



Catalogue of the University of Wisconsin for the academic year 1879-80. October, 1879

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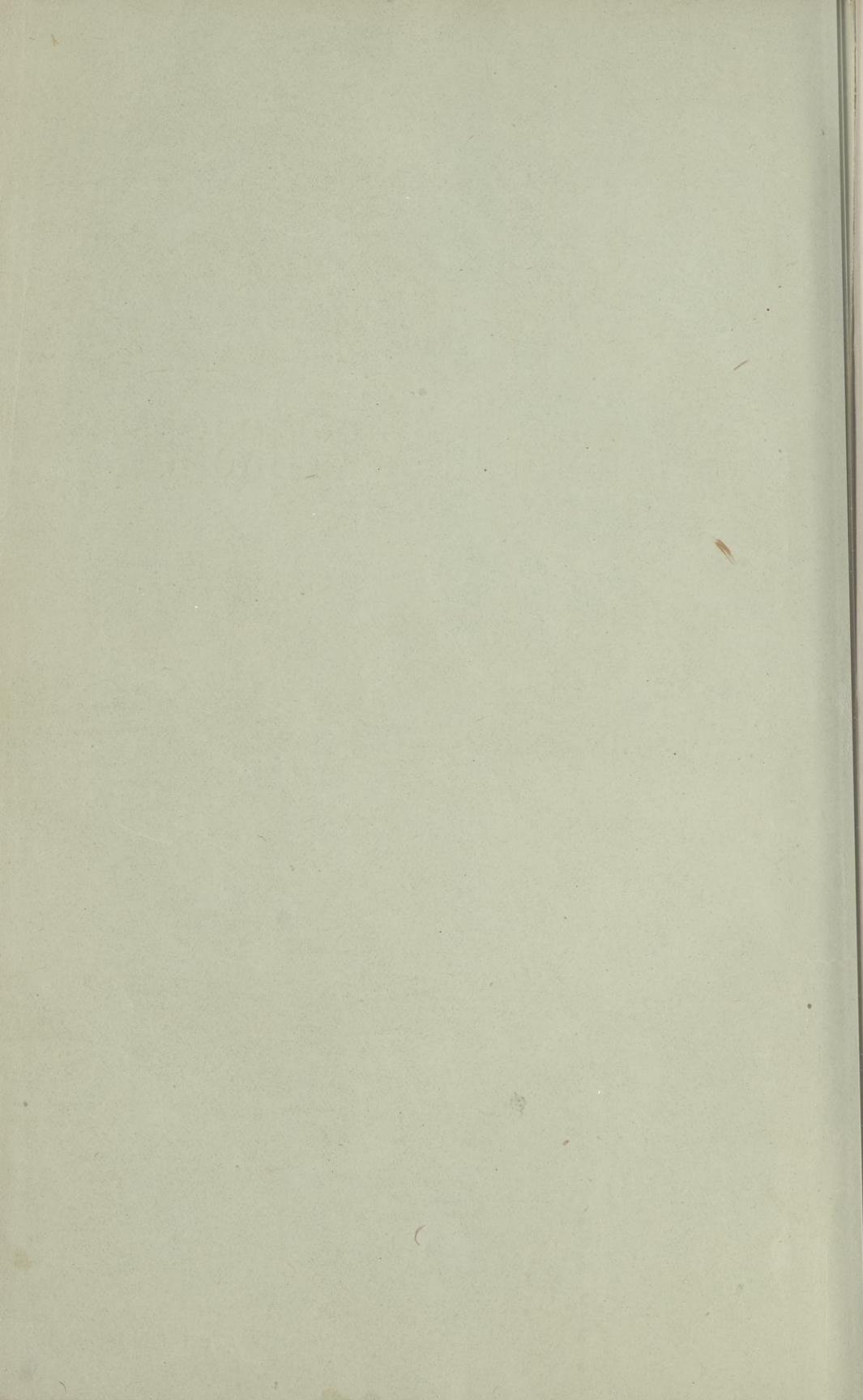
W. J. Hatch,

CATALOGUE
OF THE
UNIVERSITY OF WISCONSIN,

For the Academic Year, 1879-80.

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CATALOGUE

OF THE

UNIVERSITY OF WISCONSIN,

FOR THE

ACADEMIC YEAR 1879-80.

MADISON, WISCONSIN,
OCTOBER, 1879.

MILWAUKEE:
CRAMER, AIKENS & CRAMER, PRINTERS.
1879.

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REORGANIZATION.

Chapter 144, General Laws of 1866.

SECTION 1. The object of the University of Wisconsin shall be to provide the means of acquiring a thorough knowledge of the various branches of learning connected with scientific, industrial and professional pursuits; and to this end it shall consist of the following colleges, to wit: 1st. The College of Arts; 2d. The College of Letters; 3d. Such professional and other colleges as from time to time may be added thereto or connected therewith.

SECTION 2. The College of Arts shall embrace courses of instruction in the mathematical, physical, and natural sciences, with their application to the industrial arts, such as agriculture, mechanics, and engineering, mining and metallurgy, manufactures, architecture, and commerce; in such branches included in the College of Letters as shall be necessary to a proper fitting of the pupils in the scientific and practical courses for their chosen pursuits; and in military tactics; and as soon as the income of the University shall allow, in such order as the wants of the public shall seem to require, the said courses in the sciences and their application to the practical arts shall be expanded into distinct colleges of the University, each with its own faculty and appropriate title.

SECTION 3. The College of Letters shall be coexistent with the College of Arts, and shall embrace a liberal course of instruction in languages, literature, and philosophy, together with such courses or parts of courses in the College of Arts as the authorities of the University shall prescribe.

Amendment of 1867.

SECTION 4. The University shall be open to female as well as male students, under such regulations and restrictions as the Board of Regents may deem proper; and all able-bodied male students of the University, in whatever college, shall receive instruction and discipline in military tactics, the requisite arms for which shall be furnished by the state.

BOARD OF REGENTS.

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION.

*Ex-*oficio** Regent.

Life Member.....C. C. WASHBURN.....Madison.

Term expires first Monday in February, 1880.

State at Large.....E. W. KEYES.....Madison.

1st Congressional District.....J. B. CASSODAY.....Janesville.

3d.....do.....W. E. CARTER.....Platteville.

6th.....do.....L. B. SALE.....Green Bay.

Term expires first Monday in February, 1881.

7th Congressional District.....T. D. STEELE.....Sparta.

5th.....do.....HIRAM SMITH.....Sheboygan Falls.

2d.....do.....J. C. GREGORY.....Madison.

4th.....do.....GEO. KOEPPEN.....Milwaukee.

Term expires first Monday in February, 1882.

State at Large.....GEORGE H. PAUL.....Milwaukee,

8th Congressional District.....J. M. BINGHAM.....Chippewa Falls.

OFFICERS.

C. C. WASHBURN,
PRESIDENT.

GEORGE H. PAUL,
VICE PRESIDENT.

JOHN S. DEAN,
SECRETARY.

STATE TREASURER,
*Ex-*oficio** TREASURER.

EXECUTIVE COMMITTEE.

E. W. KEYES, J. C. GREGORY, GEORGE H. PAUL,
FARM COMMITTEE.

HIRAM SMITH, L. B. SALE, E. W. KEYES.

W. C. WHITFORD, T. D. STEELE, GEORGE KOEPPEN.

COMMITTEE ON LAW DEPARTMENT.

J. C. GREGORY, J. B. CASSODAY, W. E. CARTER.

FACULTIES, INSTRUCTORS AND OTHER OFFICERS.

JOHN BASCOM, D.D., LL. D., President and Professor of Mental and Moral Philosophy.

Professors of the Colleges of Arts and Letters †—

JOHN WHELEN STERLING, PH.D., Vice President, - Mathematics.

WILLIAM FRANCIS ALLEN, A. M., - - - Latin and History.

ALEXANDER KERR, A. M., - - - Greek Language and Literature.

JAMES CRAIG WATSON, PH.D., LL.D., Director of the Washburn Observatory, - - - - - Astronomy.

JOHN BARBER PARKINSON, A. M., Civil Polity and Political Economy.

JOHN EUGENE DAVIES, A. M., M. D., - - - Physics.

WILLIAM WILLARD DANIELLS, M. S., - - Chemistry and Agriculture.

WILLIAM H. ROSENSTENGEL, - German Language and Literature.

JOHN CHARLES FREEMAN, A. M., B. D., - - English Literature.

ROLAND DUEIR IRVING, A. M., E. M., PH.D., Geology, Mining, Metallurgy.

RASMUS ANDERSON, A. M., - - - Scandinavian Languages.

DAVID BOWER FRANKENBURGER, PH.B., - - Rhetoric and Oratory.

EDWARD THOMAS OWEN, A. B., - French Language and Literature.

EDWARD ASAHEL BIRGE, A. M., PH.D., - - - Zoology.

ALLAN DARST CONÓVER, C. E., - Civil and Mechanical Engineering.

Professors of the Law Faculty—

J. H. CARPENTER, LL.D., Dean of the Faculty, Criminal Law and Contracts.

WM. F. VILAS, LL.B., - - - Practice, Pleadings and Evidence.

HON. I. C. SLOAN, - - - - - Equity and Real Estate.

HON. S. U. PINNEY, - - - - - Corporations and Real Estate.

HON. ROMANZO BUNN, - - - - - Federal Jurisprudence.

HON. P. L. SPOONER, - - - - - Mortgages, Tax Titles, Etc.

HON. J. B. CASSODAY, - - - - - Wills, Patent Rights, Etc.

CLARK GAPEN, M. D., - - - - - Medical Jurisprudence.

Instructors—

MRS. D. E. CARSON, Preceptress, - - - - - Mathematics.

† In order of the time of Collegiate Graduation.

Instructors (continued)—

FLETCHER ANDREW PARKER,	- - - - -	Music.
MISS ELLEN CHYNOWETH, A. B.,	- - - - -	German.
MISS ELIZABETH SMITH SPENCER, PH.B.,	- - - - -	Mathematics.
LUCIUS HERITAGE, A. M.,	- - - - -	Latin.
WILLIAM HOLME WILLIAMS, A. B.,	- - - - -	Greek.
JOSEPH CHARLES ARTHUR, M. S.,	- - - - -	Botany.
STORM BULL, Mech. E.,	- - - - -	Engineering.
CHARLES ISAAC KING, Sup't of the Machine Shop, Practical Mechanics.		
MISS ALICE FRANCES FRISBY, B. S.,	- - - - -	Mathematics.
MISS ALICE JESSIE CRAIG,	- - - - -	Elocution.
CHARLES RICHARD VANHISE, B. M.E.,	-	Assistant in Mineralogy, etc.
GERHARD HUBERT BALG,	- - - - -	German.

Other Officers—

GEORGE CARY COMSTOCK, PH.B., Assistant in the Astronomical Observatory.

MRS. ELLEN M. DEAN,	- - - - -	Matron, Ladies' Hall.
MRS. LAURA H. FEULING, A. B.,	- - - - -	Library Attendant.
DAVID MASON, A. B.,	-	In charge of the Magnetic Observatory.
E. G. HAYDEN,	- - - - -	University Farmer.

Janitors—

PATRICK K. WALSH,	- - - - -	University Hall and Dormitories.
JAMES H. RIDER,	- - - - -	Science Hall.
JAMES M. ASHBY,	- - - - -	Ladies' Hall.

COMMITTEE IN CHARGE OF THE LIBRARY.

President Bascom ; Professor Anderson, *Secretary* ; Professor Irving.

CLASS OFFICERS 1879-80.

SENIOR CLASS.

Classical Courses,	- - - - -	Professor Parkinson.
General Science Course,	- - - - -	Professor Irving.

JUNIOR CLASS.

Classical Courses,	- - - - -	Professor Frankenburger.
General Science Course	- - - - -	Professor Daniells.

SOPHOMORE CLASS.

Ancient Classical Course,	- - - - -	Professor Kerr.
Modern Classical Course,	- - - - -	Professor Allen.
General Science Course,	- - - - -	Professor Birge.

FRESHMAN CLASS.

Ancient Classical Course,	- - - - -	Professor Freeman.
Modern Classical Course,	- - - - -	Mr. Heritage.
General Science Course,	- - - - -	Mrs. Carson.

TECHNICAL STUDENTS,	- - - - -	Professor Conover.
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SPECIAL STUDENTS,	- - - - -	Professor Kerr.
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SUB-FRESHMAN CLASSES.

Ancient Classical Course.	- - - - -	Mr. Williams.
Modern Classical Course, (second year,)	- - - - -	Professor Rosenstengel.
Modern Classical Course, (first year,)	- - - - -	Mr. Balg.
General Science Course,	- - - - -	Miss Craig.

DEGREES CONFERRED AT COMMENCEMENT, 1879.

Bachelor of Arts.

John Anderson.	Oliver George Ford.
George Mooar Bascom.	Henry C. Martin.
Clarence Demis.	David Mason.
Flora E. Dodge.	Lewis Ostenson.
Archibald Durrie.	Jefferson Beard Simpson.

Bachelor of Letters.

Charles H. Albertson.	Abby Wilder Jewett.
Jennie Bascom.	Edward J. Paul.
Mary Bunn.	Katharine C. Paul.
Belle Case.	Arthur Puls.
Lulu Celeste Daniells.	Susie Adelaide Sterling.
Flora E. Dodge.	George Lester Voorhees.

Bachelor of Science.

John Gilbert Conway.	Robert Marion LaFollette.
Ellery Williams Davis.	Jessie Martin Meyer.
Alonzo Gustin Dennett.	Edward Barton Oakley.
Wilber Eugene Dennett.	Albert D. Prideaux.
Ida Maria Hoyt.	Edith M. Stearns.
John Harvey Hutchinson.	John Wix Thomas.
Kemper Knapp.	

Bachelor of Metallurgical Engineering.

Charles Richard Vanhise.

Bachelor of Laws.

William Henry Allen.	John Kelly, Jr.
Perry Baird, A. B., (Chicago Univ.)	George Kurtz.
James Berryman.	Charles Henry Ladd.

Bachelor of Laws (continued.)

Henry Sigourney Butler, A. B.,	Patrick Henry Martin.
(Harvard Univ.)	Seth Mills.
George De Clerk.	Howard Morris, A. B., (U. of Wis.)
Harry George Dickey.	Charles Henry Oakey.
Selon A. Doolittle, B. S., (St. Law- rence.)	John Myers Olin, A. M. (Will- iams.)
John Adolphus Eggen.	Thomas O'Meara.
Charles Nelson Harris.	Otto Peemiller.
Everett Anson Hayes.	Jermain Post.
Fred. N. Hendrix, B. S., (U. of Wis.)	Anson Clay Prescott, B. S., (U. of Wis.)
Joseph William Ivey.	Tennis Slingerland.

Master of Arts.—(On Examination.)

Charles F. Harding, A. B.	Helen D. Street, A. B.
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25
35
60

32
H/12

STUDENTS.

RESIDENT GRADUATES.

Jennie Bascom, B. L.,	Madison,	Prest. J. Bascom's.
Ellery Williams Davis, B. S., Oconomowoc,		Mrs. M. A. Beat's.

— 2

SENIOR CLASS.

ANCIENT CLASSICAL COURSE.

John Milton Dodson,	Berlin,	Mrs. S. H. Carpenter's.
Henry Baird Favill,	Madison,	Dr. J. Favill's.
Henry Decker Goodwin,	Milwaukee,	Mrs. E. L. Burnett's.
Alvirus Nelson Hitchcock,	Madison,	Francis St.
George Hofstetter,	Sabula, Iowa,	C. McKinnon's.
Judson Elijah Hoyt,	Menomonee Falls,	28 N. D.*
Charles Francis Lamb,	Madison,	F. J. Lamb's.
John Thomas Morgans,	Plain,	28 N. D.
Alfred Patek,	Milwaukee,	J. Winteler's.
Henry Lewis Richardson,	Berlin,	52 S. D.†
Frank H. Sawyer,	Oconomowoc,	73 S. D.
Albert Edward Schaub,	East Troy,	Mrs. J. R. Young's.
Darwin Wilfred Smith,	Sun Prairie,	64 S. D.
Charles Gordon Sterling,	Madison,	Prof. J. W. Sterling's.

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MODERN CLASSICAL COURSE.

Frank Benton Brundage,	Grand Rapids,	Mrs. E. L. Burnett's.
Edith J. Crosse,	Sun Prairie,	H. Johnson's.
Maria Morrison Dean,	Madison,	Ladies' Hall.
Humphrey J. Desmond,	Milwaukee,	M. Devine's.
Annie Beck Dinsdale,	Madison,	Rev. M. Dinsdale's.
Mary Dunwiddie,	Monroe,	Ladies' Hall.
Waldo Fisher,	Alton, Ill.,	J. Murray's.
Rose Gifford,	Reedsburg,	J. R. Melvin's.
Edward F. Gleason,	Waukesha,	Mrs. M. E. Potter's.
Emma Heller,	Sauk City,	Ladies' Hall.
Annie Isabella Horne,	Genesee,	Mrs. S. Johnstone's.
Louisa Martin,	Darlington,	E. G. Garner's.
Viola Imogene Troy,	Monroe,	J. R. Melvin's.

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* North Dormitory.

† South Dormitory.

GENERAL SCIENCE COURSE.

Jay William Hicks,	Eureka,	33 S. D.
James Gardiner Johnstone,	Milwaukee,	Mrs. E. Johnstone's.
Mary Agnes Nelson,	Manitowoc,	J. R. Melvin's.
Lenora Maxwell Northrop,	Clinton,	Ladies' Hall.
Etna Joseph Wiswall,	Prairie du Sac,	41 N. D.
Alvin Webster Wohlford,	Orangeville, Ill.,	Mrs. W. J. L. Nicodemus'.

— 6

CIVIL ENGINEERING COURSE.

George Edward Morgan,	Madison,	Mrs. J. E. Morgan's.
Harry Brown Sturtevant,	Delevan,	30 S. D. — 2

MECHANICAL ENGINEERING COURSE.

William Sylvester Bliss,	Byron,	52 S. D. — 1
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METALLURGICAL COURSE.

Magnus Swenson,	Janesville,	30 S. D. — 1
		— 37

JUNIOR CLASS.

ANCIENT CLASSICAL COURSE.

✉ Edward Brady,	✉ Rio,	Mrs. J. Boss'.
✉ Julia Kirkland Clark,	✉ Portage,	Ladies' Hall.
Eloise Johnson,	Black River Falls,	Ladies' Hall.
✉ Charles H. Kerr,	✉ Madison,	Prof. A. Kerr's.
William Herbert Lewis,	Lancaster,	W. Davidson's.
William Penn Lyon, Jr.,	Madison,	W. P. Lyon's.
Alfred Edison McCurdy,	Oshkosh,	Park Hotel.
✉ Frank Monroe Porter,	Madison,	Mrs. M. Porter's.
✉ Stanley Proudfit,	✉ Madison,	A. Proudfit's.
Otto Joel Scovell,	Lowville,	Mrs. M. E. Potter's.
✉ Howard Leslie Smith,	✉ Madison,	Mrs. S. A. Smith's.
Willard Snell,*	Madison,	H. Snell's.
James Desnoyer Van Dyke,	Oconomowoc,	89 N. D. — 13

MODERN CLASSICAL COURSE.

✉ Margaret Belle Allen,	✉ Darlington,	Ladies' Hall.
Charles Bamford,	Plymouth,	W. Davidson's.
✉ Florence Bascom,*	Madison,	Prest. J. Bascom's.
James Brady,	Rio,	Mrs. J. Boss'.
Salmon Wirt Dalberg,	Madison,	A. Dalberg's.

*Six years' course.

Elizabeth Robinson Dresser, <i>Madison</i> ,	J. E. Baker's.
Charles Albert Foster, <i>C</i> <i>Madison</i> ,	Mrs. M. C. Foster's.
William Herbert Goodall, <i>C</i> <i>Lodi</i> ,	Mrs. J. Fletcher's.
Mary Evelyn Green, <i>C</i> <i>Rudd's Mills</i> ,	Rev. C. H. Richard's.
Carrie L. Howe, <i>Madison</i> ,	Mrs. H. E. Howe's.
Otto Hottelman, <i>Manitowoc</i> ,	57 N. D.
Elisha Williams Keyes, Jr., <i>Madison</i> ,	E. W. Keyes'.
Dan Seymour McArthur, <i>La Crosse</i> ,	Mrs. S. Gallagher's.
Mary McKenzie, <i>Sparta</i> ,	Ladies' Hall.
Emma McKenzie, <i>Sparta</i> ,	Ladies' Hall,
William Joseph Moroney, <i>C</i> <i>Richland Center</i> ,	J. Link's,
Maude Estelle Remington, <i>/</i> <i>Baraboo</i> ,	Prof. W. F. Allen's.
May Belle Remington, <i>/</i> <i>Baraboo</i> ,	Ladies' Hall,
Edward Benj. Steensland, <i>Madison</i> ,	H. Steensland's.
Charles Robinson Warren, <i>C</i> <i>Madison</i> ,	A. Warren's.

— 20

GENERAL SCIENCE COURSE.

Albert Henry Burns,	Grand Rapids,	Prof. E. T. Owens.
Irenaeus T. Crisler,	Morris, Ill.,	Mrs. M. E. Potter's.
Emma Gattiker, <i>/</i>	Baraboo,	Ladies' Hall.
Eva Caroline Goodall, <i>2</i>	Lodi,	Mrs. J. Fletcher's.
Julius Nelson, <i>2</i>	Waupaca,	Mrs. A. Paunack's.
Barnis Babcock Rose, <i>C</i>	Dodge's Corners,	72 S. D.
Elizabeth Rebecca Scholfield, <i>Wausau</i> ,		Ladies' Hall.
Lynn Boyd Squier, <i>2</i>	Trempealeau,	41 N. D.
Eugene A. Steere,	Sparta,	47 S. D.

— 9

CIVIL ENGINEERING COURSE.

George Edward Giles,	Watertown,	80 N. D.
Alva Jarvis Grover,	Wauwatosa,	47 S. D.
Henry Freeman Mason, <i>C</i>	Madison,	Mrs. L. H. Mason's

— 3

METALLURGICAL COURSE.

Frank Theodore Bernhard,	Watertown,	J. Murray's.
Thomas W. Parr,	Avoca,	70 S. D.

— 2

MECHANICAL ENGINEERING COURSE.

Joshua Norris Sanborn,	Freeport, Ill.,	54 S. D.
------------------------	-----------------	----------

— 1

48

SOPHOMORE CLASS.

ANCIENT CLASSICAL COURSE.

William Gilbert Anderson,	Quincy, Ill.,	43 S. D.
Jesse Wadleigh Boyce,	Brooklyn,	83 N. D.
Albion Barnard Burr,	River Falls,	6 N. D.

Anna Bates Butler,	Madison,	Prof. J. D. Butler's.
Eugene Edwin Campbell,	River Falls,	6 N. D.
Erwin Charles Cornelius,	Monroe,	Mrs. M. A. Beat's.
Frank Olin De LaMatyr,	Madison,	W. A. De LaMatyr's.
Charles Millard Dodson,	Berlin,	Mrs. S. H. Carpenter's.
Emmet Addys Drake,	Monroe,	Mrs. M. A. Beat's.
Charles Rountree Evans,	Platteville,	Mrs. A. Meeker.
Ole E. Hagen,	Rock Falls,	Mrs. A. Paunack's.
Louis Rollin Head,	Albion,	Mrs. B. M. Harris's.
Edwin Knight Holden,	Sparta,	32 S. D.
William James Mutch,	Elroy,	Mrs. A. Paunack's.
Frank Frederick Oster,	Sparta,	32 S. D.
William Henry Pennock,	Madison,	Rev. A. C. Pennock's.
Edward Burton Priest,	Fond du Lac,	54 N. D.
Calvin Chamberlain Todd,	Fond du Lac,	54 N. D.
Elisha Pierson Swift Wright,	Madison,	Rev. J. E. Wright's. —19

MODERN CLASSICAL COURSE.

Sarah Chambers,	Madison,	Wm. Chambers'.
Nellie Cynthia Chase,	Madison,	S. L. Chase's.
John Jacob Esch,	Sparta,	51 S. D.
Kate Asaphine Everest,	Fond du Lac,	Ladies' Hall.
Arthur Hains French,	Kenosha,	W. Davidson's.
Lucy Maria Gay,	Madison,	M. H. Gay's.
Minnie May Gilbert,	Prospect Hill,	Mrs. J. R. Young's.
Joseph Hallam, Jr.,	Mineral Point,	55 S. D.
Arthur Hatch,	McGregor, Iowa,	6 S. D.
Carrie May Jones,	Reedsburg,	W. W. Waddell's.
George Keenan, Jr.,	McFarland,	Dr. P. Fox's.
Mary Clara Lamb,	Madison,	F. J. Lamb's.
John James McAnaw,	Columbus,	23 S. D.
Frances Eunice Phelps,	Delavan,	Ladies' Hall.
Charles Byron Quincy,	Lancaster,	29 S. D.
David Ferguson Simpson,	Waupun,	Mrs. C. E. Davies'.
Lizzie Amanda Wing,	La Crosse,	Ladies' Hall. —17

GENERAL SCIENCE COURSE.

Charles Lewis Alverson,	Portage,	W. Davidson's.
Edward Jerome Collins,	Verona,	R. Hensler's.
John F. Collins,	Verona,	R. Hensler's.
William P. Collins,	Verona,	R. Hensler's.

William Eckley Dodds,	Madison,	Prof. W. W. Daniells'.
Marion Clark Frisby,	West Bend,	Rev. C. H. Richards'.
Albert Thomas Gamble,	Wausau,	J. Winteler's.
Frank Azro Howe,	Mazomanie,	W. Westermann's.
Fannie Sabra Howe,	Mazomanie,	W. Westermann's.
Granville Duane Jones,	Fond du Lac,	55 S. D.
Frederick Kissinger,	Milwaukee,	Mrs. S. M. Bixby's.
Frithiof Kumlien,	Busseyville,	27 N. D.
Harry Huntington Powers,	Fort Atkinson,	Mrs. V. V. Titus'.
George Edgar Robinson,	Brookfield Centre,	J. Winteler's.
Charles Warren Rose,	Big Bend,	72 S. D.
Albert Monroe Sawin,	Brooklyn,	67 N. D.
James Sheridan,	Waterloo,	80 N. D.
James S. Thomas,	Reedsburg,	W. W. Waddell's. —18

CIVIL ENGINEERING COURSE.

Charles Grant Carpenter,	Windsor,	42 S. D.
Walter Howard Chase,	Madison,	S. L. Chase's.
James Alfred Cole,	Portage,	Mrs. S. Gallagher's.
Frederick William Fratt,	Racine,	43 S. D.
Caleb Notbohm Harrison,	Milwaukee,	Mrs. L. Harrison's.
Andrew Schindler,	Monroe,	70 N. D. —6

METALLURGICAL COURSE.

Thomas Williamson Haight,	Syene,	Mrs. B. W. Harris'.
Fred Wood Loomis,	Portage,	Mrs. S. Gallagher's.
Walter Eugene Vanhise,	Union,	67 N. D. —3
		—64

FRESHMAN CLASS.

ANCIENT CLASSICAL COURSE.

Henry Whitcomb Allen,	Milwaukee,	L. B. Hill's.
Marsh Barber,	Lancaster,	Mrs. J. Leavy's.
Harry Hamlin Beaser,	Ashland,	66 N. D.
Archibald Church,	Fond du Lac,	30 N. D.
Rublee Alvah Cole,	Sheboygan Falls,	31 N. D.
Ida Belle Fales,	Janesville,	Ladies' Hall.
Charles Diller Fratt,	Racine,	43 S. D.
Daniel Monroe Held,	Black Hawk,	Mrs. A. Paunack's.
Lorrain Sherman Hulbert,	Monroe,	Dr. E. L. Rod's.
William Henry Jacobs, Jr.,	Madison,	Dr. W. H. Jacobs'.
Charles Osborne Marsh,	Sun Prairie,	42 S. D.

Dupuytren Chauliac Lu-	Freeport, Ill.,	C. McKinnon's.
sardi Mease,		
Luther Packard,	Spring Green,	Mrs. S. D. Packard's.
Wendell Wyman Paine,	Madison,	Mrs. C. R. Paine's.
James Miner Priest,	Sparta,	W. Schmidt's.
Jessie Gertrude Skinner,	Sioux City, Iowa,	Ladies' Hall,
August Charles Umbreit,	Milwaukee,	A. Kentzler's.
Clarence Deuel Van Wie,	Kenosha,	W. Davidson's.
Charles William Wells,	Milwaukee,	64 S. D.
James Calder Wilson,	Burlington,	72 S. D.

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MODERN CLASSICAL COURSE.

Lillie Jane Beecroft,	Madison,	W. G. Beecroft's.
Frank Daniel Cady,	Reedsburg,	W. W. Waddell's.
Mary Russel Cook,	Madison,	Mrs. A. G. Cook's.
Kittie May Covert,	Clinton,	Ladies' Hall.
Adelaide Dean,	Madison,	Ladies' Hall.
Martha Miller Dodge,	Monroe,	Ladies' Hall.
Arthur James Dopp,	Oconomowoc,	Mrs. M. E. Potter's.
Frederick Wm. Dustan, Jr.,	Sun Prairie,	56 N. D.
Frank Henry Foster,	Madison,	Mrs. C. S. Foster's.
Carrie Evva Genung,	Columbus,	H. Johnson's.
Jessie Bradley Hopkins,	Madison,	Mrs. J. C. Hopkins'.
Eliza Bellows Hoyt,	Hudson,	Ladies' Hall.
Melvin Aurista Hoyt,	Menomonee Falls,	28 N. D.
John T. Kingston,	Necedah,	W. Davidson's.
Edward F. McCoy,	Dayton,	W. Davidson's.
Kate McDill,	Plover,	Ladies' Hall.
Edmund George McGilton,	Cedar Falls,	24 S. D.
Ernest Stiles Moe,	Union Grove,	54 N. D.
Susan Jane Mylrea,	Kilbourn City,	Ladies' Hall.
Elanor O'Sheridan,	Madison,	D. O'Sheridan's.
Rensselaer Alonzo Palmer,	Fond du Lac,	12 S. D.
Carl Fremont Phillips,	Stevens Point,	W. Davidson's.
Julia Elizabeth Ray,	Morris, Ill.,	R. B. Ogilvie's.
William Henry Rowe,	Madison,	J. Hober's.
Alice Jane Sanborn,	Freeport, Ill.,	Ladies' Hall.
Emma Josephine Sarles,	Necedah,	Mrs. A. E. Hayen's.
Edwin Curry Stevens,	Avoca,	70 S. D.
Thomas Henry Synon,	Madison,	J. Hober's.
Charles Henry Thomas,	Sheboygan Falls,	31 N. D.
William Tillotson,	Madison,	J. Hober's.
Michael Jefferson Wallrich,	Brighton,	83 N. D.
Myron T. Wildish,	Pewaukee,	24 S. D.
Carrie Elizabeth Young,	Reedsburg,	Ladies' Hall.

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GENERAL SCIENCE COURSE.

Frank Christie Beardsley,	Bloomington,	8 N. D.
Cary Alonzo Bishop,	Omro,	78 N. D.
James Orton Buckley,	Black Hawk,	H. Brickson's.
Daniel Carey,	Mazomanie,	J. Fay's.
Byron Beach Carter,	Platteville,	Mrs. A. E. Meeker's.
John Melvin Clifford,	Evansville,	7 S. D.
Conrad Martinius Conradson,	Brooklyn,	8 S. D.
Charles Kerley Cull,	Salem.	43 N. D.
William Vye Cull,	Salem.	43 N. D.
Irving Dean,	Madison,	J. Link's.
Joseph Dodge,	Monroe,	L. M. Fay's.
Clarence John Hicks,	Omro,	18 N. D.
Walter Scott Hidden,	Sun Prairie,	56 N. D.
Porter Elbert Hoag,	Waterloo,	40 N. D.
Leander Miller Hoskins,	Evansville,	67 N. D.
Royal Alfred Jackson,	Big Bend,	88 N. D.
Charles Newton Kalk,	Fond du Lac,	27 N. D.
Lawrence Stoddard Keeley.	Fox Lake,	48 S. D.
Samuel Searle Lanyon.	Belmont,	F. Smith's.
August Christian Larsen,	Eau Claire,	Mrs. M. A. Gano's.
Olin Bailey Lewis,	Omro,	18 N. D.
Kate McGovern,	Madison,	A. McGovern's.
Flora Emma Randall,	Appleton,	H. Johnson's.
Emma Schreiner,	Lancaster,	Ladies' Hall.
Arthur Wilfred Shelton,	River Falls,	8 S. D.
Daniel Asoph Stearns,	Monroe,	33 S. D.
Adolph Tollefson.	Barre Mills,	53 N. D.
Theodore Austin Trulson,	Janesville,	30 S. D.
Clyde Harvey Ward,	Mazomanie,	72 S. D.
Belle Wiener,	Waterloo,	Dr. E. L. Rood's.
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SPECIAL STUDENTS †

Christian Frederick Ander- son,	North Cape,	T. Swenson's.
John A. Aylward,	Black Earth,	J. Matthews'.
Emil Baensch,	Manitowoc,	21 S. D.
Jennie Baker,	Prairie du Sac,	Ladies' Hall.
Osmon C. Baker,	Madison,	J. W. Baker's.
Charles Louis Billings,	Eden,	73 S. D.

† Special Students are not exactly in line with any of the regular classes; but have all passed the examination for entrance to the Freshman Class.

Frank Blair,	Princeton, Ind.,	J. Winteler's.
Charles U. Boley,	Hartford,	88 N. D.
John Brennan,	Fond du Lac,	V. Neckermann's.
Annie Constance Briggs,	Coeyman's, N. Y.,	Ladies' Hall.
Dan Parish Browne,	Waupaca,	W. Davidson's.
Florence Helen Brown,	Stevens Point,	Ladies' Hall.
James Anton Buckley,	Black Hawk,	H. Brickson's.
Ernest Luther Bullard,	Waukesha,	Mrs. W. Edgar's.
Amzi William Burton,	Plymouth,	J. Winteler's.
Florian Cajori,	Madison,	Mrs. I. Cutler's.
Harry Rountree Clise,	Lancaster,	J. Camack's.
Charles Albert Cook,	Madison,	Mrs. A. G. Cook's.
Arthur Samuel Cooper,	Black River Falls,	C. G. Thornton's.
Julia Ellen Cox,	Black Earth,	R. Brennan's.
Charles E. Curtis,	Clinton,	63 S. D.
Lillie Margaret Davis,	Fox Lake,	Mrs. W. J. L. Nicodemus'.
Romaine Elliott Davis,	Allen's Grove,	57 N. D.
Mary Emily Deane,	Wellsborough, Pa.,	E. G. Garner's.
Florence Tilden Delaplaine,	Madison,	J. Camack's.
Charles L. Dixen,	New London,	C. McKinnon's.
James Douglas,	Alderly,	13 S. D.
Ella Maria Durgin,	Burlington,	Ladies' Hall.
Edwin Haraldson Evenson,	Scandinavia,	E. H. Evenson's.
Alice Amelia Ewing,	La Grange,	Ladies' Hall.
Josephine Adell Favour,	Hartford,	Ladies' Hall.
Patrick Henry Fay,	Madison,	48 S. D.
Ella Louisa Field,	Hillsborough,	Ladies' Hall.
Rosa Fitch,	Madison,	D. Fitch's.
William H. Flett,	Kenosha,	A. L. Sanborn's.
Jennie Frank,	Madison,	A. S. Frank's.
Oscar James Frost,	Almond,	87 N. D.
Henry Dyer Fruit,	Washburn,	29 S. D.
Henry C. Halbersleben,	Reedsburg,	W. W. Waddell's.
Elsie Bell Hawley,	Warren, Ill.,	Ladies' Hall.
Mary Cornelia Hopkins,	Madison,	Mrs. J. C. Hopkins'.
Florence Leila Hoyt,	Honey Creek,	H. W. Hoyt's.
Julia M. Johnson,	Madison,	H. Johnson's.
Natzy Klein,	Milwaukee,	J. Matthews'.
Alice Maxwell Lamb,	Madison,	F. J. Lamb's.
John Hundahl Lawrence,	Madison,	O. H. Lawrence's.
James Monroé Lewis,	Patch Grove,	70 N. D.
Willis Haydn Mantor,	Reedsburg,	Mrs. A. Paunack's.
Walter Francis Mason,	Neillsville,	69 S. D.

Edwin McCurdy,	Princeton, Ind.,	J. Winteler's.
Lucinda McGinnis,	Madison,	Mrs. H. G. Bliss'.
Will Nelson Merriam,	Waupun,	44 N. D.
Louis Phelps Munroe,	Racine,	Mrs. Wm. Meares'.
Lyman Alexander Murray,	Reedsburg,	W. W. Waddell's.
Victor Hugo Naffz,	Sauk City,	Miss L. C. Jones.
Harvey Bartlett Nichols.	Fond du Lac,	30 N. D.
Joseph Lumpkin Orr,	Glen Haven,	20 S. D.
Walter Beverly Pearson,	Madison,	J. A. Jefferson's.
Cora Scott Pond,	Eau Claire,	Ladies' Hall.
Carrie Vreeland Potter,	Baraboo,	F. M. Stewart's.
Edward Winter Pryor,	Madison,	53 N. D.
Charles Hovey Puckett,	Nora, Ill.,	Dr. O. M. Twitchell's.
Albert B. Roeder,	Milwaukee,	G. Dearolf's.
Katherine A. Rood,	Stevens Point,	Ladies' Hall.
Roxana Gertia Sager,	Beaver Dam,	Rev. A. C. Pennock's.
Francis Robert Salisbury,	Fitchburg,	E. Doerschlag's.
John W. Salter,	Jackson,	W. Davidson's.
Anna Estella Smart,	Manitowoc,	Ladies' Hall.
Mary Abigail Smith,	New Lisbon,	Ladies' Hall.
Idella Stout,	Janesville,	Ladies' Hall.
Marietta Storm,	Madison,	W. Storm's.
Isabel Janet Street,	Waukesha,	Ladies' Hall.
Julia Louise Sturtevant,	Delavan,	Ladies' Hall.
Howard Teasdale,	Sparta,	51 S. D.
Mary Isadore Thomas,	Dodge's Corners,	Mrs. J. R. Young's.
Samuel Torgerson,	Iola,	69 N. D.
John Francis Tourtellotte,	West Salem,	Mrs. H. E. Howe's.
Charles Henry Trowbridge,	Viroqua,	82 N. D.
Aad Johannesson Vinje,	Viroqua,	69 N. D.
Mark Albigense Waldo,	Manitowoc,	21 S. D.
Lucy Ellen Ware,	Granville, Ill.,	F. J. Lamb's.
Walter A. West,	Elkhorn,	A. L. Sanborn's.
Emma Adelaide Weston,	Neededah,	Ladies' Hall.
Fred Sanford White,	Green Bay,	J. Murray's.
James G. Wickham,	Waterloo,	23 S. D.
Myron T. Wildish,	Pewaukee,	24 S. D.
Emma Bell Willey,	Rochester,	Mrs. J. R. Young's.
James P. Wilson,	Lodi,	Mrs. I. Cutler's.
Anna Winkley,	Monona, Ia.,	Ladies' Hall.
Frank Dryden Winkley,	Madison,	63 S. D.
Amelia Wood,	Monroe,	Mrs. C. S. Foster's. -- 91.

LAW STUDENTS.

SECOND YEAR.

William Huntley Barnett,	Fox Lake,	William Jones'.
Neal Brown,	Ft. Atkinson,	N. D. Crampton's.
Edmund Burdick,	Madison,	Elisha Burdick's.
Charles Cicero Calkins,	Madison,	Mrs. J. Cook's.
Clarence Luther Clark,	Janesville,	Mrs. W. J. L. Nicodemus'.
Frederic King Conover, A. B., U. of Wis.,	Madison,	O. M. Conover's.
Galen Hiram Coon,	Northfield, Minn.,	E. D. Lyon's.
Frank Cutler, A. B., Carleton Coll.,	Northfield, Minn.,	E. D. Lyon's.
Arthur Eugene Deming,	Waunakee,	P. Sendt's.
Charles Lowell Dudley, A. B., U. of Wis.,	Madison,	104 State St.
Walter Scott Field, B. S., U. of Wis.,	Hillsborough,	Mrs. A. Menges'.
Alfred Swift Frank, A. B., U. of Wis.,	Madison,	A. S. Frank's.
Schuyler Grant Gilman,	Gilmanton,	
Charles Ford Harding, A. M., U. of Wis.,	Ashton,	W. H. Rogers'.
Jay Orley Hayes,	Madison,	Mrs. M. Hayes'.
Frederick William Henderson,	Milwaukee,	
Emmett Reuben Hicks, B. S., U. of Wis.,	Omro,	Miss E. Bright's.
Henry L. Palmer Hillyer,	Waupun,	Mrs. C. E. Davies'.
Edward Jay Hughes,	Bangor,	
Charles August Koeffler,	Milwaukee,	Mrs. S. M. Bixby's.
Paul Theodore Krez,	Sheboygan,	M. Devine's.
Alvin Ernest Macartney,	Hudson,	D. H. Wright's.
Horace Stevens Merwin,	Fox Lake,	William Jones'.
Arthur Loomis Sanborn,	Madison,	100 Main St.
George Shafer,	Menominee,	C. F. Slightam's.
Robert George Siebecker, B. S., U. of Wis.,	Madison,	27 Gilman St.
Henry J. Taylor, A. B., U. of Wis.,	Black Earth,	Miss E. Bright's.
Clinton Textor,	Bay View,	Mrs. I. Cutler's.
John Charles Ticknor,	Menominee,	Miss N. Smith's.
Dewitt Clinton Tiffany,	Waushara,	
Lewis Edward Walker, B. S., U. of Wis.,	Lodi,	R. M. LaFollette's.

Charles Vining White,	La Crosse,	Mrs. W. P. Thompson's.
Milo Woodbury,	Milwaukee,	O. E. Woodbury's.
George Irving Wright,	Madison,	W. C. Wright's.

FIRST YEAR.

Julius Alanson Barnes,	Farmersville,	Mrs. E. Johnstone's.
Harris Decatur Booge,	Sioux City, Iowa,	Mrs. B. W. Harris'.
Frank Cooper,	Madison,	M. Devine's.
Wendell Williams Cornwall, Ph. B., Albion Coll.,	Albion,	Vilas House.
Edgar Monroe Deming,	Waunakee,	P. Sendt's.
David Hadley Flett, A. B., Oberlin Coll.,	Kenosha,	A. L. Sanborn's.
Howard Henry Hoyt,	Madison,	B. W. Jones'.
Charles Henry Hudson,	Madison,	J. W. Hudson's.
Robert Marion La Follette, B. S., U. of Wis.,	Madison,	27 Gilman St.
Byron Cook Lamont,	Dane,	Mrs. J. Cook's.
Henry Montgomery McNally,	Sandy Bay,	Miss N. Smith's,
Major C. Mead,	Waldo,	Rev. J. B. Pradt's.
James Lamar O'Connor,	Hartford,	V. Neckermann's.
Edwin Prescott Parish,	Green Bay,	Mrs. L. Kellogg's.
Louis Augustus Pradt,	Colby,	Rev. J. B. Pradt's.
Charles Ed. Sawyer,	Burlington,	E. G. Garner's.
John Anderson Street,	Waukesha,	D. H. Wright's.
Horace Kent Tenney,	Appleton,	20 Brown's Block. — 52

COLLEGES OF ARTS AND LETTERS.

The courses of study in these colleges are arranged in accordance with the law of 1866, quoted on a former page of this catalogue.

The College of Arts embraces a General Science Course, and the Special Technical Departments of Agriculture, Civil Engineering, Mining Engineering and Metallurgy, and Mechanical Engineering.

The College of Letters embraces the Ancient Classical Course and the Modern Classical Course.

TERMS OF ADMISSION.

The regular examination of candidates for admission will be held on Thursday and Friday of the week preceding the annual commencement. Candidates should present themselves promptly at nine o'clock of the first day.

Such candidates as are unable to be present at this time can be examined on the Tuesday and Wednesday preceding the opening of the fall term; but students are urged to present themselves at the regular examination, in order that, in event of failure upon any studies, they may have time to prepare themselves thoroughly upon these studies before the opening of the fall term. Otherwise they will be obliged to make up deficiencies in the entrance examination, while crowded by the sufficiently difficult studies of the term itself.

Examinations of applicants will also be held on the Wednesday mornings preceding the opening of the winter and spring terms.

All candidates for admission will be examined upon the following studies: Reading, Spelling, Penmanship, Arithmetic, Civil and Descriptive Geography, Physical Geography, English Grammar (including Sentential Analysis), History of the United States, and, after the present academic year, Elementary Algebra and Plane Geometry.

In addition to the above mentioned branches candidates for the different courses will be examined as follows:

GREEK CLASS.

Latin.—Grammar, large print and paradigms. Any standard grammar may be used in preparation, but the revised edition of Allen and Greenough's will be required in the class.

Cæsar's Gallic War. Four books.

Cicero's Select Orations. Two orations.

Ancient History.—Fyffe's History of Greece and Creighton's History of Rome, or their equivalents. The outlines of classic geography.

FRESHMAN CLASS.

All candidates for admission to the Freshman class are notified that, in addition to the usual examination in English grammar and analysis, which is required of all students on entering, and which is intended to test the pupil's knowledge of the subject rather than his familiarity with any particular text book, each applicant will be required to give a specimen of his use of the English language by writing at least two pages, on a

subject assigned by the professor at the hour of the examination. Each applicant in 1880 will be assigned some character or event selected from one of the following works: Irving's Sketch-Book, Scott's Ivanhoe; in 1881: Irving's Alhambra, Scott's Kenilworth, Goldsmith's Vicar of Wakefield.

GENERAL SCIENCE COURSE.

Natural Philosophy, Physiology, Botany, German (214 pp. of Comfort's Course).

ANCIENT CLASSICAL COURSE.

The studies required for admission to the Greek class, and in addition: *Latin*.—Grammar, Composition (thirty-five lessons in Allen's Composition).

Cicero. Four orations.

Virgil. Six books.

* * * Candidates will be examined critically upon the first oration against Catiline and the second book of the *Aeneid*; and their examinations in Latin grammar will be principally in connection with these works. For the rest a certificate from their teachers will be required, stating the amount read carefully. Scanning, and the general rules of prosody will be required.

Greek.—Three books of Xenophon's *Anabasis*, two books of Homer's *Iliad*, and Jones' Composition.

MODERN CLASSICAL COURSE.

All the studies required for entering the Ancient Classical course, but with German (214 pp. of Comfort's Course) substituted for Greek; also, until 1881, Natural Philosophy and Botany.*

Real equivalents will be taken for any of the above, and for any study in any portion of the college courses.

Candidates for advanced standing in any college class must, in addition to the studies above named, pass examination in those previously pursued by the class which they propose to enter, or in those equivalent to them.

Students who do not desire to graduate may enter at any time, and take any study which they are prepared to prosecute to advantage, provided they can pass an examination in the English branches required for admission to the scientific course of the College of Arts. Any student who maintains a standing of not less than 85 in each of his three studies,

*From and after the Summer of 1881 Natural Philosophy and Botany will no longer be required for admission to this course.

is allowed, if he choose, to take a fourth study. Options between studies included in the different courses will be allowed, if the hours of recitation do not conflict, and if the work involved is approximately equal.

Young women may pursue any course or elective study in the University, and the same degree is conferred upon them as upon the young men for the satisfactory completion of any course of study.

No one can be admitted to the Freshman class under the age of fifteen years, nor to an advanced standing without a proportional increase of age.

Applicants for admission from other colleges must present certificates of honorable dismissal. The University is open to students from other States.

TECHNICAL COURSES.

The requirements for commencing any technical course are the same as those for entering the Sophomore class of the College of Arts.

POST GRADUATE STUDIES.

Bachelors of Arts, Letters and Sciences are enabled to continue their studies at the University under direction of the faculty, and to take the appropriate degree.

ADMISSION OF HIGH SCHOOL AND NORMAL SCHOOL GRADUATES.

Any high school in the state, whose course of instruction covers the branches requisite for admission to one or more of the colleges of the University, may make application to be entered on its accredited list. On such application the University will send a professor to examine the course and methods of instruction in the school, and, on his favorable report, will enter it on the accredited high school list of the University. The graduates of high schools so entered will be received by the University into any of its courses for which they have been fitted, without further examination. This arrangement will hold good until the administration of the high school is changed, or until notice is given by the University of unsatisfactory results. The necessary expenses attending the visit of the professor will be paid by the high school. The accredited list will be published each year in the catalogue of the University.

We greatly desire a thoroughly good understanding with the high schools of the state, and hope that this method may aid us in reaching that result.

A graduate of a State Normal School, or a student who has passed through the Freshman year of any college of good standing, may be admitted to the University as a special student without examination. Later he can apply for admission to any course and any class, and such

examinations will then be assigned him as our knowledge of his attainments may show to be necessary. Any special student can by examinations in the studies required, enter at any time into any class.

The certified standing of any student in the normal schools of this state will be accepted in preparatory English work in place of an examination.

Those coming to the University from normal schools, or from colleges, are advised to bring an authenticated record of their standing; but in all cases its value may be tested by actual examination.

Examination by papers prepared in the graded schools of the state, having been found unsatisfactory, is discontinued.

ACCREDITED HIGH SCHOOLS.

MADISON HIGH SCHOOL,	SAMUEL SHAW, Principal.
BELoit HIGH SCHOOL,	W. H. BEACH, "
MILWAUKEE HIGH SCHOOL,	ALBERT HARDY, "
McMynn's ACADEMY, (Racine)	J. G. McMynn, "
ALLEN'S ACADEMY, (Chicago, Ill.)	IRA W. ALLEN, "
MARKHAM'S ACADEMY, (Milwaukee)	ALBERT MARKHAM, "

For College of Arts only.

BERLIN HIGH SCHOOL,	I. N. STEWART, Principal.
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The following announcement is made by request of the School Board and Superintendent of the Madison Schools:

The Madison High School fits pupils for entrance to any of the courses of the University, and branches not strictly preparatory may be omitted by any member of the school. Candidates for admission will be examined upon arithmetic, English grammar, geography, U. S. history. Special stress is laid upon the first two branches. Students are admitted to advanced classes upon examination.

Students are received and classified at any time, but it is preferred that they should present themselves at the opening of a term.

Tuition is \$8.00 per term, there being three terms in the year; half day pupils are charged \$4.00 per term.

Students recommended for admission to the University by the principal of the school are allowed to enter without examination. For further information address SAMUEL SHAW, Madison, Wis.

COURSES OF STUDY.

An increased instructional force renders it possible for the University to offer a wider range of studies than heretofore, and also opportunity for more extended study in the several branches. With these ends in view, the following schemes of studies and elections have been prepared. It is hoped that they may be much extended in ensuing years.

Elections must be made in accordance with the following regulations:

I. Students must have at least three daily exercises; an additional study may be taken when the average standing of the student is 85 and upwards.

II. Elections for any term must be made before the close of the preceding term.

III. No elections can be changed after two weeks of the term have passed.

IV. Students must conform their elections to the time table.

V. In the General Science Course, at least four terms' work must be taken in chemistry and physics; and four terms' work in mineralogy and geology, and zoology. The minimum amount of science allowed in these courses is eleven terms; but by elections the student may take twenty terms.

By a "term's work" is meant one exercise daily for one term.

Unless otherwise stated there is one exercise daily in each study.

VI. By consent of the faculty, studies in the technical courses may be substituted for studies in the general courses.

VII. Students may elect studies of other years than that to which they belong, by consent of the professors in charge of the elected studies; provided, such elections be made in accordance with Rule IV.

VIII. Students entering the General Science Course may substitute the Latin required for entering the Modern Classical Course for the German required for entering their own course. They may, also, elect ancient languages in place of modern languages; provided they do so in accordance with Rule IV.

IX. Students who have studied chemistry or physics for two terms, may continue these studies, as electives, through any one or more of the remaining terms of the course.

X. Students will obtain blank election cards from their class officers, to whom the cards are to be returned. Students are advised to consult their class officers in making elections.

COLLEGE OF ARTS.

I. COURSE IN GENERAL SCIENCE.

FRESHMAN YEAR.

FIRST TERM.

Mathematics—Higher Algebra. Loomis.**English***—Anglo-Saxon and English Analysis.**German**—German Scientific Reader.**Optional**—Norse.

SECOND TERM.

Mathematics—Solid Geometry. Loomis.**English**—Anglo-Saxon and Analysis.**German**—German Scientific Reader.**Optional**—Norse.

THIRD TERM.

Mathematics—Plane Trigonometry and its Applications. Loomis.**Botany**—Lectures.**German**—German Scientific Reader.

Themes and Declamations throughout the course.

* French may be substituted for this study by those who are to take the Engineering Course. But the French will not be received as equivalent for Anglo-Saxon from students in the General Science Course.

SOPHOMORE YEAR.

FIRST TERM.

Required—**Analytical Geometry**—Loomis.**Rhetoric**.*Elective*—**Zoology*** (long course). Protozoa to Mollusca.**French**.†

SECOND TERM.

Required—**Mechanics or Calculus**.‡

*Elective—***Elementary Biology.****Zoology** (long course). Mollusca, Arthropoda. ***Calculus or Mechanics.****French.**

THIRD TERM.

*Required—***Zoology** || (short course). Orton.*Elective—***Zoology** (long course). Vertebrata.**Vertebrate Anatomy** ?—Pisces, Amphibia, Reptilia.**Calculus.****French.****Early English.**

* Those electing the long course in zoology, must continue the study through at least two terms.

† This study, and the remaining elective studies in languages, are to be taken with the classical students. See Regulation VIII.

‡ Students refusing mechanics, must take calculus for two terms and analytical mechanics one term. Those electing mechanics and calculus need not take analytical mechanics.

|| Required only of students not electing the long course.

§ If elected, must be pursued for two terms. Must be preceded by at least one term of laboratory work in zoology.

JUNIOR YEAR.

FIRST TERM.

*Required—***Physics**—Experiments and Lectures.*Elective—***Chemistry*** (long course). General Chemistry, Lectures and Laboratory Work.**Analytical Mechanics.** †**Descriptive Geometry.****Advanced French and German.****English Literature.****History.****Norse.**

SECOND TERM.

*Required—***Chemistry** ‡ (short course). Roscoe.

*Elective—***Physics** (long course). Studies in Heat and Light.**Chemistry** (long course). General Chemistry and Qualitative Analysis.**Mineralogy** ||—Crystallography, Physical Mineralogy and Blowpipe Analysis.**Advanced French and German.****English Literature.****History.****Norse.**

THIRD TERM.

*Elective—***Physics** (long course.) Electrical Measurements.**Chemistry** (long course). Organic Chemistry and Qualitative Analysis.**Mineralogy**—Blow-pipe Analysis and Determinative Mineralogy.**Advanced French and German.****Constitutional Law.****English Literature.****History.****Norse.**

* If elected, must be followed for at least two consecutive terms.

† Must be preceded by two terms of calculus.

‡ Required only of students not electing the long course.

|| Must be preceded by at least one term of chemistry.

SENIOR YEAR.

FIRST TERM.

*Required—***Psychology.***Elective—***Physics*** (long course). Magnetic Measurements.**Chemistry*** (long course). Quantitative Analysis.**Geology***† (long course). Lithology, Structural and Dynamical Geology.**Astronomy***‡ (long course).**Advanced French and German.****Political Economy and International Law.****Philosophy of Rhetoric.**

SECOND TERM.

*Required—***Geology**|| (short course).

Elective—

Physics* (long course). Measurements in Heat and Light.

Chemistry* (long course). Quantitative Analysis, or advanced work in Experimental Chemistry.

Geology* (long course.) Stratigraphical Geology and Palaeontology.

Astronomy* (long course).

Advanced French and German.

Deductive Logic.‡

Ethics.‡

English Literature.

THIRD TERM.

Required—

Astronomy || (short course).

Elective—

Physics (long course.) Photography, Spectrum Analysis, Measurement of Wave Lengths.

Chemistry (long course.) Same as second term.

Economic Geology.

Astronomy (long course).

Advanced French and German.

English Literature.

Aesthetics and Natural Theology.‡

Inductive Logic.‡

Constitutional Law.‡

* At least one of these studies must be elected in each term.

† Must be preceded by at least one term of chemistry and two terms of mineralogy.

‡ Must be preceded by two terms of calculus.

|| Required only of students not electing the long course.

§ At least one of these studies must be elected in each term.

II. TECHNICAL COURSES.

DEPARTMENT OF AGRICULTURE.

The design of this department is to give a thorough and extensive course of scientific instruction, in which the leading studies shall be those that relate to agriculture. The instruction will be given with constant reference to its practical applications and the wants of the farmer. The University farm is used to aid this department in conducting experiments in agriculture and horticulture. Students can enter this, as all

other departments of the University, at any time upon examination; can pursue such studies as they choose, and receive a certificate of attendance.

FRESHMAN AND SOPHOMORE YEARS.

Same as in the General Science Course.

JUNIOR YEAR.

FIRST TERM.

Mechanics—Peck and Lectures.

Drawing—Mapping farm.

Chemistry—Thorpe, Lectures, and Laboratory Practice.

English Literature.

SECOND TERM.

Agriculture—General Farm Economy; Mixed Husbandry; Special Farming; Natural History; Breeding and Care of Farm Animals; Characteristics of Different Breeds; Beneficial and Injurious Insects.

Materials Used in Building.

Physics—Deschanel and Lectures.

Chemistry—Lectures and Laboratory Practice.

THIRD TERM.

Agricultural Botany—Botanical characteristics and geographical distribution of the natural orders, with their relative importance. The genera and species having agricultural value; those having commercial or medical value; those having ornamental value, and those which are noxious or detrimental, as weeds or poisonous plants.

Horticulture—Hot beds, their construction and use; methods of propagation of plants by layers, by cuttings, by budding or grafting, etc. Transplanting. Varieties of small fruits, and the best means of cultivating them. General management of orchards and nurseries. Landscape Gardening. Forestry.

Veterinary Science.

Analytical Chemistry—Qualitative.

Physics—Deschanel and Lectures.

Architecture—Draughting Farm Buildings.

SENIOR YEAR.

FIRST TERM.

Analytical Chemistry—Quantitative.**Psychology**—Bascom and Lectures.**Geology.****History of Agriculture.****Political Economy and International Law.**

SECOND TERM,

Agricultural Chemistry—Soils, etc.**Logic**—Deductive, Jevons and Lectures.

THIRD TERM.

Agricultural Chemistry—Food, etc.**Road Building.****Draining and Draining Engineering.****Economic Geology.**

Two original papers, each on the relation of some branch of science to agriculture, will be required during the Senior year.

DEPARTMENT OF CIVIL AND MECHANICAL ENGINEERING.

1. *Civil Engineering Course.*

The object of this course is to give its students such instruction in the various branches of pure and applied science as shall fit them, after a fair share of experience, to fill responsible positions in the profession of the civil engineer.

The requirements for admission to the course are the same as those for entering the Sophomore class of the General Science Course.

Students may elect this course at the beginning of the Freshman year, and, in this case may substitute the study of French for that of Anglo-Saxon, during the first and second terms.

In case of an election of the Engineering Course at the beginning of the Freshman year, students report for instruction in draughting at once.

The following is the course of study pursued :

SOPHOMORE YEAR.

FIRST TERM.

Descriptive Geometry—Church.**Analytical Geometry**—Loomis.**Chemistry**—General.**Drawing**—Free-Hand and Geometrical.**Field Practice.**

SECOND TERM.

Calculus—Loomis.**Chemistry**—Lectures and Laboratory Practice.**Stereotomy**—Warren.**Drawing**—Map Projection and Stereotomy Problems.

THIRD TERM.

Calculus—Loomis.**Surveying.****Chemistry**—Qualitative Analysis.**Drawing**—Stereotomy Problems and Platting.**Field Practice.**

VACATION WORK.

Memoir on some selected subject.

JUNIOR YEAR.

FIRST TERM.

Analytical Mechanics—Wood.**Physics**—Deschanel and Lectures.**Elective Study.****Drawing**—Topographical.**Field Practice.**

SECOND TERM.

Resistance of Materials—Wood.**Crystallography and Mineralogy.****Physics.**

THIRD TERM.

Steam Engine—Rankine and Lectures.**Mineralogy**—Determinative.**Zoology.****Drawing**—Steam Boilers and Engines.

VACATION WORK.

Memoir on some selected subject.

SENIOR YEAR.

FIRST TERM.

Theory of Structures.**Psychology**—Bascom and Lectures.**Geology**—Lithology, Structural and Dynamical Geology.**Drawing**—Bridges and Roofs.**Field Practice.**

SECOND TERM.

Hydraulics and Hydraulic Motors.**Geology**—Stratigraphical Geology and Palæontology.**Metallurgy**—Iron and Steel.**Drawing**—Hydraulic Machinery.

THIRD TERM.

Drainage and Water Supply—Lectures.**Astronomy.****Economic Geology**—Lectures.**Drawing**—Preparation of Thesis Drawings.

Theses are required for graduation.

2. *Mechanical Engineering Course.*

The requirements for admission to this course if elected at the beginning of the Freshman year are the same as those for entrance to the Freshman class of the Course in General Science.

FRESHMAN YEAR.

The course of study for this year is the same as that for the Freshman year of the Course in General Science, with the substitution of French for Anglo-Saxon during the first and second terms. Practice in the machine shop is commenced at once, under the direction of the superintendent, and continued throughout the course. During the second and third terms students are instructed in the elements of free hand drawing,

The course may be elected at the beginning of the Sophomore year, when the requirements for admission are the same as those for the same class in the General Science Course.

SOPHOMORE YEAR.

FIRST TERM.

Descriptive Geometry—Church.**Analytical Geometry**—Loomis.**Chemistry**—General.**Drawing**—Free Hand and Geometrical.**Shop Practice.**

SECOND TERM.

Calculus—Loomis.**Chemistry**—Lectures and Laboratory Practice.**Elements of Machines**—Lectures.**Drawing**—Elementary Mechanical.**Shop Practice.**

THIRD TERM.

Calculus—Loomis.**Elements of Machines**—Lectures.**Chemistry**—Qualitative Analysis**Drawing**—Mechanical.**Shop Practice.**

VACATION WORK.

Memoir on some selected subject.

JUNIOR YEAR.

FIRST TERM.

Analytical Mechanics—Wood.**Elective Study.****Physics**—Deschanel and Lectures.**Shop Work and Drawing.**

SECOND TERM.

Resistance of Materials—Wood and Lectures.**Physics.****Crystallography and Mineralogy.****Shop Work and Drawing.**

THIRD TERM.

Steam Engine—Rankine and Lectures.**Zoology.****Machinery and Mill Work.****Shop Work and Drawing.**

VACATION WORK.

Memoir on some selected subject.

SENIOR YEAR.

FIRST TERM.

Steam Engine—Construction.**Psychology**—Bascom and Lectures.**Drawing**—Steam Engine.**Shop Work.**

SECOND TERM.

Hydraulics and Hydraulic Motors—Theory and Construction.**Geology.****Metallurgy**—Iron and Steel.**Shop Work and Drawing.**

THIRD TERM.

Hydraulics and Hydraulic Motors—Construction.

Machine Designing.

Astronomy.

Drawing—Preparation of Drawings to accompany Thesis.

Theses are required for graduation.

DEPARTMENT OF MINING AND METALLURGY.

The object of this department is to furnish instruction in those branches of science of which a thorough knowledge is essential to the intelligent mining engineer or metallurgist. It is not claimed that the course turns out experts—except in assaying and draughting—but that it produces the proper kind of raw material to make experts from.

In view of the natural separation between the callings of the mining engineer and the metallurgist, and of the differences in the kind of training required for the two professions, it is deemed best to mark out two distinct courses for this department: the mining course having mathematics, theoretical and applied mechanics, physics, civil engineering, draughting, mineralogy, geology and economic geology as its principal studies, while the metallurgical course deals chiefly with chemistry and its applications. With the present arrangement, an able and diligent student may readily accomplish both courses.

To enter these courses, a thorough knowledge of the studies pursued by the Freshman class of the General Science Course will be required. Students will, however, be received in special studies for which they are fitted; and attention is particularly drawn, in this connection, to our facilities for instruction in assaying, which will be taught at any time during the year.

FRESHMAN AND SOPHOMORE YEARS.

Same as in Civil Engineering Course.

JUNIOR YEAR.

Mining Engineering.

FIRST TERM.

Metallurgy.

Physics,	- - - - -	Deschanel and Lectures.
Chemistry,	- - - - -	Quantitative Analysis.
Analytical Mechanics —Wood.		Elective Study.
Drawing,	- - - - -	Topographical.
Field Practice.		

SECOND TERM.

Mineralogy,	Crystallography and General Principles.
Chemistry,	Quantitative Analysis.
Resistance of Materials,	Wood.
Drawing.	

THIRD TERM.

Mineralogy,	Determinative.
Assaying,	Lectures and Laboratory Practice.
Zoology.	
Steam Engines —Rankine.	Quantitative Analysis.
Drawing,	Furnaces, etc.

SENIOR YEAR.

<i>Mining Engineering.</i>	<i>Metallurgy.</i>
FIRST TERM.	

Geology,	Lithology, Structural and Dynamical Geology.
Metallurgy,	Refractory Materials, Fuels, Copper, Lead, &c.
Mental Philosophy,	Bascom and Lectures.
Drawing.	
Field Practice.	Quantitative Analysis.

SECOND TERM.

Geology,	Stratigraphical Geology and Paleontology.
Metallurgy,	Iron and Steel.
Mining Engineering.	Quantitative Analysis.
Drawing.	

THIRD TERM.

Economic Geology,	Lectures.
Mining Engineering.	Quantitative Analysis.
Railroad Engineering.	Elective Study.
Drawing.	

COLLEGE OF LETTERS.

This includes two courses, in both of which Latin is a required study. The *Ancient Classical Course* also requires Greek; the *Modern Classical Course* has German or French in place of Greek.

As the two courses are precisely the same, with the exception of these languages, they will be presented in one scheme; the studies placed in brackets are in every case the equivalent, in the Modern Classical Course, for the Greek of the Ancient Classical Course.

In the Junior and Senior years there are but two required studies for each term; for the third study an election will be made, which will be for the whole year, unless otherwise specified.

FRESHMAN YEAR.

FIRST TERM.

Latin—Cicero de Senectute. Livy begun.

Greek—Homer's Odyssey.

[**German**—German Reader.]

Mathematics—Higher Algebra. Loomis.

SECOND TERM.

Latin—Livy.

Greek—Herodotus.

[**German**—German Classics.]

Mathematics—Solid Geometry. Loomis.

THIRD TERM.

Latin—Livy. Twice a week.

Greek—Thucydides. Three times a week.

[**German**—German Classics. Three times a week.]

Mathematics—Plane Trigonometry.

Botany.

Themes and declamations, and Latin, Greek and German composition throughout the year.

SOPHOMORE YEAR.

FIRST TERM.

Latin—Horace.

[For the Modern Classical Course, Latin three times a week, and German twice.]

Greek—Demosthenes on the Crown. Goodwin's Moods and Tenses.

[**French**—Otto's Course.]

Mathematics—Conic Sections. Six weeks.

Mechanics—Nine weeks.

SECOND TERM.

Latin—Tacitus.

[Mod. Class.—Latin twice a week, German three times.]

Greek—Tragedy.

[**French**.]

Rhetoric.

THIRD TERM.

Latin.—Plautus or Terence.

[Mod. Class.—Latin three times a week. German twice.]

Greek.—Comedy.

[**French**.]

Early English.

Those who have stood as high as 85 in the languages during their Freshman year, will be allowed to substitute the mathematics or the zoology of the General Science Course for one of their regular studies; as follows:

Mathematics:—in place, the first term, of their regular mathematics; the second term, of Latin; the third term of Greek [French.]

Zoology:—for Ancient Classical students, in place, the first and third terms, of Latin, the second term of Greek; for Modern Classical students, of French.

JUNIOR YEAR.

Required Studies.

FIRST TERM.

English Literature—Morley and Tyler.

Physics.

SECOND TERM.

American History.

Chemistry—Lectures.

THIRD TERM.

Constitutional Law.**Zoology.***Elective Studies.*

1. **Latin, Greek, Advanced French, Advanced German**—Each is pursued as a half study; any two may be elected.
2. **French and German**—For beginners; both are whole studies.
3. **Norse and Icelandic.**
4. **History.**
5. **English Literature.**
6. **Physics.**

** As the elective course in physics and English literature does not begin until the second term, those who intend to elect either of these branches will choose some other elective the first term.

7. **Chemistry**—Those who elect this branch, will take some other elective study the second term in place of the required chemistry of that term. They can also, if they choose, change to **Mineralogy** the second or third term, or both; and those who make this change will be allowed to elect the long course in geology during the Senior year.

SENIOR YEAR.

Required Studies.

FIRST TERM.

Psychology.**Political Economy and International Law.**

SECOND TERM.

Ethics.**Logic**—Deductive.

THIRD TERM.

Astronomy.

During this term two studies are elective.

Elective Studies.

1. **Latin, Greek, Advanced French, Advanced German**—Each is pursued as a half study; any two may be elected.
2. **French and German**—For beginners; both are whole studies.

3. Norse and Icelandic.**4. History.**

* * In all the above studies the Seniors and Juniors recite together.

5. Physics.**6. Chemistry.**

7. Geology—This must be preceded by at least three terms of chemistry and mineralogy.

All the above may be elected for the whole year.

Besides these, there are the following special electives for the several terms:

First Term—Philosophy of Rhetoric.

Second Term—Geology—Short course.

Third Term—Æsthetics and Natural Theology, Inductive Logic.

Second and Third Terms—English Literature.

Second and Third Term—Mineralogy.

SIX YEARS' COURSE.

Those who wish to devote to music or any similar pursuit the time of an entire study, will be allowed to take two studies at a time. For such students the Modern Classical Course has been extended so as to cover six years; as follows:

FRESHMAN YEAR.

First Term—Latin. German.

Second Term—Latin. German.

Third Term—Latin and German. Botany.

FIRST SOPHOMORE YEAR.

First Term—Latin and German. Higher Algebra.

Second Term—Latin and German. Solid Geometry.

Third Term—Latin and German. Plane Trigonometry.

SECOND SOPHOMORE YEAR.

First Term—French. Mathematics and Mechanics.

Second Term—French. Rhetoric.

Third Term—French. Early English.

FIRST JUNIOR YEAR.

First Term—Physics. Elective Study.
Second Term—Chemistry. Elective Study.
Third Term—Zoology. Elective Study.

SECOND JUNIOR YEAR.

First Term—English Literature. Elective Study.
Second Term—American History. Elective Study.
Third Term—Constitutional Law. Elective Study.

SENIOR YEAR.

First Term—Psychology. Political Economy etc.
Second Term—Ethics. Logic.
Third Term—Astronomy. Elective study.

TIME TABLE—FALL TERM, 1879.

	9-10.	10-11.	11-12.	12-1.	P. M.
SENIOR CLASS.....		Chemistry.		Geology.	
	Political Economy.	† German. Greek, Tu., Th. French, M., W., F.	Psychology.	Rhetoric. Latin, M., W., F.	Physics.
JUNIOR CLASS.....	English Literature. Analytical Mechanics.	Greek. † German. History.	Physics.	French, Tu., Th. Latin, M., W., F. Norse. Descriptive Geometry.	Chemistry,
SOPHOMORE CLASS.....	Analytical Geometry. †‡ Latin.	* Rhetoric.	† Mathematics and Mechanics. ‡ French.	‡ Mathematics and Mechanics. † Greek.	Zoology.
FRESHMAN CLASS.....	† Latin. * Mathematics.	† Greek. ‡ German.	† Mathematics. * German.	* Anglo-Saxon. † Latin. ‡ Mathematics.	

* General Science Course.

† Ancient Classical Course.

‡ Modern Classical Course.

TIME TABLE—WINTER TERM, 1880.

	9-10.	10-11.	11-12.	12-1.	P. M.
SENIOR CLASS.....	Logic.	† German. French, Tu., Th. Greek, M., W., F.		Geology. Ethics.	Physics. Chemistry.
JUNIOR CLASS.	American History.	Greek, M., W., F. † German. History.	Chemistry, (Short Course.)	Latin, Tu., Th. French, M., W., F. Norse.	Chemistry.
		Mineralogy.		Physics.	
SOPHOMORE CLASS....	* English. † French.	* Calculus. † Rhetoric.	* French. † Latin.	† Greek. † Rhetoric. * Mechanics.	Zoology. Biology.
FRESHMAN CLASS.....	‡ Latin. * Mathematics.	† Greek. † German.	* German. † Mathematics.	* Anglo-Saxon. † Latin. ‡ Mathematics.	

* General Science Course.

† Ancient Classical Course.

‡ Modern Classical Course.

TIME TABLE—SPRING TERM, 1880.

	8-9.	9-10.	10-11.	11-12.	12-1.	P. M.
SENIOR CLASS.....	French, Tu., Th.	Logic. † German. Greek, M., W., F.	Astronomy.	Geology.		Chemistry. Physics.
JUNIOR CLASS.....	Zoology, (Short Course.)		Mineralogy.	Physics.		Chemistry.
SOPHOMORE CLASS..	* Zoology, (Short Course.) †‡Latin.	† English. ‡ French. *Calculus.	* French. † English.	Norse. French, M., W., F.	Latin, Tu., Th.	Zoology. Vertebrate Anatomy.
FRESHMAN CLASS....		† Mathematics. * † Botany.	† Botany. * German. † Mathematics.	† Greek. † German, M., W., F. †‡Latin, Tu., Th. * Mathematics.	Drill.	

* General Science Course.

† Ancient Classical Course.

‡ Modern Classical Course.

DEPARTMENTS OF STUDY.

PHILOSOPHY—PRESIDENT BASCOM—

Five recitations, of a term each, are devoted to philosophy, to wit, one to deductive and one to inductive logic; and three to psychology, ethics, æsthetics and natural theology. The time is abundant, and the course correspondingly complete.

In psychology the president uses the new edition of his own work. The aim of the recitation is to give the present conclusions on living questions in philosophy, and to prepare the mind for the slow formation of an opinion concerning open points, and for the clear apprehension of settled facts. While the text-book guides and steadies the discussion, and gives a frame-work of thought for the memory, much matter is incidentally introduced for the fuller presentation of opposing views, and the further enforcement of those offered.

In the course of the recitations, subjects in philosophy are assigned to be discussed historically in essays before the class. The library is well provided with works of philosophy, and the students are urged to read systematically in connection with the work in the recitation room. Leading historical facts in philosophy are thus brought before the class, and at least a partial knowledge of influential systems, like that of Spencer, secured. Free discussion and inquiry are had in the class room. The effort is not so much to control belief, as to secure its best conditions.

The recitation is ordered in reference to the present state of philosophy, and existing facts are made to run back into the history of philosophy. The opposite method requires more time, and has, for the beginner, less interest. On the whole, we regard the proper starting point of inquiry to be the facts before us.

Ethics follows psychology, and natural theology and æsthetics follow ethics. While the hard work is done, and the leading principles are established in psychology, essentially the same method is pursued in each of these branches. The text-book in ethics is Pres. Bascom's. Natural theology has been taught chiefly by lectures, sustained by Dr. Chadbourne's work. In æsthetics the work used is the *Science of Beauty*, by the president.

In ethics and natural theology the ruling idea is freedom of discussion, with a full presentation of opposing views. We believe this to be the best and safest way to firm and flexible opinions.

Æsthetics is taught with extended illustrations, and the purpose is to bring delicacy to the perceptions and culture to the feelings.

LOGIC—PROFESSOR PARKINSON—

The course in logic extends through the second and third terms of the Senior year. The first of these terms is given to deductive logic, chiefly, and the last to inductive. The deductive is a required study in the College of Letters and an elective in the College of Arts. The inductive is an elective in both colleges. Jevons' Deductive and Fowler's Inductive are the text-books now used.

HISTORY—PROFESSOR ALLEN—

All persons entering the University are examined in United States history. Candidates for the Freshman class of the College of Letters are examined also in ancient history and geography.

American history is a required study for the classical students in the second term of the Junior year. There is also an elective course in history, extending over two years, for the Juniors and Seniors; but the two classes are united for this study, so that only one year's course is pursued at a time. For the present year the course is in modern history; the first term, the history of medieval institutions; second term, English constitutional history; third term, the political and diplomatic history of modern Europe. The second year's course is in ancient history. All the classes in history are elective for the scientific students.

The method of instruction is by assigning special topics to each student to be looked up in books of reference in the several libraries of the city. All members of the class are questioned and examined upon all parts of the work; and each is required to prepare an essay upon a topic especially assigned. In connection with this a course of historical reading is laid out for each member of the elective class.

CIVIL POLITY AND POLITICAL ECONOMY—PROFESSOR PARKINSON—

CONSTITUTIONAL LAW.—At the beginning of the third term of the Junior year a short course of lectures is given upon general constitutional law, dwelling more especially upon the English constitution—its gradual formation and distinguishing characteristics. It is aimed in these lectures to prepare the way for the study of the constitution of the United States, which subject is taken up at their conclusion and continued—recitation or lecture daily—through the term. The constitution is investigated in no party spirit, but in that of free inquiry. Special attention is given to important cases involving vital principles of constitutional law, and to the adjudications upon them by the highest judicial tribunals. It

is designed in the study of the constitution and throughout this department, to give instruction that shall be practical in the highest sense of the term, and which cannot but be of immediate service to that large class of graduates who pass at once from the academic to the law departments of the University. Constitutional law, during the third term of the Junior year, is a required study for the students in the College of Letters and an elective for those in the Course in General Science, College of Arts. It is also an elective study, during the third term of the Senior year, for students both in the College of Letters and in the course in General Science.

POLITICAL ECONOMY.—This subject is taken up at the beginning of the Senior year and continued, with four exercises a week, to the close of the first term. It is taught with the aid of an appropriate text book and works of reference, supplemented largely by lectures and discussions upon the more important topics. It is designed to treat the science, not as an isolated one, but as intimately connected with that of government, and as closely bearing upon the welfare and interdependence of nations as well as of individuals.

INTERNATIONAL LAW.—This subject is at present taught wholly by lectures. It extends, one lecture a week, over the first term of the Senior year. The aim is to present the outlines of the science in as complete a manner as possible in the time allotted, and to note any modifications or advances made, from time to time, in the recognized law of nations. Both political economy and international law are required of students in the College of Letters, but are elective for those in the College of Arts.

GREEK—PROFESSOR KERR—

The study of Greek extends through the whole of the Ancient Classical Course, being elective during the Junior and Senior years. Preparatory to admission to the Freshman class the student should be well grounded in the elements of Greek grammar, and should be able to write Greek with the accents, in addition to reading the required amount of the *Anabasis* and the *Iliad*.

FRESHMAN CLASS.—The course for the first college year includes a study of the Homeric Poems, with reference to a critical knowledge of the Epic dialect, and the interpretation of the Greek mythology. Half of the Eighth Book of Herodotus is read as a means of teaching the New Ionic and as a basis of instruction in the Greek historians. Sixty chapters from the First Book of Thucydides give drill in elliptical and difficult constructions, and serve as an introduction to the history and literature of the age of Pericles. The class also read selections from Xenophon's *Memorabilia*, and from the Dialogues of Lucian, with frequent exercises in writing prose.

SOPHOMORE CLASS.—The Sophomore year is given to the study of Greek oratory, tragedy and comedy. The Philippics of Demosthenes, or their equivalent, are read and analyzed, and are illustrated by instruction in Athenian politics and Grecian antiquities. The work in dramatic poetry consists in the reading and analysis of the Medea of Euripides and parts of the Clouds and Frogs of Aristophanes, or their equivalents, accompanied by lectures upon the departments of literature from which the year's reading is taken.

The study of the difficult principles of Greek syntax is continued during the year, but only as subordinate and incidental to the study of the authors themselves.

JUNIOR AND SENIOR CLASSES.—The last two years are given to Greek philosophy, dramatic poetry and oratory. The course of reading is in Plato, Sophocles, Euripides and Demosthenes. The object of this elective course is, by means of reading and lectures, to give the student a comprehensive knowledge of Greek literature and to show him the power of the language as a medium of thought.

Resident graduates and special students in Greek may read with the professor from authors not named in the course.

LATIN—PROFESSOR ALLEN—

The required course in Latin consists of six terms, in one of which (the third term of the Freshman year) Latin occupies the place of a half study, alternating with Greek (Modern Classical, German). In the Sophomore year also Latin is a half study for the Modern Classical students, alternating with German. During the Junior and Senior years Latin is elective as a half study.

During the Freshman year the chief object is to enlarge and confirm the knowledge of the language by constant grammatical drill, and by weekly exercises in writing Latin. In the following years it is the intention, without neglecting grammatical training, to pay special attention to the subject matter of the books read, and their place in the history of literature.

As a course in Roman literature, the work of these six terms—taken in connection with the books read before entering—is designed to embrace all the leading classes of composition, and most of the authors of first rank.

The work of the Freshman year is: first, one of Cicero's lesser works—for the present year, his "Cato Major" (*De Senectute*); for the rest of the year, Livy. There are weekly exercises in composition. The authors read in the Sophomore year are: first term, Horace; second term, Tacitus (the present year his *Annals*); third term, Plautus or Terence (the pres-

ent year, the *Trinummus* of Plautus). At the close of the Sophomore year there is a written examination, designed to test the student's practical acquaintance with the language.

The elective course in Latin covers two years; but only one year's course is taken at a time, as the Seniors and Juniors recite together. The present year's course consists of: first term, the *Agricola* of Tacitus; second and third terms, Cicero's *Oration for Balbus*. In connection with this, there is a weekly exercise in the history of the Latin language, based upon F. D. Allen's *Remnants of Early Latin*. The second year's course consists of selections from the Roman poets, and a course in Roman literature.

FRENCH—PROFESSOR OWEN—

Students in the Modern Classical Course are required to pursue the study of French during the Sophomore year, reciting once daily. Students in the General Science Course can also elect the study during the same period. As many students desire to attain merely a reading knowledge of the language, the aim of instruction during the Sophomore year is to meet this demand; at the end of this time students are expected to read with sufficient ease and accuracy to use the language in the prosecution of other studies. At the same time sufficient attention is paid to the pronunciation of the language and to understanding it when spoken, to place the student at the end of the year in a condition to profit by an advanced course. The syntax and idioms of the language are explained in the recitation, which is upon authors selected for the difficulty of their style. At the same time a good vocabulary is acquired by reading for examination easy French, upon which notes are given as seems advisable.

The advanced course embraces the Junior and Senior years, occupying an hour every other day. This course may be elected by students of the Modern Classical Course. In this the student will be expected to read without assistance and pass examination upon a large amount of simple French; the reading of difficult authors and study of syntax and idioms will be still further prosecuted in the class room; lectures will be given upon the etymology of the French language, and its relation to the Latin and Romance languages; but the main effort of the course will be to give the student the power of conversing in the language and to acquaint him with the history of its literature, and the bearings of the same on the literature of modern times. The medium of instruction in this course will be the French language. Students electing this course are expected to pursue it until the end of the Senior year.

An opportunity will also be given during the Junior and Senior years to students of the Ancient Classical Course to obtain a reading knowledge of the language.

GERMAN—PROFESSOR ROSENSTENGEL—

In the Course in General Science the German language is a full study during the Freshman year. An examination in Comfort's "German Course" (214 pages) is required upon entering. A sufficient amount of scientific German is read and translated to enable students to read with ease the scientific literature of Germany.

In the Modern Classical Course the study of German is pursued for almost two years and a half. Candidates for the Freshman class are examined in Comfort's "German Course" (214 pages). A German reader and German classics are read and translated, and German compositions are written. During the last terms German is spoken exclusively, and lectures on German literature are delivered. At the end of this course students are expected to read, write and speak German, and to have a fair knowledge of German classical literature.

In the Ancient Classical Course, German is a full study during the Junior year. The basis of instruction is a thorough course in German grammar with oral and written translations. German classics are also read and translated. At the end of this course students are expected to read German, and to be able to appreciate German literature.

SCANDINAVIAN LANGUAGES—PROFESSOR ANDERSON—

The Scandinavian languages are offered as optional studies in the Freshman and Sophomore years, and as elective in the Junior year.

The Text-books are :

In Modern Norse—Peterson's Norwegian-Danish Grammar and Reader. After that selections in prose and poetry are read. In Old Norse or Icelandic ; Icelandic Prose Reader with Notes, Grammar and Glossary by Dr. Gudbrand Vigfusson and F. York Powell, Oxford. When this is completed, the class translate selections from the Eddas and Sagas.

A part of the time in all the classes in the Scandinavian languages is devoted to lectures on Scandinavian history, literature and mythology.

ENGLISH LANGUAGE AND LITERATURE—PROFESSOR FREEMAN—

FRESHMAN YEAR.—The English language is studied in the order of its development, beginning in the first term with the First English or Anglo-Saxon (General Science Course). This study is pursued not only for the sake of an acquaintance with the language of our fathers but also on account of the light it throws upon the forms and constructions of the language of to-day. The text-book will be Sweet's Anglo-Saxon Reader.

SOPHOMORE YEAR.—In the second term (General Science Course) and third term (Classical Courses) Early Modern English (of the 14th century) is studied. The text-books used are the Prologue to the Canterbury Tales

and the Knight's Tale (Carpenter's Ed.), and other works of Chaucer (Morris's and Skeat's Eds.) Three points are kept prominently in view: 1st, the grammatical construction—each sentence being subjected to a thorough analysis; 2nd, the derivation and use of words, the aim being to show the origin, relation, the former and the present meaning of words, and thus to lead the student to greater accuracy and elegance in the use of the mother tongue; 3rd, the character of the text as illustrating the principles of literary composition.

JUNIOR YEAR.—In the first term English literature is taught, by the use of Morley's Manual (revised by Professor Tyler) as a text-book, supplemented by illustrative readings and lectures. The aims in view are that the student may learn: 1st, what composes the body of English literature; 2d, its literary character and value; 3d, the peculiar social and moral forces that produced and developed it. The method of instruction as above described in the study of Chaucer in the Sophomore year, is continued through the Junior year with an elective course in English classics.

For 1880-81 elective courses will be offered in advanced Anglo-Saxon (Alfred's Boëthius, Judith, Cædmon's Genesis, March's Anglo-Saxon Grammar), early English (Morris's Specimens of Early English, the Early English Text Society's Publications, Mætzner's Grammar), and the history and development of the English language (Morris's Historical Outlines of English Accidence, Mætzner, March's Lectures on the Origin and History of the English Language).

There will be offered to Seniors, Juniors and special students who have taken at least one course in English literature, an elective course in the direct study of Shakspeare's plays; also, an elective course in the direct study of English masterpieces, from the Faery Queene to Childe Harold.

In the last two courses, the pupils will study privately under direction of the professor, and will present before the class the results of their study in the form of essays and written criticisms, as well as oral discussions.

RHETORIC AND ORATORY—PROFESSOR FRANKENBURGER—

In the Senior year the philosophy of rhetoric is an elective study in all the courses. The text-book is Day's Art of Discourse.

In the fall term of the Sophomore year, of the General Science Course, rhetoric is a required study, for the full term of fifteen weeks. The text-books are Hill's Principles of Rhetoric, and Day's Rhetorical Praxis.

The classical Sophomores study rhetoric during the winter term of twelve weeks, using the same text-books as those used by the scientific division.

Each member of the Sub-Freshman, Freshman and Sophomore classes is required to have six essays and six declamations during the year. Private rehearsals precede each public declamation, and each student has personal criticism passed upon his essay, after it has been read to the class.

Each member of the Junior and Senior classes has six essays and one chapel-stage oration. Class debates frequently take the place of essays. The Seniors and Juniors are also required to prepare and read before the class criticisms on the essays of their classmates, and these criticisms are publicly criticised by the instructor.

In addition to the above class exercises there are four rhetorical exercises in each term, at which all the students in the University are present. At this exercise are given those chapel-stage orations of the Juniors and Seniors, and those essays and declamations of the Freshmen and Sophomores which possess special merit.

Students write a portion of the time on assigned themes.

Instruction is given in elocution once a week to the Sub-Freshman, Freshman and Sophomore classes. In the Senior and Junior years elocution is optional. To those who desire it, instruction is given once a week.

This department is supplemented by work in the Literary Societies. These are six in number, two supported by the young women and four by the young men.

MATHEMATICS—DR. STERLING.

For admission to the Freshman class, in mathematics, candidates must, in addition to arithmetic, be prepared to pass a thorough examination on Loomis' Higher Algebra, as far as quadratic equations, and on five books of Loomis' Geometry, or their equivalents.

The course in mathematics is as follows:

FRESHMAN YEAR,

First Term—Higher Algebra Completed. Loomis.

Second Term—Solid Geometry—Plane Trigonometry begun. Loomis.

Third Term—Plane and Spherical Trigonometry. Loomis.

SOPHOMORE YEAR.

First Term—Analytical Geometry. Loomis.

Second Term—Calculus or Mechanics. Loomis.

Third Term—Calculus. Loomis.

Students who elect calculus only must pursue the study two terms and take analytical mechanics the first term of the Junior year. Those who elect both mechanics and calculus may omit the analytical mechanics.

Students in either of the classical courses, who have stood as high as 85 in the languages, may elect the mathematics of the General Science

Course, in place of Latin, in the first and third terms; and in place of Greek (or French), in the second term.

The instruction in this department aims to secure a thorough acquaintance with the elementary principles of mathematics and facility in mathematical operations, and to give the student such exercises in the application of principles as will prepare him to enter upon the study of the sciences.

ASTRONOMY—DR. WATSON—

Instruction in theoretical and practical astronomy will be given throughout the year to students whose attainments in mathematics are sufficient to enable them to proceed profitably in these higher studies. During the spring term instruction in descriptive astronomy is given to the Senior class by lectures and recitations daily.

PHYSICS—DR. DAVIES—

The instruction in physics is given by lectures and experiments during four terms, beginning with the first term of the Junior year. This is exclusive of the time given to abstract dynamics, including statics and kinetics, taught by the Professor of Civil Engineering.

Students whose average standing does not fall below 85 are allowed to take extra studies in physics. These consist of a course of practical training in the use of the spectroscope; also electrical and other measurements, as laid down in Pickering's "Physical Manipulation," and Latimer Clark's "Electrical Measurements." As the work to be done in practical physics presupposes a good knowledge of theory, the following works are simultaneously studied: Chauvenet's Combination of Observations and Method of Least Squares; Airy's treatises on Light and Sound; Jenkins' and Clerk Maxwell's treatises on Electricity and Magnetism; Boole's Differential Equations; Todhunter's Spherical Harmonics. The theory of determinants is studied as far as it may be necessary in understanding any of the above works.

Attached to the department of physics is the Magnetic Observatory, where all changes in the direction and intensity of the earth's magnetism are continuously recorded by photography. While primarily intended to further the science of terrestrial magnetism, the theory and mechanism of the instruments in the observatory are explained to the students in practical physics, and opportunity is given each year for observing the method of determining the absolute values of the magnetic elements at Madison according to the methods of the U. S. Coast Survey.

CHEMISTRY—PROFESSOR DANIELLS—

Long Course.—This course consists of a daily exercise throughout the year, and may be continued two years at the option of the student. The course is intended to be so thorough as to give an accurate training in science which will be of value for its own sake, while at the same time the design is to make it so practical that it shall be of special service to those intending to become physicians, engineers, metallurgists, or practical chemists.

DESCRIPTIVE CHEMISTRY.—Instruction in inorganic chemistry is given by lectures, with free use of the text-book, and by laboratory practice during the fall term. The lectures are illustrated by an elaborate series of experiments. During the spring term a course of lectures is given on chemical philosophy, and the chemistry of the carbon compounds.

QUALITATIVE ANALYSIS is begun on the completion of the course in inorganic chemistry. The course includes the analysis of fifty solid substances containing not more than one base and one acid each, and of forty complex substances, most of which are ores, minerals, or substances used in the arts. In the analysis of complex compounds, the separation, as well as the detection, of the different bases and acids present is required. Laboratory work is accompanied by frequent lectures and reviews. Exercises in stoichiometry, and chemical problems are required throughout the year.

QUANTITATIVE ANALYSIS.—Students are taken into the quantitative laboratory as soon as they have completed the course in qualitative analysis. Substances of known composition are first analyzed, that the accuracy of each student's work may be tested by comparing his results with the known percentages. When skill and accuracy in manipulation sufficient to secure correct results have been acquired, substances more difficult of analysis are given, as minerals, ores, crude metals, fertilizers, commercial and technical products. Each student makes duplicate analyses of every substance, which with those made by other students, verify the accuracy of his work. Volumetric analysis is also taught, and volumetric methods are used in the laboratory when they are more expeditious or more accurate.

Students intending to become physicians, will, upon completing the course in qualitative analysis, be given special facilities for urine analysis, the detection of poisons, and the analysis of foods, drugs, etc.

To those desiring to become teachers of science, and who have completed the course in qualitative analysis, an advanced course in experimental chemistry will be given.

The text-books in this course are, Thorpe's Inorganic Chemistry, 2 vols., Fresenius' Qualitative Chemical Analysis, and Fresenius' Quantitative Chemical Analysis.

Both the qualitative and quantitative laboratories are large, conveniently arranged, well ventilated and well lighted, supplied with gas, running water, and all necessary apparatus and fixtures. Each student is provided with a convenient table, shelves, drawers and cupboard, and is supplied with a complete outfit of apparatus, and chemical reagents.

Short Course.—This course consists of twelve week's instruction, principally by lectures, in inorganic and organic chemistry. It is intended only to give an outline of the science, with some knowledge of the general principles governing chemical changes. The text-book used is Roscoe's Lessons in Elementary Chemistry.

MINERALOGY AND GEOLOGY—DR. IRVING—

The course in these studies for students of the General Science and Technical Courses covers five successive terms of daily exercises in the class-room and laboratory.

CRYSTALLOGRAPHY is taught during the winter term of the Junior year. Dana's recently issued Text-Book of Mineralogy serves as the ground-work of the course, which is fully illustrated by collections of glass and wooden crystal-models, and a large series of wall charts showing the various crystalline form and their combinations. Students are required to be able to determine the forms at sight, and to apply to them the ordinary systems of notation, and on completion of the course to have at command a working knowledge of the subject sufficient for application in the study of optical mineralogy and microscopic lithology.

MINERALOGY follows directly upon the crystallography, physical mineralogy being first taken up. Especial attention is given to the optical properties of minerals, which are illustrated by lantern projections. Towards the latter part of the term, the class passes to the mineralogical laboratory. Here, after an extended course in blow-pipe analysis, they are given minerals to determine by the ordinary blow-pipe and physical tests, Brush's Determinative Mineralogy being used in connection with the Descriptive Mineralogy of Dana's Text-Book. This work extends through the greater part of the spring term, towards the end of which conferences are held in which typical specimens are examined in connection with the book descriptions. Two hours daily attendance are required in the laboratory. The course closes with a comprehensive review. The final examination on the studies of the two terms is conducted by requiring the student to name at sight, and answer any questions with regard to the physical and chemical properties of, a series of specimens which he has not before seen, and to determine by the ordinary tests, in the presence of the examiner, other more difficult specimens. A collection of about 600 minerals is deposited in the laboratory, and is constantly accessible to the student. A larger collection of choicer specimens is placed in the mineralogical cabinet.

GEOLOGY is begun in the fall term of the Senior year with the study of lithology, the instruction being by lecture, microscopic lantern demonstrations, and microscopic practice in the laboratory. A full discussion of the microscopic characters of the chief rock-forming minerals is given, and is followed by descriptions of the various kinds of rocks, care being taken to avoid theory as far as possible in the classification adopted. Structural geology follows next, occupying most of the remainder of the fall term, the introduction of theory being here still avoided as far as practicable. Dynamical geology and historical geology then follow, theory being now freely introduced. The instruction here is in part by lecture, and in part by recitation. The course is illustrated throughout by collections, maps, blackboard and papyrographic drawings and lantern projections. Opportunity for an excursion of several days' duration is offered to each class. The cabinet collection of rocks and fossils is a valuable one, including over 5,000 specimens, for the most part well determined, labeled and classified.

APPLIED OR ECONOMIC GEOLOGY is taught in a series of about 50 lectures during the spring term of the Senior year. The course includes a discussion of the nature and origin of ore deposits in general; the composition, properties, modes of occurrence, geological and geographical distribution of the ores of each of the metals; the same with regard to each of the non-metallic useful substances; mineral springs; artesian wells and water supply; and the origin and geological relations of soils.

A shorter course in geology, occupying a single term, and designed especially for students of the classical courses, is also offered.

BOTANY—MR. ARTHUR—

The preparatory course in botany occupies the third term of the year. The subject is studied by the Scientific and Modern Classical (2d year) Sub-Freshmen, and by the Ancient Classical Freshmen. The text-book used is Gray's Lessons. After the appearance of the flowers, a portion of the time is devoted to careful analysis and description of plants, with the aid of Gray's Manual. The students are required to mount and name an herbarium of thirty-five specimens.

The advanced course in botany consists of lectures given to the Modern Classical and Scientific Freshmen. The subjects of vegetable anatomy and physiology are treated of in the lectures. Sufficient time is given to analysis to secure facility in the determination of common plants. The students are required to hand in an herbarium of fifty specimens (of which the specimens of the previous year may count as part), and to write descriptions of twelve plants.

An optional course in analysis of plants is given the first term of the Sophomore year. It begins with the opening of the term and lasts

about six weeks. Practice in identification of flowers is thus secured, and an acquaintance with fall flowers is gained.

Students desiring to enter the Sophomore class will be examined on Thome's Structural and Physiological Botany, Chapters I—V.

The collection in botany consists of an herbarium containing the plants of this region. To this has lately been added the Lapham Herbarium, a collection of 20,000 specimens, the property of the State, deposited with the University.

ZOOLOGY—DR. BIRGE—

The short course in zoology consists of one term's work, required of all students who do not take the long course. It is given in the third term of the year to the Juniors of the classical courses and the Sophomores of the scientific and engineering courses.

The long course in zoology begins, regularly, with the first term of the Sophomore year. The course consists of laboratory work and lectures, the former giving a practical knowledge of comparative anatomy and the latter, of embryology and classification. During the first term the Protozoa, Cœlenterata and Vermes are studied, and, during the second term, the Mollusca and Arthropoda. With the beginning of the third term the course divides; the student may elect the study for one term only, and will in that case devote the time to the study of the Vertebrata; or he may pursue it for two terms, when the first term will be given to Pisces, Amphibia and Reptilia, the second to Aves and Mammalia. Students entering the long course must pursue it for at least two consecutive terms.

A course in elementary biology will be given to a limited number of students during the winter term.

The zoological cabinet contains a small but typical collection of both vertebrates and invertebrates, and a collection of alcoholic specimens for use in the zoological laboratory.

CIVIL AND MECHANICAL ENGINEERING—PROFESSOR CONOVER—

The courses of study in these departments have been so arranged as to secure to the students a thorough training in physics and in chemistry. It is also deemed necessary that the students shall obtain a mastery of the higher mathematics, and their application to the solution of engineering problems; and to this end the uninterrupted mathematical course of the Freshman and Sophomore years is followed by analytical and applied mechanics, and the resistance of materials analytically treated.

In the special studies of each of these departments it is the aim to illustrate the principles taught with numerous examples drawn from the

best practice and render the student as familiar as possible with the details of the work he is to undertake.

DRAUGHTING.—Instruction in draughting commences with the course of special study in the Sophomore year, and is continued in daily exercises of two hours each, throughout the course, with the exception of one term in the Junior year and such days as are taken for field practice in the one course, and shop practice in the other. The students are first taught the use of draughting instruments, and the simpler draughting operations. The principles of descriptive geometry, taught in the class room, are then further illustrated and enforced by a progressive series of special problems, including projections and intersections of lines, surfaces and solids; and problems in shades, shadows, perspective and isometric projection, which the students are required to solve, and carefully and exactly execute. These are followed in due order by instruction in shading and tinting with pen and brush, in India ink and water colors.

The students in civil engineering receive special instruction in the preparation of detailed drawings for masonry structures, in the delineation of topography by pen and in colors, and in the plotting of land, railroad and topographical surveys from the field notes. They are also required to make finished and detailed drawings of a variety of structures and apparatus.

Students in mechanical engineering are instructed in sketching and making working and finished drawings of machines. A large number of drawings is required, and the subjects are chosen almost exclusively from actual constructions. The principles of design are taught, and the student required to show his proficiency by making one or more original designs.

PRIME MOVERS.—The principles of thermo-dynamics and their application to the theory of steam and gas engines, are taught by text-book and illustrated by the calculation of numerous examples, and a detailed study is made of the principles and practice of the designing of chimneys, boilers and engines.

A similar plan is pursued in the study of hydraulics and hydraulic motors and machines.

STRUCTURES OF WOOD, IRON AND STONE.—Both the analytical and graphical methods are applied to the solution of the problems of stability of structures; and the details of their construction are studied by means of a fine collection of drawings, photographs and models, illustrating the most recent constructions.

Sanitary and water engineering and railroad engineering are taught by lectures.

During the Senior year excursions are made from time to time for the purpose of examining structures and machinery of various kinds, and students are required to make reports on the same.

For graduation in either department, theses are required, whose plan includes original work or design.

FIELD PRACTICE.—The field practice in land surveying and engineering geodesy gives to each student such training as to render him expert in the use of the chain, rod, magnetic and solar compass, level, transit and plane table.

PRACTICAL MECHANICS—MR. KING.—The course in mechanical engineering was established in 1877, and with it was commenced, as a prime requisite, the fitting up of a proper machine shop, wherein instruction in practical mechanics and machine construction might be given, in connection with that in the class room.

The shop is a large, well lighted room 38 by 40 feet, 14 feet high, in the basement of Science Hall. The equipment of machinery and tools is all after the latest and most approved practice, and consists of a Sellers' planer, two engine lathes, a hand lathe, a Brown & Sharp milling machine, and a Fitchburg upright drill, with conveniently placed and arranged work benches, vices, etc, and a large collection of taps, dies, twist drills, fluted reamers, etc. The motive power is furnished by a fine 30 H. P. Crane Bros. steam engine.

Ten hours work is required each week throughout the course. The method of instruction is modeled after the Russian System, and that of the Worcester, Mass., Institute of Industrial Science.

There are in process of construction in the shop during the present year, a Gramme electric machine, and variety of work for the Washburn Observatory, and also an engine for the State Capitol. Students take such part in this work as their skill permits.

It is also designed to construct as fast as possible working models of machinery for the purposes of instruction, and each student, before graduation, will be required to design and construct one or more of these models.

METALLURGY AND ASSAYING—DR. IRVING—

METALLURGY is taught during the fall and winter terms of the Senior year to students of the several technical courses. Greenwood's Manual is used as the groundwork of the course, which is illustrated by charts, lantern slides, collections of ores and technical products, etc. The subjects taken up in order are: general principles; fuels; furnaces; metallurgy of iron, steel, copper, lead, silver, gold, antimony, arsenic, tin, platinum, etc. The whole number of exercises is about 130. Excursions are made to smelting establishments with the instructor, and memoirs descriptive of actual operations are required. Furnace construction is taught in the draughting-room.

ASSAYING is taught during the spring term of the Junior year to stu-

dents of the courses in metallurgy and mining engineering, and to such others as may so elect. The course includes about ten lectures on the theory and practice of assaying, the remainder of the work being in the laboratory. There the student is given ores of silver and gold, which he assays in duplicate by both crucible and scorification methods, the whole number of assays made being about 100. The furnace assays for lead, antimony, tin, copper and iron, are also taught, but little store is set by them on account of the superior accuracy of the wet methods, which are taught in the quantitative chemical laboratory. The assay of gold and silver bullion completes the course. The assay laboratory is provided with tables for 20 students; six crucible furnaces; two roasting furnaces; two large muffle furnaces for cupellation and scorification; Blake crusher; bullion rolls; bullion assay apparatus, etc. The laboratory work generally extends into the fall term, and the student who satisfactorily completes the course is an expert in assaying.

LAW SCHOOL.

FACULTY.

JOHN BASCOM, LL. D.,
PRESIDENT.

J. H. CARPENTER, LL. D.,
DEAN OF THE FACULTY.

PROFESSORS.

J. H. CARPENTER, LL. D.,
Criminal Law and Contracts, including Contracts of Agency, Bailment and Partnership, Notes and Bills.

WILLIAM F. VILAS, LL. B.,
Practice, Pleadings, and Evidence.

HON. I. C. SLOAN,
Equity Jurisprudence and Real Estate.

HON. S. U. PINNEY,
Corporations and Real Estate.

HON. P. L. SPOONER,
Mortgages, Tax Titles, etc.

HON. ROMANZO BUNN,
Judge of the United States District Court.
Federal Jurisprudence (including Admiralty and Bankruptcy Proceedings).

HON. J. B. CASSODAY,
Wills, Torts, Patent and Copy Rights and Trade Marks.

CLARK GAPEN, M. D.
Medical Jurisprudence.

GENERAL STATEMENT.

The great advantage of professional schools for the rapid and thorough elementary training of professional men has been long since completely demonstrated, and no profession has more entirely accepted and heartily acknowledged the benefits of such schools than the legal profession.

The learning of this profession embraces almost all the relations of life, and the result of the experience of many ages is scattered through numerous treatises, reports, statutes, and digests. To obtain the mastery of the topics embraced within the limits of the body of the law in such a degree of perfection as marks the learned lawyer, requires many years of diligent study and practical experience.

The beginner needs to gain a comprehensive general view and analysis of the whole system; then to learn, without the careful reading which would occupy a lifetime, what the books contain, and where to search for more particular and detailed information, and to acquire the habits and methods of legal study and thought.

This degree of attainment can be reached in the professional school in at least half the time than that in which the student can otherwise acquire it, and with the additional advantage that there is no incumbrance of obsolete ideas or mistaken impressions, which are so difficult for any but a lawyer to distinguish from living doctrine among the great mass of legal writings.

To afford the young men of Wisconsin and the northwest ready facilities for such acquirements, this department has been established.

THE METHOD OF INSTRUCTION

is for the most part by lectures and by reading under the direction of the professors, with moot court practice. The lecture system is peculiarly adapted to the study of law. Few text-books are written for students. The most elementary works are designed as exhaustive treatises for the use of lawyers, and embrace not only the history of the growth of doctrines, but also a discussion of subjects in more detail than the student requires so early. The lectures give a clear analysis of the subject under discussion, while the instructor can refer the student to such parts of the text-books, and to such adjudications in the reports, as present in the best manner the principles which it is important to know. The system of reading cases in connection with text-books and lectures, is of the first importance.

The moot court is held weekly. Here the students are taught to perform, as students, what they will be required to do as lawyers. The

preparation of pleadings and the argument of questions—selected from actual cases occurring in practice, and designed to illustrate the subjects discussed in the lectures—under direction of the dean of the faculty, afford to the student unsurpassed facilities for acquiring a practical familiarity with the modes of administering the law. To those who know the difficulty with which the young lawyer acquires the easy confidence necessary to successful practice, this part of the school will especially commend itself. Additional means to the same end consist in the forming of clubs by the students themselves, to which the instructors will afford every assistance.

A certificate of graduation from this department entitles the student to admission to practice in all the courts of the state.

The peculiar advantages which the city of Madison, the capital of the state, affords to the student of law deserve mention. All sessions of the Supreme Court are held here, and also one term of the United States Circuit and District Courts annually. The Circuit Court for the county of Dane holds three terms annually so that there is almost constantly some court in session.

The Judges who preside in the courts held at Madison, are as follows:

In the United States Courts.

The Associate Justice of the Supreme Court of the United States assigned to the 7th Circuit.

Hon. THOMAS DRUMMOND, *Circuit Judge.*

Hon. ROMANZO BUNN, *District Judge.*

In the Supreme Court of the State.

Hon. EDWARD G. RYAN, *Chief Justice.*

Hon. ORSAMUS COLE,

Hon. WILLIAM P. LYON,

Hon. HARLOW S. ORTON,

Hon. DAVID TAYLOR,

Associate Justices.

In the Dane County Circuit.

Hon. ALVA STEWART, *Circuit Judge*

These courts hold their sessions in near proximity to the hall of the Law School, and students can readily avail themselves of the advantages which these courts afford in the trial of cases at *nisi prius* and the argument of cases *in banc*, where all the diversity of legal topics will be discussed from day to day, and cases, many of which are of great interest, not only on account of the questions at issue but on account of the public and private interests involved.

COURSE OF INSTRUCTION.

College Year, 1879—80.

PROFESSOR CARPENTER.....	First Term—Notes and Bills, - - - -	Byles.
	Second Term—Torts, - - - -	Cooley.
	Third Term—Criminal Law, - - - -	Bishop.

PROFESSOR VILAS.....	First Term—Jurisdiction, Original Process, Common Law Pleadings, - - - -	Stephen.
	Second Term—Equity Pleadings, - - - -	Story.
	Code Practice and Pleading, - - - -	Bliss.
	Third Term—Code Pleading and Practice before Judgment, - - - -	Bliss.

PROFESSOR SLOAN.....	Real Property, - - - -	Washburn.
	Eminent Domain, - - - -	Mills.
PROFESSOR PINNEY.....	Corporations, - - - -	Angell and Ames.

Real Property, - - - - 2 and 3 Washburn.

PROFESSOR BUNN.....	First Term—Rights of Persons including Domestic Relations, - - - -	Broom & Hadley.
	Second Term—Rights of Things, Broom & Hadley.	
	Third Term—Organization and Jurisdiction of the Federal Courts, Admiralty and Maritime Law, Kent and Federal Decisions.	

College Year, 1880—81.

PROFESSOR CARPENTER.....	First Term—Contracts, including Agency, Parsons, Story on Agency.	
	Second Term—Contracts, including Partnership, - - - -	Parsons.
	Third Term—Contracts, including Bailments, - - - -	Parsons, Story on Bailments.

PROFESSOR VILAS.....	First Term—Evidence, - - - -	Greenleaf.
	Second Term—Evidence, - - - -	Greenleaf.
	Third Term—Practice after Judgment, and in Special Proceedings,	

PROFESSOR SLOAN Equity Jurisprudence, - - - - - *Story.*
 Law of Notice, - - - - - *Wade.*

PROFESSOR BUNN. First Term—Commercial and Maritime
 Law, - - - - - *Kent, Abbott on Shipping.*
 Second Term—Private Wrongs, *Broom & Hadley.*
 Third Term—U. S. Constitution and
 Constitutional Limitations,
Cooley and Federal Decisions.

Lectures will also be delivered during the course, as follows:

PROFESSOR SPOONER.—Homestead Exemption, Mortgages, Tax-titles, etc.

PROFESSOR CASSODAY.—Wills, Patent and Copy Rights, and Trade Marks.

PROFESSOR GAPEN.—Medical Jurisprudence.

LIBRARIES.

The Law Library is receiving important additions, and increasing in scope and value each year.

The University Library contains about ten thousand volumes, and is open to the students every day for drawing books, and for consultation. The best American and foreign periodicals are taken.

The Law Library of the State, which is the largest collection of the kind in the northwest, is at all times accessible to the students. The advantage of this library to the student can hardly be overestimated. He can here become familiar with series of reports, and with many treatises which are rarely found in private libraries.

Students also have opportunity to consult the State Historical Library, containing over seventy thousand volumes.

These libraries are furnished with commodious rooms kept comfortable at all hours of the day.

The students of the Law School, during the time they are in attendance, are allowed to participate in the benefits of the Madison Free Library, and to take books from it according to the regulations in force. This library contains a choice and well selected collection of about 8,000 volumes.

Many students are also able to obtain the privilege of access to and use of private libraries of resident members of the bar.

These are library privileges unsurpassed in the west, and equalled in very few institutions in the country.

ADMISSION AND GRADUATION.

Students will be admitted at any time; but those who are not collegiate graduates must be twenty years of age to enter this department. Candidates will be examined in the ordinary English branches. *Credentials of good moral character must be furnished.*

Every candidate for graduation is required to prepare and read before the class and faculty, within six weeks before the close of the collegiate year, a dissertation on some legal subject, or some subject connected with the history, science or the practice of the law, which shall be approved by the faculty.

The following resolution has been adopted by the regents:

Resolved, That no student shall hereafter be graduated from the Law Department who has not devoted two years to the study of the law; one year of which shall be under the direction and supervision of the faculty of said department; and that no student shall be graduated until he shall have passed a satisfactory examination after the completion of said two years of study, which examination shall be conducted by the law faculty in the presence of the annual board of visitors.

SUB-FRESHMAN CLASSES.

The Sub-Freshman classes will be discontinued after the present academic year, with the exception of a class in Greek to prepare for the Ancient Classical Course. This class will also have a daily exercise in Latin.

Students who have already entered upon the Modern Classical preparatory course will be allowed to complete it during the academic year 1880-1.

The following is the Sub-Freshman Course for the present year :

GENERAL SCIENCE COURSE.

FIRST TERM.

German—Comforts' Course.

Algebra—Robinson.

Physiology—Huxley and Youmans.

SECOND TERM.

German—Comforts' Course.

Algebra—Robinson.

Natural Philosophy—Norton.

THIRD TERM.

German—Whitney's Reader.

Plane Geometry—Loomis, 5 books.

Botany—Gray's Manual.

CLASSICAL COURSES.

FIRST YEAR.

FIRST TERM.

Ancient Classics.

Latin (Twice a day).

Ancient History—Fyffe's Hist. of Greece ; Creighton's History of Rome.

Modern Classics.

Leighton's Lessons.

Algebra—Loomis' Higher.

SECOND TERM.

Latin ,	Leighton's Lessons.
Greek —Goodwin's Grammar and White's Lessons (twice a day).	Algebra —As first term. Natural Philosophy —Norton.

THIRD TERM.

Latin (twice a day),	Cæsar, and Allen's Composition.
Greek —As before.	Plane Geometry —Loomis.

SECOND YEAR.

FIRST TERM.

Latin ,	Cicero's Select Orations, and Composition and Grammar through the year.
Greek —Xenophon's Anabasis, and Composition (twice a day).	German —Comfort's Course. Ancient History —Fyffe, and Creighton.

SECOND TERM.

Latin ,	Cicero, Virgil's <i>Aeneid</i> (twice a day).
Greek —As before.	German —As before.

THIRD TERM.

Latin ,	Virgil.
Greek —Xenophon's Anabasis and Homer's Iliad (twice a day).	German —Whitney's Reader. Botany —Gray's Manual.

The second year of the foregoing scheme will continue in operation during the academic year 1880-1. At the same time students will be received to prepare in one year for the Ancient Classical Course by the following scheme, which will constitute the only Sub-Freshman work after the summer of 1881:

GREEK CLASS.

FIRST TERM.

Greek —White's Lessons and Jones' Composition (twice a day).
Latin —Cicero's Select Orations. Allen's Composition.

SECOND TERM.

Greek —Xenophon's Anabasis and Jones' Composition.
Latin —Virgil's <i>Aeneid</i> . Latin Prosody. Composition.

THIRD TERM.

Greek —Xenophon's Anabasis and Homer's Iliad. Composition.
Latin —Virgil's <i>Aeneid</i> . Composition.

** For terms of admission to the Greek class, see page 24.

SUB-FRESHMEN.

ANCIENT CLASSICAL COURSE.

William Wadsworth Albers,	Chilton,	J. Mathews'.
Grant Robinson Bennett,	Portage,	Mrs. S. Gallagher's.
James H. Benson,	Madison,	M. Benson's.
Ella Brady,	Rio,	Mrs. J. Boss'.
Leslie Lyel Brown,	La Crosse,	40 N. D.
George Lincoln Bunn,	Madison,	Judge R. Bunn's.
Lafayette Amasa Calkins,	Amherst Junction,	J. Mathews'.
Edward J. Dockery,	Milwaukee,	Mrs. S. Gallagher's.
Nathaniel Greene Durfee,	Ashland,	66 N. D.
William Lincoln Hooper,	Darlington,	Mrs. A. E. Meeker's.
Charles Frederic Hopkins,	Madison,	Mrs. J. C. Hopkins'.
William Beebe Monroe,	Monroe,	6 S. D.
James Crumbaker Officer,	Springville,	82 N. D.
John Monroe Parkinson,	Madison,	Prof. J. B. Parkinson's.
Marshall Montgomery Parkinson,	{ Madison,	Prof. J. B. Parkinson's.
Alice Pennoyer,	Kenosha,	Ladies' Hall.
James A. Peterson,	Alderly,	13 S. D.
Edward Alonzo Small,	Chicago, Ill.,	J. Leary's.
James R. Trottman,	Cedarburg,	10 S. D.
George Wendle Waite,	Viroqua,	82 N. D.
Walter H. Waterhouse,	Madison,	H. Waterhouse's. —21

MODERN CLASSICAL COURSE.

Katharine Allen,	Madison,	Prof. W. F. Allen's.
Alba Tolina Argard,	Eau Claire,	Ladies' Hall.
Harriette Louisa Bailey,	Postville, Iowa,	Ladies' Hall.
Alma Louisa Baker,	Madison,	J. U. Baker's.
Nicholas Dale Baker,	Madison,	J. U. Baker's.
Rose Esther Barnes,	Madison,	J. Barnes'.
Abram D. Bowman,	Kilbourn City,	Mrs. S. Gallagher's.
Oscar Dalzelle Brandenburg,	Baraboo,	Mrs. H. E. Howe's.
Elsey Lois Bristol,	Middleton,	W. S. Main's.
Francisca Brooks,	Madison,	W. Brook's.
Mary Brown,	Madison,	S. Brown's.
Elwin Whipple Bunker,	Cottage Grove,	W. King's.
Selden Almeria Cady,	Reedsburg,	W. W. Waddell's.
Mary Connor,	Token Creek,	Mrs. M. Davis'.
Florence A. Cornelius,	Madison,	J. W. Cornelius'.
Maria Daley,	Perry,	Ladies' Hall.

Mary Davies,	Dodgeville,	Ladies' Hall.
John William Davis,	Fox Lake,	Mrs. W. J. L. Nicodemus'.
George Dwinnell,	Lodi,	Mrs. I. M. Cutler's.
John Eaver,	West Blue Mounds,	O. Thompson's.
Mary Jane Farley,	Madison,	E. Farley's.
James Hannibal Feeney,	Marshall,	T. O'Rourke's.
Mary Elise Howe,	Madison,	Mrs. H. E. Howe's.
James David Humbert,	Eden,	T. O'Rourke's.
Andrew Johnson,	Stoughton,	J. A. Johnson's.
Frederick Johnson,	Madison,	J. A. Johnson's.
Edward John Killian,	Cottage Grove,	T. O'Rourke's.
Emma Luella King,	Madison,	Mrs. S. H. Carpenter's.
Maggie Christine McGill,	Waukesha,	T. Doerschlag's.
Mary Jane McGill,	Waukesha,	T. Doerschlag's.
William Ansley McCrady,	Eden,	T. O'Rourke's.
Emma Ennever Nunns,	Madison,	H. Nunns'.
Mary Parkinson,	Madison,	Prof. J. B. Parkinson's.
Frances Eugenia Pettit,	Kenosha,	Ladies' Hall.
Leila Ada Porter,	Somers,	Ladies' Hall.
Robert Reid,	Alderly,	13 S. D.
Frederick Rogers,	Hartford,	91 S. D.
Kate Arabella Sarles,	Necedah,	Mrs. A. E. Haven's.
Ernst Heinrich Schweppe,	Black Hawk,	H. Brickson's.
Anna Emeline Sutherland,	Syene,	Ladies' Hall.
Minnie Gray Trousdale,	Madison,	Prof. J. B. Parkinson's.
Norman Evans Van Dyke,	Oconomowoc,	89 N. D.
Charles Marshall Wales,	Elkhorn,	A. S. Sanborn's.
Edwin Wells Wilcox,	Fort Atkinson,	E. G. Garner's.
Alice Lucretia Williams,	Madison,	H. C. Williams'.

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GENERAL SCIENCE COURSE.

John Peter Anderson,	Perry,	J. Kirk's,
Frank Augustus Cady,	Kilbourn City,	Mrs. C. Davis'.
Frank Arthur Carr,	Madison,	N. B. Carr's,
John Francis Cole,	Jackson,	16 N. D.
John Morris Collins,	Verona,	P. Giluley's.
Lizzie Martha Craig,	Fox Lake,	J. T. King's.
Charles Fred Dahl,	Orfordville,	J. Kirk's.
Catherine Marie Devine,	Madison,	M. Devine's.
William Franklin Duffy,	Clyman,	Mrs. M. E. Potter's.
Eva Angeline Elwood.	Union,	N. Peterson's.
William Gill,	Madison,	Mrs. H. Gill's.
Harry Wright Goodwin,	Hartland,	Mrs. M. E. Potter's.

Charles M. Hall,	Hudson,	A. Schulhof's.
Joseph Handschiegel,	North Bristol,	7 S. D.
Eugene William Helms,	Salem,	Mrs. A. E. Meeker's.
Josephine Hull,	Union,	N. Peterson's.
Charles W. Keith,	Johnstown,	Mrs. I. M. Cutler's.
Thomas J. Kelley,	Hudson,	Mrs. H. E. Howe's.
Eugene Lansing Lobdell,	North Perry,	J. A. Young's.
Clara Marion Macartney,	Hudson,	Ladies' Hall.
Barbara Meredith,	Middleton,	J. Nichols'.
Harvey Newton Morey,	Madison,	Mrs. J. Cook's.
Lydia Jane Packard,	Madison,	N. L. Packard's.
David Ogden Perin,	Bloomington,	8 N. D.
William Hutchinson Putnam,	River Falls,	6 N. D.
Laura May Richards,	Brooklyn,	N. Peterson's.
Cora Adele Rodolf,	Muscodia,	Ladies' Hall.
Frank J. Salter,	West Bend,	16 N. D.
Godfrey Schmitz,	Manitowoc.	C. Schmitz'.
John Shelton,	Clyde,	11 S. D.
Mary Frances Sloan,	Madison,	I. C. Sloan's.
Olive Annette Staples,	Richmond,	Ladies' Hall.
Floyd Melker Thompson,	Taylor, Ill.,	Mrs. C. Davis'.
Francis Richards Travers,	Hartford,	91 N. D.
Leon Herbert Tubbs,	Columbus,	M. Devine's.
Martha Week,	Hutchinson,	Ladies' Hall.
James Watson Wells,	Madison,	B. E. Hutchinson's.
Frank Wieland,	Glen Haven,	20 S. D.
Duane S. Zook,	Oregon,	69 S. D.

GENERAL INFORMATION.

LIBRARIES.

The University Library contains about nine thousand volumes, and is open to students every day from $8\frac{1}{2}$ to $12\frac{1}{2}$ A. M. and from $2\frac{1}{2}$ to $4\frac{1}{2}$ P. M. The best American and foreign periodicals are taken.

Students also have opportunity, free of expense, to consult the State Historical and State Libraries, the former numbering seventy thousand volumes, the latter comprising a choice collection of miscellaneous works and a very complete law library. Each is furnished with commodious rooms kept comfortable at all hours of the day. These are library privileges unsurpassed in the west, and equalled in very few institutions in the country.

The students, by special arrangement, are enabled to take out books from the Free Library of the city of Madison. This is a very well selected collection of about eight thousand volumes.

APPARATUS, CABINETS, LABORATORIES.

The new science building is now in full occupation, and affords the best opportunities for work in the several departments of science.

The University is provided with extensive and valuable geological and mineralogical cabinets and collections in natural history; also, with well selected philosophical and chemical apparatus.

There are also chemical, zoological, physical, mineralogical and assay laboratories, well supplied with apparatus and material, affording excellent facilities for the prosecution of studies in the several departments of science.

The machine shop is amply provided with tools and machines, and gives good opportunities for work in practical mechanics.

ASTRONOMICAL OBSERVATORY.

The Astronomical Observatory, built by the liberality of ex-Gov. C. C. Washburn, is finished and in use. It will be completely furnished as rapidly as the nature of the work will allow. It has been placed in the hands of the experienced astronomer, James C. Watson, late of the State University of Michigan. Under his direction it will undoubtedly take a first rank in science and be a powerful auxiliary to our instruction.

LADIES' HALL.

Ladies' Hall is an elegant and commodious building, containing a society hall, teachers' room, study and lodging rooms for about eighty students, and ample accommodation for boarding. Students' rooms are carpeted and furnished, but occupants are expected to provide the toilet sets needed in their rooms, also towels, napkins, sheets, pillow-cases, blankets and counterpanes, all of which should be marked with the name of the owner. Young women occupying this building are under the immediate charge of the preceptress, are required to board with the matron, and are expected cheerfully to conform to the rules requisite for a quiet and orderly household. No responsibility is assumed for pupils rooming in the city, beyond that involved in good scholarship and general deportment. The rooms are in suits to accommodate four students; if unnecessarily occupied by a less number, the additional expense of fuel, light and room-rent will be charged to the occupants *pro rata*.

Gas has been introduced into Ladies' Hall; an abundant supply of water has also been provided.

Competent teachers give instruction in vocal and instrumental music.

POLICY.

The whole policy of the institution is determined by the regents, who, as a body, represent the people, and no particular sect or party. It is the aim of the University to meet the highest educational wants of every student in the state. In the elective studies there is provision for the demands of higher scholarship.

It is advisable that students should pursue a prescribed course, if possible, but they may select any studies, subject to the direction of the faculty.

GOVERNMENT.

Students are held responsible only for good order and the diligent use of their time. Those who fail to conform to this simple requirement will be dismissed. The University is no place for those who do not propose to give their whole time to the work prescribed for them by the faculty. The loss of a single recitation not only injures the student, but those connected with him.

Students who room in the city will be held responsible for good behavior everywhere, but will be under our direct supervision only when on our grounds, and in their work with us.

Leave of absence will not be granted except in case of absolute necessity.

The students and faculty are assembled for prayers daily, fifteen minutes before the morning hour for commencing recitations; but no student is required to attend any religious exercises of any kind.

EXAMINATIONS.

There will be no special public examination of all the classes at the close of the year. All persons desirous of knowing the character of the work done at the University are invited to be present at the regular exercises and examinations of the classes.

The members of the board of visitors will visit the University from time to time during the year, to inspect the work done in recitations, lectures, laboratory work and examinations.

HONORS IN SPECIAL STUDIES.

Special honors are given, upon recommendation of the professors in the several departments, to the members of the graduating class who have done special work under the direction of the professor of any department, and prepared an acceptable thesis; but the amount of work required for a special honor must at least be the equivalent of a full study for one term, and in the case of those branches in which there are longer and shorter elective courses, the student must have taken the longer course as his regular study.

Candidates for special honors must have a general average standing of 85, and one of 93 in the department in which the application is made.

Students taking special honors read their theses in public on the Friday next preceding commencement day; or such of the students, not exceeding three in number, who shall have honor orations assigned them for the exercises of commencement day, may substitute their theses for the orations.

DEGREES.

Academic.

The degree of *Bachelor of Science* is conferred upon such persons as satisfactorily complete the General Science Course.

The degree of *Bachelor of Arts* is conferred upon such persons as satisfactorily complete the Ancient Classical Course.

The degree of *Bachelor of Letters* is conferred upon such persons as satisfactorily complete the Modern Classical Course.

The degrees of *Master of Science*, *Master of Arts* and *Master of Letters* are conferred respectively upon Bachelors of Science, Arts, and Letters, upon either of the following conditions:

1. After three years spent in scientific or literary pursuits, upon passing a satisfactory examination, and presenting to the faculty an acceptable thesis upon some subject previously agreed upon.
2. After one year spent at the University in the pursuit of scientific or literary studies, under the direction of the faculty, upon passing the

requisite examinations and presenting a satisfactory thesis upon some subject within the line of study to which they have chiefly devoted their attention.

The University does not offer the degree of *Doctor of Philosophy*.

Special and Professional.

The degrees of *Bachelor of Agriculture*, *Bachelor of Civil Engineering*, *Bachelor of Metallurgical Engineering*, *Bachelor of Mining Engineering* and *Bachelor of Mechanical Engineering*, are conferred respectively upon persons who satisfactorily complete the course of study in agriculture, or in civil, metallurgical, mining, or mechanical engineering.

The degrees of *Civil Engineer*, *Metallurgical Engineer*, *Mining Engineer*, and *Mechanical Engineer*, are conferred respectively upon such bachelors of civil, metallurgical, mining, or mechanical engineering as, after one year of additional study and practice, present a suitable project, and pass the requisite examinations. Residence at the University will not be required during the year.

The degree of *Bachelor of Laws* is conferred upon those who satisfactorily complete the course of study prescribed in the Law School. *

LITERARY SOCIETIES.

The literary societies—Athenaean, Hesperian, Calliopean, Linonian, Castalian and Laurean—are sustained with interest, and aid in the intellectual training of the student. These societies admit to membership only students connected with the regular classes.

PHYSICAL TRAINING.

Military drill is required each day during the spring term, of the young men of the Freshman and Sophomore classes. A well furnished gymnasium and two bowling alleys are open to the students at fixed hours. The University is situated on the shores of Lake Mendota, and the students can find relaxation and exercise in boating.

SCHOLARSHIPS.

The University is indebted to the liberality of Hon. John A. Johnson, of Madison, for ten scholarships of \$50 annual value each, established under the following conditions:

The sum received by one student in one year shall not exceed \$50, nor the sum received during his college course exceed \$200. Until the year 1900 the fund will be limited to students speaking one of the Scandinavian languages (Norse, Swedish, Danish or Icelandic.) No student can receive aid from this fund unless he has attended a common school one year, or

has attended the University one year. The recipient of aid will be expected to return the money received by him to the fund if he shall at any time be able to do so. The income of the fund will be dispensed by a committee of three members of the faculty. For the present this committee is constituted as follows: the President of the University, Professors Sterling and Anderson.

THE LEWIS PRIZE.

The Lewis prize fund, the fruits of a donation made by Ex-Governor James T. Lewis, now yields annually \$20. This sum is bestowed on the student furnishing the best commencement piece. It was given for the year 1875 to Fannie West, of Milwaukee; for 1876, to A. S. Ritchie, of Racine; for 1877, to Charles L. Dudley, of Madison; for 1878, to Fred King Conover, of Madison; for 1879, to Belle Case, of Baraboo.

ROOMS.

No student will be allowed to occupy a room until his bills for the term are settled.

Students are allowed the choice of rooms, in the order of the classes.

Regular students, in previous occupancy, if on the ground at the opening of the term, are permitted to retain their rooms, unless needed for those in higher classes.

Rooms for young men are furnished at the expense of the students, who should bring their own bedding, towels, etc. Other furniture can be obtained here, second-hand or new, at moderate prices.

Students will not be allowed to board themselves, in either dormitory. Occupants of rooms are held responsible for damages to them.

EXPENSES.

NOTE.—\$3 is charged for each diploma. The items of expense are subject to revision at the commencement of each collegiate year.

The cost of board in clubs is from \$1.75 to \$2.25 per week ; in private families from \$2 to \$4 per week ; washing from 60 to 75 cents per dozen.

Students will be charged for not less than one term, and no deduction will be made for voluntary absence. Students are allowed twelve and a half cents per hour for work on the University farm. Payment of all University charges for tuition, room rent, heating etc. is required strictly in advance, and is payable to the secretary of the board of regents.

Students working in the laboratories are required to make deposits of from \$5.00 to \$30.00, to cover the cost of chemicals, and other material used by them, an accurate account of the same being kept and the amount of the deposit not used returned to the student at the close of his term.

SUMMARY OF STUDENTS

IN ATTENDANCE AT THE OPENING OF THE FALL TERM 1879.

<i>Resident Graduates—</i>	2
<i>Senior Class—</i>	
Ancient Classical Course,	14
Modern Classical Course,	13
General Science Course,	6
Civil Engineering Course,	2
Mechanical Engineering Course,	1
Metallurgical Course,	1
	<u>— 37</u>
<i>Junior Class—</i>	
Ancient Classical Course,	13
Modern Classical Course,	20
General Science Course,	9
Civil Engineering Course,	3
Mechanical Engineering Course,	1
Metallurgical Course,	2
	<u>— 48</u>
<i>Sophomore Class—</i>	
Ancient Classical Course,	19
Modern Classical Course,	17
General Science Course,	18
Civil Engineering Course,	6
Mining and Metallurgy Course,	3
	<u>— 63</u>
<i>Freshman Class—</i>	
Ancient Classical Course,	20
Modern Classical Course,	33
General Science Course,	30
	<u>— 83</u>
<i>Special Students—</i>	<u>91</u>
Total in college studies,	324
<i>Law Students—</i>	52
<i>Sub-Freshman Class—</i>	
Ancient Classical Course	21
Modern Classical Course,	45
General Science Course	39
	<u>— 105</u>
Total,	481

CALENDAR.

College Year 1879-80.

FALL TERM begins Wednesday, September 3, and closes Wednesday, December 17—15 weeks.

WINTER TERM begins Thursday, January 7, and closes Wednesday, March 31—12 weeks.

SPRING TERM begins Wednesday, April 7, and closes Wednesday, June 23—11 weeks.

COMMENCEMENT, Wednesday a. m., June 23.

College Year 1880-81.

FALL TERM begins Wednesday, September 8, and closes Wednesday, December 22—15 weeks.

WINTER TERM begins Wednesday, January 5, and closes Wednesday, March 29—12 weeks.

SPRING TERM begins Wednesday, April 5, and closes Wednesday, June 21—11 weeks.

