., W., F. 2:30.	Spanish, II. Same. M., W., F. 2:30.
Spanish, III. Same. La Vida es Sueno. El si de las Ninas. 3.	Spanish, IV. Modern Writers. 3.
Spanish, V. Ruy Blas. 3.	Spanish, VI. Cervantes. 3.

CHEMISTRY

*General Inorganic, I. 4.	*General Inorganic, II. 4.
Qualitative Analysis, III. 5.	Qualitative Analysis, III. b. 4.
Introductory Quantitative Analysis, IV. 4.	Introductory Quantitative Analysis, IV. 4.
Mineral Analysis, VI. 4.	Assaying, V. 3.
Organic Chemistry, VII. 2.	Mineral Analysis, VI. 4.
Organic Preparations, IX. 2.	Organic Chemistry, VIII. 2.
Physical Chemistry, XI. 3.	Organic Preparations, X. 2.
Electro Chemistry, XIII. 4.	Physical Chemistry, XII.
Industrial Chemistry, XV. 3.	Metallurgy, XIV. 3.
Gas Analysis, XVI. 2.	Gas Analysis, XVI. 2.
Organic Analysis.	Organic Analysis.
Inorganic Preparations, XVIII. 4.	Inorganic Preparations, XIX. 4.
Physiological Chemistry, XX. 4.	Physiological Chemistry, XXI. 4.
Sanitary Water Analysis, XXII. 2 or 4.	Sanitary Water Analysis, XXII. 2 or 4.
Mineral Water Analysis, XXIII. 4.	Mineral Water Analysis, XXIII. 4.
Photography, XXIV.	Research, XXV. 4 to 20.
Research, XV. 4 to 20.	

PHYSICS

FIRST SEMESTER	SECOND SEMESTER
Physics, I. 4 hours.	Physics, II. 4 hours.
Physics, III. Electrical Measurements. 3 hours.	Physics, IV. Advanced. Experimental Physics. 2 or 4 hours.
Physics, V. Light. 2 hours.	Physics, V. Light. 2 hours.
Physics, VI. Heat. 2 hours.	Physics, VI. Heat. 2 hours.
Physics, VII. Special. 2 or 4 hours.	Physics, VII. Special. 2 or 4 hours.

GEOLOGY AND MINERALOGY

General Geology, I. 4 hours.
Mineralogy, III. 2 or 4 hours.
Lithology, IV. 2 or 4 hours.
Paleontology, IX. 2 or 4 hours.
Economic Geology, V. 2 or 4 hours.
Petrography, VII. 2 or 4 hours.
Advanced Geology, VIII. 2 or 4 hours.
Special Work, X.
Physical Geography, XI. 4 hours.
Organic Evolution, XIII. 2 hours.

General Geology, II. 4 hours.
Mineralogy, III. 2 or 4 hours.
Lithology, IV. 2 or 4 hours.
Paleontology, IX. 2 or 4 hours.
Blow-Pipe Analysis, VI. 2 or 4 hours.
Advanced Geology, VIII. 2 or 4 hours.
Special Work, X.
Ores, XII. 4 hours.
Graduate Work.

BIOLOGY

*Biology, I. 4. T., Th., 10:30; laboratory, 1:30 to 4, two afternoons.

Biology, III. Zoology of Invertebrates. 4. T., Th., at 8:30; laboratory at hours to be arranged.

Biology, V. Botany. 4. Recitation and laboratory at hours to be arranged.

Biology, VII. Organic Evolution. 2. T., Th., 11:30.

Course IX. Bacteriology. 3. T., 9:30; laboratory at hours to be arranged.

Course XI. Research. 4 to 6. T., Th., at 9:30; laboratory at hours to be arranged.

*Biology, II. 4. T., Th., 10:30; laboratory, 1:30 to 4:00, two afternoons.

Biology, IV. Zoology of Vertebrates. 4. T., Th., at 8:30; laboratory at hours to be arranged.

Biology, VI. Botany. Recitation and laboratory at hours to be arranged.

Biology, VIII. Human Anatomy. 4. M., T., Th., F., 11:30; laboratory hours to be arranged.

Course X. Entomology. 3 or 5. T., Th., 8:30; laboratory hours to be arranged.

Course XI. Research. 4 to 6. T., Th., at 9:30; laboratory at hours to be arranged.

MATHEMATICS

*Trigonometry, I. M., T., Th., F. 11:30.
Analytic Geometry, III. 5. 10:30.
Calculus, V. 3.
Elective Geometry, VI. 1.
Elective Geometry, VII. 1.
Astronomy, IX. 2. T., Th. 9:30.

Higher Algebra, II. M., T., Th., F. 11:30.
Calculus, IV. 5. 10:30.
Elective Geometry, VI. 1.
Elective Geometry, VII. 1.
Theory of Equations, VIII. 3.
Geometry, X. 2.
History of Mathematics, XI. 2.

DRAWING AND PAINTING

FIRST SEMESTER	SECOND SEMESTER
Black and White Work, I. 2.	Black and White Work, II. 2.
Black and White Work, III. 2.	Black and White Work, IV. 2.
Water Color Painting, V. 2.	Water Color Painting, VI. 2.
Water Color Painting, VII. 2.	Water Color Painting, VIII. 2.
Oil Painting, IX. 2.	Oil Painting, X. 2.
Oil Painting, XI. 2.	Oil Painting, XII. 2.
Design, XIII. 2.	Design, XIV. 2.
Teachers' Drawing, XV. 2.	Teachers' Drawing, XVI. 2.
History of Painting, I. 2.	History of Sculpture, III. 2.
History of Architecture, II. 2.	Artistic Anatomy, I. 2.

PHILOSOPHY AND EDUCATION

*Introductory Psychology, I. 3.	Introductory Psychology, II. 3.
Experimental Psychology, III. 2.	Experimental Psychology, IV. 2.
Genetic and Applied Psychology, V. 3.	Educational Psychology, V. 3.
Organic Evolution, VII. 2.	Principles of Teaching, IV. 2.
History of Education, I. 3.	High School Pedagogy, III. 3.
Psychological Seminary, VI. 2.	History of Modern Philosophy, IV. 3.
Educational Classics, II. 2.	Ethics, II. 2.
History of Greek Philosophy, I. 3.	
Logic, I. 2.	

HISTORY AND ECONOMICS

European History, I. 3.	European History, II. 3.
English History, III. 3.	English History, III. 3.
American History, V. 3.	American History, V. 3.
Economics, I. 3.	Currency and Banking, II. 3.
Economic Evolution, III. 2.	Economic Problems, IV. 2.
Political Theory, V. 2.	Sociology, VI. 2.
Current History, VII. 1.	Current History, VIII. 1.

School of Mechanical Engineering

Roman numerals indicate courses; Arabic, hours credit.

The courses in Mechanical Engineering are designed for students who wish to become professional engineers, or to engage in any of the lines of manufacture and construction allied to the mechanical industries.

The requirements for admission are given on page 65.

The requirements for graduation from this school with the degree of B. S. in Engineering work, are set forth in the following scheme. The studies are explained in detail in the description of the Courses of Instruction.

FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
Trigonometry, I. 4.	Higher Algebra, V. 4.
Chemistry, I. 4.	Chemistry, II. 4.
Rhetoric, I. 4	Literature, II. 2.
Mechanical Drawing, I. 2.	Mechanical Drawing, I. 3.
Shop Work, I. 3.	Shop Work, I. 3.
	Library, I. 1.

SECOND YEAR

Analytical Geometry, IV. 5.	Calculus, VII. 5.
Physics, I. 4.	Physics, II. 4.
Surveying, VI A. 3.	Surveying, VI A. 3.
Desc. Geometry, II A. 2.	Desc. Geometry, II B. 2.
Field Work and Topography, VI B. 3.	Shop Work, II. 3.

THIRD YEAR

Integral Calculus, VI. 3.	Differential Equations, VII B. 3.
Analytical Mec., I. 4.	Analytical Mec., I. 4.
Electro Chemistry. 4.	Strength of Materials, VII. 3.
Machine Design, IV. 2.	Kinematics, V. 3.
Graphic Statics. 2.	Steam Engine Design, V. 2.
Least Squares, VII A. 2.	Assaying. 2.

FOURTH YEAR

Hydrodynamics, II. 3.	Hydraulics, III. 3.
Thermodynamics, IV A. 3.	Construction and Operation of Heat Engines, IV B. 2.
Kinematics, V. 3.	Alternating Current Machinery, X. 3.
Alternating Currents, X. 4.	Electrical Laboratory, IX. 2.
Electrical Laboratory, IX. 2.	Steam Engine Testing, VIII. 2.
Mechanical Laboratory, VIII. 2.	Thesis, XII. 4.

The Preparatory School

The preparatory course covers a period of four years, outlined in semesters after the plan employed in the college courses. It is expected students will take subjects in the order given.

Applicants for admission to the Preparatory Course should be at least fourteen years of age, and well grounded in the elements of an English education.

Admission may be made—

(a) By certificate.

(1) Candidates seeking admission to the first year of the Preparatory School must either present a certificate from

a board of county examiners of some county in the state, or must take the entrance examination to the Preparatory School.

(2) Teachers' certificates given by county superintendents will admit students to the Preparatory School without examination.

(3) Students are urged to bring when possible all record cards, certificates and diplomas, together with a written statement from superintendent, principal or teacher, on which the standing of the student is stated.

(b) By examination.

Examinations in Arithmetic, Grammar, U. S. History, Reading, Spelling and Geography will be given on days stated in the calendar of this catalogue.

Students entering the second semester will be furnished work by the organization of classes needed for this purpose.

Work of Preparatory School

The following subjects are pursued in the Preparatory School. The time which may be devoted to each subject is indicated by units.

A unit is four recitations per week of fifty-five minutes each, during one school year.

English (Composition, Rhetoric and Literature). 3 or 4.
Mathematics (Algebra, Geometry—Plane and Solid). 3.
History. 2.
Latin. 2, 3 or 4.
German. 2.
Physics. 1.
Biology. 1.
Free-Hand Drawing. ½.
Mechanical Drawing and Shop Work. 2.

Fifteen units at least must be completed.

The following units are required of all:

English. 3.
Mathematics. 3.
History. 2.
Physics. 1.
Free-Hand Drawing. ½.

The rest of the required units may be selected from the list given above.

When Latin or German are selected they must be pursued for at least two years.

Four units of Latin are required for the classical group of college work, and at least two units of Latin or German for all the other college groups.

ACCREDITED HIGH SCHOOLS

The State Board of Education in a meeting held June 1, 1896, took the following action:

"Candidates seeking admission to any of the regular courses in any state educational institution must be at least sixteen years of age and must possess a good moral character and good bodily health.

"Accredited Schools.—Any high school or academy whose course of instruction covers the branches requisite for admission to one or more of the courses of any state educational institution may be admitted to its accredited list of preparatory schools, after a satisfactory examination by a committee appointed by the State Board of Education. Application for such examination may be made by any school board to the Secretary of the State Board of Education, whereupon a committee appointed by the State Board of Examination will examine the course of study and methods of instruction of the school and on the committee's favorable recommendation, and the concurrence of the State Board of Education, it will be entered upon the accredited list of the state educational institution for which it applied. Any graduate of such an approved school will be received by the president of the state educational institution wherein said graduate is entitled to enter, on presentation of proper diploma and certificate from the superintendent of said school, into any of the courses of said institution for which said graduate has been fitted.

"Students of any accredited school who are not graduates must expect examinations as other candidates.

"A school once entered upon the accredited list will remain there until its administration is changed, or until notice is given by the State Board of Education of unsatisfactory results. Upon a change of administration application for continuation upon the list, if desired, must be made. If the work of the principal coming into charge has been recently examined in connection with some other school, a new examination may not be required, but such examination should in all cases be invited.

"Annual reports will be asked for by the State Board of Education from all accredited schools."

This legislation is still in force.

At the December meeting of the Board it appointed a committee "to formulate a uniform plan for accredited high schools." The committee met in Helena, December 28th, 1897, and formulated a plan, and a brief outline of work of accredited high schools, which was adopted at the next meeting of the State Board of Education.

"This committee decided to recommend to the Board that the work of the eighth grades, when arranged, shall be the standard for entrance to the high schools."

This recommendation, which was adopted by the Board, became of effect in 1899, when the State Common School Course of Study was published and placed in the hands of school boards, teachers and superintendents, and it still remains in force.

In June, 1899, the State Board of Education instructed the Diploma Committee to revise the course of study for accredited high schools. At the December meeting the committee asked for further time, which was granted. At the regular meeting of the Board in June, 1900, the Diploma Committee reported a three years course of study, which was unanimously adopted.

In December, 1905, the President of the University recommended that the Preparatory Department of the University be discontinued after September 1, 1908, and that at this date the Accredited High Schools be required to sustain a four years course of study. The recommendation was unanimously adopted. President O. J. Craig of the University, State Superintendent W. E. Harmon, and Superintendent S. D. Largent were appointed a committee to prepare a four years course of study for accredited high schools.

The following course was prepared by the committee, and reported to the State Board of Education in June, 1906. It was formally adopted December 4, 1906.

COURSE OF STUDY FOR ACCREDITED HIGH SCHOOLS

FIRST YEAR—FIRST SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— First Lessons. Latin Grammar.	Latin— First Lessons. Latin Grammar.	Word Study and Grammar, or Latin.	Word Study and Grammar, or Latin.
Algebra.	Algebra.	Algebra.	Algebra.
History— Eastern Nations and Greece.	Physiography, or History— Eastern Nations and Greece.	Physiography, or History— Eastern Nations and Greece.	Physiography, or History— Eastern Nations and Greece.
English— Composition and Rhetoric. American Authors.	English— Composition and Rhetoric. American Authors.	English— Composition and Rhetoric. American Authors.	English— Composition and Rhetoric. American Authors.
Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.

FIRST YEAR—SECOND SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— First Lessons. Latin Grammar.	Latin— First Lessons. Latin Grammar.	Word Study and Grammar, or Latin.	Word Study and Grammar, or Latin.
Algebra.	Algebra.	Algebra.	Algebra.
English— Composition and Rhetoric. American Classics.	English— Composition and Rhetoric. American Classics.	English— Composition and Rhetoric. American Classics.	English— Composition and Rhetoric. American Classics.
History— Roman.	History— Roman.	Physiology, or Roman History.	Physiology, or Roman History.
Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.

COURSE OF STUDY FOR ACCREDITED HIGH SCHOOLS

SECOND YEAR—FIRST SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— Caesar.	Latin— Caesar.	Latin, or Botany.	Commercial Arithmetic.
Algebra.	Algebra.	Algebra.	Commercial Geography.
English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.
History— Mediaeval.	Botany, or Mediaeval History.	History— Mediaeval.	History— Mediaeval.
Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.

SECOND YEAR—SECOND SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— Caesar.	Latin— Caesar.	Latin, or Botany.	Commercial Arithmetic.
Plane Geometry.	Plane Geometry.	Plane Geometry.	Plane Geometry.
English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.
History— Modern.	Botany, or Modern History.	History— Modern.	History— Modern.
Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.	Drawing— Twice a week.

COURSE OF STUDY FOR ACCREDITED HIGH SCHOOLS

COURSE OF STUDY FOR ACCREDITED HIGH SCHOOLS

THIRD YEAR—FIRST SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— Cicero.	Chemistry.	Chemistry.	Bookkeeping.
Plane Geometry.	Plane Geometry.	Plane Geometry.	Plane Geometry.
English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.
English History, or French, or German.	English History, or French, or German.	Latin. French. German. English History. (Select two.)	Stenography and Typewriting.

THIRD YEAR—SECOND SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin. Cicero.	Chemistry.	Chemistry.	Economics.
Solid Geometry.	Solid Geometry.	Solid Geometry, or Economics.	Bookkeeping.
English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.	English— Composition and Rhetoric. American and English Authors.
English History, or French, or German.	English History, or French, or German.	Latin. French. German. English History. (Select two.)	Stenography and Typewriting.

COURSE OF STUDY FOR ACCREDITED HIGH SCHOOLS

FOURTH YEAR—FIRST SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— Vergil.	Trigonometry.	French. German. Latin. Trigonometry. (Select Two.)	Correspondence.
Physics.	Physics.	Physics.	Bookkeeping.
English— History of English Literature.	English— History of English Literature.	English— History of English Literature.	American History and Civics.
American History and Civics, or French, or German.	American History and Civics, or French, or German.	American History and Civics.	Stenography and Typewriting.

FOURTH YEAR—SECOND SEMESTER

Classical Course	Scientific Course	English Course	Commercial Course
Latin— Vergil.	Physics.	Physics.	Commercial Law.
English— Masterpieces with applications of principles of English Grammar.	English— Masterpieces with applications of principles of English Grammar,	English— Masterpieces with applications of principles of English Grammar.	Bookkeeping.
American History and Civics, or French, or German.	American History and Civics, or French, or German.	American History and Civics.	American History and Civics.
Physics.	Review— Mathematics.	Commercial Law. Mathematics. French. German. Latin. (Select two.)	Stenography and Typewriting.

LIST OF THE ACCREDITED HIGH SCHOOLS

CITY HIGH SCHOOLS

City	Superintendent
Anaconda	W. K. Dwyer
Billings	C. S. Brother
Butte	R. G. Young
Columbus	P. M. Hersom
Forsyth	H. Blair
Fort Benton	J. W. Lenning
Great Falls	S. D. Largent
Hamilton	J. V. Owen
Helena	R. J. Condon
Virginia City	Frank R. McKenna

COUNTY HIGH SCHOOLS

County	Principal
Beaverhead—Dillon	L. R. Foote
Broadwater—Townsend	John M. Kay
Carbon—Red Lodge	L. D. Fallis
Custer—Miles City	R. H. Daniels
Dawson—Glendive	B. T. Butler
Fergus—Lewistown	A. G. Crane
Flathead—Kalispell	G. A. Ketcham
Gallatin—Bozeman	George B. Swan
Granite—Philipsburg	G. T. Bramble
Jefferson—Boulder	Byron E. Toan
Missoula—Missoula	M. Victor Staley
Park—Livingston	Lewis Terwilliger
Powell—Deer Lodge	E. T. Eaton
Sweet Grass—Big Timber	W. C. Ryan
Teton—Chouteau	A. B. Guthrie

PRIVATE SCHOOLS

Stevensville Training School	M. L. Roark

REGISTER OF STUDENTS

1906-1907

DEGREES CONFERRED JUNE 6, 1907

Cora Averill, B. A., (Classical) ..... Townsend
James Henry Bonner, B. S., (In Engineering) ..... Missoula
Charles P. Cotter, B. A., (Literary) ..... Townsend
Charles S. Dimmick, B. S., (In Engineering) ..... Missoula
Frederic Eugene Dion, B. S., (In Engineering) ..... Glendive
Stella Louise Duncan, B. A., (Classical) ..... Kalispell
Florence Editha Ervey, B. A. (Classical) ..... Spokane, Wash
Thomas Joseph Farrell, Jr., B. A., (Literary) ..... Missoula
Linda Ellen Featherman, B. A., (Literary) ..... Drummond
Mary Monica Fergus, B. A., (Literary) ..... Whitehall
Susie Garlington, B. A., (Classical) ..... Missoula
King Garlington, B. S. ..... Missoula
Ralph Earl Gilham, B. S. ..... Townsend
Lawrence E. Goodbourne, B. A., (Classical) ..... Missoula
Laura May Hamilton, B. A., (Literary) ..... Missoula
Ralph L. Harmon, B. A., (Literary) ..... Kalispell
Anna J. Hutter, B. A., (Literary) ..... Missoula
Daisy Kellogg, B. A., (Literary) ..... Missoula
Jennie A. McGregor, B. A., (Classical) ..... Missoula
James Hamilton Mills, B. S., (In Engineering) ..... Deer Lodge
Josiah John Moore, B. S. ..... Anaconda
Frances Nuckolls, B. A., (Literary) ..... Butte
William Hovey Polleys, B. S., (In Engineering) ..... Lincoln, Nebr.
Joseph William Streit, B. S. ..... Fort Benton
Montgomery De Smith, B. S., (In Engineering) ..... Hamilton
Lillian Warren, B. A., (Classical) ..... Missoula
Alice Brown Welch, B. A., (Literary) ..... Deer Lodge

GRADUATE STUDENTS

Anna Carter, B. S. ..... Missoula
Edwin Reed Corbin, B. S. ..... Missoula
Florence Maud Johnson, B. A. ..... Missoula
Raymond Kelly, B. A. ..... Butte
Roy Daniel McPhail, B. A. ..... New Chicago
L. Alma Myers, B. A. ..... Lo Lo
Fannie Cushing Stone, B. A. ..... Berkeley, Cal.
George Cutler Westby, B. S. ..... Salt Lake City

*COLLEGIATE STUDENTS

Emil Warren Adam ..... Engineering—Third Year.... Big Timber
Ethel Ambrose ..... Literary—86 ..... Missoula
Keith Ambrose ..... Engineering—First Year..... Missoula
Almeda Andrews ..... Classical—50 ..... Missoula
James Thompson Annin ..... Literary—15½ ..... Columbus
Cora Averill ..... Classical—115 ..... Townsend
Leo Walter Baker ..... Engineering—First Year..... Missoula
Benjamin Berg ..... Engineering—First Year..... Columbus

*The numbers indicate credits at the close of the first semester, 1907.

Agnes Berry	Literary—71	Missoula
Oral J. Berry	Scientific—73	Granite
Arthur Bishop	Engineering—First Year	Missoula
Frank Edward Bonner	Engineering—First Year	Missoula
James Henry Bonner	Engineering—Fourth Year	Missoula
Clara Florence Bowen	Classical—8	Philipsburg
Bess Bradford	Literary—44½	Missoula
Kittie Bramble	Classical—27½	Philipsburg
Charles Amos Buck	Engineering—Third Year	Stevensville
Nellie Cavette Bullard	Literary—88	Missoula
Mary Elizabeth Burke	Classical—18½	Missoula
Montana Buswell	Classical—37	Missoula
Florence Catlin	Literary—14½	Anaconda
Lila Miriam Cobban	Literary—18½	Butte
George McDowel Coffey, Jr.	Literary—37	Chouteau
Mary Teresa Conlon	Literary—13½	Missoula
Effie Cordz	Scientific—23	Missoula
Charles Patrick Cotter	Literary—112	Townsend
Vincent Craig	Engineering—Third Year	Missoula
Roy Montez Crismas	Literary—14½	Joliet
Opal Cronk	Classical—38½	Townsend
Ida Cunningham	Literary—52	Missoula
Drake Paul Dale	Engineering—First Year	Helena
Arthur George Davidson	Engineering—Third Year	Anaconda
Mary Diamond	Classical—13	Columbus
Charles S. Dimmick	Engineering—Fourth Year	Missoula
James Dingwall	Engineering—First Year	New Chicago
Oliver Ray Dinsmore	Engineering—First Year	Missoula
Frederic Eugene Dion	Engineering—Fourth Year	Glendive
Stella Louise Duncan	Classical—114	Kalispell
Cecil Katherine Dwyer	Literary—15	Missoula
Mary Josephine Elrod	Scientific—15½	Missoula
Bessie Epperson	Literary—4½	Missoula
Florence E. Ervey	Classical—115	Spokane, Wash.
Ethel Charlotte Evans	Literary—42½	Melrose
Charles Frederick Farmer	Engineering—Second Year	Missoula
Thomas Joseph Farrell, Jr.	Literary—115	Missoula
Linda Ellen Featherman	Literary—112	Drummond
Marjorie Winnifred Feighner	Literary—69	Missoula
Mary Monica Fergus	Literary—111	Whitehall
Phoebe Finley	Classical—44	Missoula
Eugene John Fisher	Engineering—First Year	Lame Deer
John I. Fisher	Engineering—Second Year	St. Louis, Mo.
Harley M. Fleming	Classical—4	Missoula
Edna Fox	Literary—15½	Twin Bridges
Ernest Fredell	Engineering—First Year	Anaconda
Marie Freeser	Scientific—16½	Helena
Phyllis Mauguerite Gagnon	Literary—3½	Missoula
King Garlington	Scientific—112	Missoula
Susie Garlington	Classical—111	Missoula
Ralph Edwin Gilham	Scientific—111	Townsend
Helen Goddard	Classical—80	Billings
Lawrence Goodbourne	Classical—120	Missoula
May Dorothy Graham	Classical—18½	Livingston
Charlotte Greenough	Literary—2½	Missoula
Frederick Greenwood	Literary—18	Anaconda
Essie May Haley	Classical	Stevensville

Lynn Cleveland Hamill	Engineering—First Year	Petoskey, Mich.
May Hamilton	Literary—121	Missoula
Carrie Hardenburgh	Literary—88½	Missoula
Ralph Harmon	Literary—117	Kalispell
William Harriman	Engineering—First Year	Petoskey, Mich.
Helen Hunt Hatch	Classical—18½	Big Timber
Fannie Hatheway	Classical—47	Missoula
Mary Henderson	Literary—22½	Hall
Renee Henderson	Literary—22½	Hall
Frances Hendricks	Scientific—8	Anaconda
Zeal Hirt	Classical—21½	Missoula
Charles Hoffman	Engineering—First Year	Glasgow
Anna Jo Hutter	Literary—109	Missoula
Lillian Cornell Jacobs	Classical—16½	Columbus
Margaret Frances Jones	Literary—78½	Anaconda
Elmer Reed Johnson	Scientific—80	Missoula
Daisy Kellogg	Literary—118	Missoula
Dorman Kellogg	Engineering—First Year	Big Timber
Dean King	Scientific—16	Kalispell
John Russell King	Engineering—First Year	Livingston
Berney Fred Kitt	Engineering—Second Year	Missoula
Lavina Latimer	Literary	Missoula
Arbie Eugene Leech	Literary—13	Chouteau
Ivan Earl Leininger	Engineering—Second Year	Stillwater, Minn.
Frank Eli Lewis	Engineering—Second Year	Missoula
Robert Campbell Line	Literary—18	Columbus
Fred H. Linley	Engineering—Second Year	Missoula
George Daniel Little	Engineering—First Year	Missoula
Irene Locke	Literary—16½	Livingston
Dwight Loughborough	Literary	Missoula
Olive H. Lovett	Classical —23	Miles City
Margaret Mary Lucy	Literary—13½	Missoula
Harry Maclay	Engineering—First Year	Missoula
Agnes McBride	Literary—47½	Superior
Eleanor Louise McCall	Classical—45	Missoula
Minta Lee McCall	Classical—73½	Big Timber
Gene McCarthy	Literary—14½	Townsend
Massey McCullough	Engineering—First Year	Missoula
Alene McGregor	Literary—20½	Missoula
Herman Cole McGregor	Engineering—Third Year	Missoula
Jennie McGregor	Classical—115	Missoula
Gilbert McLaren	Engineering—First Year	Hamilton
Walter H. McLeod	Literary—16	Missoula
Anna McWilliams	Special—5	Philipsburg
David Lamar Maclay	Literary—16	Missoula
Marjory Estelle Mason	Classical—22½	Philipsburg
James Hamilton Mills	Engineering—Fourth Year	Deer Lodge
Josiah John Moore	Scientific—112	Anaconda
Arthur Percy Morgan	Classical—60	Marshfield, Ore.
May Elizabeth Murphy	Literary—76	Helena
Julian Percy Naff	Engineering—First Year	Comisky, Kansas
Mary Napton	Literary—30	Missoula
Nora Nickolls	Classical—2	Butte

Frances Nuckolls	Literary—112	Butte
Ethel Orvis	Literary—44½	Missoula
Ernest Patterson	Engineering—First Year	Big Timber
Daisy Margaret Penman	Classical—22½	Columbus
Winnie Phillips	Classical—12½	Stevensville
William Hovey Polleys	Engineering—Fourth Year	Lincoln, Neb.
Edna Crete Pratt	Literary—47½	Missoula
Mary F. Rankin	Literary—49½	Missoula
Genevieve Reid	Literary	Butte
George Fred Rigby	Engineering—Second Year	Carlton
Lucia Ione Rolfe	Classical—13½	Monarch
Martha Edith Rolfe	Literary—15	Monarch
Isabel Ronan	Literary—41½	Missoula
Edna Pearl Rosean	Scientific—14½	Columbus
Helen Ross	Classical—15½	Missoula
Margaret Claire Salisbury	Scientific—27	Anaconda
Roberta Satterthwaite	Classical—8½	Iron Mountain
Elizabeth Schilling	Literary	Missoula
John Dodds Secrest	Classical—27½	Petersburg, Ill.
Zona M. Shull	Literary—30	Missoula
Lawrence I. Simpson	Scientific—17	Stevensville
Helen Antoinette Smead	Scientific—87	Missoula
Louis Brady Smith	Literary	Lewistown
Montgomery De Smith	Engineering—Fourth Year	Hamilton
Rhoda Alma Smith	Literary—11½	Stevensville
Ruth Lenore Smith	Classical—64½	Helena
William J. Smith	Engineering—Second Year	Martinsdale
Hylen Levi Smurr	Scientific—8	Anaconda
James Beryl Speer	Literary—70½	Petoskey, Mich.
Clarissa Spencer	Literary—84½	White Sulphur Springs
Frederick Thayer Stoddard	Engineering—First Year	Missoula
Joseph William Streit	Scientific—112	Fort Benton
William J. Tait	Engineering—First Year	Butte
Florence Ethela Thieme	Classical—47	Marysville
Dillwyn Llewellyn Thomas	Engineering—Second Year	Butte
James Thomas	Classical	Beloit, Wis.
Katherine Tibbits	Literary	Helena
Allan Hardenbrook Toole	Engineering—Second Year	Missoula
M. Bessie Van Doren	Literary—11½	Livingston
William Van Eman	Engineering—Second Year	Augusta
Frank J. Wallace	Engineering—Second Year	Missoula
Hazel Wallace	Irregular Literary—9	Missoula
Albertine Ward	Literary—30	Missoula
Dale Ward	Literary—46	Hamilton
Vivian Frances Warner	Literary—11½	Stevensville
Lillian Warren	Classical—114	Missoula
Alice Welch	Classical—111	Deer Lodge
Mary Weller	Classical—10	Missoula
Edward Angus Wenger	Engineering—Third Year	Anaconda
Helen Whitaker	Literary—28½	Missoula
Roy Newton Whitesitt	Literary—36½	Stevensville
Claude L. Willis	Engineering—Second Year	Glasgow
Wilford Winninghoff	Engineering—First Year	Philipsburg
Alice Anna Wright	Literary—49½	Missoula
John Hatton Young	Classical—22	Helena

SPECIAL STUDENTS

Axel Peter Anderson	Spanish	Missoula
Maggie C. Avery	Art	Kalispell
Harold Daigler	Art	Missoula
Bessie Hollenbeck	Art	Missoula
Edna D. Kirkeby	Art	Missoula
Anna E. Rowe	French	Missoula
Genevieve Hirt	Art	Missoula
May Williams	Art	Missoula

PREPARATORY STUDENTS

THIRD PREPARATORY

Walter W. Buford	Virginia City
Millard Sidney Bullerdick	Sheridan
Eva Coffee	Missoula
James Dingwall	Drummond
Errol Bertram Durnford	Victor
James Solomon Flaherty	Bozeman
Fay Foster	Missoula
Lauretta Granaham	Iron Mountain
Ray Hamilton	Missoula
Mary Hanson	Missoula
Marshall Harnois	Missoula
Ralph Earl Herrick	Petoskey, Mich
Arthur Hoffeditz	Anaconda
Bessie Irwin	Lo Lo
Helen Hatheway Lombard	Missoula
Isabel Wadsworth Lombard	Missoula
George McManus	Butte
Holmes Maclay	Lo Lo
Harold Everett Metcalf	Stevensville
Ewing Frank Montgomerry	Anaconda
Ruby Ann Morrison	Missoula
Uriel Murphy	Ovando
Mabel Newport	Bonner
Edgar Edgerton Rolfe	Monarch
Peter Ronan	Missoula
Marjory Ross	Missoula
Bessie Russell	Clinton
Nathaniel Sage	Fort Missoula
Arthur Lee Sheppard	East Helena
Morton Simpson	Stevensville
William Burton Smead	Missoula
Harvey Spencer	White Sulphur Springs
Beatrice May Stillinger	Iron Mountain
Howard Toole	Missoula
Marjorie Tuttle	Anaconda
Oscar William Walford	Missoula
Jocelyn Whitaker	Missoula
Lucy Whitaker	Missoula

SECOND PREPARATORY

Irene Emily Baggs	Stevensville
Marie Armstrong Bishop	Missoula
Clarence Henry Buck	Stevensville

Irene Cave	Missoula
Lula Cobban	Missoula
Anna Laura Cooley	Victor
Florence Demers	Missoula
Edwin S. Dodds	Virginia City
Evelyn Heimbach	Missoula
Harold Hoepfner	Helmville
Alfred G. Hope	Cheboygan, Mich.
John Charles Johnson	Missoula
Carlisle King	Kalispell
Agatha May Lynch	Plains
Ruby McDermott	Missoula
Corinne McDonald	Missoula
John Robert McNamara	East Helena
Ethel McVey	Victor
Evelyn Denning Plummer	Stevensville
Grace E. Rankin	Missoula
Hulda Reed	Butte
Joseph Michael Schmidt	Helena
Clement Schoonover	Sheridan
Sylvanus Schoonover	Sheridan
Carl John Simon	Helena
Florence Sleeman	Stevensville
Ray Spencer	White Sulphur Springs
Ralph Stiff	Missoula
John Baker Taylor	Missoula
Fred Thieme	Missoula
Warren Edbert Thieme	Missoula
Mabel Tuttle	Anaconda
William Vealey	Missoula
Lucy Beatrice Webster	Missoula
Emily Haze Whiteside	Kalispell
May Wilder	Newland

FIRST PREPARATORY

Beulah Madge Anthony	Great Falls
Nicholas Blindauer	Hamilton
Raymond Carroll	Missoula
Edward Charles Case	Missoula
James Marcus Conlon	Missoula
Daniel Marion Connor	Hamilton
Fenwick Gilbert Dorman	Missoula
Charles Little Eggleston	Anaconda
Edwin Warren Elton	Toano, Va.
Lillian Fleming	Missoula
Henry Griesbach	Philipsburg
Peter Hansen	Missoula
Bertha Herman	Park City
Richard Leon Johnson	Missoula
Andy Klebe	Miles City
Allan McKenzie	Philipsburg
Noel Matthew McPhail	New Chicago
Joseph Maloney	Fort Missoula
Mary Maloney	Fort Missoula
Mary Ann Murphy	Livingston
Henry Oswald Nickel	Butte
Edward Olson	Columbia Falls

Eva Pelkey	Superior
Leslie Philips	Stevensville
Hester Rolfe	Monarch
Hugh Satterthwaite	Iron Mountain
Percy E. Thompson	Lothrop
Delbert Walrath	Augusta
Fred Webster	Missoula
William Henry Wallenstein	Helena

IRREGULAR PREPARATORY

Adolphus Bennett	Missoula
Grace Corbin	Missoula
Stella Finch	Bridger
Temple Grady	Missoula
Lida Hurlburt	Missoula
Adlyn Berard Lepine	Fort Benton
Frank Richard Rigg	Petoskey, Mich.
Ethel Wilkinson	Missoula
Gerena Wolfe	Anaconda

SUMMER SCHOOL

Frances Anderson	Missoula
Edith Atkinson	Cascade
Maggie Avery	Kalispell
Marguerite Berry	Missoula
Dorothy Bird	Missoula
Eula Butzerin	Missoula
Florence Christy	Helena
Effie Cordz	Missoula
Charles Patrick Cotter	Townsend
Mansfield Cromwell	Missoula
Pauline Eastin	Chattanooga, Tenn.
Edith Falligan	Missoula
Sadie Farley	Missoula
John T. Tavis	Big Timber
Phoebe Finley	Missoula
John I. Fisher	St. Louis, Mo.
Mary Frawley	Jardine
Bessie Fitzpatrick	Washington Gulch
Ralph Gilham	Townsend
Lauretta Granahan	Iron Mountain
Gladys Greenough	Missoula
Mabel Haggard	Havre
Lida Hurlburt	Missoula
Daisy Kellogg	Missoula
Kenneth Inselmann	Missoula
Myrtle Lauffer	Virginia City
Harriet Lee	Stevensville
Ivan Leinninger	Stillwater, Minn.
Aurelia McAllister	Missoula
Herbert Mansolf	Missoula
Nina Mason	Missoula
Cleila Napton	Missoula
Marian Nevin	Missoula
Floy Olds	Victor
Idella Asa Patterson	Truly

Peter Ronan	Missoula
Anabel Ross	Missoula
Bessie Russell	Clinton
William J. Smith	Martinsdale
James Beryl Speer	Petoskey, Mich.
Johanna Stahl	Missoula
Florence Thompson	Kalispell
Stella Thompson	Townsend
Allan Toole	Missoula
Howard Toole	Missoula
Albertine Ward	Missoula
Lola Warner	Missoula
Lillian Warren	Missoula
Elva Wilson	Chinook

SCHOOL OF MUSIC

Otilla Abendroth	Missoula
Jeannette Anderson	Missoula
Evaro Avery	Missoula
Mrs. Helen Buford	Missoula
Marguerite Berry	Missoula
Grace Corbin	Missoula
Eva Coffee	Missoula
Lila Cobban	Butte
Lulu Cobban	Missoula
Caroline Cronkrite	Missoula
Anna Deschamps	Missoula
Ruth Davis	Missoula
Mary Diamond	Columbus
Mary Elrod	Missoula
Stella Finch	Bridger
Fay Foster	Missoula
Edna Fox	Twin Bridges
Edith Graham	Missoula
Marie Gibson	Missoula
Isabel Gibson	Missoula
Mrs. Grant	Missoula
Frances Hathaway	Missoula
Ruth James	Missoula
Bernice Kemp	Missoula
Agatha Lynch	Plains
Anna McWilliams	Philipsburg
Florence Matthews	Missoula
Corinne McDonald	Missoula
Eleanor McCall	Missoula
Nora Nickolls	Butte
Ethel Orvis	Missoula
Helen Orvis	Missoula
Edna Pratt	Missoula
Emmeline Plummer	Stevensville
Gladys Roberts	Missoula
Mrs. Reilley	Missoula
Edith Ross	Missoula
Azelia Savage	Missoula
Clarissa Spencer	Missoula
Beatrice Stillinger	Iron Mountain
Marjorie Tuttle	Anaconda
Addie Thompson	Missoula

Howard Toole	Missoula
Inez Wardle	Missoula
Haze Whiteside	Kalispell
Victoria Whitaker	Missoula

IN ATTENDANCE AT THE BIOLOGICAL STATION

Mary Elrod	Missoula
T. C. Hall	London, England
Cora Hanawalt	Cleveland, Ohio
Dr. Augustine Henry	Royal Botanical Gardens, Kew, London, England
Hanna Lavik	Kalispell
Arthur Lehman	Lewistown
Mary McManis	Butte
Sara McManis	Butte
Gertrude Norton	Salt Lake City, Utah
C. H. Sherf	Kalispell
Herbert Silloway	Lewistown
James Beryl Speer	Petoskey, Mich.
Lucy Whitaker	Missoula

SUMMARY OF ENROLLMENT

Post Graduate	8
Collegiate	173
Special	8
Irregular Preparatory	9
Third Preparatory	37
Second Preparatory	36
First Preparatory	30
Summer School	49
School of Music	45
Biological Station	13
Grand Total	408
Counted Twice	25
Net Total	383

REGISTER OF THE ALUMNI, UNIVERSITY OF MONTANA

1898

Mrs. Ella Robb Glenny, B. A. . . . . . Missoula, Montana.

Miss Eloise Knowles, B. Ph., ...
Instructor in Drawing, University of Montana, Missoula, Montana.

1899

Earl Douglass, M. S., ...
Assistant Paleontologist Carnegie Museum, Pittsburg, Pennsylvania.

Zoe Bellew, B. A., M. A., ... Arlee, Montana.

Anna Louise Hathaway, B. A., (Mrs. Wm. D. Harkins),
Missoula, Montana.

Helena McCrackin, B. A., ... Bookkeeper, Hamilton, Montana.

George Hempstead Kennett, B. S., (M. D., Rush Medical), ...
Physician, Wardner, Idaho.

Charles Pixley, B. S., (M. D., Rush Medical), ...
Physician, Missoula, Montana.

1900

Eben Hugh Murray, B. A., ...

Gertrude Buckhouse, B. S., ...
Librarian, University of Montana, Missoula, Montana.

Caroline Harrington Cronkrite, B. S., ...
Teacher, Missoula, Montana, Public Schools.

Lu Knowles, B. S., (Mrs. Maxey), ... Manila, Philippines.

Sidney Elery Walker, B. S., (LL. B., Michigan), ...
Lawyer, Missoula, Montana.

Charles Earle Avery, B. Ph., ... Lawyer, Missoula, Montana.

Percy Shelley Rennick, B. A., (M. D., Kentucky Medical College), .
Physician, Victor, Montana.

1901

Sue Lewis, B. A., (Mrs. Thompson), ... St. Louis, Missouri.

Mary Lewis, B. A., . . . Teacher, Missoula, Montana, Public Schools.

Estelle Bovee, B. Ph., ...
County Superintendent, Dawson County, Montana.

Bertha Simpson, B. Ph., . Teacher, Missoula, Montana, Public Schools

Sidney Mire Ward, B. Ph., ... Hamilton, Montana.

Kathryn Wilson, B. Ph., ... Seattle, Washington.

Hugh Graham, B. S., ... Contractor, San Francisco, California.

Lydia Jimmie Mills, B. S., (Mrs. Rittenour), . . . Plains, Montana.

George Cutler Westby, B. S., (M. E.), . . Assayer, Salt Lake, Utah.

1902

Helene Kennett, B. A., (Literary), ... Missoula, Montana.

Fannie Maley, B. A., (Literary), ... Teacher, Missoula, Montana, Public Schools.

George Barnes, B. A., (Classical), ... Rhodes Student, Oxford

Helena La Caff, B. A., (Classical), (Mrs. Roy Jackson), Calgary, Canada.

Agnes McDonald, B. A., (Classical), . . Teacher, Anaconda, Montana.

Helen McPhail, B. A., (Classical), . Teacher, New Chicago, Montana.

Katherine Ronan, B. A., (Classical), (Mrs. Trask), Bingham Canyon, Utah.

Margaret Ronan, B. A., (Classical), ... Teacher, Missoula, Montana, Public Schools.

Pearl Scott, B. A., (Classical), ... Teacher, Pocatello, Idaho.

Edith Watson, B. A., (Classical), (Mrs. Keel), ... Pawnee, Ill.

William O. Craig, B. S., ... Deputy Clerk, Supreme Court, Helena, Montana.

Homer McDonald, B. S., ... Assayer, Great Falls, Montana.

Jeanette Rankin, B. S., ... Missoula, Montana.

Guy Sheridan, B. S., . Assayer, Butte, Montana, Reduction Works

Benjamin Stewart, B. S. . . . United States Topographical Survey.

Frederick Anderson, B. S., (M. E.), . . Engineer, Reiter, Washington

Harold Blake, B. S., ... Machinist Draftsman, Washoe Smelter, Anaconda, Montana.

Grant McGregor, B. S., . . Electrical Engineer, Anaconda, Montana.

1903

Mabel Jones, B. A., (Literary), ... Teacher, Missoula, Montana.

Lillian F. Jordan, B. A., (Literary), (Mrs. T. L. Bendon), Tokna, Montana.

Rella Likes, B. A., (Literary), . . . Teacher, Frenchtown, Montana.

Lucy Likes, B. A., (Literary), ... Teacher, Whitehall, Montana, Public Schools.

Claude O. Marcyes, B. A., (Literary), . . Merchant, Forsyth, Montana.

Ida G. Rigby, B. A., (Literary), (Deceased, February 19, 1904.) . . Carlton, Montana.

Mrs. Charles E. Avery, B. A., (Classical), . . . Missoula, Montana.

Miriam Hatheway, B. A., (Classical), ... Missoula, Montana.

Harriet L. Rankin, B. A., (Classical), . . Teacher, Missoula, Montana.

Martin Jones, B. S., ... Teacher, Philippines.

Wellington Rankin, B. S., ... Student at Oxford, England.

Eloise Rigby, B. S., ... Teacher, Missoula, Montana.

Leslie Sheridan, B. S., (In M. E.), . . . Draftsman, McGill, Nevada.

1904

Walter Hammer, A. B., (Literary), . . Teacher, Red Lodge, Montana.

Alice Herr, A. B., (Literary), ...
Superintendent of Schools, Beaverhead County, Dillon, Montana.

Georgia Evelyn Polleys, A. B., (Literary), . . . Lincoln, Nebraska.

Roxy Howell, A. B., (Classical), ... Butte, Montana.

George Greenwood, A. B., (Classical), . Banker, Spokane, Washington.

Page Bunker, A. B., (Classical), . . U. S. Survey, Ovando, Montana.

Moncure Cockrell, A. B., (Classical), ...
Graduate Student, Columbia University, N. Y.

1905

Jessie Bishop, B. A., (Literary), (Mrs. Giboney), . Great Falls, Montana.

Anna Carter, B. S., ...
Assistant in Preparatory Department, University of Montana.

William Oren Dickinson, B. S., . . . Chemist, Great Falls, Montana.

Alice Gertrude Glancey, B. A., (Literary), ...
Teacher, Columbus, Montana.

Herbert Hughes, B. S., (Ph. G., Chicago School Pharmacy),
Druggist, Missoula, Montana.

John Ray Haywood, B. S., (In Engineering), Draftsman, McGill, Nevada.

Avery Faulkner May, B. A., (Classical), (Mrs. Dickinson), . . .
Great Falls, Montana.

Charles Edward Schoonover, B. A., (Classical), ...
On Forest Reserve, Augusta, Montana.

Frances Sibley, B. A., (Literary), ...
Instructor, Converse College, Decatur, Georgia.

Charles Edward Simons, B. A., (Classical), ...
Merchant, Missoula, Montana.

Blanche May Simpson, B. A., (Literary), . Teacher, Corvallis, Montana.

Ray Epperson Walters, B. A., (Literary), ...
Graduate Student, Columbia University.

Edward Williams, B. A., (Classical), ...
Graduate Student, Columbia University, New York.

1906

Fred Elliot Buck, B. S., (In M. E.), ...
Assistant in Engineering, University of Montana.

Joseph Buckhouse, B. S., (In M. E.), ... Missoula, Montana.

Maud Burns, B. A., ... Teacher, Lo Lo, Montana.

Elmer Reed Corbin, B. S., (In M. E.), ...
Graduate Student, University of Montana.

Grace Serena Flynn, B. A., ... Teacher, Missoula, Montana.

Thomas Leo Greenough, B. S., (In M. E.), . Contractor, Hoover, Wash.

Delbert I. Grush, B. S., (In M. E.), . Draftsman, Anaconda, Montana.

Florence Maud Johnson, B. S., ...
Graduate Student, University of Montana.

Maud Esther Johnson, B. A., ... Missoula, Montana.

John Davis Jones, B. A., ... Forest Service

Roy Daniel McPhail, B. A., . Graduate Student, University of Montana.

Fay Abernathy Murray, B. A., ...
Graduate Student, University of Washington, Seattle, Washington.

Alma Lottie Myers, B. A., ... Teacher, Missoula, Montana.

Josie May Robb, B. A., ... Teacher, Lothrop, Montana.

Ona Mansfield Sloane, B. A., ... Teacher, Arlee, Montana.

Thomas Claude Spaulding, B. S., . Forest Service, Anaconda, Montana.

Margaret Summers, B. A., ... Teacher, Corvallis, Montana.

Ruth Ward, B. A., ... Hamilton, Montana

Debora Wagy, B. A., ... Principal Schools, Dupuyer, Montana.

HONORARY DEGREES CONFERRED

1901

United States Senator Thomas H. Carter, LL. D., . Helena, Montana.

1902

His Excellency, Joseph K. Toole, LL. D., ...
Governor of Montana, Helena, Montana.

1904

Judge Hiram Knowles, LL. D., ... Missoula, Montana.

MISCELLANEOUS

CONVOCATIONS

All students are required to attend the regularly weekly convocations which are held on Wednesday at 11:30 A. M. Special convocations may be held from time to time as the interests of the University demand.

SOCIETIES

Two literary societies, the Hawthorne and Clarkia, are open to students. The first-named society is composed of young men and the second of young women. Both societies are alive and a credit to the University. Students attending the University will find membership in either of these societies most helpful and pleasant. The whole body of students and the Faculty are organized in one society entitled the Associated Students of the University of Montana. This society, through committees, manages all such general interests as Athletics, Oratory, Debates, Entertainments, etc.

Branches of the Y. M. C. A. and of the Y. W. C. A. are organized, are prosperous, and give promise of effective work along educational and social lines.

Two musical organizations are in existence, the University Glee Club, composed of young men, and the University Orchestra. Both organizations are in flourishing condition and have provided good music for University events during the year. These clubs furnish a splendid opportunity for all students who have musical talent to cultivate it as well as to participate in the social pleasures pertaining to such organizations.

Scholarships, Prizes and Medals

ACCREDITED HIGH SCHOOL SCHOLARSHIP

Students who hold the highest rank in the graduating classes of the accredited high schools of the state each year are entitled to free scholarship in the University for four years.

BONNER SCHOLARSHIP

Donated by Mrs. E. L. Bonner, of Missoula, Montana, in memory of her husband, Mr. E. L. Bonner. Open for the year 1905-1906 to the competition of members of the first year class in the collegiate department. The one holding the highest rank will be entitled to all necessary expenses (about $300 annually) for the remaining three years of his or her college course.

This scholarship is held at present by William Van Eman of Augusta, Montana.

KEITH PRIZES IN DECLAMATION

Donated annually by Mr. John M. Keith, of Missoula, Montana, for the best declamations by students in the preparatory department. The first prize is $20; the second, $10. The winner of the first prize in 1898, was Miss Nina Tibault. In 1899 the first prize was won by Gilbert Heyfron, and the second by William Dickinson. In 1900 the first prize was won by Laurens Lind Hechler, and the second by Washington J. McCormick. In 1901 the first prize was won by Elmer Woodman and the second by Mildred Corbin. In 1902 the first prize was won by Lillian Warren and the second by Lucia M. Mirriles. In 1903 the first prize was won by Blanche Ingalls and the second by Anna Hutter. In 1904 the first prize was won by Fern Healy and the second by Ethel Ambrose. In 1905 the first was won by Elois Ward, the second by Hart Willis. In 1906 the first was won by Adolphus Bennett and the second by Marshall Harnois. In 1907, Irene Cave won the first place and Agatha Lynch the second.

BUCKLEY PRIZE IN ORATORY

Founded by Doctor J. J. Buckley, of Missoula, Montana, in memory of his father, Mr. H. N. Buckley, and is awarded annually to any student in the University, competing under conditions subject to the control of the Faculty. The amount of the prize is twenty dollars, derived from a permanent investment made to secure its endowment.

This prize was awarded in 1896 to Miss Anna Gray; in 1897 to Charles Pixley; in 1898 to Louise Hatheway; in 1899 to Guy H. Sheridan; in 1900 to Eben Hugh Murray; in 1901 to Kathryne Wilson; in 1902 to George E. Barnes; in 1903

to Corliss P. Hargraves; in 1904 to Gilbert J. Heyfron; in 1905 to Charles E. Simons; in 1906 to Alma Deschamps.

ANNIE LEWIS JOYCE MEMORIAL MEDAL

Founded by Attorney M. M. Joyce, of Missoula, Montana, in memory of his wife, and is awarded annually for the best essay, thesis, or poem by a member of the academic senior class, competing under the following conditions:

1. There must be at least two contestants.
2. No production shall contain more than 3,000 words.
3. Each production shall be type-written, shall be signed with a fictitious name, and shall be accompanied with a sealed envelope containing the real name of the writer and bearing the fictitious name on the outside.
4. All productions must be submitted, not later than 12 o'clock noon of the first Saturday in May to the president, who will, in turn, submit them to a committee appointed by the president, consisting of members of the Faculty. This committee shall have power to accept or reject any of the productions.
5. The productions that are accepted shall be submitted to another committee appointed by the president. This committee, after selecting the best production, shall submit the sealed envelope corresponding to this production to the secretary of the Faculty, who shall, at the next regular Faculty meeting, open the envelope in the presence of the Faculty, and read the real name of the successful contestant.
6. The topic for the essay, thesis, or poem shall be announced in the catalogue, which is issued the year before the graduation of the contestants, so that they may have time during the summer for preliminary work on the topic assigned.

Topic for May, 1908: "Montana Writers."

BENNETT PRIZE ESSAY

Founded by Mr. Philo S. Bennett, of Bridgeport, Connecticut, who set aside by will $10,000 to be distributed among twenty-five colleges or universities to be selected by Hon. W. J. Bryan of Lincoln, Nebraska. The amount of the endowment for the University of Montana is $400, the annual proceeds of which will be given as a prize (in money or in a medal of equivalent value, at the option of the successful contestant) for the best essay by any student of the University, on some topic pertaining to good government. The conditions for the competition are the same as those governing the contestants who compete for the Annie Lewis Joyce Memorial Medal.

Topic for May, 1908: The Reclamation of Arid Lands.

COBBAN PRIZE IN GEOLOGY

Given by Mr. R. M. Cobban of Missoula, Montana, to the student showing the best knowledge of geological subjects. Open to advanced students only. The amount of the prize is $25.

THE 1904 CLASS PRIZE

A prize donated by the members of the class of 1904, who, in rotation, name the particular excellence for which the prize shall be given. For the year 1904-05 it was awarded to the student holding the highest rank in the first year college class in Latin; for the year 1905-06, to the student representing the University in the state oratorical contest; for 1906-07 to the student making the greatest progress in chemistry.

MUSIC MEDALS

Two medals are given in the Department of Music: one by Mrs. Bonner for advanced piano technique; the other by Mrs. Blanche Whitaker for effort and proficiency.

THE UNIVERSITY CERTIFICATE OF QUALIFICATION TO TEACH

The aims of the University in providing instruction in education are as follows:

1. To fit certain University students for the higher positions in the public school service.
2. To encourage and promote the study of educational science.
3. To teach the history of education and of educational systems and doctrines.
4. To provide such courses of instruction as will secure to teaching the rights, prerogatives and advantages of a profession.

The requirements made by the Faculty for granting a University teacher's certificate are as follows:

1. GENERAL KNOWLEDGE.—Each candidate for such a teacher's certificate must hold a bachelor's or master's degree from this University.

2. PROFESSIONAL KNOWLEDGE.—He must have taken the following special courses in Philosophy and Education:

Elementary Psychology (Psychology I and II, 5 hours); History of Education (Education IV, 3 hours); Principles of Teaching (Education VII, 2 hours); High School Pedagogy or Educational Psychology (3 hours); and three hours of work selected from the offerings of the Department of Philosophy.

3. He must, in the judgment of his instructors, not only have an adequate knowledge of the subjects studied, but possess other qualifications essential to success in teaching; it being understood that work acceptable as a part of the requirements for graduation may not justify the granting of a teacher's certificate.

4. To have his certificate engrossed with the names of special subjects of the high school curriculum the candidate must have completed normally 20 hours work in the subject or group of closely allied subjects which he expects to teach, the ultimate decision as to the students proficiency in these subjects resting with the heads of the departments concerned.

All general questions relating to the students' professional work are under the supervision of a special committee of which the professor of education is chairman. All recommendations for the teacher's certificate are made to the Faculty through this committee.

All candidates for the certificate should confer with the professor of education not later than the beginning of their third year.

THE STATE ORATORICAL ASSOCIATION

This association was organized in 1900. The institutions represented are the Montana Wesleyan University, the Montana College of Agriculture and the Mechanic Arts and the University of Montana. The purpose of the association is to promote the interest of work along oratorical lines.

The contest in 1900 gave first place to Laurens Lind Hechler, the representative from the University, and that of 1901 gave first place to Mr. Farris, the representative from the College of Agriculture and Mechanic Arts. In 1902 the honors were won by George E. Barnes of the University, in 1903 by Corliss P. Hargraves of the University, in 1904 by Gilbert J. Heyfron of the University, in 1905 by Mr. Williams of the Montana Wesleyan, in 1906 by Alice Mountjoy from the College of Agriculture and Mechanic Arts, in 1907 by Arbie E. Leech of the University.

THE JOHN M. EVANS HALL

Through the liberality of Hon. J. M. Evans and other citizens of Missoula, the Literary Society Hall has been elegantly furnished. The dedication was held March 18, 1900, and was attended by a large number of students and citizens.

Mr. Evans having taken the initiative in the effort to furnish the room, it was considered proper to name the hall after the principal donor and so it was christened the John M. Evans Hall.

THE UNIVERSITY SILVER CORNET AND ORCHESTRAL BAND

The University is in possession of a full set of musical instruments which were donated by the Garden City Cornet Band.

A permanent organization has been effected and the band is doing some excellent work. The instruments are used on the same basis as other University material and are thus accessible to any who desire to take up this kind of work.

THE UNIVERSITY PAPER

The Kaimin, through the effective efforts of its corps of editors, has become a permanent factor in the University life. The various difficulties, incident to the launching of a new enterprise, have been met, and the success of the University paper is assured.

The Board of Editors elected the past year was as follows:

J. W. Streit, '07	Editor-in-Chief
Frances Nuckolls, '07	Assistant Editor-in-Chief
Linda E. Featherman, 07 Frederick Greenwood, '09	Literary Editors
James H. Mills, '07	Cartoonist
Charles P. Cotter, '07	Athletic Editor
Mary M. Fergus, '07	Society Editor
James H. Bonner, '07	Local Editor
Nellie Bullard, '08	Exchange Editor
William H. Polleys, '07	Business Manager
Charles A. Buck, '08	Soliciting Manager
George M. Coffee, Jr., '09	Circulation Manager

THE WEATHER SERVICE

On the departure of the 25th U. S. Infantry from Fort Missoula, the instruments belonging to the Weather Bureau were placed in the keeping of the University. The instruments consist of a set of maximum and minimum thermometers, a standard thermometer, instrument shelter and rain gauge. A pair of wet and dry bulb thermometers for determining the dew point has been added, and also a standard barometer of the Fortin pattern.

The records at Fort Missoula had been taken continuously for nineteen years. As the University is but four miles from the Fort in practically the same climatic condi-

tions, the continuation of the observations is very desirable.

The work has been placed in charge of Prof. M. J. Elrod of the Department of Biology.

THE UNITED STATES GEOLOGICAL SURVEY

A topographical map of a portion of the state having Missoula as the center has been prepared by the government. This region is later to be worked up geologically, and will be given in the series of geological maps now being issued by the U. S. Geological Survey. The University is aiding in this work in every way possible, and will be very much benefited by the results reached by the survey. At the present writing a bench mark for altitude has been placed in the stone at the left entrance to the main building, the altitude being 3,312 above sea level. This has now been corrected by the survey brought in from the Pacific Ocean whereby the corrected height of 3,323 feet is established. The triangulation party has established a bench mark on the campus, with stone piers marking the meridian line, giving the latitude and longitude accurately determined, and these marks will no doubt be starting points for future work.

ATHLETIC AND GYMNASIUM WORK

A committee from the Faculty, entitled The Committee on Athletics and Gymnasium Work, has general oversight of the athletic sports and gymnasium. The details of the management are in the hands of the Board of Directors of the A. S. U. M. Regular gymnasium classes have been organized during the past year, one of young men and one of young ladies. The class of young men have exercises with the dumb bells, Indian clubs, punching bag, etc., together with seventeen "setting up" exercises and military drill. The class of young ladies are drilled with the dumb bells, Indian clubs, free arm exercises, wands and general calisthenics. This has been made possible by one of Missoula's citizens, Mr. C. H. McLeod, who has very kindly equipped the gymnasium with parallel and horizontal bars, trapeze and swinging rings, chest weight machines, and Whitely exerciser, vaulting horse, punching bag, boxing gloves, fencing foils, Indian clubs, dumb bells, wrist and finger machines, and a rowing machine. Besides these there are two small mats for the bars, and a large gymnasium rug,

sixteen feet square, for wrestling and boxing. The athletic field, located in the northwest corner of the Campus, is now in excellent condition. A quarter of a mile running track is nicely finished, and the entire field has been well scraped and leveled. Within this track there is located the baseball diamond and the football field. To the south are the tennis courts.

The general sports indulged in are football, basketball and baseball, together with the indoor and outdoors field sports.

The Faculty has established the following important regulations:

First. The football season will extend from September 1st to Thanksgiving Day.

Second. Only bona fide students in the University, taking at least 12 hours per week of recitations or lectures can represent the University in any of its games with other college teams. Teams representing the University will not be permitted to play teams representing other schools or colleges unless the latter conform to the same requirement for study.

Third. Before the departure of University teams to play with school and college teams elsewhere and also before games with such teams on the home grounds a list of students from which names are to be selected for University teams, must be presented by managers to the Faculty for consideration and approval.

RULES GOVERNING ATHLETICS

To take effect Sept. 1st, 1907.

I. No engagement shall be made in general requiring:
(1) More than $300 expense.
(2) More than three days consecutive absence on the part of the team.

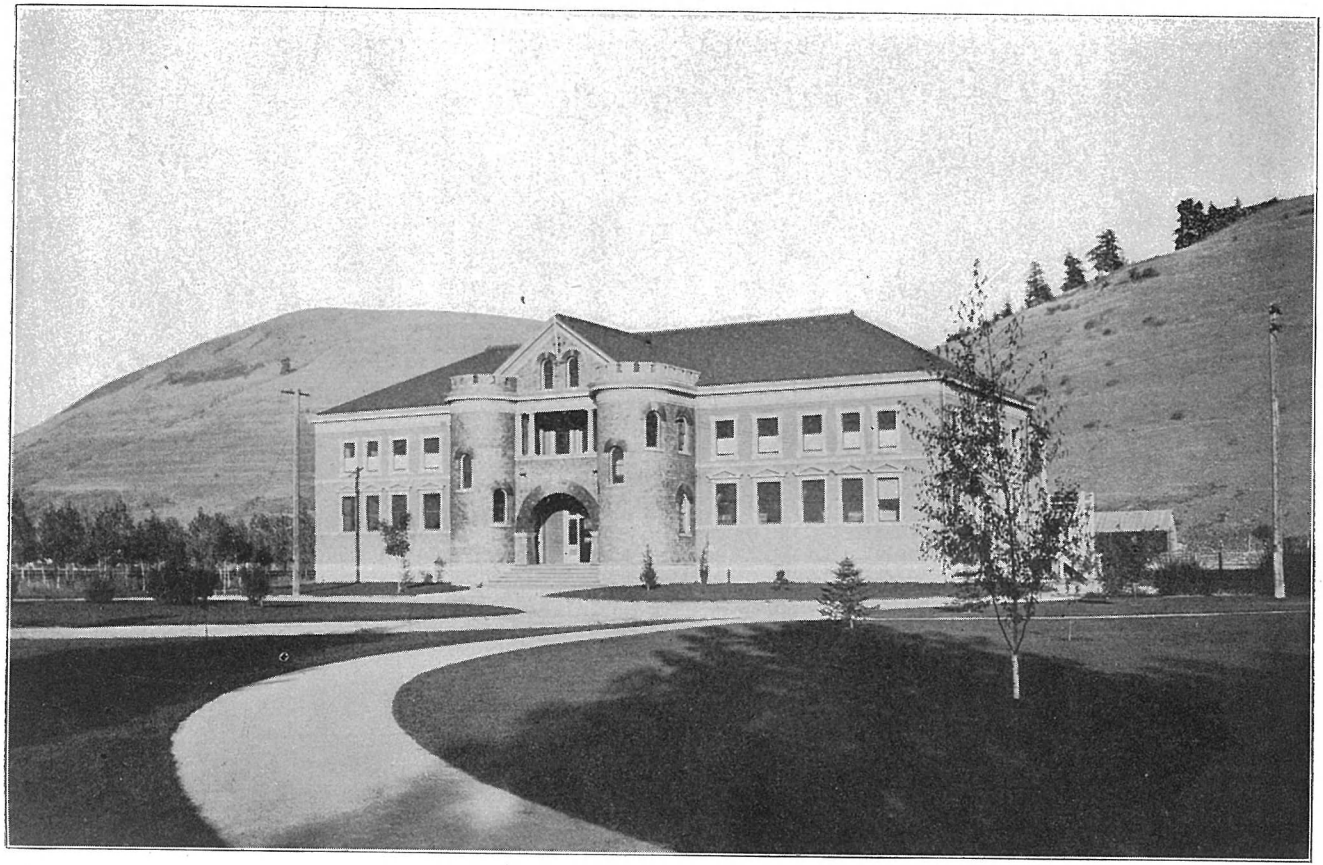
II. The following rules of eligibility, copied from the Montana State Interscholastic Athletic Association, are approved by the Faculty:

1. No person shall be allowed to compete in any athletic contest who is not an amateur. An amateur is a person who has never competed for money, or under a false name, or with a professional for a prize, or has at any time taught, pursued or assisted at athletic exercises for money or for any valuable consideration.

2. No student registering after the 15th of October shall be eligible to play in any intercollegiate contest before February 1 of that collegiate year. No student registering later than 15 days after the opening of the second semester shall take part in any intercollegiate athletic contest held during the remainder of that college year.

3. No student who has been in attendance any part of a preceding semester shall be allowed to participate in any collegiate athletic contest unless he shall have completed at the opening of the semester in which he competes at least twelve credits of his last preceding semester's work.

4. Students who have played one year while in a preparatory department may be allowed to enter athletic contests for five years; otherwise the limit shall be four years.



GYMNASIUM—FRONT VIEW

ANNUAL INTERSCHOLASTIC MEET

The High Schools of Montana are organized in a league for the promotion and control of athletics. For four years the annual meets for track contests have been held on the University grounds, occurring this year May 15, 16, 17.

Usually about twenty schools are represented with from three to twenty contestants from each school.

The University pays railroad fares of three representatives from each school, furnishes entertainment for contestants, and medals.

To the athletic contests, a contest in declamation is added, with one representative from each school.

Great interest is taken in these contests and their influence in raising standards and unifying the school by bringing them together in friendly rivalry has been very great.

HIGH SCHOOL DEBATING LEAGUE

A Debating League having for its object improvement in debate among the students in high schools of the state, was organized by the state high school principals at a meeting held at the University, May, 1906. During the past winter thirteen of the accredited high schools have taken part in these debates. The final contest, to decide the state championship, will be held near the close of each year, at Missoula, under the auspices of the University.

FEES AND DEPOSITS

Preparatory, or any College Course, per year (Matriculation fee), payable at entrance	$10.00
Athletic fee, per semester	1.00
Physical apparatus (deposit) per semester	3.00
Chemistry I and II—Chemical apparatus (deposit) per semester	6.00
Chemistry III—Qualitative apparatus (deposit) per semester	6.00
Chemistry IV—Quantitative apparatus (deposit) per semester	6.00
Chemistry V and VI—$10.00; each additional hour	2.00
Chemistry IX and X—Organic Chemistry (deposit) per semester	10.00
Assaying apparatus (deposit) per semester	10.00
Deposit, Biological Laboratory, per semester	3.00
Deposit, Mechanical Engineering Laboratory, per semester	5.00
Photography	5.00

EXPENSES

The Woman's Hall on the campus is a new building, well furnished, lighted and heated. Rooms for a single occupant may be rented at $1.50 per week. If two persons occupy the same room the rate is $1.25 each. Meals are furnished at the uniform price of $4.25 per week.

Students not accommodated at the Hall are expected to find rooms and board in private families.

Good homes can thus be provided for all and at very reasonable rates. Expenses may be very materially lessened by the formation of boarding clubs. Students will not be allowed to board at places not approved by the Faculty.

EMPLOYMENT FOR STUDENTS

A large number of students of the University earn either the whole or a part of their expenses while in college. Students intending to work their way can usually do so if they come with sufficient means to support them for the first half year, though many have made all their expenses from the beginning.

Although the University cannot guarantee work for students it is believed that those who are strong and willing to do any work that offers, will be able to pay their expenses, though this may result in lengthening the student's undergraduate attendance to five years. A number of students find work about the University; as stenographers, assistants in the laboratories or in the library, as carpenters, and in other capacities. Others find employment in town as clerks, reporters, janitors, newsboys, etc.

While nothing is more efficient in obtaining work than the personal endeavors of the student, a committee of the Faculty will give every aid possible. Particular attention will be paid to the needs of new students, or those who are of themselves unable to secure employment. Those wishing employment during the coming year and new students wishing information, should send their names, together with an account of the work they have done, the character of the work they wish to do, and a list of the positions they would be willing to fill, to

W. D. HARKINS,
Chairman of the Committee on Student Employment,
Missoula, Montana.

UNIVERSITY SURROUNDINGS

Missoula is located in Western Montana, on the main line of the Northern Pacific Railroad and at its junction with the Bitter Root valley and Coeur d'Alene branches, thus affording easy railroad connections with all parts of the state and the northwest.

The City of Missoula is noted as being one of the most beautiful in the west; and is unexcelled as regards pure water, healthful surroundings, beautiful scenery, and all of those things that contribute to make life pleasant and agreeable.

Situated at the head of the Missoula valley and near the outlet of the Bitter Root valley, it is within the limits of the great agricultural and fruit growing regions of the state.

INDEX