THE UNIVERSITY OF MINNESOTA.

THE

CALENDAR

FOR THE YEAR

1880-81.

THE ANNUAL CALENDAR, published at Commencement by authority of the Board of Regents, is a record of the membership and condition of the University for the given University year, and also contains the courses of study and other announcements for the University year following.

The Calendar will be sent gratuitously, postage paid, to all persons in the State who apply for it.

THE

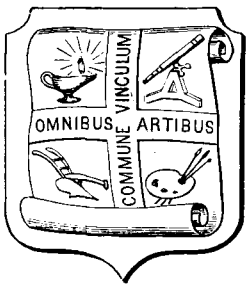
UNIVERSITY OF MINNESOTA.

THE

CALENDAR

FOR THE YEAR

1880-81.



BY THE UNIVERSITY,

MINNEAPOLIS.

1881.

DAYS AND DATES, 1880-81.

1880.

JUNE 6. THE VACATION BEGAN.

SEPTEMBER 7. YEAR 1880-81 BEGAN.

8. 9. } Entrance Examinations.

10. 11. } Examinations for advanced rank.

14. Recitations and Lectures began.

NOVEMBER 30. DECEMBER 1. } Examinations.

2. First Term (13 weeks) closed.

7. Second Term began.

Recess.

December 18 to January 4.

1881.

MARCH 1. 2. } Examinations.

3. Second Term (12 weeks) closed.

8. Third Term (13 weeks) began.

MAY 27. 28. } Examinations.

June 2. COMMENCEMENT.

For days and dates of the new year 1881-82, see Almanac near end.

THE BOARD OF REGENTS.

The Hon. HENRY H. SIBLEY, St. Paul, - - - - - 1882.
The Hon. THOS. S. BUCKHAM, M. A., Faribault, - 1882.
The Hon. GREENLEAF CLARK, M. A., St. Paul. - 1883.
The Hon. O. V. TOUSLEY, M. A., Minneapolis, - - 1883.
The Hon. RICHARD CHUTE, Minneapolis, - - - 1884.
The Hon. WILLIAM R. MARSHALL, St. Paul, - - 1884.
The Hon. A. J. EDGERTON, M. A., Kasson, - - - 1884.

AND EX OFFICIIS,

THE GOVERNOR of the State,

The Hon. JOHN S. PILLSBURY, Minneapolis.

The State Superintendent of Public Instruction,

The Hon. DAVID BURT, M. A., St. Paul.

The President of the University,

WILLIAM W. FOLWELL, M. A., Minneapolis.

OFFICERS OF THE BOARD.

The Hon. HENRY H. SIBLEY, St. Paul,
PRESIDENT.

The Hon. RICHARD CHUTE, Minneapolis,
Recording Secretary and Treasurer.

WILLIAM W. FOLWELL, Minneapolis,
Corresponding Secretary.

STANDING COMMITTEES.

Executive Committee—Regents PILLSBURY, MARSHALL and CHUTE.

Committee on Faculty and Courses of Study—Regents SIBLEY, MARSHALL, BURT, BUCKHAM and EDGERTON.

Committee on College of Agriculture—Regents MARSHALL, BUCKHAM and EDGERTON.

Auditing Committee—Regents MARSHALL and CLARK.

MEETINGS.

The annual meeting is fixed by the charter for the second Tuesday in December; other meetings occur in the Spring recess and on Commencement Day.

The Executive Committee meet regularly on one of the last secular days of each month. See Almanac.

OFFICERS OF INSTRUCTION.

WILLIAM W. FOLWELL, LL. D., President, *1020 5th St., S. E.*
Instructor in Political Science and Librarian.

JABEZ BROOKS, M. A., D. D., *1706 Laurel Avenue, W. D.*
Professor of the Greek Language and Literature;
and in charge of the department of Latin.

NEWTON H. WINCHELL, M. A., Prof. Geol. & Min., *State St., E. D.*
State Geologist.

CHARLES N. HEWITT, M. D., *Red Wing.*
Professor of Public Health, Non-resident.

JOHN G. MOORE, B. A., *610 5th St., S. E.*
Professor of the German Language and Literature.

MOSES MARSTON, Ph. D., *2211 Park Ave., W. D.*
Professor of the English Language and Literature.

CHRISTOPHER W. HALL, M. A., *601 3d St., S. E.*
Professor of Geology, Mineralogy and Biology.

JOHN C. HUTCHINSON, B. A., *4001 Nicollet Avenue, W. D.*
Assistant Professor of Greek and Mathematics.

JOHN S. CLARKE, B. A., *414 Monroe St., E. D.*
Assistant Professor of Latin.

MATILDA J. CAMPBELL, B. L., *622 5th St., S. E.*
Instructor in English and German.

MARIA L. SANFORD, *1325 5th St., S. E.*
Assistant Professor of Rhetoric and Elocution.

WILLIAM A. PIKE, C. E., *521 5th St., S. E.*
Professor of Engineering; and in charge of Physics.

JOHN F. DOWNEY, M. A., *520 4th St., S. E.*
Professor of Mathematics and Astronomy.

JAMES A. DODGE, Ph. D., *1325 5th St., S. E.*
Professor of Chemistry.

ALEXANDER T. ORMOND, Ph. D., *1120 5th St., S. E.*
Professor of Mental and Moral Philosophy and of History.

CHARLES W. BENTON, M. A., *514 5th Ave., S. E.*
Professor of the French Language and Literature.

WILLIAM H. LEIB, *Saint Paul.*
Instructor in Vocal Music.

EDWARD D. PORTER, M. A., *1005 6th St., S. E.*
Professor of the Theory and Practice of Agriculture.

———— ————

Professor of Military Science.

OTHER OFFICERS.

CHARLOTTE A. ROLLIT, *Assistant Librarian.*

CHARLES F. SIDENER, *Assistant in Chemical Laboratory.*

WM. C. BRYANT, *Janitor, Main Building.*

FACULTIES OF THE UNIVERSITY.

THE GENERAL FACULTY.

The PRESIDENT; Professors BROOKS, WINCHELL, MOORE, MARSTON, HALL, (*Secretary,*) PIKE, DOWNEY, DODGE, ORMOND, BENTON and PORTER; Assistant Professors HUTCHINSON, CLARKE and SANFORD.

THE SPECIAL FACULTIES.

I. Of the College of Science, Literature and the Arts:

The PRESIDENT; Professors BROOKS, MOORE, (*Secretary,*) MARSTON, HALL, PIKE, DOWNEY, DODGE, ORMOND and BENTON.

II. Of the College of Mechanic Arts:

The PRESIDENT; Professors MARSTON, HALL, PIKE, (*Secretary,*) DOWNEY and DODGE.

III. Of the College of Agriculture:

The PRESIDENT; Professors MARSTON, HALL, DODGE and PORTER, (*Secretary.*)

GRADUATES.

MASTER OF ARTS.

Rev. Graham Cox Campbell,	Gaboon, Africa,	1880.

BACHELORS IN ARTS, 35.

Warren Clark Eustis,	Hennepin County,	1873.
Henry Martyn Williamson,	Nicollet "	"
George Edwin Ricker,	Hennepin "	1874.
Andrew Russell Cass,	Canada,	1875.
Julius Elliot Miner,	Goodhue "	"
Simon Peter Starritt,	Wright "	"
John Sinclair Clarke,	Nova Scotia,	1876.
John Corrin Hutchinson,	Dakota "	"
William Edwin Leonard,	Hennepin "	"
Graham Cox Campbell,	Nova Scotia,	1877.
Joel Nathaniel Childs,	Wisconsin,	"
Ebenezer Currie,	Fillmore "	"
Frank Eustis,	Hennepin "	"
Fred Eustis,	" "	"
Stephen Mahoney,	Scott "	"
John Waldo Perkins,	Wright "	"
Charles Wilber Savidge,	Le Sueur "	"
Albert McClure Welles,	Ramsey "	"

Julian Clarence Bryant,	Nicollet County,	1878.
John Hamilton Lewis,	Wright "	"
Thomas Rogers Newton,	Hennepin "	"
Evan Roland Prichard,	Blue Earth "	"
Daniel Williams,	Iowa,	"
John Franklin Collom,	Hennepin "	1879.
Etta Medora Elliot,	" "	"
John Finley Goodnow,	" "	"
Frank Smith McKean,	Washington "	"
Robert William Rhames,	Olmsted "	"
Chelsea Joseph Rockwood,	Blue Earth "	"
George Burt Thompson,	Hennepin "	"
Willis Mason West,	Stearns "	"
Cora Inez Brown,	Hennepin "	1880.
James Francis Bryant,	Nicollet "	"
Albert William Rankin,	Nicollet "	"
Wm. Wadsworth Williams,	Iowa,	"

BACHELORS IN SCIENCE, 38.

Edward Chatfield,	Fillmore County,	1874.
Samuel Addison Rank,	" "	1875.
Clark Stewart,	Hennepin "	"
Martha Appleton Butler,	Maine,	1876.
Robert Henry Crafts,	Hennepin "	"
Lewis Singer Gillette,	Michigan,	"
Eugene Alvin Hendrickson,	Ramsey "	"
William Herod Locke,	Hennepin "	"
Albert Preston Hendrickson,	Ramsey "	1877.
John Charles Kassube,	Hennepin "	"
Edwin Burnham Pribble,	" "	"
Fred Leslie Couillard,	" "	1878.
Nettie Getchell,	" "	"

Judson Torrey Howell,	Houston County,	1878.
Henry Clay Leonard,	(B. C. E., '75,)	"
Mary Warwick Robinson,	Hennepin "	"
Harvey Jay Smith,	Goodhue "	"
Myron DeVere Taylor,	Stearns "	"
William John Warren,	Rice "	"
Walter Barrett,	Dodge "	1879.
Fred Capin Bowman,	Meeker "	"
Catherine Amelia Burnes,	Hennepin "	"
Timothy Edward Byrnes,	Meeker "	"
Evelyn May Champlin,	Hennepin "	"
Addison Gage, Jr.,	Anoka "	"
Allen Jay Greer,	Wabasha "	"
Laura Alberta Linton,	" "	"
George Henry Partridge,	Winona "	"
Etta Thompson,	Hennepin "	"
Frederic Geraid Berry,	" "	1880.
Horace Burnham Greeley,	Blue Earth "	"
Clarence Luther Herrick,	Hennepin "	"
Robert Peter Andrew Nix,	Brown "	"
Minnie Aurora Reynolds,	Clay "	"
Alva Lucius Roe,	Washington "	"
Gilman Walter Smith,	Goodhue "	"
Harvey Page Smith,	" "	"
Lillian Sanborn Todd,	Hennepin "	"

BACHELORS IN LITERATURE, 16.

Helen Mar Ely,	Winona County,	1875.
Matilda Jane Campbell,	Maine,	1877.
Viola Fuller,	Mower "	"
Charlotte Adelaide Rollit,	Hennepin "	"
Mary Anna Maes,	Steele "	1878.

George Albert Wood,	Fillmore	"	1878.
William Lincoln Bassett,	Hennepin	"	1879.
Alvin Hildreth,	Freeborn	"	"
William Winchester Keysor,	Blue Earth	"	"
Marion Hooker Roe,	Washington	"	"
Caroline Rollit,	Hennepin	"	"
Martha Isabel West,	"	"	"
Andrew Holt,	Carver	"	1880.
Joseph Elisha Horton,	Fillmore	"	"
Lizzie Augusta House,	Hennepin	"	"
Bessie Sumner Lawrence,	"	"	"

BACHELORS IN CIVIL ENGINEERING, 8.

Henry Clay Leonard,	Fillmore County,		1875.
Samuel Addison Rank,	"	"	"
Clark Stewart,	Hennepin	"	"
Lewis Singer Gillette,	Michigan,		1876.
Eugene Alvin Hendrickson,	Ramsey	"	"
Charles Edward Thayer,	Hennepin	"	"
William Sanborn Dawley,	Wabasha	"	1879.
Pierce Power Furber,	Washington	"	"

BACHELOR IN MECHANICAL ENGINEERING.

Charles Spencer Bushnell,	Hennepin County,	1878.

BACHELOR IN ARCHITECTURE.

Walter Stone Pardee,	Hennepin County,	1877.

STUDENTS.

ALPHABETICAL ROLL, 1880-81.

The Classes of the Collegiate Department are indicated as heretofore:
SOPHOMORE, I.; FRESHMEN, II.; SUB-FRESHMEN, III.

Abbott, Howard Strickland,	Rockford.	III. Modern.
Adams, Elmer Ellsworth,	Morrisville, Vt.	II. Classical.
Aiton, George Briggs.	St. Peter.	Sen. Classical.
Alden, Jennie Marcia,	Minneapolis.	III. Modern.
Alexander, Mary Ellen,	"	III. Scientific.
Allen, Emma Frances,	Hamilton.	I. Modern.
Anderson, John,	Collinwood.	II. Scientific.
Anderson, Samuel Gilmore,	Eden Prairie.	Sen. Classical.
Atherton, Charles Oscar,	Kasson.	III. Modern.
Ayer, Edward,	Rochester.	III. Scientific.
Backus, Edward,	Red Wing.	III. Scientific.
Backus, George Joseph,	"	Jun. Scientific.
Baker, Nathan Morton, Jr.,	St. Peter.	II. Scientific.
Baldwin, Albert Melancthon,	Tower City, D. T.	II. Modern.
Baldwin, Edward Payson,	"	I. Classical.
Baldwin, Otway Wilkinson,	Clear Lake.	Sen. Classical.

Bardwell, Fred Lesle,	Minneapolis.	Sen. Scientific.
Barr, John Henry,	Mankato.	II. Scientific.
Barrett, William Johnson,	Wasioja.	Jun. Scientific.
Barton, Frank,	St. Paul.	III. Classical.
Baxter, William,	Minneapolis.	Special.
Bell, Robert Mowry,	Sauk Center.	II. Scientific.
Benton, Harrietta Loanza,	Minneapolis.	Special.
Bertolet, Mary Denton,	"	Special.
Bjoersell, Charles August,	"	Special.
Boardman, William Burrell,	Calais, Me.	II. Classical.
Bondurant, Ripley Cartwright,	Alexandria.	III. Scientific.
Bonfoy, Anna Helen,	Minneapolis.	II. Modern.
Bonniwell, Agnes Virginia,	Hutchinson.	Special.
Bonniwell, Harlow Horace,	"	Sen. Modern.
Bowen, Clarence,	Litchfield.	Special.
*Bowman, George Paris,	Minneapolis Tp.	III. Classical.
Bradford, Belle Marion,	Empire.	II. Modern.
Braley, John Marion,	Hiawatha, Ks.	III. Classical.
Bray, Newton James,	Norwood.	II. Scientific.
*Brooks, Adin Pease,	Minneapolis.	Sen. Classical.
Brooks, Anna Eliza,	"	III. Classical.
Brooks, David Denslow,	"	I. Classical.
Brooks, Olive Emma,	"	I. Classical.
Broughton, Herbert John,	"	Sen. Scientific.
Brown, Bertha Winnie,	Richfield.	III. Scientific.
Bryant, William Cullen,	St. Peter.	Sen. Classical.
Buckley, Edmund,	Birmingham, E.	II. Classical.

Bullis, Charles Henry,	Decorah, Iowa.	II. Modern.
Burnes, Diana,	Minnetonka.	Sen. Scientific.
Burrill, Nettie Ellen,	Champlin.	II. Modern.
Butler, Patrick Joseph,	Minneapolis.	II. Classical.
Cady, Louise Anne,	Blue Earth City.	Special.
Camp, Addie Louise,	Minneapolis.	Special.
Campbell, Margaret Agnes,	Nova Scotia.	Sen. Modern.
Carpenter, Cecil Frederic,	Farmington.	III. Scientific.
Catherwood, Samuel Doak,	Austin.	Special.
Chamberlain, Leon Treat,	Hastings.	II. Scientific.
Chambers, William Henry,	Bloomington.	Special.
Chowen, Herbert Oscar,	Minneapolis.	Sen. Classical.
Christofferson, Charles,	"	Special.
Clark, Wyckoff William,	Mankato.	Jun. Scientific.
Clarke, Frederic Henry,	Boston, Mass.	I. Scientific.
Coe, Virginia Ecclesia,	Minneapolis.	III. Modern.
Cooney, Thomas,	Gr'd Forks, D.T.	III. Scientific.
Corser, Mary Elwood,	Minneapolis.	Special.
Crafts, Lettie May,	"	Sen. Modern.
Cullen, John,	"	Special.
Curtis, Grace Webster,	Decorah, Iowa.	Jun. Modern.
Dailey, Margaret Evans,	Owatonna.	III. Modern.
Dawley, Lillian Edna,	Lake City.	Special.
Demmon, Alice Elizabeth,	Minneapolis.	Jun. Scientific.
Dickerman, Arthur Edwin,	Decorah, Iowa.	Jun. Modern.
Donohue, Jeremiah Ignatius,	Pilot Mound.	II. Scientific.
Doten, Albert Edward,	Kedron.	II. Classical.

Douglas, Hannah M.,	Dodge Center.	Special.
Elwell, Mary Whitmore,	Cottage Grove.	II. Scientific.
Faddis, William Isaac,	St. Paul.	Special.
Falvey, John Guinea,	Minneapolis.	III. Scientific.
Fay, William Eastman,	"	I. Classical.
Firkins, Oscar,	"	II. Classical.
Fitzgerald, Patrick Thomas,	Donnelly.	II. Scientific.
Fleming, Calvin Albert,	Garden City.	II. Modern.
Fletcher, Carrie Delania,	Mankato.	Jun. Scientific.
Flittie, John,	Caledonia, D. T.	Special.
Folwell, Mary Heywood,	Minneapolis.	III. Scientific.
Foster, Fred Hascal,	"	Jun. Classical.
Gale, Edward Chenery,	"	I. Classical.
Gallagher, Catherine Louisa,	"	III. Modern.
Gaylord, Edson Starr,	"	I. Classical.
Gould, James Bennett,	Eden Prairie.	Jun. Classical.
Gray, James,	Dubuque, Ia.	III. Scientific.
Green, Frank Robert,	Clinton Falls.	III. Modern.
Greenwood, Curtis Langdon,	Rochester.	III. Scientific.
Grethen, Otto,	Chaska.	III. Classical.
Grimes, Emma Elizabeth,	Minneapolis Tp.	Sen. Modern.
Grimes, George Sutherland,	" "	Sen. Scientific.
Hall, Alberton Heath,	Minneapolis.	I. Classical.
Hall, Charles Wilson,	Litchfield.	III. Classical.
Hall, Clara,	Minneapolis.	Special.
Ham, Frank Wells,	"	II. Classical.
Hanscom, Oscar Melville,	Richfield.	III. Scientific.

Harrington, Martha Addie,	Hutchinson.	Special.
Harrington, Wm. Edmund,	"	Sen. Modern.
Hayes, Emma Louise,	Minneapolis.	II. Modern.
Healy, Frank,	Preston.	Jun. Classical.
Healy, Peter Joseph,	Fountain.	II. Modern.
Heath, Addie Maria,	Lincoln.	II. Scientific.
Hendrickson, Emma Laura,	St. Paul.	Jun. Modern.
Hendrickson, George Lorenzo,	"	II. Scientific.
Henry, Marie Louise,	Minneapolis.	Jun. Modern.
Hessian, John,	St. Peter.	II. Scientific.
Hill, Frank Davis,	Pine Island.	II. Classical.
Hill, Frank Willard,	Minneapolis.	III. Scientific.
Hilyer, Andrew Franklin,	"	Jun. Classical.
Hinds, William,	Shakopee.	II. Scientific.
Hoage, William Ricketson,	Rochester.	I. Scientific.
Holbrook, Frank Wayland,	Le Sueur.	III. Scientific.
Hollister, Louise Elma,	Marshfield.	I. Scientific.
Holt, Arthur Graves,	Chatfield.	III. Scientific.
Holt, Carrie Warner,	"	Jun. Classical.
Holt, Lydia Rossiter,	"	Jun. Classical.
Holt, Mary Eliza,	"	I. Modern.
Hough, Emily Louise,	Minneapolis.	Sen. Classical.
Hughes, Mary Nancy,	"	Jun. Modern.
Hughes, William Franklin,	Butternut Val'y.	III. Modern.
Hutchinson, Joseph Henry,	Hastings.	II. Classical.
Irving, Mary Eliza,	Owatonna.	III. Modern.
Jefferson, Annie Harriet,	Minneapolis.	I. Modern.

Jennison, James,	Red Wing.	Sen. Scientific.
Johnson, Anthony,	Newburg.	II. Classical.
Johnson, Frank Amos,	Marshall.	I. Scientific.
Johnson, Richard Hartwell,	St. Charles.	I. Modern.
Jones, David Percy,	Minneapolis.	I. Classical.
Jones, Edward Corydon,	"	I. Scientific.
Jones, Richard Saxe,	Rochester.	I. Scientific.
Jones, William Hugh,	Mankato.	II. Classical.
Juni, Benedict,	Milford.	Special.
Kennedy, Joseph,	Oshawa.	I. Scientific.
Kennedy, Kate Louise,	Minneapolis.	I. Modern.
Kennedy, Mary,	"	Special.
Kennedy, Patrick,	Oshawa.	Special.
Kent, Charles Edward,	Toledo, Ohio.	Sen. Classical.
Kilbourne, Louise Lillian,	Minneapolis.	I. Modern.
King, Cyrus Murdock,	Howard Lake.	III. Classical.
King, James Charles Elliot,	Otsego.	II. Classical.
King, Royal Fairfield,	Fargo, D. T.	II. Classical.
King, William Leslie,	Garden City.	Sen. Classical.
Kingsbury, Adalyna,	Cassopolis, Mich.	III. Modern.
Klepper, George Horace,	Crookston.	II. Scientific.
Knox, Frances Ada,	Garden City.	Sen. Classical.
Kuhlman, Etna,	New Ulm.	II. Scientific.
Lang, Henry David,	St. Paul.	I. Modern.
Lang, William Anthony,	"	I. Modern.
Larson, Eli,	Bratsburg.	II. Classical.
Lavik, Johannes,	Minneapolis.	Special.

Lawrence, Annie Laurie,	Minneapolis.	II. Modern.
Laythe, Bessie,	Chatfield.	II. Scientific.
Leavens, Frank Nichols,	Faribault.	Jun. Classical.
Leonard, Anna Jane,	Washington.	II. Scientific.
Lewis, George John,	Butte City, M. T.	II. Scientific.
Lewis, George Winthrop,	Red Wing.	II. Classical.
Lewis, John Robert,	Bristol.	III. Classical.
Lewis, Thomas Henry,	Lime Springs, Ia.	III. Classical.
Linton, Sarah Virginia,	Cook's Valley.	II. Modern.
Linton, William Beans,	"	Jun. Scientific.
Locke, Cassius Marcius,	Minnetonka.	I. Scientific.
Locke, David Albert,	"	Sen. Scientific.
Locke, Joseph Henry,	St. Cloud.	I. Classical.
Locke, Samuel Allen,	Minnetonka.	Sen. Scientific.
Loy, George John,	Chaska.	II. Scientific.
McCoy, Frank Wilber,	Zumbrota.	II. Scientific.
McKusick, Chester,	Stillwater.	III. Scientific.
McMillan, Emily Dana,	Minneapolis.	I. Modern.
McNair, Sarah Pierrepont,	"	I. Modern.
McQuivey, Francis M. D.,	"	III. Scientific.
Maes, Emma Ernestine,	"	Sen. Modern.
Maes, Mary Anna, B. L., '78,	"	Graduate.
Manchester, James Eugene,	Blooming Pra'e.	III. Scientific.
Manchester, Margaret Smith,	"	Special.
Marston, Anna Calista,	Minneapolis.	I. Modern.
Masters, George,	Tracy.	III. Scientific.
Mathes, Edwin Howard,	Okaman.	II. Scientific.

Matthews, Irving Webber,	Luverne.	II. Scientific.
Mattson, Nanny Adelia,	Minneapolis.	Special.
Merrill, Mary Frances,	"	I. Scientific.
Miars, Ada Susan,	Champlin.	III. Modern.
Monasch, Leo,	Minneapolis.	II. Scientific.
Montgomery, Frank Hugh,	St. Cloud.	Special.
Moore, Laura Belle,	Minneapolis.	I. Modern.
Morris, Evan,	Custer, D. T.,	II. Classical.
Morris, Thomas,	" "	I. Classical.
Mott, Millie,	Faribault.	Special.
Moulton, Amelia Christiana,	Monticello, Ia.	II. Scientific.
Moulton, Charles William,	Cleveland, Ohio.	III. Classical.
Nachtrieb, Henry Francis,	Minneapolis.	I. Scientific.
Nunn, Alexander Hamilton,	Claremont.	I. Classical.
Nunn, Janet,	"	I. Modern.
Oestlund, Oscar Wilhelm,	Moline, Ill.	Special.
Olmsted, Gertrude Clara,	Duluth.	I. Modern.
Otis, Ira Clinton,	St. Paul.	III. Classical.
Paden, Joseph Everett,	Litchfield, Ill.	III. Scientific.
Paine, Asa,	Minneapolis.	III. Scientific.
Palmer, Sarah Ellen,	Shell Rock.	Sen. Scientific.
Pearce, Jessie Inez,	Minneapolis.	Special.
Perkins, Augusta Maria,	"	II. Modern.
Peters, William George,	"	I. Scientific.
Peterson, Albertine Virginia,	"	II. Scientific.
Pettijohn, Lawrence Walter,	Shakopee.	Special.
Pettit, Louis Williams,	Minneapolis.	III. Scientific.

Phillips, Bradley, Jr.,	Hudson, Wis.	Sen. Modern.
Pickett, Eli Milton Skiff,	Albert Lea.	I. Classical.
Pierce, Helen Louise,	Minneapolis.	I. Classical.
Pillsbury, Addie Eva,	"	Jun. Modern.
Pillsbury, Susan May,	"	III. Modern.
Pomeroy, John William, Jr.,	"	II. Scientific.
Prosser, Rasselas Hamlin,	Spring Valley.	Jun. Scientific.
Radcliffe, Joseph Frederick,	Minneapolis.	II. Scientific.
Reed, Albert Irving,	Hastings.	I. Scientific.
Relf, Henry Clark,	Superior, Wis.	III. Classical.
Reynolds, Fred,	Crookston.	Jun. Modern.
Rhame, Edward Davison,	Rockaway, N. Y.	I. Scientific.
Roberts, Thomas Sadler,	Minneapolis.	Jun. Scientific.
Robinson, Garland Greene,	Kingston.	Special.
Rogers, William Francis,	Minneapolis.	Special.
Rollins, Clara,	"	Special.
Rollit, Sarah Alice Sophia,	"	Special.
Rowell, Henry H. Sibley,	"	I. Scientific.
Rowley, Loron Thomas,	Oakland.	II. Classical.
Rowley, Quintin John,	"	Sen. Classical.
Sabin, Esther Augusta,	Monticello.	II. Scientific.
Saettre, T. A.,	Vasa.	Special.
Salisbury, George Nelson,	Faribault.	I. Scientific.
Sargeant, Winthrop Webster,	Lake City.	III. Classical.
Savidge, William Hines,	Cleveland.	Sen. Scientific.
Sawyer, Nettie,	Chatfield.	II. Classical.
Schmidt, Charles Christian,	Eyota.	I. Scientific.

Sewall, Hannah Robie,	St. Paul.	II. Classical.
Sewall, Susan Winifred,	"	II. Classical.
Sheldon, Frank Stewart,	Excelsior.	II. Classical.
Sheldon, Martha Alma,	"	I. Classical.
Shenton, Willard Henry,	Dubuque, Iowa.	I. Modern.
Shumway, Edgar Edmund,	Caledonia.	II. Scientific.
Shumway, Herbert Paine,	"	Jun. Scientific.
Sidener, Charles Frederick,	Red Wing.	Special.
Smith, Frederick Addison,	St. Paul.	Special.
Smith, Fred Wallace,	Minneapolis.	III. Classical.
Smith, Harriet Isabel,	"	I. Modern.
Smith, Louis Orville,	Le Sueur.	I. Scientific.
Snyder, Fred Beal,	Minneapolis.	Sen. Classical.
Stevens, Frederick Augustus,	St. Paul.	I. Classical.
Strong, Harry Amy,	Decorah, Iowa.	Jun. Modern.
Townsend, Samuel Denton,	Pine Island.	II. Classical.
Trussell, Emma Frances,	Champlin.	I. Modern.
Trussell, Sumner Lincoln,	"	I. Classical.
Trussell, Thomas Ezekiel,	"	III. Modern.
Van Cleve, Carl Ernest,	Minneapolis.	Special.
Van der Horck, Max,	Ft. Sisseton, D.T.	III. Classical.
Van Dooser, Emma Vilana,	Rochester.	III. Modern.
Van Norman, Whiting Pinney,	Minneapolis.	II. Classical.
Vaughn, Zenas Newton,	Austin.	II. Classical.
Ware, Emma Jane,	Brownsdale.	I. Scientific.
Way, Charles Milden,	Blue Earth City.	III. Scientific.
Webster, Charles Myron,	Red Wing.	Jun. Classical.

West, Samuel Albert,	Bellefontaine, O.	III. Modern.
Whitney, Edward D. Neill,	Minneapolis.	I. Scientific.
Wilcox, Francis Burgess,	"	III. Scientific.
Willson, Charles R.,	Rochester.	III. Classical.
Williams, Lilla Ruth,	Brooklyn.	Sen. Scientific.
Wilson, Edith Belle,	Minneapolis.	II. Modern.
Wilson, Jesse Craig,	Dundas.	Jun. Classical.
Winterer, Herman,	Le Sueur.	II. Scientific.
Woodmansee, Blanche,	St. Paul.	I. Modern.
Woodmansee, Chas. Comstock,	"	III. Scientific.
Wright, Vernon Ames,	Minneapolis.	II. Scientific.
Zwinggi, Emma,	St. Peter.	II. Scientific.

SUMMARY—1880-81.

College or Department.	Class.	Gentlemen	Ladies.	Totals.
Science, Literature and Arts,	Graduate,	..	1	1
	Senior,	20	9	29
	Junior,	17	9	26 — 56
Collegiate Department,	I,	33	20	53
	II,	49	19	68 — 121
	III,	43	13	56 — 56
	Special,	21	17	38 — 38
Totals,		183	88	271

Or by Classes Only,

Seniors—of all Departments,	29
Juniors—of all Departments,	26
Sophomores—Collegiate Department,	53
Freshmen— " "	68—176
Sub-Freshmen— " "	56— 56
Special,	39— 39
Total	271

THE UNIVERSITY.

HISTORICAL.

In the act creating the Territory of Minnesota, approved March 2d, 1849, the Congress of the United States granted two townships of public lands for the endowment of a university. By an act approved February 19th, 1851, two additional townships were granted for the same purpose.

In anticipation of this additional grant the Territorial Legislature of 1851, on the 13th day of February, passed an act providing for the establishment of "an institution under the name and style of

"THE UNIVERSITY OF MINNESOTA,"

and for its location "at or near the Falls of St. Anthony."

The State Constitution, adopted by the people on the 13th day of October, 1857, confirmed the previous action, as follows:

"The location of the University of Minnesota, as established "by existing laws, is hereby confirmed, and said institution is "hereby declared to be THE UNIVERSITY of the STATE OF "MINNESOTA. All the rights, immunities, franchises and "endowments heretofore granted or conferred, are hereby per- "petuated unto the said University; and all lands which may "be granted hereafter by Congress, or other donations for said "University purposes, shall vest in the institution referred to "in this section."—*Constitution, Article VII., Section 4.*

The present site had already been acquired and a wing of a building, ample and even magnificent in plan, was erected in 1857. The financial revulsion of 1857–8 checked the progress of the enterprise and left the institution heavily encumbered.

The war of the rebellion supervening, the efforts of the officials in charge for its revival proved futile.

In 1864 the Legislature appointed a special commission, composed of Hon. John S. Pillsbury, Hon. John Nichols and Hon. O. C. Merriman, to liquidate the accumulated indebtedness, by selling a portion of the public lands. About fourteen thousand acres were disposed of, and at the end of 1867 all debts and obligations were reported as discharged.

THE UNIVERSITY practically dates its organization from the law of the State approved February 18th, 1868, entitled "An Act to reorganize the University of Minnesota, and to establish an Agricultural College therein." This act, as modified in some details by an act approved March 4th, 1872, may be found printed in full in the Calendar for the University year 1874–5. (See also General Statutes of Minnesota, 1878, Chapter 37) The acts referred to may be said to constitute the CHARTER of the University.

The seventh section, placing the income to be derived by the State from the so-called "Agricultural College" land grant at the disposal of the Board of Regents, imposes upon them, by obvious implication, the duty of carrying out the provisions of the act of Congress making that grant, referred to in said section. This act forms Chapter CXXX of the laws of the United States, 1862, and is entitled "An Act donating public lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts." The full text may be found in the Calendar for 1874–5.

A preparatory department was opened in October, 1867. In 1869 the first faculty, consisting of a president and eight professors, was formed and the first college class was organized. The first annual commencement was held June 19th, 1873.

GENERAL PLAN.

Under the organic law the Board of Regents are authorized to establish any desired number of departments or colleges, the following, however, being specified:

"A DEPARTMENT OF ELEMENTARY INSTRUCTION;

"A DEPARTMENT OF SCIENCE, LITERATURE AND THE ARTS;

"A COLLEGE OF AGRICULTURE;

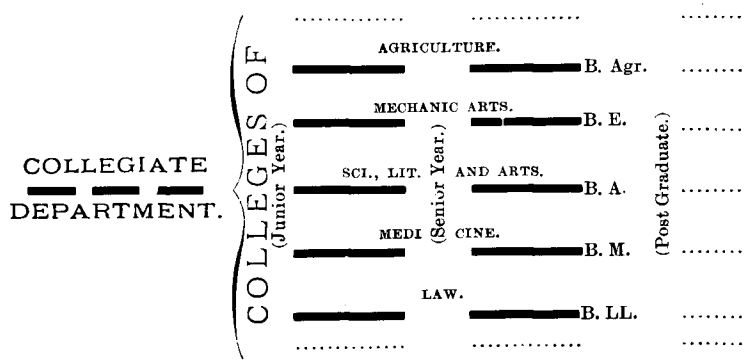
"A COLLEGE OF MECHANIC ARTS;

"A COLLEGE OR DEPARTMENT OF MEDICINE;

"A COLLEGE OR DEPARTMENT OF LAW."

The Colleges of Law and Medicine have not yet been organized.

The relative position of these colleges or departments is illustrated by the following diagram:



The Department of Elementary Instruction, otherwise designated, by virtue of a by-law of the Board of Regents,

"THE COLLEGIATE DEPARTMENT,"

is introductory to the permanent colleges of the University. It includes, together with the work of the freshman and sophomore classes of the ordinary college courses, the remainder of the old Preparatory Department, so long as any may be retained. In common with the colleges and universities of the newer States, the institution has been obliged to carry a large amount of preparatory work. Two years of such work having been already dropped, the sub-freshman now remains as the lowest class.

This arrangement of departments emphasizes and formulates the growing tendency and custom of American colleges and universities to make the close of the second or sophomore year a branching point for the introduction of optional studies, and for certain professional or technical courses. It pre-supposes a separation of the secondary and superior epochs of education, and a corresponding assortment of studies. The high schools and other "fitting schools" of the State are thus invited to extend their work substantially up to the junior year. When at length this shall have been generally done, the University will, as provided by law, dispense with the whole of the Department of Elementary Instruction, and will extend her work on post-graduate ground.

The general plan of the University contemplates a group or federation of distinct colleges, having each its own organization, faculty, buildings and equipment. Among the advantages claimed for this general plan may be named the following:

1. A faithful adherence to the letter and spirit of the laws, State and National, which have established and endowed the

University, and which contemplate it as a federation of literary, professional and industrial colleges.

2. That, while offering the old college curriculum and discipline in their best forms to the literary and professional classes, the University will provide for the industrial classes that "liberal and practical education" required by law and public sentiment.

3. The separation of the natural epochs of secondary and superior education, and the ultimate liberation of the University from the elementary work of the former: and coinciding with this division, an advantageous assortment of studies, methods and discipline suitable to the two periods respectively.

4. A close and vital articulation of the University with the public school system of the State.

5. The elevation of the high schools by enlarging the recognized sphere of their instruction.

6. The elevation of the professional schools by requiring of candidates for degrees a good general education as a prerequisite for admission, while not insisting upon the impossible condition that all shall have gone over the whole of the old college course.

7. The elevation in particular of the Colleges of Agriculture and Mechanic Arts to equal rank and standing with other university courses, and the separation of the studies and exercises properly belonging to them, from the elementary branches taught in primary and secondary schools; which branches it is not the business of COLLEGES to teach.

8. Great freedom in the arrangement of details to suit varying conditions, the main plan remaining unchanged.

To put the above plan of organization into effect, the Board of Regents have from time to time enacted such by-laws as seemed to be necessary. See Calendars for 1874-5 and 1876-7, Appendix.

INSTRUCTION.

GENERAL REGULATIONS.

1. The University is open, free of all charges for instruction, upon equal terms to all persons over fourteen years of age, whether residents of the State or not, who may pass the required scholastic tests and examinations, except such as may be excluded by the following resolution of the Board of Regents, adopted May 10th, 1876:

"*Resolved*, That in order to encourage preparatory work in the high schools and academies of the State, and co-operation by them with the University, *no applicant shall be admitted to the Collegiate Department, to pursue the studies of any regular class or course, who is entitled to receive and can actually receive the same instruction, in substance, in the public schools of the school district in which he legally resides.*"

2. The requirements for admission to the Collegiate Department, which is the usual avenue to the advanced courses and colleges, are stated under the head of that department.

3. Applicants for admission to the advanced or university courses proper, as candidates for degrees, are further examined in all the studies of the appropriate courses of the Collegiate Department.

4. The Faculties occasionally exercise the power of waiving the ordinary examinations in the cases of applicants of advanced age who desire instruction in special studies. These applicants must, however, submit to such tests as may be necessary to enable the professors concerned to decide whether they are competent to receive the desired instruction. There is no "special course" of study which applicants may choose upon their own

motion. Students are only allowed to *select their studies*, when in the judgment of the faculty concerned there is special reason for their so doing.

5. The University year, beginning on the Tuesday next before the 15th day of September, embraces thirty-eight weeks exclusive of recesses, and is divided into three terms. The first term has thirteen weeks, the second twelve, and the third thirteen weeks.

6. As a general rule each student, in whatever department, has three recitations or lectures a day for five days in the week, besides rhetorical, military and other exercises.

7. Students of any department or college may elect studies of another department, under the direction of the faculties and professors.

8. Elective studies, to count on standing, must, as a general rule, be chosen from corresponding years and terms.

9. Except as otherwise ordered by the Board of Regents, the recitations and exercises of the various colleges or departments are conducted according to consolidated programmes, adopted from time to time by the General Faculty.

10. The term programmes are arranged according to the wants of the regular students. Special students must select (in equivalent amounts) from the studies thus laid down.

11. Students in different courses are united in recitations whenever convenient.

12. The merit of students, as regards scholarship, is determined, in the Collegiate Department, by means of recitations and examinations; in the Colleges of the University by means of examinations only. The examinations* are habitually conducted in writing.

*The examination questions being commonly written on the blackboard after the assembling of the classes, cannot be furnished to applicants.

COURSES OF STUDY AND DEGREES.

ACADEMICAL.

I. The COLLEGIATE DEPARTMENT offers three courses of study, called Classical, Scientific and Modern. The Classical Course has for its leading studies the Greek and Latin languages. The Scientific Course is characterized by a succession of elementary natural sciences. The Modern Course is distinguished by the prominence given to the modern languages. Students choose their courses at time of entrance, and do not change them except as allowed by vote of the General Faculty.

At the close of his course in this department each student has his option whether to enter at once, with a fair preparation, one of the professional colleges, or to proceed with higher academical studies in the College of Science, Literature and the Arts.

No degrees are offered in this Collegiate Department.

II. The COLLEGE OF SCIENCE, LITERATURE AND THE ARTS presents likewise three courses of study:

1. A COURSE IN ARTS;
2. A COURSE IN SCIENCE;
3. A COURSE IN LITERATURE.

These lead, respectively, to the degrees of BACHELOR OF ARTS, BACHELOR OF SCIENCE, BACHELOR OF LITERATURE.

MASTERS' DEGREES in Science, Literature and Arts are conferred on all bachelors of this or of any reputable college or university who, not sooner than two years after graduation, pass an examination on some prescribed line of classical, scientific or literary studies, and present a satisfactory thesis.

The following regulations are now in force:

Candidates are required to present their applications on the proper blank, stating the particular degree desired, and the several subjects selected by them on which to be examined. After

the approval of the applications by the Faculty of the College, no changes nor departures can be permitted. Graduates of other colleges or universities will exhibit their diplomas on filing their applications.

REQUISITES FOR THE MASTERS' DEGREES.

Master of Arts.

1. A satisfactory examination,

(*a*) upon two classical authors, [Latin and Greek];

(*b*) upon any three distinct subjects selected from the following branches:

1. Mathematics, pure or applied.
2. Science, natural or physical.
3. Philosophy.
4. Political Science.
5. History.
6. Modern Languages (English included).
7. Philology.

2. A thesis on a classical subject.

Master of Science.

1. A satisfactory examination,

(*a*) upon two distinct branches of natural or physical science;

(*b*) upon any three distinct subjects selected from the following branches:

1. Mathematics, pure or applied.
2. Science (theoretical).
3. Philosophy.
4. Political science.
5. History.
6. A language, ancient or modern.
7. Philology.

2. A thesis on a scientific subject.

Master of Literature.

1. A satisfactory examination,

(*a*) upon two modern authors, [German or French.]

(*b*) upon any three distinct subjects selected from the following branches:

1. Mathematics, pure or applied.
2. Science, natural or physical.
3. Philosophy.
4. Political Science.
5. History.
6. A language, ancient or modern.
7. Philology.

2. A thesis on a literary subject.

PROFESSIONAL.

I. The College of Agriculture offers an advanced or university course, based on the Scientific Course of the Collegiate

Department, leading to the degree of BACHELOR OF AGRICULTURE. For the other courses in Agriculture, see College of Agriculture, *infra*.

II. The COLLEGE OF MECHANIC ARTS offers three advanced or university courses, based on the Scientific Course of the Collegiate Department, which lead to appropriate baccalaureate degrees:

1. A COURSE IN CIVIL ENGINEERING;
2. A COURSE IN MECHANICAL ENGINEERING:
3. A COURSE IN ARCHITECTURE.

The degrees of CIVIL ENGINEER, MECHANICAL ENGINEER and ARCHITECT, will be conferred upon Bachelors of Civil Engineering, Mechanical Engineering and Architecture, respectively, of this or of any reputable college or university, who shall, upon examination, to be held not sooner than two years after attaining a first degree, show special proficiency in some branch of professional study, and shall present a satisfactory thesis.

The following rules are now in force:

Candidates are required to present their applications on the proper blank, stating the particular degree desired, and the several subjects selected by them on which to be examined. After the approval of the application by the Faculty of the College no changes nor departures can be permitted. Graduates of other colleges or universities will exhibit their diplomas on filing their applications.

REQUISITES FOR THE SECOND DEGREE.

CIVIL ENGINEER.

1. A satisfactory examination,

(*a*) upon some subject in Civil Engineering;

(*b*) upon any three distinct subjects selected from the following branches:

1. Mathematics, pure or applied.
2. Science, natural or physical.
3. Philosophy.
4. Political Science.
5. History.
6. A language, ancient or modern.
7. Philology.

2. A design of some structure in Civil Engineering.
3. A thesis on a subject in Civil Engineering.

MECHANICAL ENGINEER.

1. A satisfactory examination,

(*a*) upon a subject in Mechanical Engineering;

(*b*) upon any three distinct subjects selected from the following branches:

1. Mathematics, pure or applied.
2. Science, natural or physical.
3. Philosophy.
4. Political Science.
5. History.
6. A language, ancient or modern.
7. Philology.

2. A design in Mechanical Engineering.
3. A thesis on a subject in Mechanical Engineering.

ARCHITECT.

1. A satisfactory examination.

(*a*) upon a subject in architecture:

(*b*) upon any three distinct subjects selected from the following branches:

1. Mathematics, pure or applied.
2. Science, natural or physical.
3. Philosophy.
4. Political Science.
5. History.
6. A language, ancient or modern.
7. Philology.

2. A design in Architecture.
3. A thesis on a subject in Architecture.

No honorary degrees are conferred by this University.

The detailed schedules of the courses of study in the various Colleges or Departments will be found under the appropriate titles.

PROFESSORSHIPS.

The following is the scheme of DEPARTMENTS OF INSTRUCTION at large, for the various colleges or departments of the University, authorized by the Board of Regents:

I. ACADEMIC OR GENERAL.	*Associated Subjects.*
1. Mathematics.	Astronomy.
2. Chemistry.	
3. Physics.	
4. Botany.	

5. Zoology.	Biology.
6. Geology.	Mineralogy.
7. English Language and Literature.	Rhetoric.
8. German Language and Literature.	
9. French Language and Literature.	
10. Latin Language and Literature.	Roman History and Antiquities.
11. Greek Language and Literature.	Greek History and Antiquities.
12. Mental and Moral Philosophy.	History of Philosophy, Logic.
13. History.	
14. Political Economy.	International Law, History of Civilization, Comparative Philology.
15. Elocution and Vocal Culture.	
16. Public Health.	
17. Industrial Drawing.	Descriptive Geometry.
18. Fine Arts.	Æsthetics.
II. PROFESSIONAL.	*Associated Subjects.*
19. Theory and Practice of Agriculture.	Horticulture and Arboriculture, Veterinary Science, Stock-breeding, etc.
20. Civil Engineering.	
21. Mechanical Engineering.	
22. Architecture.	
23. Military Science.	Gymnastics.
24. Education.	
25. Business.	
26. Music.	

The following consolidations and assignments are now in force :

1. Physics is attached to the department of Mechanical Engineering.

2. Botany, Zoology and Biology are in charge of the Professor of Geology.

3. History is attached to the department of Mental and Moral Philosophy.

4. Elocution and Vocal Culture are in charge of the Professor of English.

5. Public Health is in charge of the Secretary of the State Board of Health.

6. Industrial Drawing and Descriptive Geometry are in charge of the Professor of Mechanical Engineering.

7. No instruction is offered in Fine Arts or Business.

8. Civil Engineering and Architecture are attached to the department of Mechanical Engineering.

9. In the department of Education an annual course of lectures on the Theory and Practice of Teaching is given.

10. Instruction in Vocal Music is offered once a week.

The following statements, by the several professors now in charge, show the nature and scope of the work in the various departments. These statements should be carefully examined by students and applicants in connection with the courses of study as tabulated further on :

I. MATHEMATICS.

PROFESSOR DOWNEY.

Mathematics, on account of its wide application in practical affairs, as well as its great value in cultivating accuracy of statement, logical reasoning, and habits of close mental application, occupies a prominent place in all the courses of study.

Admission to the Sub-Freshman Class requires a good knowledge of Arithmetic, Elementary Algebra, and Plane Geometry. Admission to the Freshman Class requires, in addition to these, Solid Geometry and Higher Algebra to Quadratic Equations.

The branches are the same for all courses until the end of the Sophomore year, and, beginning with the Sub-Freshman year, consist of Solid Geometry, Higher Algebra, Plane and Spherical Trigonometry, and Conic Sections.

The aim is so to direct the work of this elementary course as to prepare the student to enter successfully upon the study of the Higher Mathematics, and upon the applications of Mathematics in Mechanics, Astronomy, Surveying, and Engineering.

In Geometry the student is required to furnish demonstrations for many theorems not demonstrated in the text-book, and to solve practical problems dependent upon geometrical principles.

The Sub-Freshman work in Higher Algebra embraces Factoring, Highest Common Divisor, Lowest Common Multiple, Fractions, Involution, Evolution, Radicals, Simple Equations, Proportion, Progression, and Variation. The Freshman work in Higher Algebra embraces Quadratic Equations, Inequalities, Differentiation of Algebraic and Logarithmic Functions, Development of Functions (by the Binomial Formula, Indeterminate Co-efficients, and Taylor's Formula), Logarithms, and Higher Equations (including Sturm's Theorem and Horner's Method of Approximation).

The student is impressed with the importance of Trigonometry by having his attention called to its numerous elegant applications, and is made familiar with its methods and the use of its tables by being required to solve a large number of practical problems.

General (or Co-ordinate) Geometry is studied the first term with special reference to the Conic Sections, and the effort is to dwell upon such features as will make the work valuable to all, whether they pursue the study farther or not, and prepare them to understand the treatment of these curves in the subsequent course in Astronomy.

The remaining Mathematics, General Geometry, Differential Calculus and Integral Calculus, are required in the courses of Civil Engineering, Mechanical Engineering, and Architecture, and elective in the other courses.

General Geometry is studied during a second term with reference, not only to the Conic Sections, but to loci generated according to any law. Much attention is given to producing equations of loci whose law of development is known, and to constructing and discussing such equations. The Conic Sections are still farther treated, both by rectilinear and polar co-ordinates. After acquiring facility in the transformation of co-ordinates, the student investigates the properties of plane loci by means of their equations.

In Calculus the text-book used is based on the infinitesimal method; but the fluxionary method is given orally, and the system fully developed. One term is given to the Differential Calculus and its applications in the development of functions, testing functions for maxima and minima, and treating of tangents, sub-tangents, normals, sub-normals, direction and rate of curvature, evolutes, and envelopes.

One term is given to the Integral Calculus and its applications in

rectification of curves, quadrature of plane surfaces, quadrature of surfaces of revolution, cubature of volumes of revolution, and to deducing equations of curves.

PROFESSOR DOWNEY.

II. ASTRONOMY.

The course in Astronomy, extending through two terms of the Senior Year, assumes a fair knowledge of Elementary Astronomy and Geography of the Heavens.

Descriptive Astronomy, one term, is elective in all courses. It does not draw so largely from Mathematics as does Practical Astronomy, but aims to give such information concerning the heavenly bodies and the laws by which they are governed as must be secured by every one who aspires to the possession of a liberal education. The student learns the methods of determining the figure, size, density, and weight of the Earth; the dimensions, distances, motions, physical character, and telescopic appearance of the bodies constituting the Solar System; the nature of comets and meteors; the causes of many of the phenomena of the heavens; and the methods by which our knowledge of the Fixed Stars and Nebulae has been recently so much augmented. He thus obtains an enlarged conception of the universe and its Great Author. The text-book work is supplemented by lectures, especially upon the history of the science and upon recent astronomical discoveries and theories.

Practical Astronomy, one term, is required in the courses of Civil Engineering, Mechanical Engineering, and Architecture, and elective in all other courses. The work embraces the theory and use of instruments, the use of the Ephemeris and Nautical Almanac, the various methods of determining time, latitude, and longitude, methods of obtaining the parallax and position of celestial bodies and of computing eclipses. The student is required to compute several eclipses before the time of their occurrence.

III. CHEMISTRY.

PROFESSOR DODGE.

During the first term of the sub-Freshman year the students in the Scientific Course are required to take elementary General Chemistry. This work corresponds nearly with Barker's Chemistry as far as through Silicon, omitting the Stoichiometrical parts.

In the Freshman year the same students continue General Chemistry, attending mainly to the Chemistry of the Metals and to Organic Chemistry. In the first term of the Sophomore year they take up Stoichiometry and Applied Chemistry.

This work, embracing three terms, prepares the Scientific students for their required work in Qualitative Analysis in the second and third terms of the Sophomore year, and the elective work of the Junior and Senior years in problems of Quantitative analysis and research.

The Classical and Modern students take in the third term of the Freshman year a course covering most of the ground of Elementary Chemistry, as presented in the shorter text-books.

Scientific students of the Sophomore Class take Analytical Chemistry three times per week the second term, and twice per week the third term. Students in all courses can elect Analytical Chemistry during the whole or a part of the Junior and Senior years. In the second term of the Junior year a course of lectures on the History and Theory of Chemistry occupies two hours per week, while six hours are given to Analytical Chemistry.

The chemical laboratory is fitted up in the best manner, with apparatus and fixtures of the most approved construction. It is designed to furnish instruction in qualitative analysis to all students in the Scientific Course of the Collegiate Department, and in quantitative analysis and special research to all students of whatever department or college, who may desire or be entitled to such opportunities.

No charges are made for instruction, and only such charges for apparatus and chemicals as will cover actual cost to the institution. The charges for ordinary chemicals and apparatus will not exceed ten dollars per term. All glassware and other apparatus are charged to the student at cost. The glassware that is uninjured is received back at cost ; other articles are received back under special regulations, generally at a discount of twenty per cent. The cost of apparatus will vary from two to five dollars per term, according to the care exercised by the student. To cover these expenses, students in Analytical Chemistry are required to deposit, during the first week in each term, with the Professor of Chemistry, the sum of ten dollars, the balance of which, after deducting the charges mentioned, is delivered to the student at the end of the term.

The following statements are made to assist students in selecting their studies with reference to their laboratory work :

Classical students desiring to prepare for the study of medicine are advised to arrange for taking Analytical Chemistry in the Senior year.

Modern students desiring to prepare for the study of medicine are advised to elect Analytical Chemistry in the Junior year.

Scientific students desiring to prepare for the study of medicine are advised to take the Scientific Course with Latin, electing French in the Sophomore year, German in the Junior year, and Analytical Chemistry in the Senior year. If they prefer a course without Latin, they are advised to take French in the Sophomore year, Analytical Chemistry in the Junior year, and French in the Senior year.

Students desiring an extended course in Chemistry are advised to take the Scientific Course with German, French in the Sophomore year, and Analytical Chemistry in either or both the Junior and Senior years.

A special course may be arranged for students preparing for medicine, consisting of one term of qualitative analysis, followed by Toxicology and the elements of Physiological Chemistry, and the preparation of vegetable and animal pharmaceutical products. A collection of specimen drugs, for illustrating this branch of study, has been made.

The University has an extensive collection of iron ores and slags, to which additions are constantly being made, for the use of students in the course in Mechanical Engineering. Special instruction is given such students in the analysis of iron and steel.

A room in the laboratory is fitted up for the study of Assaying, and this branch may be taken up with elective Analytical Chemistry.

IV. PHYSICS.

PROFESSOR PIKE.

A thorough knowledge of the elements of Natural Philosophy is expected on entrance, of all scientific students, and is recommended to others.

Molecular Physics is begun by the Scientific Section of the Freshman class in the second term, and is continued by the same students during the first term of the Sophomore year. Classical and Modern students go over a general course in Physics in the first term of the Sophomore year.

In the first term Junior, Mechanics is required of all Scientific

students, and is elective to others. In the second term of the Senior year Engineering students are required and others are allowed to pursue an advanced course of study in the Physical Laboratory, making their own experiments and constructing or adapting their own apparatus in the workshop.

V. BOTANY.

PROFESSOR HALL.

The students of the Classical and Modern Courses are required to take Botany in the third term of Freshman year. The text-book used is Gray's Lessons and Manual. So much of the elements of Structural and Systematic Botany as can be gone over in a single term is given to the students of these courses. An herbarium of fifty specimens, neatly preserved and correctly labeled, is expected of each student in addition to the class-room work.

In the third term, Sub-Freshman year, the Scientific students take substantially the same course as is indicated above for the Classical and Modern Courses.

In the third term, Freshman year, an advanced course in Botany is given to the Scientific students. Its object is to give a more thorough knowledge of Structural and Physiological Botany, and more skill in plant analysis. Economic Botany is also taken up, and laboratory work with the compound microscope familiarizes the student with vegetable anatomy. The instruction is made as practical as possible. An herbarium of seventy-five specimens is expected of each student, and those collected the preceding year may be counted.

In the College of Agriculture, provision is made for a special course in Botany with reference to the wants of students expecting to pursue farming.

VI. ZOOLOGY.

PROFESSOR HALL.

The course in Zoology consists of one term's work required in the third term, Sophomore year of the Scientific Course, and another term's work, elective, in the first term, Junior year.

The required term's work consists of a comparative study of the whole animal kingdom. Structural affinities are studied, and an examination made into the mechanical principles on which animal bodies are constructed, and into the ways and means by which the various func-

tions of life are carried on. A careful consideration of these subjects leaves but little time for the study of classification. A good and constantly increasing collection of specimens, belonging to the General Museum, is in daily use to illustrate the different topics as they are taken up in the class-room.

Following this short and general course, there is offered in the first term, Junior year an elective course in Principles of Classification, Embryology and Comparative Anatomy. Recitations, lectures and laboratory work will give the student a practical, as well as a theoretical, knowledge of the science. Nothing like a complete course is aimed at; the vertebrates will be more specially studied. The work taken up and the methods used will be such that the student who desires the elements of Comparative Anatomy as the basis for his preparation for a professional life, or who desires to pursue his studies as an amateur in this rapidly developing field of Natural History will have a substantial starting point from which to advance.

VII. MINERALOGY AND GEOLOGY.

PROFESSOR HALL.

The Junior class takes up Mineralogy in the winter term. This is a required subject for the Scientifics, and an elective one for the Classicals and Moderns. There is a lecture daily, and an equal amount of time is allotted each week to laboratory work.

The aim of the term's work is to give the student a knowledge of the principles of Crystallography, and to make him familiar with the physical characters and composition of the common minerals and rocks. As an aid in attaining these results, the laboratory work is important. This consists in a study of the most frequently occurring crystal forms from models and a good working collection of minerals, accompanying a course in Qualitative Blowpipe Analysis.

In the Senior year, there is a course in General Geology. The effort is made to adapt the course to the wants of students who have but the limited time of a single term to devote to the subject.

The aim here is to bring out the succession of leading events in the geological history of the earth, in a series of recitations and lectures, in which statements of theories will be so introduced that they will show something of the historical development of the science.

In the following term a series of lectures in Economic Geology is offered. The course consists of discussions of the relations of Geology

to mining, and the origin and position of some of the most remarkable deposits of native elements and ores; to Architecture, as in building materials, ornamental stones, &c.; and to the formation and constitution of soils.

The student of the science of Geology in the University is furnished throughout with such aid as can come from a good supply of maps, models, specimens, and a Marcy's Sciopticon with a suite of geological and mineralogical slides. By means of the constantly increasing collections gathered in the General Museum of the University, specimens of all the great formations, as they appear in different localities, can be compared and their resemblances and differences brought before the student. A system of exchanges has been instituted and is being extended by which the value of the Museum to students and all others is being greatly increased. Correspondence and contributions of any kind, if of interest to Science and of value to the students, are solicited, and may be addressed to the Professor in charge. A series of Prof. Ward's casts of fossils is in constant use in the study of Historical Geology.

VIII. ENGLISH LANGUAGE AND LITERATURE.

PROFESSOR MARSTON.

The course in English, up to the close of the Sophomore year, is consecutive and progressive. The design is to make the course a means of literary and linguistic culture—especially to such as do not choose to pursue other learned tongues. The aim is to give the student not mere theories of grammar, but a knowledge of the actual facts, usages and genius of the English language as exemplified in the writings of the best authors, from the Anglo-Saxon, or First-English period, down to the present. A few typical authors are chosen and studied in a manner similar to that usually adopted in the study of foreign tongues.

In the Junior and Senior years the work is designed for the students in all courses. In the third term Junior year, all students are required to take English literature. In the first term Senior year, the criticism of English and American orators is an elective study. In the third term Senior year, a course of lectures is given, to such as may elect, on criticism, the philosophy of literature, and on recent literature.

COLLEGIATE DEPARTMENT.

SUB-FRESHMAN CLASS.

1st Term—Grammar and Analysis, with the study of American Authors; Exercises in writing.

2d Term—Selections from Addison and Goldsmith (Hudson's) are studied with special reference to the structure of sentences and paragraphs, and to the use of figurative language; Exercises in writing.

3d Term—Scott's Marmion, Select Poems of Wordsworth (Hudson or Arnold), or the speeches of Burke (Hudson), studied as to matter and style; Exercises in writing.

FRESHMAN CLASS.

1st Term—Abbott's "How to Write Clearly," with practice in composition and in the criticism of periodical literature in respect to clearness and precision of style.

2d Term—Milton's Paradise Lost (Books I. and II.), and minor poems, studied with reference to diction, derivation of words, figurative language, classical allusions, etc.; Exercises in writing.

3d Term—The English of Shakspeare (Rolfe), with Abbott's Shakspearean Grammar; English versification; Exercises in writing.

SOPHOMORE CLASS.

1st Term—History of the English Language (Lectures) with Chaucer.

2d Term—Anglo-Saxon, or Early English.
Rhetoric for all courses.

3d Term—Anglo-Saxon or Early English.

UNIVERSITY CLASSES.

JUNIOR CLASS.

3d Term—History of English Literature, (Lectures), with the reading of Authors.

SENIOR CLASS.

1st Term—The Criticism of English and American Orators. Goodrich's British Eloquence is used as a text book, with Lectures.

3d Term—Lectures on Criticism, the Philosophy of literature, and Recent Literature.

RHETORICAL EXERCISES.

In the three lower classes, the students of all departments are required to perform such rhetorical work from term to term as the General

Faculty may prescribe. The exercises consist of elocutionary practice, declamations, essay writing, etc.

At the beginning of the Junior or Senior year the students of all departments are allowed to choose between essay-writing and orations. Those who elect essay-writing are each required to write, submit for criticism, and to read before their class two essays per term. Those who elect orations are each required to give one oration per term. Each oration is carefully criticised, then re-written, and, when approved, rehearsed in private, and then presented in public to the students and faculty.

IX. GERMAN LANGUAGE AND LITERATURE.

PROFESSOR MOORE.

GERMAN is required of all students of the Modern Course. Those of the Scientific Course are free to commence it at the beginning of the Sub-Freshman year. Students of the Classical and Scientific Courses may commence German in the Junior year, and continue the same throughout the Senior year.

The course is as follows:

First Year (Sub-Freshman Class.)

1st Term—Comfort's German Course (35 Lessons), with blackboard exercises in translating English into German.

2d Term—Comfort continued (16 Lessons), twice a week, and Whitney's German Grammar (144 pages, coarse print only) and Whitney's German Reader (40 pages prose and verse.)

3d Term—Whitney's German Grammar (completed) and Reader 40 pages, including "Das Lied von der Glocke" and "Kreuzzug des Kaisers Barbarossa."

Second Year (Freshman Class.)

1st Term—Schiller's Egmont and Siege of Antwerp, with a review of Grammar.

2d Term—German Historical Ballads, with German History and Geography.

3d Term—Lessing's Minna von Barnhelm and German composition.

Third Year (Junior Class.)

1st Term—Schiller's Wilhelm Tell and Goethe's Faust, first part.

2d Term—Lessing's Laocoon and Nathan der Weise.

3d Term—Deutsche Lyrik and History of German Literature; Lectures.

The objects aimed at in the above course of study are: (1) in the earlier stages, by means of oral and written exercises, to teach the student how to express himself with some degree of facility in German, on topics of every day life; (2) a systematic study of German; (3) a critical reading of some of the masterpieces of German literature, with collateral instruction and research in geography, history, mythology, biography of the authors, etc.

X. FRENCH.

French is required of all students in the Modern Course, in the Sophomore year of the Collegiate Department, and is an option for the other courses.

French is offered as an elective in the Senior year of all the Colleges of the University. Classical and Scientific students who have not previously had French can begin it in the Senior year.

The course is as follows:

Sophomores.

1st Term—Bocher's Otto's French Grammar and Reader.

2d Term—Bocher's Course continued.

3d Term—Bocher's Course completed; La Fontaine's Fables.

Seniors.

1st Term—Corneille's Le Cid; Racine's Iphigenie; the Classical School of French Literature.

2d Term—Moliere's Fourberies de Scapin; Sadler's Translating English into French; the Classical School continued.

3d Term—"Petite Histoire du Peuple Francais," by P. Lacombe; "La Litterature Francaise Contemporaine," by Pylodet; Sadler's Continued; French Essays, etc.

REMARKS.—So far as the progress of the class will allow the conversational method is employed in the class-room. The words already learned are framed into questions and answers. With the Seniors this method is used altogether. The student thus acquires not only a faculty to think and express himself in the language, but also a greater readiness to enter into the spirit and drift of French authors.

XI. LATIN LANGUAGE AND LITERATURE.

PROFESSOR BROOKS *in charge.*

The requirements for admission to the Freshman class are:

1. Latin Grammar.—Harkness', Revised Edition, or Allen & Greenough's, with Reader; Harkness' or Jones' recommended.

2. Composition.—Harkness' Part II. or an equivalent.

3. Reading.—Three Books of Cæsar's Commentaries, with Syntax; Geography of Gaul; Life of Cæsar and History of his times; four Orations of Cicero, with Syntax and History of the Catilinian Conspiracy; four Books of Virgil, with Syntax; Prosody; Mythology; Physical and Political Geography of Italy, with an outline of Roman History until the 2d Punic war.

The Freshman Latin is Livy, and Horace (begun), with Roman History and thorough review of Syntax.

The Sophomores read Horace, Odes, Satires, and Ars Poetica, and Tacitus. In connection with Horace the History of Roman Literature is pursued, and with Tacitus the History of Rome under the Emperors.

The Juniors have Oratory and Philosophy.

The Roman method of pronunciation is followed:

VOWELS.

Sound of the long vowels—*a* as in *father*; *e* as in *prey*; *i* as in *machine*; *o* as in *no*; *u* as in *pool*; *y* as the French *u*, or the *i* above.

Sound of the short vowels—Same as above but shortened.

The long and short vowels are identical in quality, differing only in quantity.

DIPHTHONGS.

Give the constituent vowels their proper sound, and pronounce them in their order as rapidly as possible, as:

ai and *ae*, like the English adverb *aye* (yes); *au* like *ow* in *owl*, or as in German *Haus*; *eu* nearly as in *feud*; *ei* nearly as in *feint*, putting the stress on the last vowel; *oi* nearly as *oy* in *joy*; *oe* as *o-eh*; *u* in *ua*, *ue*, *ui*, etc., as the English *w*.

CONSONANTS.

c is always hard, as *k*; *g* always hard as in *give*; *j* as *y* in *year*; *v* approximate to the English *w*; *r* with a slight trill, as *per* in *perry*; *s* always sharp as in *this*; *t* always simple, not as *sh*; *x* always as *ks*; *ng* as in *anger*; *nc* as in *rancor*; *nq* as in *banquet*; *qu* as in *queen*; *ch* like *k*; *th* as in *then*; *ph* as *f*; the other consonants as they are in English.

The full course in Latin is offered to scientific students, as such students can take French when Seniors if they desire to do so.

XII. GREEK LANGUAGE AND LITERATURE.

PROFESSOR BROOKS.

I. Studies required for Freshman class:

The requirements in Greek for admission to the Freshman class, are:—

Greek Grammar (Hadley's preferred), and Boise's First Lessons in Greek; Xenophon's Anabasis, 3 Books, with composition based upon the text; Smith's History of Greece, the Introduction and Chapters 6 and 7 Book II, (to be read), Smith's History, Book III, and Chapter 36, Book V; also Grote's History of Greece, Chapters 69-71, inclusive.

A large amount of reading is not required for entrance to the Freshman class, but *a thorough, ready knowledge* of the principles of Greek Grammar—the vocal elements, elision, syllabication, euphony, quantity, accentuation, proclitics, enclitics, inflection, verbal elements, principal parts of irregular verbs, formation and composition of words, and syntax—*is insisted upon.* This lays a solid foundation for the rapid reading of authors at the time and place for such reading to be introduced, and makes room—by relieving the instructor from the necessity of an endless drilling in routine parsing—for the study of history, chronology, mythology, antiquities, etc., that stand connected with the authors read. During the past year a series of conversation exercises was prepared by the department, and used by the Sub-Freshman class, with very satisfactory results.

II. Subsequent Studies:

The studies of the Freshman, Sophomore, and Junior classes are given in the general scheme of the Courses of Study in summary; a fuller statement is here given:

FRESHMAN CLASS.

1. READING.—Xenophon's Memorabilia; Xenophon's Symposium and Hellenica, or Cyropædia; Demosthenes' Olynthiacs and Philippics, or De Corona. *

2. COMPOSITION.—Exercises based upon the authors read.

3. COLLATERALS.—With Xenophon, (for recitation), Smith's History, Sections 8-15, inclusive, Chapter 35, Book IV; (for reading) Grote's History, Chapter 68; with Demosthenes (for recitation), Smith's History, Chapters 42 and 43, and Sections 2, 3, 4, Chapter 48, Book VI; (for reading), Smith's History, Books IV, V and VI; Grote's History, Chapters 86, 90 inclusive, and 95; Hermann's Political Antiquities of Greece; Plutarch's Lives (Demosthenes.)

SOPHOMORE CLASS.

I. READING.—One tragedy, Æschylus' Prometheus or Agamemnon, or Sophocles' Antigone, or Œdipus Tyrannus; Plato's Apology, Crito and Phædo, or Gorgias.

* Lysias and Isocrates, with appropriate readings, will be interchanged with Demosthenes.

II. Essays.—*Three* on the tragedy to wit : (if Prometheus be read:)

1. *An Analysis* of the tragedy.

2. *Quotations* from other literatures suggested by and illustrative of passages found in the tragedy.

3. *Epithets* of Zeus, Prometheus, and the place of his punishment, defined and classified.

And *three* on Plato, to wit :

1. *An Analysis* of the Apology, embracing the court, the judges, the accusers, the indictment, the order of procedure, Socrates' method of defence, and the order of argumentation.

2. *A Sketch* of Socrates, his times, character, etc.; discuss the daimonion, and the adequacy of his defence.

3. *A Disquisition* on the Sophists, and Socrates' relation to them.

III. Collaterals.—With the tragedy, (for recitation) Smith's History, Sections 1 to 7, inclusive, Chapter 35, Book IV ; (for reading) Donaldson's Theatre, Blackie's Horæ Hellenicæ (article on Prometheus Bound); with Plato, (for recitation) Smith's History, Sections 5 to 10 inclusive, Chapter 48, Book VI ; (for reading) Grote's History, Chapters 69 and 68, Blackie's Wise Men of Greece, Blackie's Four Phases of Morals (article on Socrates.)

Junior Class.

1. Reading.—Homer's Iliad or Odyssey.

2. Collaterals.—(For reading) Grote's History, Chapters 15, 19, 21, inclusive, Mure's History of Grecian Literature, Book II ; Blackie's Horæ Hellenicæ, (articles on Theology of Homer, and interpretation of Myths in Grecian Mythology.)

Miscellany.

Attic Greek is studied connectedly to the end of the Sophomore year; the older dialects in the Junior year. The amount of collateral reading can be extended according to the time and tastes of the student ; that given above is required to be read. Lectures are given on the authors read as occasion may demand. Greek is pronounced according to the accents, and with the so-called Continental (modified somewhat) sounds of the vowels and diphthongs. The following are the general principles and methods of work in the department : In translation, the radical meaning of words is to be learned, but the precise signification in the passage rendered is to be given ; the thing to be done in translating an

author is to give his exact meaning in the best idiomatic, grammatical English; facts, allusions, tropes, history, chronology, mythology, topography, customs, arts, laws, grammatical forms and elements, etymologies and composition of words are to be attended to. Translation of English into Greek is based upon the author read. So far as the author himself is concerned, among the things to be noted are: the chief acts of the author's life; the contemporary history and political condition of the country, and the author's relation to them; the character of the people; and the expression and logical scope of his thought; and the wisdom, etc., of his views.

XIII. MENTAL AND MORAL PHILOSOPHY.

PROFESSOR ORMOND.

The course in Philosophy includes:

I. Logic, which is elective for all the Juniors in the second term. The course in logic embraces a drill in the elements of both formal and inductive reasoning. Some of the topics discussed are the Syllogism and its applications; Induction, its method and application to scientific research; the basis of Induction, and the Fundamental Laws of Thought.

II. Psychology, which is elective for the Juniors in the third term. The course is given in lectures, and some of the topics discussed are: Body and Mind; Sense-Perception; Association; Self-Consciousness; the Mental Faculties, and the Relation of Language to Thought. One-third of the time is devoted to recitations, discussions and reviews.

III. The History of Philosophy, which is open to the Seniors in the first term. The course is given in lectures, and embraces a historical exposition of ancient and modern philosophy. The principles of the leading philosophers are expounded, and the historical relations of the succeeding systems are unfolded with especial care. The lectures are accompanied with recitations, discussions and reviews.

IV. Moral Philosophy, which is required in the second term of the Senior year. The course is given in lectures, and embraces, (1) a discussion of the history of ethics, ancient and modern; (2) an exposition of the principles of theoretical ethics, with their applications to actual conditions. One-third of the time is given to recitations, discussions and reviews.

V. Natural Theology, which is elective in the third term of Senior

year. The course, which occupies two hours a week, is given in lectures, and embraces; (1) the completion of the History of Philosophy down to the present; (2) Natural Theology proper, in which the historical relations of theory, the nature and limits of theoretic proof and the various proofs of God's existence are discussed.

XIV. HISTORY.

PROFESSOR ORMOND.

Applicants for admission are examined in the History of the United States and in the outlines of General History. The examinations will be founded on Swinton's Condensed History of the United States and Swinton's Outlines of General History.

The course in History includes:

I. SUB-FRESHMAN CLASS--Ancient History, the first term, required, five times a week.

II. FRESHMAN CLASS--Mediæval History, the second term, required, twice a week.

III. SOPHOMORE CLASS--Modern History, third term, required, twice a week.

In the historical course text-book instruction is combined with topical discussions and outside research.

XV. POLITICAL SCIENCE, &c.

MR. FOLWELL.

Political Economy and National Economy are taught to the Seniors in the third term by dictated and conversational lectures. These subjects are required of all students of the College of Science, Literature and the Arts, and are elective for those of other colleges. The library is well supplied with standard authors on political and social science. The aim of the instructor is to present clearly and fairly the history of the science, and to thoroughly inculcate established principles. On disputed topics the conflicting views are brought out with all possible impartiality.

Civil government is an elective for all Seniors through the second term. The principal chapters of De Tocqueville's Democracy in America are gone over, by way of introduction. The constitutions of the United States and of Minnnsota are critically read and commented upon, and the leading titles of legislation discussed. City, village and township organization and administration are briefly treated.

In International Law a course of ten lectures is given to Seniors electing the subject in the second term.

The History of Civilization attached to this department is an elective to all Juniors three times a week in the first term. The text-book is Guizot.

The subject of Comparative Philology, lately attached to this department, is an elective study for Juniors of all departments, twice a week in the first term. The course of lectures embraces a general treatment of the following topics: History of Philology, Classification of Languages, Origin and Development of Language, Mechanism of Speech and Hearing, Written Language.

XVI. ELOCUTION. See "English Language," *supra.*

XVII. PUBLIC HEALTH.

PROFESSOR HEWITT.

The Sub-Freshmen and and all new students are required to attend a short course of lectures on personal hygiene and the laws of health. The topics are such as : soils, water, air, food, clothing, habits, etc.

A course of lectures on Sanitary Science is offered to the Seniors of all departments the second term. The topics embraced are such as : water-supply and drainage of towns ; heating, lighting, and ventilation of dwellings and public buildings ; epidemic diseases, intemperance, etc.

By authority of the Board of Regents, Professor Hewitt carries on a system of physical examinations designed to collect and preserve the health history of each student during his connection with the University.

XVIII. INDUSTRIAL DRAWING.

PROFESSOR PIKE.

Drawing and Descriptive Geometry are required of the Scientific students of the Collegiate Department, are optional for the Modern students during the entire course, and for the Classical students during the first two years.

The course is as follows :

SUB-FRESHMAN CLASS.—During the second term the students learn the use of instruments and draw a series of plates of geometrical problems and elementary projections.

FRESHMAN CLASS.—Projection Drawing is continued a part of the first term. This instruction is given by means of models and machines,

each student making sketches and taking actual measurements from which the final drawings are made. Tinting and shading are then taken up, and, after a number of practice plates are made, are applied to one or more projection drawings.

SOPHOMORE CLASS.—Descriptive Geometry is taken up during the second term, especial attention being given to perspective and geometric projection. In this, as in projection drawing, the work is done as far as possible from sketches and measurements taken by the students themselves.

INSTRUMENTS AND MATERIALS.

It is very desirable that a *good* quality of instruments should be secured by beginners, and it is advised that separate pieces be bought rather than sets in boxes, as better instruments can be obtained in that way. The instruments should be of German silver, and care should be taken that the compasses have needle points.

The following outfit is recommended to begin with :

One pair of plain dividers—one pair of compasses, with pen, pencil and needle point—one right line pen—an accurate and finely divided scale—a T square—a pair of triangles—a hard pencil—a piece of India ink—a rubber.

XIX. THEORY AND PRACTICE OF AGRICULTURE, &c., &c.

SEE COLLEGE OF AGRICULTURE.

XX. XXI. XXII. CIVIL ENGINEERING, MECHANICAL ENGINEERING, ARCHITECTURE.

SEE COLLEGE OF MECHANIC ARTS.

XXIII. MILITARY SCIENCE.

"SEC. 26. *And be it further enacted*, That for the purpose of promoting knowledge of military science among the young men of the United States, the President may, upon the application of an established college or university within the United States, with sufficient capacity to educate at one time not less than one hundred and fifty male students, detail an officer of the army to act as president, superintendent or professor of such college or university; that the number of officers so detailed shall not exceed twenty at any time, and shall be apportioned through the United States, as nearly as practicable, according to population, and shall be governed by general rules, to be prescribed from time to time by the President."

In compliance with the foregoing section of an act of Congress, approved July 28th, 1866, the President has detailed officers of the army

as professors of Military Science at this University. The government has also furnished 150 light breech-loading rifle muskets, with accoutrements complete, similar to those in use by cadets at the U. S. Military Academy, and a section of artillery, with equipments, for instruction in the school of the piece and battery. Instruction is given in the schools of the soldier, and company and battalion drill parade, review and other ceremonies.

By action of the Board of Regents, military exercises are required of all male students in the Collegiate Department, and are optional in the other classes. The course of theoretical instruction is optional.

The military exercises comprise, besides parades, reviews, &c., instruction in the following subjects:

Practical Instruction.

1st Term—School of the Soldier, Manual of Arms, School of the Company, Target Practice and Artillery Drill.

2d Term—Manual of Arms (for new students), Bayonet and Foil exercise (optional), and duties of Officers and Non-Commissioned Officers.

3d Term—Schools of the Company and Battalion, and Skirmish Drill.

Theoretical Instruction.

1st Term—Military Engineering.

2d Term—Military History, Strategy and Grand Tactics.

3d Term—Military Law.

The work in the department is apportioned to the different classes as follows; and students not passing in the military exercises of their classes will be conditioned the same as in any other required study:

Sub-Freshman Class: School of the Soldier, Manual of Arms, and Company Drill; *i. e.*, the duties of a private in ranks.

Freshman Class: Artillery Drill—manual of piece, and the principal movements in the school of the soldier dismounted.

Sophomore Class: Instruction in the duties of officers and non-commissioned officers.

For Battalion Drill, all classes are, of course, united.

EQUIPMENT.

CAMPUS.

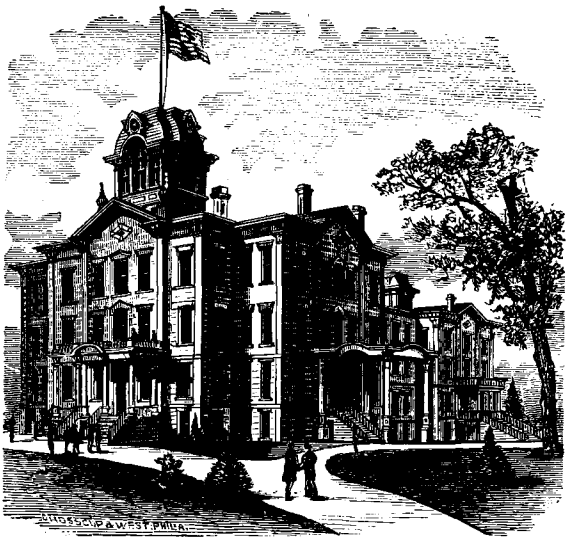
The University is situated in the city of Minneapolis, on the east side of the Mississippi river, about one mile below the Falls of St. Anthony, on an elevated bluff in full view of the same. The grounds are now about forty acres in extent, undulating in surface and well-wooded with native trees. The plans for the embellishment of the grounds, made by Messrs. Cleveland and French, of Chicago, will be carried out so fast as means can be afforded. Meantime, such are the natural advantages of situation and contour, the grounds are very attractive.

The experimental farm of the Agricultural College is situated a short distance below, near the east bank of the Mississippi.

BUILDINGS.

The general plan of the buildings contemplates a central academic building, and, grouped around it, additional structures for the separate departments or colleges.

The Legislature of 1881 appropriated the sum of $30,000 a year for six years for the erection and outfit of the following additional buildings: A farmhouse, a building for the College of Mechanic Arts, a military building, an astronomical observatory, a museum and a library.



MAIN OR ACADEMIC BUILDING.

This building is 186 feet in length and 90 in breadth exclusive of porches, having three stories above the basement. The walls are of blue limestone and the roof of tin. The rooms, fifty-three in number, as well as all the corridors, are heated by an efficient steam apparatus, and are thoroughly ventilated. Water is supplied from the city mains, and there is a standpipe running from the basement through the roof, with hose attached on all the floors, for protection against fire. The Assembly Hall, in the third story, 87x55 feet and 24 feet high, will seat with comfort 700 people, and 1,200 can be accommodated.

The Agricultural College.

This is the first of the special buildings for the separate colleges. It is of brick on a basement of blue stone, 146x54 feet. The central portion is two stories in height. The south wing, 46x25 feet, is a plant house of double sash and glass. The north wing contains the Chemical Laboratory. There are class rooms for Chemistry, Physics and Agriculture, and private laboratories for the professors. A large room in the second story is occupied by the museums of Technology and Agriculture. For a view of this building see College of Agriculture, *infra*.

LABORATORIES.

The Chemical Laboratory occupies five rooms in the north wing of the Agricultural College. (1) The main students' laboratory, 22x45 feet. This contains eight tables, accommodating sixty-four workers, in two sections or reliefs. Each table has water, gas, sink, shelving for reagents, drawers and cupboards for apparatus—all of the most approved construction. (2) The quantitative laboratory adjoining, 22x30 feet. (3) The apparatus room, provided with cases for storing apparatus, and tables for the balances. (4) The professor's private laboratory, a small room, but one well adapted to the purpose. (5) A room in the basement fitted up for assay and furnace work. All the rooms except the last are on one floor, are well lighted and ventilated, and communicate with each other in a convenient manner. The University is able to offer ample facilities for successful study and instruction in both general and analytical chemistry, and in the allied branches of study. Persons desiring chemical analyses should address the Professor of Chemistry.

The Physical Laboratory.—The rooms devoted to the Department of Physics are so arranged and furnished that students desiring to make a specialty of physics can have an opportunity

to use the apparatus, and perform their own experiments. In addition, a small room has been set apart for a lathe and work-bench.

THE MINERALOGICAL LABORATORY.—This room is furnished with three double tables accommodating eighteen students. Each table is provided with all the apparatus and reagents necessary for a complete series of blow-pipe tests and for all the qualitative chemical work done in the determination of rocks and minerals.

Until the needs of the students of Biology for workrooms of their own have been met, the anatomical and botanical work pertaining to the instruction in Zoology and Botany will be done in this same room. Since the laboratory work in their respective studies comes in different terms, this arrangement can be carried out for the present without inconvenience.

DRAWING ROOMS.

Room 45 in the main building, 47x30 feet, is furnished with drawing tables for the use of classes in Geometrical and Free Hand Drawing. There are also cases and cabinets for holding drawings and drawing boards. A considerable collection of prints, drawings and models for lessons and illustrations has been made.

MUSEUMS.

The GENERAL MUSEUM comprises the collections of the Geological and Natural History Survey of the State, augmented by purchases and donations. The specimens are contained, so far as they are ready for exhibition, in rooms 51 and 52 of the main University building. In the south room, No. 52, are the geological and mineralogical specimens, in cases suitably arranged about the room, the suite of typical Minnesota rocks and minerals being in the large case in the centre of the room. Upwards of 3,500 entries and 10,000 specimens, including duplicates, in-

dicate the volume of this department of the Museum, embracing species not only from the State of Minnesota but from all parts of the world. Among these is a complete series of the zinc and iron minerals, and their associates, from Franklin, Ogdensburg, and Bergen Hill, N. J.

In the north room, No. 51, are upright cases filled with zoological specimens. These embrace specimens of some of the larger mammals and fur animals of the Northwest, birds, marine invertebrates, alcoholic preparations, and a set of Prof. Ward's casts of fossils, including the *Megatherium Cuvieri*, On.

Sets of the collections of the United States Fish Commission, from the Atlantic and Pacific coasts, have also been presented by the Smithsonian Institution.

The Museum is rapidly growing in value by the accumulations of the geological survey of the State, and is constantly used for the illustration of scientific instruction. The rooms are open daily during the University year for the convenience and use of students and visitors.

Contributions and correspondence should be addressed to the Curator, Prof. N. H. Winchell.

The MUSEUM OF AGRICULTURE is designed to assist in illustrating the instruction in agriculture and horticulture. It comprises models of agricultural implements, seeds of grasses, grains and noxious weeds, in jars; grasses and grains in the straw; drawings and lithographs of machines and animals; fruits preserved in alcohol; fertilizers, and other articles of interest to the farmer. Already considerable progress has been made in collecting and arranging. Contributions are respectfully requested, and should be addressed to Prof. Edward A. Porter.

The PLANT HOUSE is similar in purpose to the Museum of Agriculture. It is designed to furnish (1) means for illustrating the subject of botany, viz: specimens for analysis before the

class, and living plants of botanic or economic interest, that cannot be grown in the open air in Minnesota; (2) means for illustrating the subject of horticulture, viz: the propagation of plants and the construction, heating and management of plant houses.

MUSEUM OF TECHNOLOGY.—A cabinet of specimens illustrating the products and processes of applied chemistry is being collected by the professor of chemistry, as opportunity offers. This collection will embrace fuels, ores, furnace products, textile materials, both raw and manufactured; dye-woods and other materials used in dyeing; specimens illustrating the bleaching and printing of cotton, linen and woolen goods, earthenware, pottery, etc. A good beginning has already been made, and it is hoped that large additions will be obtained during the coming year. Contributions are respectfully solicited, for which due credit will be given.

The CLASSICAL MUSEUM, a beginning of which has been made, will comprise all *materia* that may illustrate classical geography, topography, chronology, mythology, geography, archæology, and art, such as plans of ancient cities, temples, battle-fields, camps, etc.; busts (original and plaster casts); coins, medals; specimens (original and plaster casts) of ancient sculpture, friezes, capitals, columns, etc.; of vases, etc: books and plates of costumes, military weapons, armor, household and agricultural affairs, and naval illustrations, etc.; architectural illustrations, with models of the different orders of architecture; ancient books and manuscripts; specimens of inscriptions and implements used in writing, and in the arts. Additions will be made to the museum constantly. Contributions may be sent to Prof. Jabez Brooks, D. D.

The collection of PATENT OFFICE MODELS, and the Schrœder

models for Descriptive Geometry, are stored in substantial cases in room 45, main building.

APPARATUS.

No attempt has been made at display, but great pains have been taken to procure for the various departments the essential instruments and materials for illustration. In addition to articles referred to in previous statements may be mentioned: two transits, two Y levels, compass, chains and tape measures, and a full set of fine drawing instruments for the Department of Civil Engineering; a variety of geographical maps, ancient and modern; globes, charts, geometrical models, stereopticons, etc.

THE LIBRARY.

The number of bound volumes has reached nearly 14,000, and additions are constantly being made. Besides the books purchased of booksellers, the following collections have been acquired:

1. The Robertson Collection of 1,200 volumes, purchased from Col. D. A. Robertson, of St. Paul, formerly a professor in the University. This collection is rich in works on American History, Arctic Travel and Discovery, Ethnography and Political Economy.

2. The Campbell Collection of 2,800 volumes, selected by Prof. G. Campbell in London, Berlin, Florence, and other cities of Europe. This embraces many French, German and Italian works. The subjects most numerously represented are Philology, Philosophy and Social Science, general Literature, History and Biography.

3. The Tappan Collection, comprising 2,500 volumes from the private library of the Rev. H. P. Tappan, D. D., LL. D., ex-president of the University of Michigan. This collection contains choice and valuable editions of standard English authors, numerous works on philosophical subjects, and many reviews and works of reference.

4. The State Library Collection, being the miscellaneous books of that library turned over to the University by act of the Legislature of 1877.

The miscellaneous purchases have been confined to encyclo-

pedias, dictionaries, biographical material, and works of first necessity for the various departments of instruction. Among the public documents are to be found sets of the Smithsonian publications, the Coast Survey Reports, the Survey of the Pacific Railroad, Schoolcraft's Indian Tribes, United States Geological Surveys, Patent Office Reports, etc.

The alphabetical lists of authors, printed from year to year, serve a good purpose as a catalogue of authors, and furnish the titles for the printed card catalogue. The alphabetical catalogue of subjects will be in readiness for use at the opening of 1881-2.

The Library and Reading Room occupy rooms 18, 20, 22, 24 to 28 in the first story of the main building. The books are shelved according to a simple classification upon a so-called "elastic system," which allows additions indefinitely without disturbing the existing arrangement and numbering.

The Library is open to everybody eight hours every day of the University year except Sundays and holidays. Members of the University are allowed to borrow books for home reading, to be kept seventeen days; but works marked in the catalogue with a *, comprising books of reference, illustrated works, and rare and costly books, cannot be removed. These works, as well as all others, may be read and consulted during the same hours, in the

READING ROOM,

where a number of periodicals are also to be found; among them the following:

QUARTERLIES.

Journal of Speculative Philosophy, Bibliotheca Sacra, Westminster Review, London Review, Edinburgh Review, British Review, Mind, Popular Science Review, Geological Society's (English) Quarterly, Journal of Philology.

BI-MONTHLIES.

New Englander, North American Review, Education.

MONTHLIES.

American Agriculturist, Popular Science Monthly, National Live Stock Journal, Gardner's Monthly and Horticulturist, Art Journal, Library Journal, Scribner's Magazine, Atlantic Monthly, Van Nostrand's Engineering Magazine, Contemporary Review, Fortnightly Review, Nineteenth Century, American Journal of Science and Arts, Annales de Chimie, Deutsche Revue, International Review, American Naturalist, Microscopic Journal, Journal of the Franklin Institute, The Analyst, The Naturalist.

WEEKLIES.

Littell's Living Age, The Nation, Scientific American and Supplement, Harper's Weekly, Official Gazette of Patent Office, Athenæum, Academy, Saturday Review, American Architect, Chemical News, Nature, Country Gentleman, Minneapolis Freie Presse, Glencoe Register, Minnesota Staats Tidning, Prairie Farmer, Ueber Land und Meer, &c.

SEMI-WEEKLIES.

New York Evening Post, New York Tribune.

DAILIES.

Minneapolis Morning Tribune, Minneapolis Evening Journal, War Department Weather Map, &c.

The rules and regulations of the Library, as prescribed by the Board of Regents, may be found in full on pp. 66–8 of the Calendar for 1876–7.

GENERAL INFORMATION.

ACCESS.

The University of Minnesota is accessible by means of all conveyances centering in the cities of Minneapolis and St. Paul. The present main entrance to the grounds is at the corner of Third street (or University avenue) and Fourteenth avenue Southeast. The eastern terminus of the street railways is one block distant; fare 5 cents. The University Station of the St. Paul, Minneapolis & Manitoba Railway will be at the corner of Fourth street and Fourteenth avenue Southeast, one block from the main entrance.

HOW TO ENTER THE UNIVERSITY.

1. Report promptly for examination at the time and place announced and attend the sessions punctually, observing such directions as may be given.

2. At the hour appointed you will receive a numbered examination ticket. By this number you will be known to the examining professors.

3. So soon as the answers can be read and marked a statement of the merit obtained in the several studies will be furnished to each examinee.

4. An application for admission may thereupon be filed with the President. The blank furnished for that purpose is in the following form:

APPLICATION is hereby made for the admission of my.....as a student of the University of Minnesota.

It is my present intention, that, if admitted, *he* shall remain..... and I hereby engage not to withdraw *h* from the institution during term time,

except in case of sickness or other unavoidable necessity, nor at any time without due notice.

I further engage that, if admitted, *he* will be regular and punctual in attendance upon all proper duties and exercises; and that *he* will refrain from injuring or defacing the grounds, buildings, enclosures, and furniture of the University, and that *he* will carefully use, preserve and return all books, instruments, specimens, arms and accoutrements, or other property of the University, which may be intrusted to *h* or which may in any way come into *h* possession.

Conformity to the regulations and discipline of the University is hereby promised. The subjoined statements are made part of this application,

Sign here.....Parent or Guardian.

STATE—

1. The candidate's FULL name.
2. The date and place of *h* birth.
3. The parent's or guardian's name; titles; occupation; post office.
4. The school last attended, and the Principal's name.
5. The course of study chosen.
6. Any thing in regard to the candidate's health or habits of which the authorities of the University should be informed.

On the reverse is a blank vaccination certificate, which is required to be filled and signed by some practicing physician who is a doctor of medicine.

5. The successful applicants, having selected their courses of study, and paid the annual fee of five dollars for incidental expenses, receive a registration card, which admits them to the classes.

BOARDING.

THE UNIVERSITY HAS NO DORMITORIES, except for a few employes. This is a matter both of necessity and policy: of necessity, because the State has not been able to furnish money to build dormitories; of policy, because it is thought better for the students to be distributed among the people of the university city, amenable to the common laws and sentiments of society. The public bounty stops at furnishing free instruction, leaving to private hands the providing of maintenance.

Three methods of boarding are practiced:

1. Self-boarding, by individuals, or, more commonly, by small groups or colonies composed of members of the same family, or of neighboring families. Rooms are hired, and furniture, provisions and fuel brought from home. When well managed, this is an excellent and very econom-

ical mode of living. Two dollars per week to each member may be set down as the cost.

2. Club boarding. This has been practiced for several years, and is well organized. The price of board has never exceeded $2.50 per week, and was not much above $1.50 during the past year.

3. Boarding in families. Good board can be found at reasonable prices, ranging from $3.50 upwards.

Persons desiring to secure boarding for young ladies are advised to correspond with Miss Maria L. Sanford, who will gladly assist in making arrangements if desired.

EMPLOYMENT.

THE UNIVERSITY CANNOT PROMISE EMPLOYMENT to those who desire to earn their living. The few places it can offer being always in the hands of old students, new comers cannot expect to get them. The following advice, deduced from the observations of several years, is offered to young persons of limited means who want an "education:"

(1) If possible learn a good trade or art before coming to the University. Your chances for work will be greatly increased, and you can get better wages. (2) Bring some money—fifty dollars at least—on which to live until you find work. (3) If you want work you must look for it; it will not come to you at first. Be active, resolute, and enterprising. (4) If you have to "pay your way" through college, resolve to take time enough to do it well without ruining your health. It is not essential that you be graduated with any particular class.

EXPENSES.

These depend largely upon the tastes and habits of individuals. The following statement is founded upon statistics furnished confidentially by a considerable number of the older and more experienced students, under the heads of Board, Washing, Fuel, Light, Books and Stationery, Literary Society, Travel, Clothing, Miscellaneous.

The average necessary expenses of students boarding in families appear to be about $260; those of students boarding in clubs and otherwise, about $200.

INSTRUCTION IS FREE IN ALL DEPARTMENTS.

The only University charge is the annual fee of $5.00 for incidental expenses. This fee must be paid before the student can join his classes, and no deductions are made for absence or late entrance.

Students provide their books and stationery. The literary society expenses are small.

DAILY ROUTINE.

Each week day except Monday is occupied with recitations, lectures and exercises. The work begins at 8 o'clock A. M. and continues throughout the day. A general assembly of students and faculty is held each day at 10:40 o'clock A. M. There are brief and simple religious exercises, and one or more rhetorical exercises are performed by members of the upper classes.

Most public announcements are made at the assembly, but a written notice on the bulletin must also be regarded as sufficient.

DISCIPLINE.

The University presumes that every member intends to do his duty and to behave himself decently. Good order, courtesy, punctuality and attentiveness are established customs of the University which the student body take pride in maintaining.

Students of the various departments or colleges are amenable to their respective faculties; but in all cases of offenses against peace and order committed by students of whatever department or college, the General Faculty has exclusive jurisdiction.

The following by-law of the Board of Regents is in force:

"Whenever any faculty of the University is satisfied that any student is not fulfilling and not likely to fulfill the purpose of his attendance upon the University, or is for any cause unfit to remain a member of the same, the president shall so inform his parent or guardian; and if, after reasonable time allowed, the said student shall not have been withdrawn, he may be dismissed by order of the General Faculty."

STUDENT SOCIETIES.

There is a STUDENTS' CHRISTIAN ASSOCIATION, and three literary societies recognized by the General Faculty which furnish excellent and much prized opportunity for practice in extemporaneous speaking and parliamentary procedure. The orator of the literary societies at their joint annual meeting in Commencement week for the year 1880-81 is Professor John F. Downey, C. E.

ALUMNI ASSOCIATION.

This association was organized in 1875. All graduates of the existing colleges of the University are members. The members of the Board of Regents and of the General Faculty are honorary members. There are the usual officers charged with the customary duties. An Executive Committee conducts business not otherwise provided for. The annual meeting is on the day preceding Commencement, at 3 o'clock P. M. The Alumni attending commonly dine together after the public exercises on Commencement day.

The officers for 1879-80 are: Chelsea J. Rockwood, B. A., President; George H. Partridge, B. S., Vice-President; Mrs. V. F. Miner, B. L., Secretary and Treasurer.

GEOLOGICAL AND NATURAL HISTORY SURVEY.

The University is charged by law with the work of the Geological and Natural History Survey of the State, under the direction of the Board of Regents. This survey has now been in operation since 1872, but has been confined principally to the geological portion of the work. More lately the Regents have also ordered a beginning of botanical collections, with a view to the creation of a full herbarium of the flora of the State; and instituted systematic observations and reports on the birds of Minnesota. The professors of the University are selected by

the Regents for carrying on the various branches of the survey, and the General Museum is the repository and place of exhibition of the collections made during its progress.

The law creating this survey is comprehensive. It embraces not only a strictly geological survey, including a complete account of the rocks and minerals of the State, and their chemical analysis, but also a natural history survey, comprising an examination of all species of trees, shrubs, herbs, grasses, native or naturalized, and a complete account of the animal kingdom, as represented in the State, including all mammalia, fishes, reptiles, birds and insects. It also orders the tabulation of meteorological statistics and an investigation of the climatic peculiarities of Minnesota. It orders the collection of topographical and hypsometrical data, and the compilation of an accurate map, which, with the approval of the Governor, is to be the official map of the State. The law also requires an exhibition made during the progress of the survey, in the building of the University, for public inspection, free of cost, in well warmed and furnished rooms. The regents make annual reports of progress, and, on the completion of any portion of the work, a final report thereof is made to the Governor.

FRUIT FARM ON MINNETONKA.

In the winter of 1878–9 the State Horticultural Society organized a movement intended to compliment and encourage in his further endeavors Mr. Peter M. Gideon, of Excelsior, Hennepin County, the well known discoverer of the Wealthy Apple. The result was an appropriation by the Legislature of $2,000 for the purchase of land, and of $1,000 per annum for the salary of a superintendent, the control of the establishment being placed in the hands of the Board of Regents. By good fortune a piece of land of the most favorable situation and exposure, lying on the peninsula dividing the upper and lower lakes of Minnetonka, was secured. Mr. Gideon was appointed superintendent and has already begun extensive experiments.

THE COLLEGIATE DEPARTMENT.

THE COLLEGIATE DEPARTMENT.

THE FACULTY.

This department, as the common avenue to the several university departments and courses of study, is under the immediate control and supervision of the General Faculty of the University.

STUDENTS, 1880-81.

I. SOPHOMORE CLASS—53.

CLASSICAL COURSE.—*Messrs.* Baldwin, E. P., Brooks, Fay, Gale, Gaylord, Hall, A. H., Jones, D. P., Locke, J. H., Morris, T., Nunn, Pickett, Stevens, Trussel, S. L.

Misses Brooks, O. E., Pierce, Sheldon.

SCIENTIFIC COURSE.—*Messrs.* Clarke, Hoage, Johnson, F. A., Jones, E. C., Jones, R. S., Kennedy, J., Locke, C. M., Nachtrieb, Peters, Reed, Rhame, Rowell, Salisbury, Schmidt, Smith, L. O., Whitney.

Misses Hollister, Merrill, Ware.

MODERN COURSE.—*Messrs.* Johnson, R, H., Lang, H. D., Lang, W. A., Shenton.

Misses Allen, Holt, M. E., Jefferson, Kennedy, Kilbourne, McMillan, McNair, Marston, Moore, Nunn, Olmstead, Smith, Trussell, Woodmansee.

II. FRESHMAN CLASS—68

CLASSICAL COURSE.—*Messrs.* Adams, Boardman, Buckley, Butler, Doten, Firkins, Ham, Hill, F. D., Hutchinson, Johnson, A., Jones, W. H., King, J. C. E., King, R. F., Larson, Lewis, G. W., Morris, E., Rowley, L. T., Sheldon, F. S., Townsend, Van Norman, Vaughn.

Misses Sawyer, Sewall, H. R., Sewall, S. W.

SCIENTIFIC COURSE.—*Messrs.* Anderson, J., Baker, Barr, Bell, Bray,

Chamberlain, Donohue, Fitzgerald, Hendrickson, Hessian, Hinds, Klepper, Kuhlman, Lewis, G. J., Loy, McCoy, Mathes, Mathews, Monasch, Pomeroy, Radcliffe, Shumway, E. E., Winterer, Wright.

Misses Elwell, Heath, Laythe, Leonard, Moulton, Peterson, Sabin, Zwinggi.

MODERN COURSE.—*Messrs.* Baldwin, A. M., Bullis, Flemming, Healy, P. J.

Misses Bonfoy, Bradford, Burrill, Hayes, Lawrence, Linton, Perkins, Wilson.

III. SUB-FRESHMAN CLASS—56.

CLASSICAL COURSE.—*Messrs.* Barton, Bowman, Braley, Grethen, Hall, C. W., King, C. M., Lewis, J. R., Lewis, T. H., Moulton, Otis, Relf, Sargeant, Smith, F. W., Van der Horck, Willson.

Miss Brooks, A. E.

SCIENTIFIC COURSE.—*Messrs.* Ayer, Backus, E., Bondurant, Carpenter, Cooney, Falvey, Gray, Greenwood, Hanscom, Hill, F. W., Holbrook, Holt, McKusick, McQuivey, Manchester, Masters, Paden, Paine, Pettit, Way, Wilcox, Woodmansee.

Misses Alexander, Brown, Folwell, Gallagher.

MODERN COURSE.—*Messrs.* Abbott, Atherton, Green, Hughes, Trussell, T. E., West.

Misses Alden, Coe, Dailey, Irving, Kingsbury, Miars, Pillsbury, S. M., Van Dooser.

SPECIAL STUDENTS—39.

Gentlemen—Baxter, Bjoersell, Bowen, Catherwood, Chambers, Christofferson, Cullen, Faddis, Flittie, Juni, Kennedy, P., Lavik, Montgomery, Oestlund, Pettijohn, Robinson, Rogers, Saettre, Sidener, Smith, F. A., Van Cleve.

Ladies.—Benton, Bertolet, Bonniwell, Cady, Camp, Corser, Dawley, Douglass, Hall, Harrington, Kennedy, M., Maes, M. A., Manchester, Mattson, Mott, Pearce, Rollins, Rollit.

OBJECT.

The object of this department is to furnish such discipline and information as will fit the student to pursue the higher academical studies of the COLLEGE OF SCIENCE, LITERATURE AND THE ARTS, or to enter upon the professional courses now offered in the COLLEGES OF AGRICULTURE and MECHANIC ARTS, and hereafter to be offered in colleges not yet opened.

ADMISSION.

The REGULAR ENTRANCE EXAMINATIONS begin on the second day of each University year. Examinations for entrance are commonly held by appointment, at the beginning of the second and third terms, and in Commencement week or soon after. Candidates not presenting themselves at these times, apply in writing to the General Faculty for permission to be privately examined, stating satisfactory reasons for not attending at the stated examinations. Examinations for admission were held in June and July, 1877, 1878, 1879 and 1880, in several cities and villages of the State. Similar examinations will be held hereafter. For programme see Appendix.

I.

APPLICANTS for admission to this Department are examined in the following studies:

1. Common requisites for all courses:

1. ENGLISH LANGUAGE,—including Spelling, Writing, and the elements of English Grammar and Composition. Such a knowledge of etymology and the ordinary constructions of syntax as may be obtained from the school grammars of Quackenbos, Harvey, Swinton or Greene is expected, and so much of English Composition as may be obtained from Hart's Introduction, Swinton, or equivalent.
2. MATHEMATICS.—A thorough knowledge of Arithmetic, from such treatises as those of Robinson, Ray, Olney, etc.

   The whole of Elementary Algebra, as contained in Olney's or Robinson's, or equivalent.

   Plane Geometry, from Olney's, Wentworth's, or any equivalent work.
3. GEOGRAPHY.—So much as is contained in Colton's or Cornell's Common School Geographies, or any equivalent works.
4. HISTORY.—The History of the United States, as contained in the text books of Quackenbos, Anderson, or their equivalent.

   The outlines of General History as contained in Swinton, or equivalent.
5. PHYSIOLOGY.—The elements of Human Physiology, as given in Dalton's Physiology, or equivalent.

6. ENGLISH OR LATIN.—[N. B.—The applicant elects between English or Latin.]

The requirement in English is the English Grammar complete, including Analysis, as contained in the best school grammars.

In Latin the requirement is Latin Grammar and Reader—Harkness's, or Allen & Greenough's.

II. Required in addition for each course:

1. FOR THE CLASSICAL COURSE.—Greek Grammar, (Hadley's), and Lessons in Greek (Boise's), or Goodwin and White instead.

Cæsar: Three books of Cæsar's Commentaries—Harkness's or Allen & Greenough's.

Cicero: Two Orations—Harkness's or Allen & Greenough's.

2. FOR THE SCIENTIFIC COURSE.—Physical Geography, as contained in Warren's or Guyot's, or equivalent.

Natural Philosophy as contained in Peck's Ganot's, Avery's, Norton's, or equivalent.

Elementary Astronomy, as contained in Lockyer's, or equivalent.

English Composition, as contained in Hart's larger work, or equivalent.

English Word Analysis, as contained in Swinton's, or equivalent.

English History, as contained in Freeman's Old English History; OR, in lieu of the last three studies, the same Latin as above for the Classical Course.

3. FOR THE MODERN COURSE.—English Composition, as contained in Hart's larger work, or equivalent.

English Word Analysis, as contained in Swinton's, or equivalent.

English History, as contained in Freeman's Old English History.

Cæsar: Three books—Harkness's, or Allen & Greenough's.

Cicero: Two Orations—Harkness's, or Allen & Greenough's; OR, in lieu of the last two, the scientific studies as above for the Scientific Course.

II.

Applicants for admission to the FRESHMAN CLASS of the Collegiate Department will please refer to the tabulated courses of

study for the Sub-Freshman Class, p. 78, and note the studies of the particular course to be chosen. Upon these they will be examined for admission to the Freshman Class. There will also be an examination in "Rhetoricals"—a recitation or reading for the oral part, and for the written part a short theme or narrative upon a subject assigned at the time.

The attention of applicants for admission to the Freshman Class is called to the following resolutions of the Board of Regents, adopted May 4, 1880:

Resolved, In order further to encourage the high schools and academies of the State to prepare students to enter the Freshman class, and to lighten the burden of entrance examinations, that whenever any principal or superintendent shall certify that in his judgment any candidate is well prepared for admission to the FRESHMAN CLASS, furnishing at the same time a certified statement of the applicant's standing in ALL THE STUDIES required for admission to the course chosen, then the said applicant shall be excused from all examinations *except* upon the work of his course in the Sub-Freshman class.

Resolved, That the General Faculty shall make such regulations as may be deemed necessary to give the foregoing resolutions effect.—p. 202.

A strict compliance with the terms of this resolution on the part of superintendents and principals is necessary, that their pupils may have the benefit thereof.

III.

Applicants for the SOPHOMORE CLASS will be further examined in the studies of the chosen courses in the Freshman Class.

"SPECIAL STUDENTS."

The General Faculty have authority to admit applicants to select their studies from the regular courses, being governed in the exercise of their discretion by the following resolution of the Board of Regents:

Resolved, That the admission of special students to the University be left to the discretion of the General Faculty, it being deemed unadvisable on the part of the Board of Regents to adopt any inflexible rule in the premises. But as a general rule students should be required to follow one of the prescribed courses of study, unless in exceptional cases the General Faculty deem it expedient to relax it.

Applicants desiring to select their studies are entitled to apply to the General Faculty for that privilege after having passed the examinations in the following subjects, viz:

English Language (as above), Arithmetic and Elementary Algebra, Geography and United States History.

COURSES OF STUDY.

There are three Courses of study in this Department:

1. CLASSICAL, 2. SCIENTIFIC, 3. MODERN.

Applicants are free to select their courses of study upon admission, but cannot thereafter change them, except as allowed by vote of the General Faculty.

Applicants desiring to pursue Greek and Latin will select the CLASSICAL Course. Those desiring to pursue German and French, with or without Latin, will select the MODERN Course. Those desiring to pursue a *course* of scientific studies will select the SCIENTIFIC Course.

Scientific students can take but one language at a time. This may be English, Latin, Greek, or German followed by French.

Scientific students will govern themselves in choice of language according to the following regulation:

"Scientific students are required, upon admission, to select the languages they will respectively pursue, and cannot thereafter change, except as allowed by vote of the General Faculty; *provided*, however, that Scientific students shall be free to elect French at the beginning of the third year."

A suitable blank is furnished upon which applicants announce their choices of courses.

Each student completing a course receives a final certificate, which admits him to any appropriate college of the University, at the beginning of the Junior year.

The following schedules do not include rhetorical, military, and other exercises, which are held according to appointment

from time to time. Special students are NOT exempt from these exercises.

For the scheme of rhetorical exercises in this Department now in force, see page 45; for that of the military exercises, see page 54.

As explanatory of the tables, which are necessarily compendious, the statements of the professors, under the head of "Instruction," on pages 37 to 55, should be carefully read by students and applicants for admission.

First Year—SUB-FRESHMAN CLASS, (III.)

Term	CLASSICAL COURSE.	SCIENTIFIC COURSE.	MODERN COURSE.
I.	1. Greek,—*Xenophon.* 2. History,—*Ancient.* 3. Latin,—*Cicero.*	1. Chemistry,—*Elements.* 2. History,—*Ancient.* 1. English,—*American Authors, &c.*, or Latin, —*Cicero*, or German, (*begun.*)	1. German, (*begun.*) 2. History,—*Ancient.* 3. English,—*Am. Authors, &c.*, or Latin,—*Cicero.*
II.	1. Greek,—*Xenophon.* 2. Algebra. 3. Latin,—*Virgil.* 4. Drawing,—*Optional.* (5 hours.)	1. Drawing, (10 hours.) 2. Algebra. 3. English,—*Addison &c.* or German,(*continued*) or Latin,—*Virgil.*	1. German,—*continued.* 2. Algebra. 3. English,—*Addison &c.*, or Latin,—*Virgil.* 4. Drawing,—*Optional.* (5 hours.)
III.	1. Greek,—*Xenophon.* 2. Geometry,(*completed*) 3. Latin,—*Virgil.*	1. Botany,—*Elements.* 2. Geometry,(*completed*) 3. English,—*Scott &c.*, or German,—*Selections*, or Latin,—*Virgil.*	1. German,—*Selections.* 2. Geometry, (*completed.*) 3. English,—*Scott*, &c., or Latin,—*Virgil.*

Second Year—FRESHMAN, (II.)

Term	Classical Course.	Scientific Course.	Modern Course.
I.	1. Greek,—*Biography.*	1. Draughting (10 hours.)	1. German,—*Lessing.*
	2. Higher Algebra.	2. Higher Algebra.	2. Higher Algebra.
	3. Latin,—*Livy.*	3. English,—*Abbott*, or German,—*Lessing*, or Latin,—*Livy.*	3. English,—*Abbott*, or Latin,—*Livy.*
II.	1. Greek,—*History*, &c.	1. Physics, *Sound and Heat.*	1. German,—*Schiller.*
	2. Trigonometry, (3) History,—*Mediæval*, (2)	2. Trigonometry, (3) History,—*Mediæval.* (2)	2. Trigonometry, (3) History,—*Mediæval* (2)
	3. Latin,—*Livy.*	3. English,—*Milton*, or German,—*Schiller*, or Latin,—*Livy.*	3. English,—*Milton*, or Latin,—*Livy.*
III.	1. Greek,—*Oratory.*	1. General Chemistry, (*continued.*)	1. German,—*Gœthe.*
	2. Botany,—*Elements.*	2. Botany, (*continued.*)	2. Botany,—*Elements.*
	3. General Chemistry, (*begun.*)	3. English, *Shakspeare*, or German,—*Gœthe.*	3. General Chemistry, (*begun.*)
	4. Surveying,—*optional.*	4. Surveying,—*required.*	4. Surveying,—*optional.*

Third Year—SOPHOMORE CLASS, (I.)

Term	Classical Course.	Scientific Course.	Modern Course.
I.	1. Latin,—*Horace.* 2. Physics, (*begun.*) 3. English-*Hist. E. Lang.* or French, (*begun.*)	1. Applied Chemistry. 2. Physics, (*continued.*) 3. English-*Hist. E. Lang.* or French (*begun,*) or Latin,—*Horace.*	1. French, (*begun.*) 2. Physics, (*begun.*) 3. English-*Hist.E.Lang.* or Latin,—*Horace.*
II.	1. Greek,—*Tragedy.* 2. Rhetoric. 3. English,—*Anglo-Saxon,* or French, (*continued.*)	1. Descriptive Geometry, (10 hours.) 2. Rhetoric. 3. English,—*Anglo-Saxon,* or French, (*continued.*) 4. Analytical Chemistry, (6 hours.)	1. French, (*continued.*) 2. Rhetoric. 3. English,-*Anglo-Saxon*
III.	1. Greek,—*Philosophy.* 2. Conic Sections. (3) History,—*Modern.* (2) 3. Latin,—*Tacitus.*	1. Zoology. 2. Conic Sections. (3) History,—*Modern.* (2) 3. English,—*Anglo-Saxon,* or French, (*continued,*) or Latin,—*Tacitus.* 4. Anal. Chemistry, (4 h.)	1. French, (*continued.*) 2. Conic Sections. (3) History,—*Modern.* (2) 3. English-*Anglo-Saxon.* or Latin,—*Tacitus.*

For Junior and Senior studies, see Colleges of "Science, Literature and the Arts," "Mechanic Arts," and "Agriculture," *infra.*

1. The members of the Sub-Freshman Class, and all students lately admitted, are required to attend courses of lectures, as follows: (1) on the use of the Library and their relations to the University, to be delivered by the President, in alternate weeks, during the first term of each year; (2) on Books and Reading, by the professor of English, in alternate weeks during the second term; (3) on Health and Hygiene, by the non-resident professor of Public Health, in alternate weeks during the third term.

2. Each student, whether regular or special, must have, as a general rule, three recitations a day (15 per week), besides rhetorical, military and other exercises. The faculty, upon application in writing, may, in their discretion, excuse a student from one or more studies and exercises, or may allow an additional study or exercise. Unless otherwise specially provided, all such indulgences cease with the term.

3. Applications for a change of course, to drop a study, or to take an extra study, and the like, are not entertained after the close of the second week of any term. Changes in course of study, except in urgent cases, will be allowed only at the beginning of the year.

EXAMINATIONS.

1. Examinations are held in every study at the close of each term. The marks for these are combined with the daily marks for recitations in such a way as to throw increasing weight upon the examinations as the student proceeds from year to year in his course. In order to be "passed" in any study or exercise, the student must obtain sixty-five per cent. of the available marks. The object of the marking system is to preserve, for the use of the Faculty, a convenient record of the diligence and proficiency of the students, so far as these can be inferred from the average of numerous approximate judgments. Statements of standing will be furnished to parents or guardians at any time, upon request. Students receive notice of failure and deficiencies.

2. Absentees from examinations apply in writing to the General Faculty for excuses. If excuse is granted, they are entitled to individual examinations equivalent to those undergone by their classes.

3. All examinations are conducted in writing, but any professor or instructor in charge, may add such oral questions as he may deem proper.

4. Students failing to pass in any study at the close of a term, are liable to be cited for re-examination at any time thereafter, either by the professor or the Faculty; and students remaining "conditioned" at

the end of the year are examined at the beginning of the next university year, at such times and places as may be announced on the morning of the second day. Conditioned students failing to attend such examinations, must render satisfactory reasons in writing to the General Faculty before joining their classes. For the programme of these examinations see appendix.

5. Students desiring to be examined in the studies of classes above them, apply in writing to the General Faculty. Leave being granted, they attend, if practicable, the examinations of the advanced class, or if not, undergo examinations equivalent thereto.

6. Students who may have been absent from recitations for a part or a whole of a term, for sufficient reasons, are entitled to individual examinations adapted to fully test their proficiency, and if successful are passed thereupon.

7. No student can be advanced in rank whose conditions amount in the aggregate to more than one term's work.

REGULATIONS.

1. Students pledge themselves in their applications to be regular and punctual in attendance upon all proper duties and exercises.

2. All students of this department are required to attend the daily assembly. Absentees present their excuses, stating reasons, to the president.

3. Absentees from recitations or exercises present their excuses on the proper blank to the professor in charge.

4. Students who have been unable to prepare for a recitation or exercise, present excuses in writing to the professor in charge on entering the room.

5. Students who are absent from all university duties for six consecutive days without leave, and do not report the cause of such detention, are dropped from the rolls and forfeit their registry.

6. Students desiring to be absent for some time, apply in writing, on the blank provided, to the General Faculty for leave of absence.

7. Unexcused absences, unexcused failures to prepare lessons and perform duties, and misdemeanors, are recorded, and demerit marks are charged. When a student has accumulated twelve such marks he receives a warning in private ; when twenty-four, notice is given to his parent or guardian ; at thirty-six, a public warning is given ; at forty-eight, the student is suspended during the pleasure of the General Faculty.

8. These regulations apply to special as well as regular students.

THE COLLEGE OF

SCIENCE, LITERATURE AND THE ARTS.

THE COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

THE FACULTY.

Professors	BROOKS,	DOWNEY,
	MOORE,	DODGE,
	MARSTON,	ORMOND,
	HALL,	BENTON,
	PIKE,	The President.

STUDENTS, 1880-1881.

GRADUATES.

CANDIDATES FOR MASTERS' DEGREES.

JOEL NATHANIEL CHILDS, B. A. 1877, for M. A.
ROBERT HENRY CRAFTS, B. S., 1876, for M. S.
HENRY CLAY LEONARD, M. D., B. S., 1878, for M. S.
CHARLOTTE ADELAIDE ROLLIT, B. L., 1877, for M. L.
JULIUS CLARENCE BRYANT, B. A., 1878, for M. A.
WILLIS MASON WEST, B. A., 1879, for M. A.
CORA INEZ BROWNSON, B. A., 1880, for M. A.
LIZZIE AUGUSTA HOUSE, B. L., 1880, for M. L.

UNDERGRADUATES.

SENIOR YEAR.

CLASSICAL COURSE.—*Messrs.* AITON, ANDERSON, S. G., BALDWIN, O. W., *BROOKS, A. P., BRYANT, CHOWEN, KENT, KING, W. L., ROWLEY, Q. J., SNYDER.

Misses HOUGH, KNOX.

SCIENTIFIC COURSE.—*Messrs.* BARDWELL, BROUGHTON, GRIMES, JENNISON, LOCKE, D. A., LOCKE, S. A., SAVIDGE.

Misses BURNES, PALMER, WILLIAMS.

MODERN COURSE.—*Messrs.* BONNIWELL, HARRINGTON, PHILLIPS.

Misses CAMPBELL, CRAFTS, GRIMES, MAES.

JUNIOR YEAR.

CLASSICAL COURSE.—*Messrs.* FOSTER, GOULD, HEALY, F., HILYER, WEBSTER, WILSON.

Misses HOLT, C. W., HOLT, L. R.

SCIENTIFIC COURSE.—*Messrs.* BACKUS, G. J., BARRETT, CLARK, LINTON, PROSSER, ROBERTS, SHUMWAY, H. P.

Misses DEMMON, FLETCHER.

MODERN COURSE.—*Messrs.* DICKERMAN, REYNOLDS, STRONG.

Misses CURTIS, HENDRICKSON, HENRY, HUGHES, PILLSBURY, A. E.

ADMISSION.

Applicants who have completed courses of study in the Collegiate Department are entitled to admission to the corresponding courses of this College. Other applicants, if candidates for graduation, must pass equivalent examinations. Persons desiring to pursue special studies in this college apply in writing to the Faculty of the College, and submit to such tests as the Faculty or the professors concerned require.

OBJECT.

This college is intended to furnish higher courses of LIBERAL studies leading to the customary academical degrees. Much of the instruction is given by lectures, and in general the methods and discipline are those proper to university students.

COURSES OF STUDY.

There are three regular under-graduate courses, as given below. They are arranged according to the following principles:

1. There are in general in each course fifteen hours per week of recitations and lectures, besides rhetorical and other exercises not shown in the schedules.

2. There are five hours per week of prescribed, and at least ten of optional or elective work.

3. The required studies of any two courses are electives with reference to the third course.

JUNIOR YEAR.

1ST TERM— *Required.*

In the Classical Course: Greek—*Homer.*
In the Scientific Course: Physics—*Mechanics.*
In the Modern Course: German—*Gœthe.*

Elective.

History of Civilization (3), Comparative Philology (2), Analytical Geometry, Analytical Chemistry, Zoology.

2D TERM— *Required.*

In the Classical Course: Latin—*Comedy.*
In the Scientific Course: Mineralogy.
In the Modern Course: German—*Lessing.*

Elective.

Logic, Differential Calculus, Analytical Chemistry (3), and Theoretical Chemistry (2).

3D TERM— *Required.*

English Literature, in all the courses.

Elective.

Psychology, Integral Calculus, Analytical Chemistry, Latin (Philosophy), German (Literature).

SENIOR YEAR.

1ST TERM— *Required.*

Geology, in all the courses.

Elective.

History of Philosophy, English Literature (British and American Oratory), Analytical Chemistry, Astronomy, French.

2D TERM— *Required.*

Ethics, in all the courses.

Elective.

Civil Government, French, Analytical Chemistry (4), Economic Geology (4), Sanitary Science (1), International Law (1).

3D TERM— *Required.*

Political Economy, in all the courses.

Elective.

Practical Astronomy, French, Analytical Chemistry, English Literature (3), Natural Theology (2), Anthropology (1).

The instruction closes with the tenth week of the term; the examination takes place in the eleventh.

1. When not otherwise indicated by an appended figure, the studies and exercises named in the tables occur five times in the week.

2. For rhetorical exercises see page 45.

3. Students of the Classical and Scientific courses, who begin German in the Junior year, are at liberty to continue it as an elective during the Junior year.

4. Classical and Scientific students who have not previously had French, can begin it in the Senior year.

5. Seniors are allowed to elect the mathematics of the Junior year.

GRADUATIONS.

Students completing courses of study to the satisfaction of the faculty of the college are entitled respectively to receive the appropriate baccalaureate degrees, to wit: Bachelor of Arts, Bachelor of Science, Bachelor of Literature.

For Masters' degrees see page 33.

Any person may undergo, at suitable times, examination in any subject; and if such person pass in all the studies and exercises of a course, he is entitled to the appropriate degree.

EXAMINATIONS.

The proficiency of students of this college in the various departments of instruction, is ascertained by means of examinations only. The principal examination in any subject takes place at the end of the term. Intermediate examinations are held during the term, without notice, at the discretion of the professor. The results are combined and reported on a scale of one hundred. The merits of the rhetorical and other exercises are reduced to the same scale at the end of each term. A minimum mark of 75 per cent. in each study and exercise is necessary to "pass."

REGULATIONS.

Students of this college are expected to attend the daily assembly, and are required to be present when appointed to deliver public rhetorical exercises.

Absentees from lectures, recitations and other duties, report their excuses to the professors concerned. Three unexcused absences in any term debar a student from examination in any department of instruction.

No student may have less or more than fifteen hours* of work per week, unless by consent of the Faculty; and no member of this college can become a candidate for graduation in another department or college without leave of the Faculty first obtained.

---

*NOTE—Analytical Chemistry and laboratory work in general require double hours.

THE COLLEGE OF MECHANIC ARTS.

FACULTY.

Professors MARSTON, DOWNEY,
HALL, DODGE,
PIKE (Secretary), The President.

STUDENTS, 1880-81.

Special, MR. CULLEN, MR. ROGERS.

ADMISSION.

Applicants who have completed the Scientific course of the Collegiate Department, are entitled to admission to the Junior Class without further examination. Other applicants, if candidates for graduation, must pass satisfactory examinations in all the studies of that course. Applicants for special studies in this college are admitted to the classes, if competent, in the judgment of the professors concerned, to receive the instruction. Mechanics and others who have not time to take a full course, but have only a few months of the year at their disposal, will be admitted to SPECIAL STUDIES and given free instruction in drawing, and directed in such other work as may be most profitable in the time at their command.

OBJECT.

The aim of the instruction given in this college is to lay a broad and solid foundation in Mathematics, Mechanics and Drawing, so that with the practice in field, shop and office work given to the students in the respective courses, they shall be fitted for immediate usefulness upon graduation, and after a moderate amount of subsequent practice and experience, be capable of taking charge of important works.

COURSES OF STUDY.

Three regular undergraduate courses have been organized upon the following data:

1. There are fifteen lectures or recitations per week, besides daily exercises in drawing, field work or shop work, and the rhetorical and other exercises.

2. As a general rule there are ten hours a week of prescribed recitation work, and five of elective.

3. The electives are chosen from corresponding years and terms of this and other colleges.

The third study is, as a rule, elective. The one named is generally recommended to be taken, but the student is free to pursue any of the authorized "electives."

For rhetorical exercises see page 45.

JUNIOR YEAR.

Term	MECHANICAL ENGINEERING.	CIVIL ENGINEERING.
I.	1. Elements of Mechanism.	1. Curves, Levelling and Earthwork.
	2. Analytical Geometry.	2. Analytical Geometry.
	3. History of Civilization (3), Compar. Philology (2) or other *elective*.	3. Hist. of Civilization (3), Compar, Philology (2) *or other elective*.
	4. Drawing or Shop-work.	4. Field-work and Drawing.
II.	1. Mechanics (Statics).	1. Mechanics (Statics).
	2. Differential Calculus.	2. Differential Calculus.
	3. Mineralogy.	3. Mineralogy.
	4. Drawing (Desc Geom.) or Shop-work	4. Drawing, (Descriptive Geometry).
III.	1. Mechanics (Dynamics) and Strength of Materials.	1. Mechanics (Statics) and Strength of Materials.
	2. Integral Calculus and Theory of Equations.	2. Integral Calculus and Theory of Equations.
	3. English Literature, *or other elective*.	3. English Literature, *or other elective*.
	4. Drawing or Shop-work.	4. Topography and Drawing.

Senior Year.

Term	I. Mechanical Engineering.	II. Civil Engineering.
I.	1. Machinery.	1. Arches, Retaining Walls, etc.
	2. Applied Descriptive Geometry.	2. Stereotomy.
	3. Geology or Astronomy.	3. Geology or Astronomy.
	4. Drawing or Shop-work.	4. Railroad Work and Drawing.
II.	1. Steam Engine.	1. Roofs, Trusses, and Lectures on Motive Power.
	2. Practical Physics (Testing Strength of Materials.)	2. Practical Physics (Testing Strength of Materials.)
	3. Civil Government, *or other elective.*	3. Civil Government *or other elective.*
	4. Drawing or Shop-work.	4. Drawing.
III.	1. Designs and Specifications.	1. Designs and Specifications.
	2. Practical Astronomy.	2. Practical Astronomy.
	3. Political Economy, *or other elective.*	3. Political Economy, *or other elective.*
	4. Drawing on Designs.	4. Drawing on Designs.

III. Architecture.

This course coincides with that in Civil Engineering, except as follows:

1. The drawing throughout the course is specially arranged for architectural work.

2. In the first term of the Junior year, History and Orders of Architecture are substituted for Curves, Leveling and Earth work.

3. In the second term Senior year, lectures on Decoration and Color are substituted for lectures on Motive Power.

4. In the third term Senior year, the designs and specifications are those of buildings, instead of bridges, etc.

GRADUATIONS.

Students completing the foregoing courses to the satisfaction of the Faculty are entitled respectively to receive the appropriate baccalaureate degrees, to wit: Bachelor of Civil Engineering, Bachelor of Mechanical Engineering, Bachelor of Architecture.

For second degrees see page 34.

Special students receive certificates for successful examinations in the branches pursued. Any person is entitled to undergo examination in any subject, at convenient times; and if such person pass in all the studies and exercises of any course, he is entitled the appropriate degree.

EXAMINATIONS.

The proficiency of students in this college is ascertained by examinations conducted in writing at the close of each term. These are estimated on a scale of one hundred. The marks for the rhetorical and other exercises are reduced to the same scale at the close of each term. A minimum of 75 per cent. in each study and exercise is necessary to "pass."

METHODS OF INSTRUCTION.

Instruction in the several subjects pertaining to Civil and Mechanical Engineering and Architecture is given by text-books, lectures, reading in the general library and practical exercises, the theories taught in the class room being applied in the solution of practical problems and the construction of original drawings. The students are also required to visit the various machine shops, bridges and important structures in the vicinity and to make reports upon them, accompanied by sketches and necessary measurements. In the new building, to be erected with funds appropriated by the Legislature, the students in Mechanical Engineering will receive a thorough drill in the use of tools in a series of instruction shops, thus fitting them for superintending the construction of the designs which their training in class and drawing rooms will pre-

pare them for. Field practice is a portion of the regular course in Civil Engineering. The classes in Surveying are drilled in the measurement of land already divided up, in the laying out of fields of given shape and area, in the sub-division of land as practised by the Government surveyors, and in the solution of various geometrical and trigonometrical problems from data taken by the students themselves. In railroad work the students have practice in laying out curves, taking levels, cross-sectioning, staking out—in fact, they do all the work of locating a railroad line, from the preliminary survey up to the point of actual construction. In topography the classes make a complete survey of a piece of land with diversified surface and make a finished drawing, showing the contour lines and all other details. In the drawing room the students in the various courses receive thorough drill in making both working and finished drawings from plates, from machines and structures already built and from original designs of their own.

APPARATUS.

The college possesses the following list of apparatus :

For Mechanical Engineering—A foot lathe with the necessary tools for working in wood and in metal ; a portable forge, anvil and tongs; a Thompson's steam engine indicator, with full list of accessories ; a number of models of machinery of various kinds and a collection of drawings.

For Civil Engineering—A compass, two transit instruments, two levels with rods, two chains, a steel tape, pins, transit rods, several models of bridges and roofs, and a few drawings.

Besides the above the college has for general use a full set of Schrœder's models for Descriptive Geometry, and a set of large plates for wall use, from which drawings are made.

REGULATIONS.

Students of this college are expected to attend the morning assembly, and are required to be present when appointed to deliver public rhetoricals.

Absentees from lectures, recitations, and other duties, render excuses

to the professors concerned. Five unexcused absences in any term debar from the examinations in that department of instruction.

No student may have more or less than the prescribed amount of work per week, without leave of the Faculty.

No student of this college can become a candidate for a degree in another college, without leave of the Faculty first obtained.

EVENING DRAWING CLASS.

During the winter of 1880–81 a free course of twenty-five lessons in Mechanical Drawing was given to the mechanics of the vicinity. The instruction was given by Prof. Pike, with the valuable assistance of E. D. Mayo, M. E.

The first four lessons were the same for all, after which the work was varied, to meet the requirements of the members of the class. During the course sixty-four men joined the class. Their occupations were as follows : Carpenters, 16; machinists, 14; millwrights, 13; surveyors, 4; clerks, 3; cabinet makers, 2; stone cutters, 2; school boys, 2; eight other occupations, one each.

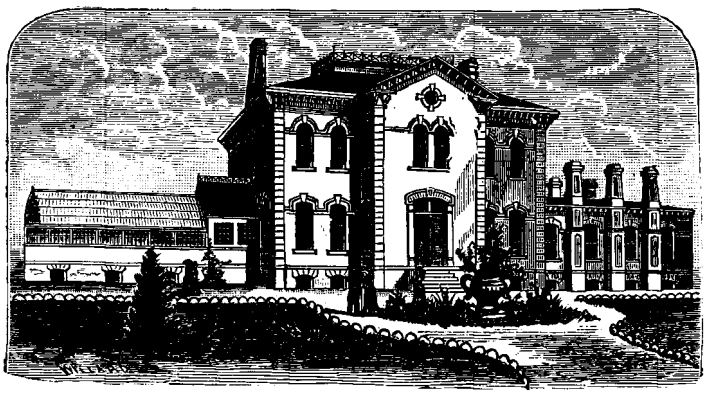
Gen. C. C. Washburn very generously offered Knight's Mechanical Dictionary as a prize to the member of the class who should be most faithful and make the greatest progress. This prize was awarded by a committee to Mr. F. H. Brown, a machinist, who presented a very fine set of machine drawings. This course having been successful, and having shown a demand on the part of the mechanics of the vicinity for such instruction, it is expected to repeat it next winter.

MEMBERS OF THE CLASS.

John Ammer,
W. L. Amy,
P. J. Anderson,
B. C. Andrews,
O. A. Anderson,
C. Boehme,
F. H. Brown,
John Coy,
D. W. Creighton,
W. S. Cross,
Isaac Cheney,
G. H. E. Cornelius,

H. C. Christenson,
W. J. Dunn,
W. E. Duhnke,
J. T. Elwell,
F. B. Emery,
J. P. Fitzgerald,
Wm. Francis,
Wm. A. Gebhardt,
H. C. Galbraith,
J. H. Hall,
Wm. Haycock,
P. W. Herzog,
H. H. Hollidge,
J. H. Hogan,
E. Hoffenbrodel,
A. Ingraham,
H. H. Johnson,
J. S. Kearney,
C. G. Lester,
W. Libby,
S. F. Little,
H. W. R. Leich,
C. H. B. Leich,
L. H. Lisk,
Henry Lyman,
C. J. Lyon,
A. McGurk,
J. J. McHale,
F. G. McMillan,
P. S. Meacham,
C. D. Munro,
N. P. Pearson.
D. C. Parker,
S. Parker,
J. R. Perry,
F. P. Plummer,
C. B. Potter,
F. J. Ross,
C. A. Ray,
W. J. Rogers,
W. H. Taylor,
B. Townsend,
W. H. Ulmer,
T. P. Vanstrum,
G. A. Woehler,
G. Werner,
C. O. White,
W. W. Woodcock,
S. E. Woodcock,
James Wright.

THE COLLEGE OF AGRICULTURE.



THE BUILDING.

☞Important changes in the Faculty of this college have led to the consideration of new plans for enlarging the liberal advantages now and heretofore offered to the farmers of the State. Ample notice will be given of any departures from the arrangements herein announced.

THE FACULTY.

Professors MARSTON, HALL,
DODGE, PORTER,
The President.

FACILITIES FOR INSTRUCTION.

Students in the College of Agriculture receive the benefit of the library and apparatus of the University, as well as of those belonging to the College. The whole may be enumerated as follows:

(1.) The General Library of the University, containing nearly 14,000

volumes, and receiving frequent additions. More than one hundred volumes are especially devoted, in a practical manner, to the subjects of agriculture, horticulture, tree culture and stock raising. Besides these are several hundred volumes on botany, zoology, anatomy, physiology and other sciences related to agriculture.

(2.) The General Museum of the University, containing a large collection of minerals, casts of extinct animals, stuffed mammals and birds.

(3.) The Museum of Technology, containing materials and products used in illustrating manufacturing processes.

(4.) The Museum of Agriculture, containing at present a collection of models of machines and implements. a collection of the seeds of garden vegetables, grains and grass seeds in glass jars; a collections of grains and grasses in the straw ; a collection of fruits in alcohol ; a large collection of woods from the U. S. Department of Agriculture ; a collection of plates and lithographs ; miscellaneous objects and materials used in agriculture. Donations are always welcome.

(5.) Chemical and Physical Laboratories, supplying opportunities for the student to practice with his own hands.

(6.) Drawing Rooms.

(7.) Engineers' and Surveyors' instruments.

(8.) The Plant House 24x46 feet, supplying plants and flowers for the study of botany, and apparatus for instruction in the propagation and care of plants.

(9.) The State Experimental Farm, containing 120 acres, used for testing the different varieties of vegetables, grains and fruits, is made to illustrate as much as possible the principles taught in the class room.

SCOPE OF INSTRUCTION.

In Agricultural Chemistry—A study of the elements of the volatile parts of plants, as carbon and oxygen ; a study of the organic compounds of plants, as water, starch and sugar ; a study of the elements of the ash of plants and their compounds, as potassium, calcium, iron, sulphates and phosphates ; a study of the atmosphere and the soil as related to vegetation, and as sources of food to plants ; a course in the analysis of soils, fertilizers, grains and fodders.

In Economic Entomology—General characters of insects ; characters and peculiarities of those families containing useful or injurious members ; together with a special study of the more important individuals of these families.

In Horticulture—Relations of heat, light, moisture and food to plant growth, and the means of controlling their supply and intensity ; plant houses, hot beds, &c.; soils and manures, and their manipulation; propagation of plants: grafting, budding, pruning, training, &c.; planting and transplanting; hybridizing, crossing and selecting; cultivation of the apple, pear, plum and other large fruits; cultivation of the currant, strawberry, raspberry, cranberry and other small fruits; kitchen gardening, market gardening, landscape gardening and floriculture.

In Arboriculture—Reasons for planting forest trees: what trees to plant; method of propagating; care in the nursery; special culture of each species.

In Practical Agriculture—History of Agriculture; brief review of chemical composition and physical properties of air and water as related to the soil and vegetation; the chemical constituents and practical classifications of soils; properties, peculiarities, treatment and adaptations of each kind; reclamation and improvement of soils, including drainage, subsoiling, trenching, altering, fallowing, paring and burning, preparatory tillage, road making and fencing; manufacture, preservation and application of manures amd stimulants; green manuring and irrigation; farm implements and machinery; production, management and sale of the different crops; the different breeds of farm animals, their characteristics and adaptations; breeding, rearing, feeding and management for different purposes to which each is suited; selection and purchase of farms; the situation, relative position, size and internal management of farm buildings, and their adaptation to purposes for which they are intended.

In Comparative Anatomy and Physiology—Anatomy, physiology and hygiene of the domestic animals.

In Veterinary Medicine and Surgery—Prevention and treatment of diseases and injuries of the domestic animals.

Economics—Farm Accounts, grain raising, stock raising, dairying, general farming, fruit culture, market gardening, and other specialties; relations and sequence of farm operations; legislation relating to agriculture; relations of agriculture to commerce, manufactures, labor, government, taxation, &c.

I. THE REGULAR UNDERGRADUATE COURSE.

JUNIOR YEAR.

1st Term—1. Composition and Physiology of Plants,—"How Crops Grow."
2. Horticulture.
3. Mechanical Physics, *or other elective.*

2d Term—1. Agricultural Chemistry.
2. Meteorology and Climatology.
3. Mineralogy, *or other elective.*

3d Term—1. Atmosphere and Soils, "How Crops Feed."
2. Horticulture.
3. Psychology, *or other elective.*

SENIOR YEAR.

1st Term—1. Practical Agriculture, "Soils and Fertilizers."
2. Comparative Anatomy and Physiology.
3. Geology, *or other elective.*

2d Term—1. Practical Agriculture, "Farm Crops."
2. Veterinary Medicine and Surgery.
3. Civil Government, *or other elective.*

3d Term—1. Practical Agriculture, "Farm Animals."
2. Economics, "Accounts, Markets," etc.
3. Political Economy, or *other elective.*

The third study named in the above table is the one recommended to be generally taken, but students are free to pursue any one of the other authorized electives.

The Rhetorical Exercises in the College of Agriculture are the same as in corresponding years and terms of the Scientific Courses. See page 45.

Students completing the above course to the satisfaction of the Faculty, are entitled to receive the degree of Bachelor of Agriculture.

OBJECT.

The studies and exercises of this course are designed to give to students already well instructed in liberal studies, and in general sciences, special training in the sciences related to Agriculture, including their practical application.

ADMISSION.

This course properly follows the Scientific Course of the Collegiate Department, but it may also follow either of the other courses of that department or the Elementary Course in Agriculture. Applicants who have completed any of these courses are therefore entitled to admission to this college. Other applicants, if candidates for graduation, must be examined in the same or equivalent studies. The following is the

I. SCIENTIFIC COURSE, COLLEGIATE DEPARTMENT.

Class	First Term.	Second Term.	Third Term.
III.	1. Elementary Chemistry. 2. History,—*Ancient.* 3. English, *Am. Authors*, or German, (*begun*), or Cicero,—*Orations.*	1. Drawing, (10 hours.) 2. Algebra. 3. English, *Addison*, &c., or German, (*continued,*) or Virgil,—*Æneid.*	1. Elementary Botany. 2. Geometry, *completed.* 3. English, *Scott*, &c., or Virgil,—*Æneid*, or German,—*Selections.*
II.	1. Draughting, (10 hours.) 2. Higher Algebra. 3. English, *Abbott*, ,or German,—*Lessing*, or Latin,—*Livy.*	1. Physics. 2. Trigonometry. (3) History,—*Mediæval.* (2) 3. English, *Milton*, or German,—*Schiller*, or Latin,—*Livy.*	1. General Chemistry. 2. Botany, (*continued.* 3. English, *Shakspeare*, or German,—*Gœthe.* 4. Surveying, (2 hours.)
I.	1. Applied Chemistry. 2. Physics, (*continued.*) 3. English—*Hist. E. Lang.* French, (*begun,*) or Latin,—*Horace.*	1. Descriptive Geometry. 2. Rhetoric. 3. English, *Anglo-Saxon* or French, (*continued.*) 4. Analytical Chemistry, (6 hours.)	1. Zoology,—*Elements.* 2. Conic Sections. (3) History.—*Modern.* (2) 3. English, *Early Eng.* or French,—*Selections*, or Latin,—*Tacitus.* . Anal. Chemistry. (4 hours.)

II. THE ELEMENTARY COURSE.

This course agrees in the main with the Scientific Course of the Collegiate Department, but differs from it in the substitution of some natural sciences and practical instruction for languages and mathematics in the latter part. The requisites for admission are the same as for admission to the Collegiate Department.

ELEMENTARY COURSE.

Class	First Term.	Second Term.	Third Term.
III.	1. Elementary Chemistry. 2. How Crops Grow. 3. English, or German.	1. Mechanical Drawing. 2. Algebra. 3. English, or German.	1. Elementary Botany. 2. How Crops Feed. 3. English, or German.
II.	1. Soils and Manures. 2. Drawing (10 hours.) 3. English, or German.	1. Farm Crops. 2. Physics. 3. English, or German.	1. General Chemistry. 2. Botany. 3. English or German.
I.	1. Applied Chemistry. 2. Horticulture. 3. English, or French.	1. Horticulture. 2. Meteorology, and Climatology. 3. English, or French. 4. Analytical Chemistry.	1. Practical Agriculture *Farm Animals.* 2. Zoology. 3. English, or French. 4. Analytical Chemistry.

So far as practicable the students in the Elementary Course recite with the classes of the Collegiate Department. The same rhetorical, military and other exercises are required as in that department. Ancient languages are optional.

While the above schemes indicate when regular and systematic instruction in the different studies will be given, instruction in

PRACTICAL agriculture and horticulture will be given at various times throughout the whole course. The farm and gardens will be made to afford every possible facility for observation and practice, and enough of the latter will be required of all regular students in this department to give them skill in the different operations of the farm and garden.

II. SPECIAL COURSES.

While the above courses of study are provided for those who desire a systematic education in scientific Agriculture, the Board of Regents provide in their by-laws for the ADMISSION OF ANY PERSONS TO ANY CLASS, upon the sole condition that they appear to be competent to receive the instruction.

Under the authority of this by-law the following courses for the year 1881–82, have been arranged. They are not designed in any way to limit the advantages offered by the by-law. Any person who can read and write the English language, can enter either course without examination.

SPECIAL COURSES IN AGRICULTURE.

I.

Beginning First Term, September, 1881.

FIRST TERM.	SECOND TERM.	THIRD TERM.
1. Agricultural Chemistry—*How Crops Grow.*	1. Agricultural Chemistry—*How Crops Grow.*	1. Farm Drainage and Farm Accounts.
2. Agriculture—*Soils and Manures.*	2. Agriculture—*Farm Animals.*	2. Agriculture—*Farm Crops.*
3. Horticulture—*Fruits.*	3. Arboriculture.	3. Horticulture—*Vegetables.*

II.

Beginning Second Term, December, 1881.

Second Term.	Third Term.
1. Agricultural Chemistry— *How Crops Grow.*	1. Farm Drainage and Farm Accounts.
2. Agriculture— *Farm Animals.*	2. Agriculture— *Farm Crops.*
3. Arboriculture.	3. Horticulture— *Vegetables.*

III.

Beginning Third Term, March, 1882.

1. Farm Drainage and Farm Accounts.	2. Agriculture— *Farm Crops.*	3. Horticulture— *Vegetables.*

IV. THE FARMERS' LECTURE COURSE.

This course is specially designed to meet the wants of farmers and others who desire scientific and practical information relating to their calling, and whose business prevents them from spending an entire year away from home. These lectures will extend through six weeks, two being given on each of five days in the week, while exercises equivalent to a third lecture will be given in practice in the Chemical Laboratory, in Drawing, in Farm Accounts, or in reading in the library.

The instruction given will be both scientific and practical. The former will include Agricultural Chemistry, Botany, Physiology, Entomology, Geology and Mechanics, and will be given by those professors who have these departments in charge in the University. The latter

will include the improvement of Soils by Drainage, Subsoiling, Trenching, Plowing, Rotations, Manures, etc., Grain Raising, Dairying, Fruit Culture, Forest Culture, Farm Accounts and Rural Architecture, and will be given by the Professor of Agriculture and by men who have become successful and noted in these special departments.

No fees, examinations, or other conditions will be imposed for admission to this course, but its advantages will be ABSOLUTELY FREE TO ALL.

The above course of lectures will be given next year, 1881–2, provided that by the first day of November, 1881, thirty persons not members of any class in the University shall have signified to Prof. Edward D. Porter their intention to attend.

TEXT BOOKS AND BOOKS OF REFERENCE—Johnson's How Crops Grow and How Crops Feed; Caldwell's Agricultural Chemical Analysis; Thomas's American Fruit Culturist; Fuller's Small Fruit Culture; Bryant's Forest Trees; Chauveau's Anatomy of the Domestic Animals; Gray's Systematic Botany; Darlington's American Weeds and Useful Plants; Downing's Fruits and Fruit Trees of America; Harris's Insects Injurious to Vegetation; Entomological Reports; Morton's Cyclopedia of Agriculture; Stephens's Book of the Farm; Allen's New American Farm Book; Allen's American Cattle; Randall's Practical Shepherd; Harris, on The Pig; Gamgee's Domestic Animals in Health and Disease; Stonehenge's The Horse in the Stable and the Field; Law's Farmers' Veterinary Adviser; Waring's Handy Book of Husbandry.

APPENDIX.

Summer School of Science, 1881, NEW LAW *for the Encouragement of Higher Education. Entrance Examinations*, 1881-82. *Almanac*, 1881-82. CONTENTS.

SUMMER SCHOOL OF SCIENCE, 1881.

Courses of instruction in Botany, Chemistry and Geology will be opened at the University of Minnesota, to be continued during the month of July. The object of the courses is to afford teachers and all others interested in the practical study of science an opportunity of becoming acquainted with the methods of original investigation and of teaching from actual specimens. Owing to the limited time available for the work, it has been thought best to concentrate the instruction as much as possible to a limited range of studies, and to make even a single science a specialty in each year. Accordingly, Prof. C. E. Bessey, of the Iowa Agricultural College, one of the most enthusiastic and accomplished teachers in our American Colleges, and the author of a recent text-book of Botany, has been secured to give a course in Botany This course will be accompanied by work in Chemistry and Geology.

The course in Botany, by Prof. Bessey, will be substantially as follows: I. The General Histology of Plants, five days. II. The Structure of Cryptogams, seven days. III. The Structure of Phanerogams, six days. IV. The Special Physiology of the Higher Plants, several days.

The course will consist to a great extent of laboratory work with the Compound Microscope, the student thus acquiring for himself the power of investigating plant structure. Each afternoon the laboratory work will be preceded by a lecture.

The lectures in Chemistry, by Prof. Dodge, will comprise a presentation of the main points in the modern theories of the science, and a review of some of the applications of Chemistry to practical objects. Experimental illustrations will be introduced.

In Geology, the following course will be given by Prof. Hall: 1. A Statement of some Recent Theories in Dynamical Geology. 2. An Outline of Historical Geology. 3. Several lectures on the Geology of Minnesota.

The equipment for carrying on the work of this Summer school will be ample. The museums, laboratories, and conservatory of the University will be brought into constant use. Twenty-five compound microscopes will be furnished; yet owners of good instruments are advised to bring their own.

Persons preferring to devote their time to Chemistry, Geology and Mineralogy, or Zoology, will have every facility offered them in these departments.

The only charge for attendance will be a laboratory fee of $1.00 per week, and any person desiring to attend the lectures only can do so without charge.

Good board can be obtained for from $4.00 to $6 00 per week.

The course is undertaken principally to offer the teachers of the State an opportunity to prepare themselves still better for teaching the sciences. If sufficient encouragement be given it is proposed to continue the work in following years.

Lectures and laboratory work will begin Tuesday, July 5th, at 9:30 A. M., and continue four weeks.

AN ACT FOR THE ENCOURAGEMENT OF HIGHER EDUCATION.

Be it enacted by the Legislature of the State of Minnesota.

SECTION 1. The Governor, Superintendent of Public Instruction, and the President of the University of Minnesota, ex-officio, are hereby constituted a Board of Commissioners on preparatory schools for the encouragement of higher education in this State. This Board shall be called the "High School Board," and shall perform the duties and have and exercise the powers hereinafter mentioned.

SEC. 2. Any public graded school in any city or incorporated village or township or organized into a district, under the so-called township system, which school shall give preparatory instruction according to the terms and provisions of this act, and shall admit students of either sex from any part of the State without charge for tuition, shall be entitled to receive pecuniary aid, as hereinafter specified. Provided, however, that no such school shall be required to admit non-resident pupils unless they shall pass an examination in all the branches prescribed by law as requisite to a third grade county certificate.

SEC. 3. The said Board shall require of the schools applying for such pecuniary aid, as pre-requisite to receiving such aid, compliance with the following conditions, to wit:

FIRST. That there be regular and orderly courses of study, embracing all the branches pre-requisite for admission to the collegiate department of the University of Minnesota.

SECOND. That the said schools receiving pecuniary aid under this act shall at all times permit the said Board of Commissioners, or any of them, to visit and examine the classes pursuing the said preparatory courses.

SEC. 4. Requires inspection, report and approval before payment of money.
SEC. 5. Appropriates $20,000 annually—$400 to each approved school.
SEC. 6. Requires members to serve without compensation, but pays expenses.
SEC. 7. Grants power to make all necessary and suitable rules and regulations.
SEC. 8. Requires records and an annual report.
SEC. 9. This act shall take effect and be in force from and after its passage.
Approved March 3, 1881.

The High School Board was duly organized under this law, May 20th, 1881, by the adoption of a resolution declaring that "the Governor of the State shall be President, the Superintendent of Public Instruction shall be secretary, and the President of the State University shall have charge of all examinations required under the act."

Copies of the law, of the regulations adopted by the Board, and of the course of studies may be had upon application to the secretary, Hon. D. Burt, State Supt., St. Paul, Minn.

Correspondence relating to examinations only should be addressed to the President of the University of Minnesota, Minneapolis, Minn.

ENTRANCE EXAMINATIONS, 1881-82.

APPOINTMENTS:

I. CENTRAL DISTRICT—PROFS. BROOKS AND SANFORD IN CHARGE.

ST. PAUL	June 6	FARMINGTON	June 7
HASTINGS	" 8	GLENCOE	" 9
ANOKA	" 10	STILLWATER	" 14
DULUTH	June 16		

II. SOUTHWESTERN DISTRICT—PROFS. MOORE AND BENTON IN CHARGE.

FARIBAULT	June 7	WINNEBAGO CITY	June 15
OWATONNA	" 9	MANKATO	" 17
WASECA	" 11	ST. PETER	" 20
ALBERT LEA	" 13	LE SUEUR	" 22

III. SOUTH EASTERN DISTRICT—PROFS. MARSTON AND DOWNEY IN CHARGE.

SPRING VALLEY	June 7	ROCHESTER	June 16
LANESBORO	" 9	WINONA	" 20
AUSTIN	" 13	LAKE CITY	" 22
RED WING	June 24		

IV. NORTHERN DISTRICT—PROFS. HUTCHINSON AND CLARKE IN CHARGE.

ST. CLOUD	June 7	SAUK CENTRE	June 9
BRAINARD	" 9	LITCHFIELD	" 14

V, IN MINNEAPOLIS, AT THE UNIVERSITY, JUNE 22, AND AT THE BEGINNING OF THE NEW YEAR, SEPT. 7.

1. Examinations begin at 9 A. M., unless otherwise announced.
2. All persons desiring to enter the University are admitted to these examinations.
3. Examinations are marked on a scale of 100; the passing number is 65.
4. Examinations in such subjects as are passed will hold good for two years.
5. Applicants may be examined on part of the subjects of any course, and postpone the remainder to some later examination.
6. Examinees will be notified of the value of their papers on each subject in which they are examined

ALMANAC, 1881-82.

SEPTEMBER, 1881. [FIRST TERM.]

1	Thurs.	Executive Committee meet.
6	Tues.	YEAR 1881-82 BEGINS. Gen Faculty meet 9 a. m. Spec. Faculty, on call.
7	Wed.	Entrance examinations 8:30 a. m.
8	Thurs.	Entrance exams. continued.
9	Fri.	Exams. for advanced rank.
10	Sat.	Examinations concluded. 1 w.
11	Sun.	
12	Mon.	
13	Tues.	Recitations and lectures begin
14	Wed.	Library and Museum open.
15	Thurs.	
16	Fri.	
17	Sat.	Gen. Faculty meet Saturdays,
18	Sun.	[4 p. m.....2 w.
19	Mon.	[m.
20	Tues.	Literary Societies meet 7:30 p.
21	Wed.	Military instruction begins.
22	Thurs.	
23	Fri.	
24	Sat.	.....3 w.
25	Sun.	
26	Mon.	
27	Tues.	
28	Wed.	
29	Thurs.	
30	Fri.	Executive Committee meet.

OCTOBER, 1881. [FIRST TERM.]

1	Sat.	Fac. Coll. S. L. & A. 5 p. m. 4 w.
2	Sun.	
3	Mon.	
4	Tues.	
5	Wed.	
6	Thurs.	
7	Fri.	
8	Sat.	.....5 w.
9	Sun.	
10	Mon.	
11	Tues.	
12	Wed.	
13	Thurs.	State Constitution adptd. 1857.
14	Fri.	
15	Sat.	.....6 w.
16	Sun.	
17	Mon.	
18	Tues.	
19	Wed.	
20	Thurs.	
21	Fri.	
22	Sat.	.....7 w.
23	Sun.	
24	Mon.	
25	Tues.	
26	Wed.	
27	Thurs.	
28	Fri.	
29	Sat.	.....8 w.
30	Sun.	
31	Mon.	Executive Committee meet.

NOVEMBER, 1881. [FIRST TERM.]

1	Tues.	
2	Wed.	
3	Thurs.	
4	Fri.	
5	Sat.	Fac. Coll. S. L. & A. 5 p. m. 9 w.
6	Sun.	
7	Mon.	
8	Tues.	Election Day.
9	Wed.	
10	Thurs.	
11	Fri.	
12	Sat.	.....10 w.
13	Sun.	
14	Mon.	
15	Tues	
16	Wed.	
17	Thurs.	
18	Fri.	
19	Sat.	.....11 w.
20	Sun.	
21	Mon.	
22	Tues.	
23	Wed.	
24	Thurs.	National Thanksgiving Day.
25	Fri.	
26	Sat.	.....12 w.
27	Sun.	
28	Mon.	
29	Tues.	Term examination begin.
30	Wed.	" " con. Ex. Com. meet.

DECEMBER, 1881. [FIST TERM ENDS. 2D TERM BEGINS.]

1	Thurs.	FIRST TERM ENDS.
2	Fri.	Recess—By general consent
3	Sat.	not taken, but the time
4	Sun.	added to the Christmas
5	Mon.	holidays.]
6	Tues.	SECOND TERM BEGINS.
7	Wed.	Recitations and lectures begin
8	Thurs.	
9	Fri.	
10	Sat.	Gen. Faculty meet Saturdays,
11	Sun.	[4 p. m.....1 w.
12	Mon.	[0f Regents.
13	Tues.	ANNUAL MEETING of the Board
14	Wed.	Fac. Coll. Agr. meet 4 p. m.
15	Thurs.	Fac. Coll. Mech. Arts meet 4
16	Fri.	[p. m.
17	Sat.	.....1 w.
18	Sun.	
19	Mon.	
20	Tues.	
21	Wed.	
22	Thurs.	
23	Fri.	
24	Sat.	.....3 w.
25	Sun.	CHRISTMAS DAY.
26	Mon.	
27	Tues.	Recess to January 3d.
28	Wed.	
29	Thurs.	
30	Fri.	
31	Sat.	Executive Committee meet.

JANUARY, 1882. [SECOND TERM.]		FEBRUARY, 1882. [SECOND TERM.	
1 Sun.	NEW YEAR'S DAY.	1 Wed.	
2 Mon.		2 Thurs.	
3 Tues.		3 Fri.	
4 Wed		4 Sat.	Fac. Coll. S. L & A. 5 p. m. 8 w.
5 Thurs.		5 Sun.	
6 Fri.			
7 Sat.	Fac. Coll. S. L & A. meet 5 p.	6 Mon.	
8 Sun.	[m.	7 Tues.	
9 Mon.		8 Wed.	
10 Tues.		9 Thurs.	
11 Wed.		10 Fri.	
12 Thurs.		11 Sat.	.....9 w.
13 Fri.		12 Sun.	
14 Sat.	.....5 w,		
15 Sun.		13 Mon.	
16 Mon.		14 Tues.	
17 Tues.		15 Wed.	
18 Wed.		16 Thurs.	
19 Thurs.		17 Fri.	
20 Fri.		18 Sat.	University Charter, 1868..10 w.
21 Sat.	.....6 w.	19 Sun.	
22 Sun.			
23 Mon.		20 Mon.	
24 Tues.		21 Tues.	
25 Wed.		22 Wed	WASHINGTON'S BIRTHDAY.
26 Thurs.		23 Thurs.	
27 Fri.	.....7 w.	24 Fri.	
28 Sat.		25 Sat.	.....11 w.
29 Sun.		26 Sun.	
30 Mon.		27 Mon.	
31 Tues.	Executive Committee meet.	28 Tues.	Term Examinations begin.

MARCH, 1882 [SECOND TERM ENDS. [THIRD TERM BEGINS.]		APRIL, 1882. THIRD TERM.	
1 Wed.	Term Examinations.		
2 Thurs.	SECOND TERM CLOSES.	1 Sat.	Fac. Coll. S. L. & A. 5 p. m. 4 w.
3 Fri.		2 Sun.	
4 Sat.		3 Mon.	
5 Sun.		4 Tues.	
6 Mon.		5 Wed.	
7 Tues.	THIRD TERM BEGINS.	6 Thurs.	
8 Wed.	Recitations and lectures begin	7 Fri.	GOOD FRIDAY.
9 Thurs.		8 Sat.	.....5 w.
10 Fri.		9 Sun.	
11 Sat.	Gen. Faculty meet Saturdays,	10 Mon.	
12 Sun.	[4 p m,....1 w.	11 Tues.	
13 Mon.		12 Wed	
14 Tues.		13 Thurs.	
15 Wed.		14 Fri.	
16 Thurs.	Fac. Coll. Agr. meet 4 p. m.	15 Sat.	.....7 w.
17 Fri.		16 Sun.	
18 Sat.	....2 w.	17 Mon.	
19 Sun.		18 Tues.	
20 Mon.		19 Wed.	
21 Tues.		20 Thurs.	
22 Wed		21 Fri.	
23 Thurs.		22 Sat.	.....7 w.
24 Fri.		23 Sun.	
25 Sat.	.....3 w.	24 Mon.	
26 Sun.		25 Tues.	
27 Mon.		26 Wed.	
28 Tues.		27 Thurs.	
29 Wed.		28 Fri.	
30 Thurs.		29 Sat.	Executive Committee meet.
31 Fri	Executive Committee meet.	30 Sun.	[8w.

MAY, 1882. [THIRD TERM.]			JUNE, 1882. [THIRD TERM.	
1	Mon.			
2	Tues.			
3	Wed.			
4	Thurs.			
5	Fri.			
6	Sat.	Fac. Coll. S. L. & A. 5 p. M. 9 w.	1 Thurs.	THE COMMMENCEMENT.
7	Sun.			
8	Mon.			
9	Tues.			
10	Wed.			
11	Thurs.			
12	Fri.			
13	Sat.	.....10 w.		
14	Sun.		2 Fri	Meeting of Board of Regents.
15	Mon.			
16	Tues.			
17	Wed.			
18	Thurs.			
19	Fri.			
20	Sat.	.....11 w.		
21	Sun.			The First Term of the University year 1882-83 will begin September 5th, 1882, at 9:00 a. m.
22	Mon.			
23	Tues.	Senior examinations begin.		
24	Wed.	Library closes for inventory.		
25	Thurs.			
26	Fri.	Term examinations.		
27	Sat	Term examinations.....12 w.		
28	Sun.	p. m.		
29	Mon.	Literary Societies address. 8		
30	Tues.	SENIOR CLASS DAY.		
31	Wed.	ALUMNI DAY.		

SPECIAL NOTICE.

The necessity of immediately rebuilding the State Capitol, destroyed by fire in March last, has constrained the Board of Regents not to press upon the State Treasury for immediate payment of the sum ($30,000) appropriated by the Legislature of 1881.

The whole sum appropriated ($180,000) will be paid within the time (six years) fixed by law. This delay may prove no injury, since it gives opportunity for careful and mature study of the plans.

The new buildings to be erected and equipped are: (1) a farm-house, (2) an engineering building, (3) an astronomical observatory, (4) a military building, to include a gymnasium, (5) a museum, (6) a library.

CONTENTS.