
THE UNIVERSITY
OF MINNESOTA
OMNIBUS
COMMUNE VINCULUM
ARTIBUS

The Annual Catalogue, 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 Catalogue will be sent gratuitously, postage paid, to all persons who apply for it.

THE UNIVERSITY OF MINNESOTA.

CATALOGUE

FOR THE YEAR

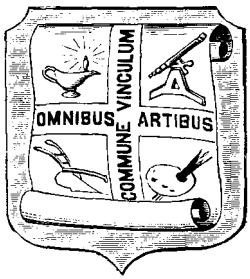
1888-89,

AND

ANNOUNCEMENT

FOR THE YEAR

1889-90.



BY THE UNIVERSITY.

MINNEAPOLIS.

1889.

ALMANAC, 1889-90.

SEPTEMBER.

3 T. Year 1889-90 begins. Entrance Examinat'ns.
4 W. " "
5 T. " "
6 F. " "
7 S. " "
8 S. ....1 w.
9 M. Examinations end. Registration begins. Library opens.
10 T. Registration completed Classes called 10:45.
11 W.
12 T.
13 F.
14 S. ....2 w.
15 S. [p.m.
16 M. Literary societies 7:00
17 T.
18 W.
19 T.
20 F.
21 S. ....3 w.
22 S.
23 M.
24 T.
25 W.
26 T.
27 F.
28 S. ....4 w.
29 S.
30 M.

OCTOBER.

1 T. Medical College opens. Entrance exam., 9 a. m. Open'g address 7:30 p.m
2 W. Medical lectures begin.
3 T.
4 F.
5 S. ....5 w.
6 S.
7 M.
8 T.
9 W.
10 T.
11 F.
12 S. ....6 w.
13 S.
14 M.
15 T.
16 W.
17 T.
18 F.
19 S. ....7 w.
20 S.
21 M. [opens.
22 T. School of Agriculture
23 W.
24 T.
25 F.
26 S. ....8 w.
27 S.
28 M.
29 T.
30 W.
31 T.

NOVEMBER.

1 F.
2 S. ....9 w.
3 S.
4 M.
5 T.
6 W.
7 T.
8 F.
9 S. ....10 w.
10 S.
11 M.
12 T.
13 W.
14 T.
15 F.
16 S. ....11 w.
17 S.
18 M.
19 T.
20 W.
21 T.
22 F.
23 S. ....12 w.
24 S.
25 M. Term examinations.
26 T. Term examinations.
27 W. Term examinations.
28 T. THANKSGIVING DAY.
29 F. Examinations for conditioned students.
30 S. 1ST TERM ENDS....13 w.

DECEMBER.

1 S.
2 M.
3 T. SECOND TERM BEGINS.
4 W.
5 T.
6 F.
7 S. ....1 w.
8 S.
9 M. [of Regents.
10 T. Annual meeting Board
11 W.
12 T.
13 F.
14 S. ....2 w.
15 S.
16 M.
17 T.
18 W.
19 T.
20 F. ....3 w.
21 S. Holiday recess begins
22 S.
23 M.
24 T.
25 W. CHRISTMAS DAY.
26 T.
27 F.
28 S. ....
29 S.
30 M.
31 T.

JANUARY.

1 W. NEW YEAR'S DAY.
2 T. Medical work resumed.
3 F.
4 S.
5 S. ....
6 M.
7 T. Work in other depart-
8 W. [ments resumed.
9 T.
10 F.
11 S. ....4 w.
12 S.
13 M.
14 T.
45 W.
16 T.
17 F.
18 S. ....5 w.
19 S.
20 M.
21 T.
22 W.
23 T.
24 F.
25 S. ....6 w.
26 S.
27 M.
28 T.
29 W.
30 T.
31 F.

FEBRUARY.

1 S. ....7 w.
2 S.
3 M.
4 T.
5 W
6 T.
7 F.
8 S. ....8 w.
9 S.
10 M.
11 T.
12 W.
13 T.
14 F.
15 S. ....9 w.
16 S.
17 M.
18 T. University charter, 1868
19 W.
20 T.
21 F. [DAY.....10 w.
22 S. WASHINGTON'S BIRTH-
23 S.
24 M.
25 T.
26 W.
27 T.
28 F.

ALMANAC, 1889-90.

MARCH.			APRIL.			MAY.		
1	S.	.11 w.	1	T.	Spring term Medical	1	T.	
2	S.		2	W.	[College begins.	2	F.	
3	M.	Term examinations.	3	T.		3	S.	.8 w.
4	T.	Term examinations.	4	F.	[closes.....4 w.	4	S.	
5	W.	Term examinations.	5	S.	School of Agriculture	5	M.	
6	T.	Examinations for con-	6	S.		6	T.	
7	F.	ditioned students.	7	M		7	W.	
8	S.	2D TERM CLOSES.....12 w.	8	T.		8	T.	
9	S.		9	W.		9	F.	
10	M.		10	T.		10	S.	.9 w.
11	T.	THIRD TERM BEGINS.	11	F.		11	S.	
12	W.		12	S.	.5 w.	12	M.	
13	T.		13	S.		13	T.	
14	F.		14	M.		14	W.	
15	S.	.1 w.	15	T.		15	T.	
16	S.		16	W.		16	F.	
17	M.		17	T.		17	S.	.10 w.
18	T.		18	F.	Good Friday.	18	S.	
19	W.		19	S.	Holiday.....6 w.	19	M.	
20	T.		20	S.	Easter Day.	20	T.	Senior examinations.
21	F.		21	M.		21	W.	Senior examinations.
22	S.	.2 w.	22	T.		22	T.	
23	S.		23	W.		23	F.	
24	M.	Examinations for pro-	24	T.		24	S.	.11 w.
25	T.	motion and degrees	25	F.		25	S.	
26	W.	in Medical College.	26	S.	.7 w.	26	M.	
27	T.		27	S.		27	T.	
28	F.		28	M.		28	W.	Library closes.
29	S.	.3 w.	29	T.		29	T.	Term examinations.
30	S.		30	W.		30	F.	Term examinations.
31	M.					31	S.	Term exam's.....12 w.

COMMENCEMENT WEEK, 1890.

SUNDAY,	JUNE 1.	BACCALAUREATE SERVICE, - -	3:00 P. M.
MONDAY,	JUNE 2.	FIELD DAY SPORTS, - -	2:00 P. M.
		ORATORICAL CONTEST, - - -	8:00 P. M.
TUESDAY,	JUNE 3.	SENIOR CLASS DAY EXERCISES, -	2:00 P. M.
WEDNESDAY,	JUNE 4.	ALUMNI DAY—	
		Business Meeting, - - -	10:00 A. M.
THURSDAY,	JUNE 5.	COMMENCEMENT DAY—	
		Graduating Exercises, - -	9:00 A. M.
		Commencement Dinner, - -	1:00 P. M.
		Drill and Dress Parade of the Military Department, - -	4:00 P. M.
		President's Reception, - -	8:00 P. M.
FRIDAY,	JUNE 6.	SUMMER VACATION BEGINS.	

The year 1890–'91 will begin September 2d, 1890.

BOARD OF REGENTS.

The HON. GREENLEAF CLARK, M. A., ST. PAUI, - - 1889.
The HON. CUSHMAN K. DAVIS, M. A., ST. PAUL, - - - 1889.
The HON. KNUTE NELSON, ALEXANDRIA, - - - - 1890.
The HON. JOHN S. PILLSBURY, MINNEAPOLIS, - - - 1890.
The HON. HENRY H. SIBLEY, LL.D., ST. PAUL, - - 1891.
The HON. GORDON E. COLE, FARIBAULT, - - - - 1891.
The HON. WILLIAM LIGGETT, BENSON, - - - - 1891.
The HON. WILLIAM R. MERRIAM, ST. PAUL, - - *Ex-Officio.*
The Governor of the State.
The HON. DAVID L. KIEHLE, M. A., ST. PAUL, - - *Ex-Officio.*
The State Superintendent of Public Instruction.
CYRUS NORTHROP, LL. D., MINNEAPOLIS, - - - *Ex-Officio.*
The President of the University.

OFFICERS OF THE BOARD.

The HON. HENRY H. SIBLEY, - - - - - - *President.*
The HON. DAVID L. KIEHLE, - - - *Recording Secretary,*
PRESIDENT CYRUS NORTHROP, - - *Corresponding Secretary.*
H. P. BROWNE [Address care of Commercial Bank], - *Treasurer.*

THE EXECUTIVE COMMITTEE.

The HON. JOHN S. PILLSBURY, *Chairman.*
The HON. DAVID L. KIEHLE.
CYRUS NORTHROP, *Clerk.*

FACULTY AND INSTRUCTORS.

CYRUS NORTHROP, LL. D., President, 519 Tenth Avenue S. E.

WILLIAM W. FOLWELL, LL. D., 1020 Fifth Street S. E.
Professor of Political Science and Literature.

JABEZ BROOKS, D. D., 1708 Laurel Avenue.
Professor of the Greek Language and Literature.

NEWTON H. WINCHELL, M. A., 10 State Street S. E.
Professor of Geology and Mineralogy, in charge of the Geological Survey. Curator of the General Museum.

CHARLES N. HEWITT, M. D., Red Wing.
University Professor of Sanitary Science.

JOHN G. MOORE, B. A., 2850 University Avenue S. E.
Professor of the German Language and Literature.

CHRISTOPHER W. HALL, M. A., 803 University Avenue S. E.
Professor of Geology, Mineralogy and Biology. Assistant Curator of the Museum.

JOHN C. HUTCHINSON, B. A., 3806 Nicollet Avenue.
Associate Professor of Greek and Mathematics.

JOHN S. CLARKE, B. A., 1523 University Avenue S. E.
Professor of the Latin Language and Literature.

MATILDA J. WILKIN, B. L., 618 Fifteenth Avenue S. E.
Instructor in English and German.

JOHN F. DOWNEY, M. A., C. E. 9 Florence Court.
Professor of Mathematics and Astronomy.

WILLIAM A. PIKE, S. B., 2525 University Avenue S. E.
Professor of Engineering.

JAMES A. DODGE, Ph. D., 813 Fifth Street S. E.
Professor of Chemistry.

MARIA L. SANFORD, 1401 Sixth Street S. E.
Professor of Rhetoric and Elocution.

CHARLES W. BENTON, B. A., 1427 University Avenue S. E.
Professor of the French Language and Literature.

O. J. BREDA,
Professor of the Scandinavian Languages and Literatures.

GEORGE EDWIN MACLEAN, Ph. D., 328 Tenth Avenue S. E.
Professor of the English Language and Literature.

CHARLES F. SIDENER, B. S., 1316 Fifth Street S. E.
Instructor in Chemistry.

HENRY F. NACHTRIEB, B. S., 406 Thirteenth Avenue S. E.
Professor of Animal Biology.

HARRY PRATT JUDSON, M. A., 316 Tenth Avenue S. E.
Professor of History and Lecturer on Pedagogics.

FREDERICK S. JONES, B. A.,
Instructor in Physics.

WILLIAM R. HOAG, B. C. E., 1516 Seventh Street S. E.
Assistant Professor Civil Engineering.

JOHN H. BARR, B. M. E., 428 University Avenue S, E.
Assistant Professor of Mechanical Engineering.

JOHN WHITMORE, A. B., Florence Court.
Instructor in Physics.

CONWAY MCMILLAN, M. A., 803 University Avenue S. E.
Instructor in Botany.

HENRY T. ARDLEY, 1521 University Avenue S. E.
Instructor in Free Hand Drawing, Designing and Wood Carving.

JOHN DEWEY, PH. D., 925 Fifteenth Avenue S. E.
Professor of Mental and Moral Philosophy and Logic.

HON. WILLIAM S. PATTEE, M. A., Northfield.
Dean of the Department of Law and Professor of the Law of Contracts.

HON. S. J. R. MCMILLAN, St. Paul.
Lecturer on Constitutional Law.

HON. GORDON E. COLE, Faribault.
Lecturer on Corporations.

HON. CHARLES D. KERR, St. Paul.
Lecturer on the Law of Partnership.

CHARLES A. WILLARD, Minneapolis.
Lecturer on the Law of Bailments.

JUDGE JAMES O. PIERCE, Minneapolis.
Lecturer on the Law of Domestic Relations.

HON. CHARLES E. FLANDREAU, St. Paul.
Lecturer on the Law of Torts.

JOHN B. ATWATER, B. A., Minneapolis.
Lecturer on the Law of Real Property.

HON. C. D. O'BRIEN, St. Paul.
Lecturer on Criminal Law and Procedure.

GEORGE N. BAXTER, St. Paul.
Lecturer on Common Law and Code Pleading.

HON. W. D. CORNISH, St. Paul.
Lecturer on Life and Fire Insurance.

JUDGE JOHN M. SHAW, Minneapolis.
Lecturer on Evidence.

JUDGE P. M. BABCOCK, Minneapolis.
Lecturer on Wills and Administration.

CHARLES W. BUNN, St. Paul.
Lecturer on Suretyship and Mortgages, Practice in United States Courts.

SUMNER LADD, Minneapolis.
Lecturer on the Law of Taxation.

HON. GEORGE B. YOUNG, St. Paul.
Lecturer on the Conflict of Laws.

PERRY H. MILLARD, M. D., St. Paul,
Dean of the Department of Medicine and Surgery and Professor of Clinical Surgery.

RICHARD O. BEARD, M. D., Minneapolis.
Professor of Physiology.

C. J. BELL, A. M., 39 Eleventh Street S.
Professor of Chemistry.

H. M. BRACKEN, M. D., L. R. C. S. E., Minneapolis.
Professor of Materia Medica and Therapeutics.

ALBERT E. SENKLER, M. D., St. Paul.
Professor of Theory and Practice of Medicine.

CHARLES H. HUNTER, A. M., M. D., Minneapolis.
Professor of Clinical Medicine.

EVERTON J. ABBOTT, A. B., M. D., St. Paul.
Professor of Clinical Medicine.

CHARLES A. WHEATON, M. D., St. Paul.
Professor of Principles and Practice of Surgery.

FREDERICK A. DUNSMOOR, M. D., Minneapolis.
Professor of Clinical and Operative Surgery.

PARKS RITCHIE, M. D., St. Paul.
Professor of Obstetrics.

ALEX. J. STONE, LL. D., M. D., St. Paul.
Professor of Diseases of Women.

JOHN F. FULTON, Ph. D., M. D., St. Paul.
Professor of Opthalmology and Otology.

FRANK ALLPORT, M. D., Minneapolis.
Clinical Professor of Opthalmology and Otology.

C. EUGENE RIGGS, A. M., M. D. St. Paul.
Professor of Nervous and Mental Diseases.

AMOS W. ABBOTT, M. D., Minneapolis.
Clinical Professor of Diseases of Women.

CHARLES H. BOARDMAN, M. D., St. Paul.
Professor of Medical Jurisprudence.

ARTHUR B. ANCKER, M. D., St. Paul.
Professor of Hygiene.

JAMES H. DUNN, M. D., Minneapolis.
Professor of Diseases of the Genito Urinary Organs.

CHAS. L. WELLS, A. M., M. D., Minneapolis.
Professor of Diseases of Children.

JAMES E. MOORE, M. D., Minneapolis.
Professor of Orthopædic Surgery.

M. P. VANDERHORCK, M. D., Minneapolis.
Professor of Diseases of the Skin.

W. S. LATON, M. D., Minneapolis.
Professor of Diseases of the Throat and Nose.

J. CLARK STEWART, B. S., M. D., Minneapolis.
Professor of Histology, Pathology and Bacteriology.

J. W. BELL, M. D., Minneapolis.
Professor of Physical Diagnosis and Diseases of the Chest.

E. C. SPENCER, A. B., M. D., St. Paul.
Professor of Surgical Anatomy.

A. B. CATES, A. M., M. D., Minneapolis.
Adjunct Professor of Obstetrics.

A. MCLAREN, A. B., M. D.,
Adjunct Professor of Gynecology.

W. A. JONES, M. D., Minneapolis.
Adjunct Professor of Nervous and Mental Diseases.

BURNSIDE FOSTER, M. D., Minneapolis.
Demonstrator of Anatomy.

WILLIAM E. LEONARD, A. B., M. D., Minneapolis.
Professor of Materia Medica and Therapeutics in the College of Homeopathy.

HENRY HUTCHINSON, M. D., St. Paul.
Professor of Theory and Practice of Medicine in the College of Homeopathy.

GEORGE E. RICKER, A. B., M. D., Minneapolis.
Professor of Clinical Medicine and Dermatology in the College of Homeopathy.

ROBT. D. MATCHAN, M. D., Minneapolis.
Professor of Principles and Practice of Surgery in the College of Homeopathy.

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Professor of Obstetrics in the College of Homeopathy.

ALBERT E. HIGBEE, M D., Minneapolis.
Clinical Professor of Gynecology in the College of Homeopathy.

JOHN F. BEAUMONT, M. D.. Minneapolis.
Professor of Opthalmology in the College of Homeopathy.

HENRY W. BRAZIE, M. D., Minneapolis.
Professor of Pædology in the College of Homeopathy.

Professor of Diseases of the Nervous System in the College of Homeopothy.

WARREN S. BRIGGS, B. S., M. D., St. Paul.
Professor of Clinical and Orthœpædic Surgery in the College of Homeopathy.

EUGENE L. MANN, A. M., M. D., St. Paul.
Professor of Physical Diagnosis and Laryngology in the College of Homeopathy.

B. HARVEY OGDEN, A. M., M. D.. St. Paul.
Adjunct Professor of Gynecology and Professor of Genito Urinary Diseases in the College of Homeopathy.

HENRY C. ALDRICH, D. D. S., M. D., Minneapolis.
Adjunct Professor of Materia Medica and Therapeutics in the College of Homeopathy.

D. A. STRICKLER, M. D., Duluth.
Professor of Otology and Rhinology in the College of Homeopathy.

CHAS. M. BAILEY, D. M. D., Minneapolis.
Professor of Prosthetic Dentistry in the College of Dentistry.

THOMAS C. WEEKS, D. D. S., Minneapolis.
Professor of Operative Dentistry.

EDWARD H. ANGLE, D. D. S., Minneapolis.
Professor of Histology and Orthodontia in the College of Dentistry.

L. D. LEONARD, Minneapolis.
Professor of Pathology and Oral Surgery in the College of Dentistry.

ALBERT J. SCHUMACHER. 472 Hopkins St., St. Paul.
Instructor in Mechanical Drawing.

EDWIN F. GLENN, U. S. A., 446 Portland Avenue, St. Paul.
Professor of Military Science and Tactics.

SAMUEL B. GREEN, B. S., St. Anthony Park.
Horticulturist of the Experiment Station.

WILLET M. HAYES, B. S. A., St. Anthony Park.
Assistant in Agriculture.

CHARLES POUMEROULIE, St. Anthony Park.
Assistant in Horticulture.

OTTO LUGGER, St. Anthony Park.
Entomologist and Botanist of the Experiment Station.

W. W. PENDERGAST.
Principal of the School of Agriculture and Instructor in Physics, Physical Geography and Mathematics, at the Experiment Station.

H. W. BREWSTER, A. B.
Assistant Principal of the School of Agriculture, and Instructor in Chemistry, at the Experiment Station.

DAVID N. HARPER, Ph. B.
Chemist of the Experiment Station.

OLAF SCHWARTZKOPFF, V. M. D.
Veterinarian of the Experiment Station.

DANIEL W. SPRAGUE.
Instructor in Penmanship and Accounts at the Experiment Station.

C. R. ALDRICH.
Instructor in Drawing and Manual Training at the Experiment Station.

W. J. BRADY, D. D. S.
Demonstrator, in charge of Infirmary and Technical Teaching, College of Dentistry.

ALBERT I. JONES.
Instructor in Metal Working.

GRANT A. COVELL,
Instructor in Mechanical Engineering and Wood Work.

GEORGE A. HENDRICKS, M. S., M. D.
Professor of Anatomy.

FRANK B. KELLOGG. St. Paul.
Lecturer on Equity, Jurisprudence and Procedure.

NELSON WYLIE MCLAIN.
Director of the Experiment Station.

OTHER OFFICERS.

OSCAR W. OESTLUND, B. A., 1315 Seventh Street S.
Entomologist, Assistant on Geological Survey.

FRANK A. JOHNSON, B. S., 618 Fifteenth Avenue S. E.
Registrar.

EMMA MAES, B. L., 1717 Fourth Street S. E.
Assistant Librarian.

WILLIAM H. YATTAW, Main Building.
Janitor.

EDWIN ANTHONY CUZNER, 214 State Street S. E.
Superintendent of the Plant House.

CHARLES H. WHIPPS, 814 Humboldt Avenue N.
Engineer and Janitor, College Mechanic Arts.

STUDENTS.

ALPHABETICAL ROLL BY CLASSES, 1888-89.

I. GRADUATE STUDENTS, 34.

Hagop H. Acterian, A. B.,	Bates College.
George Briggs Aiton, M. A., '87.	University of Minnesota.
John Merton Aldrich, B. S., '88.	Dakota Agricult'l College.
—Jennie May Amy, B. L., '86.	University of Minnesota.
—Lucy Lloyd Baker, B. L., '88.	University of Minnesota.
—Mary Lathrop Benton, B. A., '85.	University of Minnesota.
—Mary Lizzie Blanchard, B. L., '88.	University of Minnesota.
—Mrs. M. L. Boynton,	
Henry Webb Brewster, B. A., '87.	University of Minnesota.
N. W. Carey, A. B., '78.	Yale College.
—Mrs. Ida M. Chilcote, M. L.,	Illinois College.
Albert Ernest Fillmore, A. B., '88.	University of Minnesota.
Albert Ames Finch, B. S., '87.	University of Minnesota.
—Ina Firkins, B. F., '88.	University of Minnesota.
Albert Graber, A. B., '88.	University of Minnesota.
Ulysses S. Grant, B. S., '88.	University of Minnesota.
Wm. Aaron Hadley, B. A., '81.	Earlham College.
—Maude Julia Lyall, B. L., '86.	University of Minnesota.
Laura Alberta Linton, B. S., '79.	University of Minnesota.
Julius E. Miner, B. A., '75.	University of Minnesota.
—Ida N. Mann, B. L., '85, B. A., '86.	University of Minnesota.
Oscar William Oestlund, B. A.,	Augustana College.
Robert E. Park, Ph. D.,	University of Michigan.
Eli Miller Skiff Pickett, B. A., '81.	University of Minnesota.
Albert W. Rankin, B. A., '80.	University of Minnesota.
—Jean Richardson, B. A., '86.	Oxford Female Seminary
—Marion Hooker Roe, B. L., '79.	University of Minnesota.
Harry G. Samson, A. B.	Yale College.
Charles Frederick Sidener, B. S., '80.	University of Minnesota.
Geo. Washington Soublette, B. A., '78.	Kirksville College, Mo.
—Elizabeth Waters, B. S., '85.	University of Wisconsin.
—Elizabeth Wallace, B. S.,	Vassar College.
John Whitmore, B. A., '80.	Yale College.
—Matilda Jane Campbell [Wilkin], B. L., '77.	University of Minnesota.

II. UNDERGRADUATE STUDENTS, 747.

[The second column gives the present home of the students. Where only a city address is given it is understood as being in Minneapolis. The third or last column gives the city address of those students whose homes are not in Minneapolis; and also the former home of students who came to the University from other places.]

SENIOR CLASS, 29.

CLASSICAL, 9.

Cheney, William Whittelsey,	1776 Freemont Av. S.	
Faries, John Culbert,	327 S. 7th.	
Giddings, Arthur E.,	Anoka.	1316 S. E. 5th.
Ladue, William Baker,	Salem, Oregon.	226 S. 10th.
MacGregor, Lane,	Oxford, Ohio.	1321 S. E. 6th.
—Sewall, Margaret Louisa,	481 Carroll St., St. Paul.	
—Strohmeier, Lydia Kathrina,	413 6th Av. N.	
Thomas, Nathaniel Seymour,	St. Paul.	501 S. E. 4th.
Triggs, Oscar Lovell,	628 15th Av. S. E.	Taopi.

SCIENTIFIC, 10.

Abernethy, Frank Sherman,	2101 N. 12th.	
Babcock, Earle Jay,	921 12th Av. S. E.	
—Countryman, Gratia Alta,	1329 S. E. 6th.	
Goode, John Paul,	Marion.	517 15th Av. S. E.
Jones, Frank Dumars,	1529 S. E. 4th.	
Lind, Alfred,	Winthrop.	424 14th Av. S. E.
Meacham, George Henry,	Prescott, Wis.	
Meeds, Alonzo Draper,	Stillwater.	1312 S. E. 7th.
—Smith, Ada Emily,	Algona, Iowa.	1329 S. E. 6th.
Stockwell, Walter Lincoln.	Anoka.	

LITERARY, 9.

Babcock, Kendric Charles,	S. Brookfield, N.Y.	517 15th Av. S.E.
—Baker, Rebecca Virginia,	701 Oak Lake Av.	
Brohough, Gustav O.,	Red Wing.	
—Elwell, Mattie Laura,	1002 16th Av. S. E.	
Johnson, Henry,	Sauk Centre.	3112 5th Av. S.
—McMillan, Jesse,	1226 S. E. 5th.	
Moffett, Robert Leslie,	1214 Linden Av.	
—Thompson, Maud,	1115 S. E. 5th.	
—Waters, Helen Edith,	1830 Clinton Av.	

CIVIL ENGINEER, 1.

Coe, Clarence Stanley,	2208 Western Av.	Iowa City, Ia.

JUNIOR CLASS, 63.

CLASSICAL, 13.

—Andrews, Hattie Louise,	432 S. E. 4th.	
—Bestor, May,	2625 2d Av. S.	
Christianson, Christian H.	Bath.	427 14th Av. S. E.
Conger, Charles Thompson,	78 Wash. Pl. N. Y.	1029 22d Av. N.
—Countryman, Lana Mariah,	1329 S. E. 6th.	
Fryberger, Harrison Earl,	1204 S. E. 4th.	Red Wing.
—Gregory, Lillian Arethusa,	Addison, Vt.	420 N. E. 5th.
Kennedy, Louis Henry,	Litchfield.	1219 S. E. 4th.
Petri, Gustav Axel,	Rockford, Ill.	1428 S. 9th.
Phillips, Harry Otis,	1502 Nicollet Av.	
Pike, Joseph Brown,	408 18th Av. S. E.	St. Paul.
Rex, Milton,	808 Western Av.	
Wait, Fred Coggswell,	Winona.	1214 S. E. 5th.

SCIENTIFIC, 25.

Allen, Edmund Pratt,	328 S. 10th.	
Baily, Henry Patterson,	820 1st Av. S.	
Beach, William Artemus,	323 20th Av. S.	
Brabec, Frank Joseph,	Hutchinson.	1514 S. E. 7th.
Christianson, Peter,	Bath.	415 15th Av. S. E.
Cotton, Henry,	Prestott, Wis.	516 14th Av. S. E.
Covell, Frank Edward,	314 S. E. 9th.	
Cutts, Charles Rollin E. M.,	Forest City.	1113 S. E. 4th.
Dodge, Warren Maynard,	Farmington.	622 14th Av. S. E.
Grant, James Colfax,	200 W. 19th.	
Gross, Otis Carsley,	Pickwick.	1113 S. E. 4th.
Jackson, Charles William,	Brooklyn Centre.	
*—Jones, Jennie Louise,	1529 S. E. 4th.	
Kennedy, Harry Martin,	Litchfield.	1219 S. E. 4th.
Kennedy, Patrick,	Oshawa.	214 S. E. State.
Lum, Bert Frank,	109 Highland Av.	
—Montgomery, Louise,	St. Cloud.	1314 S. E. 6th.
—Morin, Margaret Belle,	Albert Lea.	720 15th Av. S. E.
Richardson, Herbert Gilman,	2738 6½th Av. S.	
Richardson, Oscar Kelsey,	2821 15th Av. S.	
Shaw, Albert Woodward,	Rochester.	1413 S. E. University.
Spaulding, Edward Martin,	2025 Clinton Av.	
West, Max,	1314 S. E. 6th.	
Wilson, Ole Knute,	Gilchrist.	
Winslow, Walter Edwin,	1307 S. E. 6th.	

*Died April, 1889.

LITERARY, 11.

—Abernethy, Antoinette J.	2101 N. Fremont.	
Clark, Victor Selden,	620 10th Av. S.	
—Comfort, Sarah Catharine,	508 16th Av. S. E.	
Erf, James Edward,	Monroeville, O.	628 15th Av. S. E.
Grinager, William Fred,	Worthington.	322 13th Av. S. E.
—Mills, Mary,	Elk River.	720 15th Av. S. E.
—Nichol, Jesse May,	914 S. E. 7th.	
—Phillips, Edith Viola,	914 17th Av. S. E.	
Rutherford, William Henry A.	Rockford.	1105 Chestnut.
Serumgard, Siever,	1121 S. E. 4th.	Cooperstown, D. T.
Sommers, Charles Lyesring,	405 Ashland Av., St. Paul.	

CIVIL ENGINEERING, 11.

Burt, John Lucius,	2229 N. Emerson.	
Dann, Wilbur Wainright,	19 N. 8th.	
Douglass, Fred Luke,	300 Clinton Av.	Jerico Center, Vt.
Gilman, Fred Howard,	Rosemount.	517 15th Av. S. E.
Greenwood, Williston Wirt,	Mankato.	
Hayden, John Foot,	Fargo, Dak.	517 15th Av. S. E.
Higgins, John Turner,	Hutchinson.	1514 S. E. 7th.
Hoyt, William Hausmer,	714 15th Av. S.	
Mann, Fred Maynard,	1512 6th Av. S.	
Smith, William Carpenter,	St. Cloud.	
Trask, Birney Elias,	53 N. 12th.	

MECHANICAL ENGINEERING, 3.

Gerry, Martin Hugh, Jr.	3333 Cedar Av.	
Nilson, Thorwald Eid,	Atwater.	1828 Washington Av. S.
Woodward, Herbert M.,	Richfield.	628 15th Av. S. E.

SOPHOMORE CLASS, 70.

CLASSICAL, 16.

Blethen, Alden Joseph, Jr.,	216 S. 10th.	
Bray, Charles William,	Norwood.	1113 S. E. 4th.
Browne, Squire Fred,	Kalamazoo, Mich.	1113 S. E. 4th.
Dahl, John Frithiof,	1417 S. 2d.	
—Frye, Nora,	Elk River.	1628 S. E. 4th.
—Guthrie, Anna Loraine,	1420 S. E. 6th.	Luverne.
Guthrie, Charles Elise,	1420 S. E. 6th.	Luverne.
Hammond, Asa John,	Lake City.	1522 S. E. 7th.
Leach, Harlan Edward,	Spring Valley.	628 11th Av. S. E.
Merrill, John Ernest,	425 8th Av. S. E.	
Morris, William Beaumont,	Montclair, N. J.	1125 S. E. 5th.
Purdy, Milton Dwight,	White Hall, Ill.	628 15th Av. S. E.
Robinson, George,	Alexandria.	1223 S. E. 5th.

Soares, Theodore Geraldo,	1414 S. E. 7th.	
Sweigle, Curtiss,	Ortonville.	1113 S. E. 4th.
Webster, Albert Martin,	Hamline.	

SCIENTIFIC, 23.

Bebb, William Bennett,	924 13th Av. S. E.	
Boyum, Sjur Johnson,	De Lamere, Dak.	1507 S. 4th.
Chase, Charles Lincoln,	Hastings.	1312 S. E. 7th.
Dodge, Albert Arthur,	Farmington.	622 14th Av. S. E.
Gardiner, Edward Brown,	917 S. E. 5th.	
Gregerson, Lawrence,	Geneva.	427 14th Av. S. E.
—Guthrie, Dora May,	1420 S. E. 6th.	Luverne.
Hanft, Frank,	New Ulm.	1317 S. E. 6th.
Knappen, Theodore McF.,	2407 1st Av. S.	
Knauff. Muhlenberg Keller,	459 Laurel Av. St. Paul,	12 Flr. Ct.
Leeds, Warner Mifflin,	Lisbon, Dak.	928 S. E. 5th.
Lommen, Christian Peterson,	Spring Grove.	
March, Henry John,	2207 N. 12th.	
Matteson, Charles Dickerman,	Decorah, Ia.	1312 S. E. 7th.
—Montgomery, Frances,	St. Cloud.	1314 S. E. 6th.
Rustgard, John,	1128 S. E. 4th.	
Smith, Fred Pearson,	Le Sueur.	1515 S. E. University.
Smith, George Arthur,	Brown's Valley.	1113 S. E. 4th.
Snedicor, Marshall D.,	628 15th Av. S. E.	
Todd, Frank Chisam,	510 S. E. 4th.	
Trussell, Willie Francis,	718 14th Av. S. E.	Champlin.
Weeks, Leonard Case,	Litchfield.	1113 S. E. 4th.
White, Frank Archelaus,	Brainerd.	406 13th Av. S. E.

LITERARY, 21.

—Bebb, Rose Ann,	924 13th Av. S. E.	
—Bell, Gertrude Grosvenor,	2029 N. Irving.	
—Chapman, Grace,	553 6th Av. N.	
Chapple, Benjamin Philip,	Beldenville, Wis.	1113 S. E. 4th.
Clark, George Archibald,	24 N. 8th.	Eden Prairie.
—Connor, Myrtle.	1105 S. E. 6th.	
—Cross, Nellie Malura,	2634 Portland Av.	
Fiske, Douglas A.		
—Frost, Flora Joy,	Jackson.	1805 S. E. 4th.
Hammar, John T.,	St. James.	17 Florence Court.
Harmon, William W.,	1300 Hennepin Av.	
Jorgens, James Oscar,	Grand Meadow.	628 15th Av. S. E.
—Martin, Lillie May,	38 Maple Place.	
Peirson, Homer Francis,	Grand Meadow.	1420 S. E. 6th.
—Rexford, Minnie Agnes,	329 16th Av. S. E.	
—Robinson, Louise Florence,	2214 Chicago Av,	

Sardeson, Fred William,	904 S. E. University.	
Sias, Edgar Daniel,	Rochester.	1413 S. E. University.
Stearns, Victor Alonzo,	Duluth.	1228 S. E. 4th.
—Sumbardo, Ava,	Hamline.	
Timberlake, Byron Harvey,	628 16th Av. S. E.	Milo, Ia.

CIVIL ENGINEERS, 5.

Carroll, James Edward,	423 20th Av. S.	
Chowen, Walter Abram,	Chowen.	623 13th Av. S. E.
Hall, Theodore, D.,	580 Iglehart, St. Paul.	12 Flr. Ct.
Higgins, Elvin Lydiard,	Hutchinson.	1514 S. E. 7th.
Veblen, John Edward,	Nerstrand.	1128 S. E. 4th.

MECHANICAL ENGINEERS, 2.

Aslakson, Baxter Martin,	Willmar.	1304 S. 4th.
Dakin, William Wesley,	Royalton.	1320 S. E. 6th.

ELECTRICAL ENGINEERS, 2.

Huhn, George Philip,	309 Lyndale Av.	
Nickerson, Ernest Arthur,	Elk River.	12 Florence Court.

ARCHITECTURE, 1.

Plowman, George Taylor,	1514 S. E. 7th.	Le Sueur.

FRESHMAN CLASS, 125.

CLASSICAL, 29.

—Bailey, Clara Edith,	3009 W. Fremont.	
Benson, Charles Stuart,	Anoka.	505 Aldrich Av.
Benz, Frederic William,	83 Douglas St., St. Paul.	
Bradford, James Everett,	Spring Valley.	
Bushnell, Harley G.,	1002 W. Franklin.	
Clarke, Benjamin Franklin,	Rich Valley.	1024 S. 5th.
Coffin, Benjamin Franklin,		
Dewey, Rupert Carthalo,	Lake City.	1009 18th Av. S. E.
Dittenhoefer, Frank Herman,	1514 N. Bryant.	
Flaten, Nils,	Dennison.	1927 S. 2½.
—Friedlander, Esther.		
Graves, John Wesley,	40 Royalston Av.	
Hannum, Harry Oliver,	128 Harvard St.	
Hult, Gottfrid Emanuel,	Scandia.	1313 S. 3d.
Keefer, George Lenfestey,	328 S. 10th.	[Faribault.]
Leary, William Connor,	Appleton.	1857 Franklin Av.
Nelson, Andrew,	Otisville.	28 N. 26th.
O'Brien, J. Edward,	Lake City.	Como Av. and Oak St.
Paquin, Samuel Savil,	406 13th Av. S. E.	Pine City.
Phillips, James Erastus,	Lake City.	1809 S. E. 18th

Pierce, Lyman Love,	Stockton, N. Y.	424 19th Av. S. E.
Ranum, Arthur,	La Crosse, Wis.	901 16th Av. S.
Selover, William Arthur,	Lake City.	Como Av. and Oak St.
Smith, Carlton Wilbert,	Howard.	2741 Bloomington Av.
—Stearns, Stella Burger,	1228 S. E. 4th.	Duluth.
Stout, Thompson Welliver,	805 Franklin Av.	
Sumner, Eustace,	406 13th Av. S. E.	
Walker, Edward David,	601 Rondo St., St. Paul.	
Williams, Archie Elton,	1514 S. E. 6th.	

SCIENTIFIC, 60.

Baldwin, Daniel Eugene,	St. Cloud.	1409 S. E. 6th.
—Bassett, Mary Elizabeth,	Hastings.	
Belden, George Kimball,	1508 2d Av. S.	
Best, Rista Nimmons,	2004 Park Av.	
—Bradford, Mary Grace,	Empire City.	
Burch, Edward Parris,	Menomonie, Wis.	421 13th Av. S. E.
Burtis, William Henry,	Oshkosh, Wis.	814 N. Irving.
Carey, William Harrison,	Duluth.	513 S. E. 4th.
Cirkel, Theodore James,	1512 Nicollet Av.	
Cotton, Charles Edgecomb,	Prescott, Wis.	516 14th Av. S. E.
Cross, John Grosvenor,	Rochester.	1515 S. E. University.
Davidson, Martin Bradner,	Austin.	628 15th Av.
Dickerson, Edward Martin,	3420 Irving Av.	
Flinn, William Brainerd,	Redwood Falls.	1208 S. E. 4th.
Fohn, Otto Knute Olof,	Stillwater.	1620 S. E. 4th.
Gale, Charles Hazen,	Faribault.	412 3d Av. N. E.
Gibbs, Milton Traverse,	Rochester.	10 Pleasant St.
Gill, James Herbert,	Cottage Grove.	427 15th Av. S. E.
Gray, William Irving,	Lake City.	1809 S. E. 18th.
Hankenson, John Jay,	Glencoe.	803 11th Av. S. E.
Hays, Marion,	Gifford. Ia.	St. Anthony Park.
Head, George Douglas,	Fargo, Dak.	1520 S. E. 6th.
Holtz, Fred Leopold,	1403 3d Av. S.	Wayzata.
Howard, Monre Sherman,	Lake City.	1516 S. E. 7th.
Huntington, Elon O.,	1620 3d Av. S.	
Hurd, Bradford Coryelle,	613 9th St.	
Jellum, Stentum Peter,	Lake Park.	1013 17th Av. S. E.
Jones, William Orlando,	2005 3d Av. S.	[6th.
—Kellogg, Clara N.,	115 Summit Av., St. Paul.	1329 S. E.
Kenyon, Paul Emerson,	Fargo, Dak.	1520 S. E. 6th.
Kirk, Everett Buell,	109 Summit Av., St. Paul.	
Krafft, Edwin James,	1301 Hawthorne Av.	
—Leach, Lucy Wood,	1725 8th Av. N.	
—Lucy, Sarah Bird,	2933 5th Av. S.	15 Florence Court.
Lynch, George B.,	13 Aurora Av., St. Paul.	

Madigan, James Edward,	Maple Lake.	112 N. 4th.
Miller, Robert Albion,		
Murray, Hilleary Louis.	1412 Stevens Av.	
Nelson, Henry Knute.	Alexandria.	1317 S. E. 6th.
Ohnstad, John Christian,	Menomonie, Wis.	1514 S. E. 7th.
Packard, Frank Alton,	1810 Mt. Curve Av.	
Parkhurst, John Byron,	St. Anthony Park.	
Peterson, Carl Christian,	Newark, Dak.	1020 S. E. 7th.
Phoenix, Edward Chauncey,	Cumberland, Wis.	1516 S. E. 7th.
Pillsbury, Alfred Fisk,	1005 S. E. 5th.	
Rossman, Grant Beebee,	Argyle.	1312 S. E. 7th.
Sikes, George Cushing,	Rugby, Dak.	628 15th Av. S. E,
Smith, Fred Andrews,	Gilman Lake, Dak.	814 S. E. Univer'y.
Stevens, Andrew Elbridge.	Winona.	
—Strohmeier, Anna Emilia,	413 6th Av. N,	
Sylvester, Charles A.,	Medelia.	New St. Charles Hotel.
Taylor, Henry H.	620 S. 5th.	
Trench, Martin Edward,	Stanton.	427 15th Av. S. E.
Tunell, George,	1013 S. E. 6th.	Albert Lea.
Turrell, Robert Arthur,	Redwood Falls.	1208 S. E. 4th.
Upton, Wendall Phillips,	800 S. Washington.	Elk River.
Wakefield, Harry B.,	Hutchinson.	1308 S. E. 5th.
Wiswell, Edwin,	Wadena.	427 15th Av. S. E.
Zeleny, Anthony,	Hutchinson.	903 18th Av. S. E.
Zeleny, John,	Hutchinson.	903 18th Av. S. E.

LITERARY, 35.

—Abbott, Birdie,	422 10th Av. S. E.	Rockford.
—Ames, Effie Frances,	1928 Portland Av.	
Austen, James Frederick,	350 Fuller St., St. Paul.	
—Austin, Mabel Fletcher,	244 Farrington Av., St. Paul.	
—Baldwin, Clara Frances,	681 Holly Av., St. Paul.	
Chapple, Charles Loran,	Beldenville, Wis.	1113 S. E. 4th.
—Cheney, Mary Moulton,	St. Anthony Park.	
Cotton, Edwin A.,	222 S. 12th.	
Cotton, John Calvin,	222 S. 12th.	
Covell, Arthur Eugene,	314 S. E, 9th.	
—Dodge, Edith Lurinda,	Janesville.	622 15th Av. S. E.
Elftman, Arthur Hugo,	Prescott, Wis.	Prospect Park.
—Erb, Anna Wilhelmine,	435 N. E. Main.	
Farmer, John Frederick,	Spring Valley.	22 S. E. Oak.
Goodsell, Charles Ernest,	Fergus Falls.	1322 S. E. 6th.
Hale, Charles S.,	1800 3d Av. S.	
—Kemp, Mary Emma,	1703 S. E. 4th.	
—Lougee, Mary Holley,	1103 S. E. 5th.	
—Lyall, Helen Gage,	1217 S. E. 4th.	

—McHenry, Buelah Richardson,	Fargo, Dak.	1315 S. E. 7th.
—Manson, Kathrine Emaline,	Shakopee.	Prospect Park.
—Mathes, Lizzie Helen,	337 S. 14th.	
Monfort, Frederick Delos,	282 Dayton Av., St. Paul.	
—Pearson, Adelaide,	Howard Lake.	1316 S. E. 5th.
—Roby, Mabel Augusta,	518 16th Av. S. E.	
—Rose, Florence Julia,	321 S. E. 4th.	
—Sammis, Eveline Van W.,	1714 Hawthorn Av.	
—Severance, Carrie Anna,	1309 S. E. 5th.	
—Shuey, Fanny Damon,	65 Highland Av.	
Thompson, Rolfe Lyons,	Sleepy Eye.	1514 S. E. 7th.
—Tombs, Helen Huntington.	Grafton, Dak.	1325 S. E. 7th.
—Upham, Rose Maud,	St. Anthony Park.	
—White, Mira May,	1316 S. E. 5th.	Kasson.
—Winchell, Avis,	10 S. E. State.	
Wright, Cyrus Joseph.	85 S. 9th.	

AGRICULTURE, 1.

Sherman, Sidney,	Eau Claire, Wis.	414 S. E. Beacon.

SUB-FRESHMAN CLASS, 46.

CLASSICAL, 6.

Ferree, Charles W.	Bloomsburg, Penna.	
Holasek, Frank Joseph,	Edina Mills.	1005 S. E. 5th.
Lucken, Clement Leonard O.	Crookston.	1628 S. E. 4th.
Mann, Frank,	Claremont.	
Nickerson, Archie,	Chocorua, N. H.	618 E. 17th.
—Potter, Franc Murray,	Ortonville.	214 S. E. 5th.

SCIENTIFIC, 30.

Anderson, Ole J.,	Nicollet.	
Babcock, William G.,	Elk River,	1516 S. E. 7th.
Bar, George Ellsworth,	Spring Valley.	22 S. E. Oak.
Barton, Frederick William,	Wayzata.	413 9th Av. S.
Berkey, Charles Peter,	Farmington.	622 14th Av. S. E.
Berseth, Andrew Mikkelson,	Colfax, Dak.	
Bertram, Harry Wallace,	Monticello.	1223 S. E. 6th.
Bothum, Peter Francis,	Pennington, Dak.	
Bull, Alvah Milton,	Edina Mills.	320 S. E. 4th.
Colburn, William Wilson,	Hawley.	2802 S. Bloomington.
Fairbank, Jay Allen,	Dodge Centre.	
Frost, William Dodge,	Marshall.	918 13th Av. S. E.
Green, Eugene Kibbey,	Brooklyn Centre.	
Hogeland, Justus Mitchell,	231 Ramsey St., St. Paul.	
Iltis, Herman Mathias,	Chaska.	
Matteson, Halsey M.,	Faribault.	

Morse, George Hart,	Excelsior.	
Munro, Robert Annand,	New Auburn.	
Nelson, Christian O.,	Glencoe.	
Pearce, Harvey Fred,	267 Carroll St., St. Paul.	
Pitman, John Richmond,	Ft. A. Lincoln, Dak.	1511 S. E. University.
Scherer, Robert Walter,	New Ulm.	1321 S. E. 6th.
Shaw, Charles David,	Rochester.	1413 S. E. University.
Sigvaldson, Sigurdur,	Marshall.	2523 N. E. Jackson.
Sommermeyer, Henry Edward,	Madison, Wis.	220 9th Av. S. E.
Start, Sampson Simmons,	Luverne.	1420 S. E. 6th.
Taylor, Benjamin C.,	Richfield.	2200 Chicago Av.
Thornton, Guy Livingstone,	Excelsior.	811 S. 3d.
Washburn, Orson Monroe,	Monticello.	1121 S. E. 4th.
Wollan, Carl Thomas,	Starbuck.	405 14th Av. S. E.

LITERARY, 9.

—Cook, Estelle,	Cannon Falls.	111 S. E. University.
—Frankenfield, Laura Elizabeth,	Glencoe.	803 11th Av. S. E.
Fridley, Don Phelps,	Becker.	1522 S. E. 7th.
—Hawley, Mary Everett,	Geneva, N. Y.	521 8th Av. S. E.
Hughes, George Alexander,	Bismarck, Dak.	510 13th Av. S. E.
Larson, Anders,	1833 Quincy St.	
Loudon, James Edwin,	Georgetown, O.	1410 Nicollet Av.
Means, George Emery,	Howard.	618 14th Av. S E.
Pryor, Leonard Henry,	Redwood Falls.	1312 S. E. 6th.

AGRICULTURE, 1.

Sheldon, Edmund Perry,	Prospect Park.	

SPECIALS, 81.

—Adams, Cynthia Emroy,	Faribault.	1629 N. Bryant.
—Ankeny, Eleanore H.	2201 Western Av.	
—Ankeny, Martha V.,	2201 Western Av.	
—Barnard, Mrs. Mildred M.,	805 S. E. 7th.	
—Benton, Mary Lathrop,	1525 S. E. University.	
Berrier, LeRoy,	109 Island Av.	
—Berry, Blanche Parker,	528 S. E. 5th.	
—Best, Mary Anna,	2020 S. Park.	
—Blake, Clara J.,	1124 Mt. Curve Av.	
—Bradbury, Josephene W.,	719 S. E. University.	
—Bradford, Lora Belle,	Millbank, Dak. 4th St. and 7th Av. N.	
—Brill, William Hascal,	391 E. 8th St., St. Paul.	
—Brooks, L. May,	1708 Laurel Av.	
—Brown, Anna Augusta,	1512 Harmon Place.	
—Burritt, Nellie Dunham,	Fargo, Dak.	1626 S. E. 6th.
Chadbourn, Rodney Whitney,	30 Grove Place, Nicollet Island.	

—Clark, Hattie, Mrs.,	1525 S. E. University.	
—Cohen, Mrs. Nina Morais,	1717 Vine Place.	
—Cross, Kate Bird,	Minneapolis.	
—Decker, Mrs. M. Elise,	Minneapolis.	
—Dewey, Mrs. Alice,	925 15th Av. S. E.	
—Dice, Mrs. Malinda Rachel,	517 15th Av. S. E.	
Dickinson, Horace Danforth,	209 S. 9th.	
Dickerman, Gilbert G.,	183 Nelson Av., St. Paul.	
—Dodge, Mrs. Elizabeth K.,	813 S. E. 5th.	
Doolittle, John K.,	Minneapolis.	
Doran, James Wilson,	201 Congress St., St. Paul.	
Drake, William Thomas,	Minneapolis.	
—Drought, Maybelle,	St. Paul.	
Garnes, Botolf H.,	Mabel.	428 14th Av. S. E.
—Geggie, Iona Adele,	Duluth.	
—Gilbert, Priscilla Grace,	316 10th Av. S. E.	
Gjerset, Knut,	Watson.	405 14th Av. S. E.
Groat, Benjamin Feland,	151 Summit Av., St. Paul.	
—Hall, Nellie Jewett,	St. Anthony Park.	
Harris, Alfred James,	Kent.	1121 S. E. 4th St.
—Johnson, Mrs. Effie R.,	403 S. E. University.	
Johnson, Edwin Bird,	416 13th Av. S. E.	
—Judson, H. P. Mrs ,	316 10th Av. S. E.	
Kailson, Ivan Nicklas,	21 S. 7th.	
—Knips, Clara,	Adrian.	1307 S. E. 4th.
Larimore, John Andrew,	40 N. 10th.	
Laughlin, Herbert Servetus,	Fairmont, Mo.	1327 S. E. 5th.
—Libby, Mattie Louise,	410 S. E. 6th.	
—McLennon, Hannah,	3707 Blaisdell Av.	
Marini, Edward M. de,	1210 S. E. 4th.	
—Martin, Etta,	38 Maple Place.	
Merchant, Frank Davidson,	2106 18th Av. S.	
—Miner, Mrs. Viola Fuller.		
Moffett, Charles T.,	1214 Linden Av.	
Morris, Henry Stephen,	Sisseton Agency, Dak.	902 S. E. 7th.
—Morrison, Ellen,	805 3d Av. S.	
Muir, William Cyrus,	Hunter, Dak.	
Neiler, Samuel Graham,	Union National Bank.	
—Parcher, Mary Louise,	1501 Linden Av.	
Pettit, James,	927 1st Av. S.	
—Phillips, Minnie Blanche,	914 17th Av. S. E.	
—Pratt, Jessie Augusta,	727 S. E. 9th.	
Reidhead, Frank Erven,	Camden Place.	87 S. 8th.
Remmen, Martin E.,	Holden.	1711 9th Av. S.
Rheinfrank, George Charles,	2308 N. 10th.	
Robinson, Fred E.,	Alexandria.	1223 S. E. 4th.

—Rogers, Helen Louisa,	330 S. E. F. St.	
Rothwell, William Phillip,	Graceville.	2105 22½ Av. S.
Samson, Harry,	Minneapolis.	
Schmidt, Claus Hansen,	2109 S. 8th.	
Schumacher, Albert J.,	472 Hopkins St., St. Paul.	
—Schutt, Hallie Edna,	Davenport, Ia.	1305 2d Av. S.
Solsnes, Lars,	1929 S. 2½.	
—Sommermeyer, Louise W.,	Madison, Wis.	220 9th Av. S. E.
Squires, Roy White,	320 S. E. 4th.	
Stack, William Evlin,	222 N. E. University.	
Stryker, Anna K.,	Minneapolis.	
—Tucker, Gertrude P.,	724 S. 10th.	
—Unger, Mary Helen,	521 20th Av. N.	
VanAnda, Alice,	1428 S. E. 6th.	
Wheeler, Duane,	Oneota.	406 13th Av. S. E.
White, Samuel Morris,	Lake City.	1113 S. E. 4th.
Wilkinson, Edwards Jorham,	2634 Portland Av.	
Winberg, Osten Kristenson,	408 Cedar Av.	
—Woodley, Mrs. Myra L.,	Monticello.	424 13th Av. S. E.

SCHOOL OF PRACTICAL MECHANICS, 72.

A DIVISION (SECOND YEAR), 3.

Lackor, Harry D.	
Lyons, Everett,	318 S. E. 2d.
Michelet, Ove,	1807 S. 4th.

A DIVISION (FIRST YEAR), 21.

Austin, Charles Carlyle,	
Burwell, George Faulkes,	Minnetonka Mills.
Clark, Edward Joseph,	214 S. E. 5th.
Cubbins, J. C.	Terra Haute, Ind.
Duncan, Titus,	Duluth.
Holbrook, William Ranson,	619 E. 24th St.
Lindman, Eric Frank,	727 S. 17th.
McIlwaine, J.	
Oliver, Percy,	Lakeland.
Olson, Olaf N.	St. Ansgar, Iowa.
Orff, Fred,	Ft. Wayne, Ind.
Parcher, Ellet Perkins,	1501 Linden Av.
Pritchett, John,	
Pryor, Edwin J.	Houghton, Mich.
Sangstad, Olaf,	
Siebolds, John,	Afton.
Tower, Milton Henry,	Trempeleau, Wis.
Van Doren, Fred,	124 W. 15th.
Walker, Horace Milton,	Brainerd.

Walker, James Marvin Church,	Brainerd.
Wheeler, Duane,	

B DIVISION, 16.

Anderson, Josiah,	3254 Bloomington Av.
Avery, Percy Charles,	816 7th Av. S.
Brown, Clarence Zelora,	815 Mary Place.
Brown, William James,	Sleepy Eye.
Danielson, Albert T.	Rochester.
Day, William Harlan,	Mazeppa.
Guhlke, Louis John,	Sleepy Eye.
Gunderson, Peter,	1915 S. 3d.
Heckendorn, Scott,	300 N. E. Monroe.
Johnson, John Gustave,	1200 S. 2d.
Mashek, George,	Marinette, Wis.
Nelson, Nels C. G.	Wheaton.
Schoppe, Frank,	622 S. E. 5th.
Seaton, W. L.	
Semmen, Andrew,	409 14th Av. S. E.
Sly, Sidney Lewis,	Belle Plaine.

C DIVISION, 32.

Aldrich, Charles Roland,	2935 S. Aldrich.
Blaisdell, Nelson Andrew,	510 16th Av. S.
Bramrud, Erik,	1127 S. 3d.
Brown, Pearl H.	619 15th Av. S. E.
Carpenter, Charles Edwin,	Big Flats, N. Y.
Christopherson, Christian,	1127 S. 3d.
Day, Bert W.	Mazeppa.
Devereux, William,	1339 Hawthorne Av.
Erf, John William,	Monroeville, Ohio.
Garden, Hugh,	20 W. 14th.
Ham, Joseph A.	1703 S. E. 4th.
Hanson, John P.	Sevenonda.
Haseltine, E. R.	800 Nicollet Av.
Held, Albert,	New Ulm.
Held, Henry,	New Ulm.
Hogsted, Louis,	1127 S. 3d.
Lahr, Ernest,	Grand Meadow.
McKenzie, Ducan,	1509 Franklin Av.
McKenzie, John,	1509 Franklin Av.
Manson, Frank.	Prospect Park.
Muther, Henry,	17th Av. N. and 8th St.
Niederloh, Fred,	1927 20th Av. N.
Nord, Barnard Peter,	1708 N. E. 17th.
Osterhout, Fred H.	Morristown.

Reat, George,	317 2d Av. S.
Robb, Edward Gay,	1600 Chicago Av.
Schlenker, Julius William,	322 Wabasha St., St. Paul.
Smith, Leroy Vernon,	1313 S. E. 5th.
Squires, Roy White,	320 S. E. 4th.
Sweeney, Robert Ormsby, Jr.	
Walker, Herbert Edward,	810 12th Av. S.
Whitten, Frank Andrew,	1527 E. Lake.

SCHOOL OF DESIGN, FREE HAND DRAWING AND WOOD CARVING, 43.

Burton, Henry,	Minneapolis.
Barrett, George,	Minneapolis.
—Blackwood, Mrs. R.	Minneapolis.
—Byers, Mrs. J. F.	Minneapolis.
—Blair, Nellie,	Minneapolis.
—Cross, Kate Bird,	Minneapolis.
—Cogger, Birdie,	Minneapolis.
—Colburn, Mrs. W. M.	Minneapolis.
—Derickson, Maud E.	Minneapolis.
—Derickson, Clara M.	Minneapolis.
—Fox, Etta G.	Minneapolis.
Goode, J. P.	Minneapolis.
—House, Elizabeth A.	Minneapolis.
—Hood, May,	Minneapolis.
Held, Henry,	Minneapolis.
Hughes, William,	Minneapolis.
Jones, Paul C.	Minneapolis.
—Kurtzman, Rosa.	Minneapolis.
—Kerr, Mary,	Minneapolis.
—Long, Charlotte B.	Minneapolis.
—Linton, Laura,	Minneapolis.
—Luther, Mrs. Clara M.	Minneapolis.
—Marini, Alice de,	Minneapolis.
Montgomery, Forest,	Minneapolis.
—McHenry, Buelah,	Minneapolis.
Marshall, George,	Minneapolis.
Mendenhall, Richard,	Minneapolis.
—Moore, Mrs. J. G.	Minneapolis.
—Orff, Julia E.	Minneapolis.
—Pyle, Mrs. E. W.	Minneapolis.
—Perry, Bessie J.	Minneapolis.
—Pike, Mrs. Wm. A.	Minneapolis.
—Rogers, Helen P.	Minneapolis.
Rose, Horace,	Minneapolis.
Salisbury, Percy,	Minneapolis.

Sangstad, Olaf,	Minneapolis.
Sherburne, Walter,	Minneapolis.
—Sparrell, Delia,	Minneapolis.
Squyer, Harry,	Minneapolis.
—Tinsley, Mrs. L. F.	Minneapolis.
—Walls, Lila E.	Minneapolis.
Walters, S. C.	Minneapolis.
—Waite, Dora,	Minneapolis.

THE SCHOOL OF AGRICULTURE, 47.

A CLASS, 7.

Cook, Walter M.	Minneapolis.
Higbie, Wilson S.	Grand Meadow.
Hoverstad, Torger A.	Holden.
Payne, Carroll E.	Dexter.
Pendergast, Warren W.	Hutchinson.
Sanders, Jesse J.	Appleton.
Smith, William G.	Fon du Lac.

B CLASS, 15.

Day, Ernest,	Richfield.
Dunford, James W.	St. Anthony Park.
Fairchild, Percy M.	Danville, N. Y.
Fillman, Lewis G.	Menomonie, Wis.
Hummel, August,	New Ulm.
Le Vesconte, John,	Hastings.
Mackintosh, Roger S.	Langdon.
Marvin, Charles,	Garden City.
Matterson, Merton L.	Round Prairie.
Pfaender, Herman,	New Ulm.
Porter, Henry H.	Murdoch.
Richardson, Frank,	Richfield.
Stark, Albert O.	Harris.
Sumner, Frank C.	Bloomington Ferry.
Thompson, John,	Cottage Grove.

PREPARATORY CLASS, 22.

Buffington, Alvin,	Minneapolis.
Clement, Carley,	Cottage Grove.
Elliott, Joseph R.	Minneapolis.
Flecten, John E.	Kandiyohi.
Hamstrom, Preston,	Rose.
Hodson, Fred,	Herman.
Frank Holman,	Cottage Grove.
Ilstrup, Fred A.	Buffalo.
Johnson, J. A.	Renville.
Lindig, William F.	Rose.
Lindig, John A.	Rose.

Manchester, Ira L.	Menomonie, Wis.
Musa, John,	St. Anthony Park.
Mosswing, Knute B.	Holden.
Ovregard, Peter H.	Albert Lea.
Porter, Norman H.	Minnehaha.
Pratt, Frank,	Bethel.
Sanders, Wilber,	Appleton,
Sandsten, Emil,	St. Anthony Park.
Shinabarger, Anan,	Long Prairie.
Soper, John,	St. Anthony Park.
Winch, Frank L.	St. Paul.

SPECIALS, 3.

Aldrich, John M.	Elmira, Dak.
Mea, Thomas Francis,	Minneapolis.
Niles, Oliver J.	Minneapolis.

LAW STUDENTS, 67.

SENIOR CLASS, 4.

Gilbert, Morton Victor,	186 E. 7th St., St. Paul.	
Manahan, James,	Chatfield.	
Smith, Frank John,	427 8th Av. S. E.	
Whiting, Charles Sumner,	Rochester.	2221 4th Av. S.

JUNIOR CLASS, 63.

Agatin, Archie Lewis,	410 Boston Block.	
Anderson, Michael M.	Hendrum.	
Avery, Bertrand A.	Albert Lea.	1419 S. E. 5th.
Ball, Bert W.	5 Collum Block.	
Bardwell, Winfield W.	1860 Park Av.	
Baxter, John Thomas,	69 Loan and Trust Building.	
Bergstrom, Francis,	1023 N. 10th.	
Bickenbach, Otto B.	Albert Lea.	1121 S. E. 4th.
Bond, Charles E.	43 S. Washington.	
Brill, William Hascal,	391 E. 8th St., St. Paul.	
Burlingame, J. Montgomery Jr.	Owatonna.	427 8th Av. S. E.
Campbell, William Ezra,	2109 Chicago Av.	
Carriston, Frank Thomas,	24 N. 8th.	
Churchill, Charles E.	522 Temple Court.	
Conlow, John William,	1010 6th Av. N.	
Dalby, Charles Andover,	8 N. 9th.	
Daly, Patrick Joseph,	1514 S. 18th.	
Dickinson, Horace Danforth,	209 S. 9th.	
Dawley, Daniel Lincoln,	Smithfield.	1219 S. E. 4th.
Day, Eugene H.	631 Hennepin Av.	
Ebert, Henry,	1217 Adams.	

Ferree, Simpson.	1001 Franklin Av.	
Gardner, John Davidson.	427 8th Av. S. E.	
Garvey, James.	Rochester.	427 8th Av. S. E.
Getty, John Thomas.	2631 Stevens Av.	
Gummer, Edgerton Ferguson.	Frazer City.	
Halloran, Michael Davett.	Chatfield.	
Harris, Alfred James.	Kent.	1121 S. E. 4th.
Holt, Charles A.	Minneapolis.	
Howard, John Ireland.	56 Tilton St., St. Paul.	
Jenkins, Horatio, Jr.	Alexandria.	200 4th Av. S. E.
Johnson, Frank Amos.	618 15th Av. S. E.	
Jude, John C.	16 Collum Block.	
Kinports, Harry A.	735 S. 10th	
Kolliner, Robert S.	Stillwater.	1128 S. E. 4th.
Larimore, John Andrew.	40 N. 10th.	
Locke, Cassius Marcus,	529 N. Bryant Av.	
McCargar, Edward,	Fergus Falls.	
McCrea, Ezra F.	Hamline.	Dispatch Office. St.Paul.
Mason, Frank J.	Minneapolis.	
Mead, Henry Stowall,	829 16th Av. S.	
Monson, Charles J.	Otisville.	28 W. 26th.
Nutting, Robert Boyd,	Northfield.	406 13th Av. S. E.
Paige, James,	926 Western Av.	
Parker, Ralph James,	Spring Valley.	329 16th Av. S. E.
Pettibone, Orrin Harmon,	627 13th Av. S. E.	[Avs.
Polley, Samuel Cleland.	Aitkin.	S. E. 4th bet. 11th & 12th
Putnam, Soreno Newton,	Maine.	1413 S. E. University.
Remmen, Martin E.	Holden.	1711 9th Av. S.
Rhodes, Charles Sylvester,	225 S. 5th.	
Rogers, Wm. Francis,	2220 8th Av. S.	
Rustgard, John,	1128 S. E. 4th.	
Scott, Peter Purdie,	Freeborn.	810 S. E. 6th.
Serumgard, Siever,	1121 S. E. 4th.	
Smeltzer, Jacob Daniel.	1815 5th Av. S.	
Smith, Albert J.	631 Hennepin Av.	
Stocker, Harry Davis.	3139 Nicollet Av.	
Stone, Chas. Fielding,	Howard Lake.	2408 1st Av. S.
Thorson, Hans Torwald.	Willmar.	
Triggs, Wm. Robert,	628 15th Av. S.	
Waters, John Edwards,	335 Hennepin Av.	
Waters, James Henry.	112 Bank of Minneapolis Building.	
Young, John Ridgely.	9th St. and 1st Av. N.	

COLLEGE OF MEDICINE AND SURGERY, 75.

SENIOR CLASS, 16.

Bernard, John Allen,	400 2d Av. S.	
Chase, Ralph Rollin,	6 Collom Block,	
Corwin, Guy Philander,	604 7th Av. S.	
Dahlstedt, Nils Gustaf,	2637 13th Av. S.	
Dutton, Charles Elvin,	125 S. 4th.	
Edholm, Edward Anton,	1723 11th Av. S.	
Hanscom, William Henry,	915 17th Av. S. E.	
Kjos, Knute Andrias,	510 10th Av. S.	
Linjer, Ole Edvard,	Duluth.	510 10th Av. S.
McCarthy, William Francis,	1016 S. 5th.	
Phillips, George W.	St. Paul.	807 3d Av. S.
Regner, Johan Andrew,	529 N. 2d.	
South, John, Jr.	404 Nicollet Av.	
Steel, Edwin Darwin,	Mankato.	City Hospital.
Watkins, Frank Adolphus,	123 S. Washington.	
Williams, Ulyses Grant,	603 S. Washington.	

MIDDLE CLASS, 26.

Battelle, William Howard,	423 2d Av. S.	
Clippert, Fred John,	429 S. 6th.	
Dean, Frank Wilson,	302 S. 6th.	
Dugan, Rollo C.	Eyota.	6th St. and 9th Av. S.
Eckley, Ralph,	504 8th Av. S.	
Franchire, Frederick Erasmus,	Lake Crystal.	252 1st Av. S.
Fremstead, Ole,	701 S. 8th.	
—Hart, Mrs. Rachel Lucinda,	1340 S. 7th.	
Hennemuth, John Louis,	1184 Rose St. St. Paul.	319 Nicollet.
Hove, John Julius,		
Jones, Charles Henry,	613 2d Av. S.	
King, James Charles Elliot,	Otsego.	107 1st Av. S.
Lyng, John,	1809 S. Riverside.	
Mohn, Fredrik Voss,	731 9th Av. S.	
Moorman, Edwin Rodelle,	401 S. 6th.	
Mueller, Henry Frederick,	St. Paul.	
Neupert, Carl von,	Colby, Wis.	15 High St.
O'Connor, Dennis Francis,	Afton.	1600 S. E. 5th.
O'Connor, Timothy,	Armandale.	401 S. 6th.
Parmelee, William Josiah,	125 S. E. State.	
Ridgway, Alfred Miller,	401 S. 6th.	
Siemens, Abram,	Mountain Lake.	817 S. 8th.
Soderlind, Andrew,	930 Hennepin Av.	

Stowell, Joab, Jr.	603 6th Av. S.	
Upton, Edwin John,	Room 8, 408 Nicollet.	
Wright, Charles Osbern,	Hastings.	401 S. 6th.

JUNIOR CLASS, 33.

—Allison, Mrs. Minnie L. M.	147 and 149 E. 6th, St. Paul.	
Anderson, August,	629 7th Av. S.	
Andword, Louis,	7 Spring St., St. Paul.	2013 2½ St. S.
Bakke, Peter,	406 E. Lake.	
Bakke, Peter Halstensen,	Kenyon.	731 9th Av. S.
Bale, James Carmichael,	Duluth.	715 S. 5th.
Barker, Milton Reed,	43 Collom Blk.	
Beard, Isaac James,	418 Clinton Av.	
Bergan, Ole K.	Sacred Heart.	415 9th Av. S.
Bohland, F. J.	St. Paul.	
Chilgren, Gustave A.	St. Peter.	517 15th Av S. E.
—Conant, Harriet Beecher,	426 Newton Av. N.	
Dinahan, Richard McPherson,	S. 24th St. and Cedar Avenue.	
Edlen, Emil Alexius,	Duluth.	903 S. 5th.
Fjeldstad, Carl,	Norway Lake.	513 10th Av. S.
Getty, Robert Wilson,	White Bear Lake.	629 7th Av. S.
Gibbs, Thomas,	Lake City.	4th St. and 6th Av. S.
Giere, Eric O.	Rock Dell.	513 10th Av. S.
Gilbertson, Julius Cæsar,	Red Wing.	731 9th Av. S.
Hielscher, Julian Adolph,	Montrose.	2209 9th Av. S.
Ilstrup, Francis,	Buffalo.	423 Cedar Av.
Johnson, Andrew E.	Glencoe.	510 10th Av. S.
Lockwood, LeBaron Stanley O.	554 6th Av. N.	
Miller, William Nelson,	711 1st Av. S.	
Moore, George Wilber,	2212 5th Av. S.	
Ringnell, Carl John,	St. Peter.	529 N. 2nd.
Rogers, John Thomas,	St. Paul.	St. Anthony Park.
Scheiber, Fred William,	901 E. York, St. Paul.	15 Wood Blk.
Sheppard, Prosper Ernest,	Lake Side.	539 10th Av. S.
—Smith, Martha Jane,	Yankton, Dak.	601 Seventh Av. S.
Stewart, Allen Blanchard,	Britton, Dak.	828 S. 6th.
Tennyson, Ahasuerus Falkenberg,	2520 17th Av. S.	
White, James,	Belle Plaine.	424 1st Av. S.

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY—13.

SENIOR CLASS, 4.

Belt, Wallace E.	603 8th Av. S.	
—Carlson, Benedicta Lager,	St. Peter.	
Urie, Fred Wilbur,	2520 Bryant Av. N.	
Young Edward Weldon,	2013 Irving Av. N.	

MIDDLE CLASS, 5.

Carroll, Fred Augustus,	Plainview.	
Hawes, Arthur Bradford,	Hastings,	325 S. 8th.
Roberts, Adelbert,	3205 Park Place S.	
Wait, Leon Edelbert,	426 Second Av. S.	
White, Arthur Eugene,	2900 Lyndale Av.	

JUNIOR CLASS, 4.

—Butterfield, Mabel Norton,	523 S. 10th.	
Drought, Warren Wesley,	St. Paul.	College Bldg. City
Lawrence Henry Mayo,	801 3rd Av. S.	
Munson, Henry Orson,	3818 Portland Av. S.	

COLLEGE OF DENTISTRY, 22.

SENIOR CLASS, 1.

Ridgeway, Gainsford,	401 S. 6th St.

MIDDLE CLASS, 8.

Cowles, William Henry,	29 S. 9th.	
Dunn, William Herbert,	Northfield,	1340 S. 7th.
Peck, A. E. L.	608½ Nicollet Av.	
Sonntag, August Franz,	400 2d Av. S.	
Spaulding, William Marcus,	318 W. Franklin Avenue.	
Fan Duzee, Charles Alonzo,	St. Paul.	
—White, Edith Hewitt,	817 S. 6th.	
Wright, Franklin Randolph,	820 S. 6th.	

JUNIOR CLASS, 13.

Albrecht, Charles Herman,	Glencoe.	510 10th Av. S.
Breck, Henry Towne,	828 32d Av. S.	
Carter, Ernest Leeander,	230 20th Av. N.	
—Chandler, Ella Z.	601 7th Av. S.	
Fee, Archibald Graham,	Duluth,	715 S. 5th.
Holmes, Frank August,	29 Washington Av. S.	
Lenox, Fred Augustus,	27 Highland Av.	
McAllister, Wm. Dickens,	524 W. 28th.	
Marshall, Edgar Henry,	Plainview,	912 S. 5th.
Riddell, Edwin George,	Northfield,	1340 S. 7 th.
Rose, William Johnson,	828 S. 6th.	
Thacher, Ralph Partridge E.	Zumbrota.	1121 S. E. 4th.
Todd, Frank Chisam,	510 S. E. 4th.	

SPECIAL MEDICAL STUDENTS, 6.

—Anderson, Martha,	626 12th Av. S.	
Berner, Jacob Sarin,	712 12th Av. S.	
Burnham, Frahk Edward,	712 3d Av. S.	
O'Neill, Daniel,	1116 Western Av.	
Hilgedick, Charles Henry,	1072 N. E. Main.	
Lind, Alfred,	Winthrop.	424 14th Av. S. E.

FELLOWS OF THE ALUMNI FELLOWSHIP ASSOCIATION.

YEAR 1888–'89.

Ulysses Sherman Grant, B. S., '89.

YEAR 1889–'90.

Kendric Charles Babcock. Oscar Lovell Triggs.

HONORS.

FIRST CLASS ORATORS.

Margaret Louise Sewall, *Valedictorian.*
William Baker Ladue, *Salutatorian.*
Lydia Kathrina Strohmeier.
Kendric Charles Babcock.
Henry Johnson.

SUMMARY 1888-'89.

Department.	Class.	Gentlemen.	Ladies.	Total.
Graduate Students		20	14	34
College of Science, Literature and Arts, and College of Mechanic Arts	Senior	20	9	29
	Junior	51	12	63
	Sophomore	56	14	70
	Freshman	94	31	125
	Sub-Freshman	42	4	46
	Special	39	42	81
School of Practical Mechanics		72		72
School of Design, Free-hand Drawing and Wood Carving		16	27	43
School of Agriculture		47		47
Department of Law	Seniors	4		4
	Juniors	63		63
College of Medicine and Surgery	Seniors	16		16
	Middle	25	1	26
	Junior	30	3	33
College of Homeopathic Medicine and Surgery	Senior	3	1	4
	Middle	5		5
	Junior	3	1	4
College of Dentistry	Senior	1		1
	Middle	7	1	8
	Junior	12	1	13
Special Medical Students		5	1	6
		631	162	793
Twice counted		10	2	12
Total		621	160	781

THE UNIVERSITY.

The University of Minnesota is a State institution, endowed by the general government and supported by the State, being a part of the State educational system. It is situated in the City of Minneapolis, about a mile below and in full view of the Falls of St. Anthony. The grounds are now about forty-five acres in extent, undulating in surface, well wooded with native trees, and by reason of the natural advantages of situation and contour, very attractive.

The experimental farm of the Agricultural College is situated on Como avenue, about two miles distant.

DEPARTMENTS.

The University is divided into five distinct departments: A College of Science, Literature and Arts, a College of Mechanic Arts, a College of Agriculture, a Department of Law and a Department of Medicine, the latter consisting of three separate colleges.

I. In the COLLEGE OF SCIENCE, LITERATURE, AND ARTS there are three courses of study, called Classical, Scientific, and Literary. The Classical course has for its leading studies the Greek and Latin languages; the Scientific course, the natural sciences; the Literary course, the modern languages. The regular college courses are of four years duration. A year of preparatory work is given to those whose schools at home do not prepare for the Freshman class. The completion of these courses leads respectively to the degrees: Bachelor of Arts, Bachelor of Science, and Bachelor of Literature.

SCHOOL OF MINING AND METALLURGY.

A school of Mining and Metallurgy will be opened during the coming year in connection with the scientific course of the College of Science, Literature and Arts. On completion of the prescribed course of study the degree of Bachelor of Mining Engineering will be conferred.

II. The COLLEGE OF MECHANIC ARTS offers courses of study in civil engineering, mechanical engineering, electrical engineering, and architecture, leading to the degrees of Bachelor of Civil Engineering, Bachelor of Mechanical Engineering, Bachelor of Electrical Engineering, and Bachelor of Architecture. The "School of Practical Mechanics" and the "School of Design, Free-hand Drawing and Wood Carving" are

departments of this college and offer courses of practical instruction in shopwork, drawing, designing and wood carving, but no degrees are conferred.

III. The COLLEGE OF AGRICULTURE offers a regular college course in agriculture of four years of college work and one year of preparatory work. The degree of Bachelor of Agriculture is granted upon completion of the course. The requisites for admission are such as to give free access to students who are well grounded in the ordinary English branches. The School of Agriculture is a training school for the College of Agriculture and also for practical farm life. An experiment station has just been organized at the University farm.

IV. The DEPARTMENT OF LAW offers a two years' course of instruction leading to the degree of Bachelor of Laws. The terms and vacations of this department are the same as those of the College of Science, Literature and Arts.

V. The DEPARTMENT OF MEDICINE. This department is composed of the following colleges: The College of Medicine and Surgery, the College of Homeopathic Medicine and Surgery, and the College of Dentistry. The course of study extends through three years of six months each.

The GRADUATE DEPARTMENT. In all the colleges, except those of Law and Medicine, there is an advanced course of study leading to the Master's degree. These courses are open to graduates of any reputable college, upon presentation of diploma.

SPECIAL COURSES. In all the departments students of an advanced age are permitted to pursue, under direction of the faculty, one or two distinct lines of study and investigation.

BUILDINGS.

The main or academic building is 168 feet in length and 90 feet in breadth, exclusive of porches, having three stories above the basement. The walls are of blue limestone. The rooms, 53 in number, as well as all the corridors, are heated by an efficient steam apparatus. 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 is of brick on a basement of blue stone, 146x54 feet. The central portion is two stories in height. The north wing contains the chemical laboratory. There are class rooms for chemistry and agriculture, and private laboratories for the professors. A large room in the second story is occupied by the museums of technology and agriculture. A model farm house and barn have been erected on the experimental farm.

The MILITARY BUILDING was completed in the summer of 1884. It is the largest drill hall in the country, and is so constructed as to serve

the additional purpose of a large assembly hall. It will seat with comfort 3,500 people.

THE COLLEGE OF MECHANIC ARTS building is of red brick, with brown stone trimmings and a slate roof. It has two stories, with a high basement, and a one story wing in the rear; and is 89x53 feet, not including the wing. The building contains 20 rooms, exclusive of the cloak and wash rooms, including large engineering and physical recitation rooms, drawing rooms, physical and testing laboratories, shops and apparatus rooms. It is thoroughly ventilated, heated by steam and supplied with water from the city mains.

SCIENCE HALL AND MUSEUM. A new building for the purposes of instruction in science, and for a museum, is now being erected and will be ready for use at the opening of the next college year. The building is the munificent gift of the Hon. J. S. Pillsbury to the University and the state.

CHEMICAL AND PHYSICAL LABORATORIES. The foundation of a new building for a Chemical and Physical Laboratory, 190 feet front, will be laid the coming summer and the building will be ready for use in the fall of 1890.

LAW BUILDING. A law building, 80x140 feet, will be erected at once and will be ready for use at the opening of the next school year, September, 1889.

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 center of the room. Upwards of 7,000 entries and 18,000 specimens, including duplicates, indicate 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, N. J., and a collection of sixty-four meteoric stones and irons from different parts of the world. Some 4,000 specimens collected by the Geological Survey will soon be placed in the Museum.

An archæological collection of several hundred specimens, chiefly from the region of the Mound Builders in Ohio, has also been deposited by Dr. H. E. Twichell. It is expected that this collection will ultimately become the property of the University.

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 cast of fossils.

The General Museum has lately acquired by purchase a large number of specimens representing specially the bird and mammalian fauna of the Northwest, and particularly of Minnesota.

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.

THE PLANT HOUSE is similar in purpose to the museum of agriculture. It is designed to furnish (1) means of 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 of illustrating the subject of horticulture, and the construction, heating, and management of plant houses.

THE 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 fuel, 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. Contributions are respectfully solicited, for which due credit will be given. They should be addressed in care of Prof. James A. Dodge.

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

THE LIBRARY.

The library and reading room occupy rooms 18, 20, 22, 24 to 28 in the first story of the main building.

The library is open to everybody from 8:15 A. M. to 4:15 P. M. every day of the university year except Sundays and holidays. During the vacation the library is open on Wednesday and Saturday evenings at 7:30 o'clock for the issue and receipt of books borrowed. 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 * (called "starred books,") comprising books of reference, illustrated books, and rare and costly books, cannot be removed. These books, as well as others, may be read and consulted in the reading room.

The bound volumes number more than 23,000.

About eighty periodicals are received regularly by the library, including the leading quarterlies, bi-monthlies, monthlies, weeklies, and semi-weeklies.

EXPENSES.

These depend largely upon the tastes and habits of the individual. The University has no dormitories, except for the School of Agriculture, but students find no difficulty in obtaining board among the people of the city. Good board can be obtained in private families at prices ranging from $4 upwards. Some of the students board in clubs at a cost of from $2.50 to $3 a week.

The University cannot promise employment to those desiring to earn their own living. The public bounty stops at furnishing free instruction. Many of the students support themselves while in college, and a young man who really wants work, and will look for it, can generally find it.

The only University charge except in the professional schools, is the annual fee of $5 for incidental expenses. This fee must be paid before the student can join his classes, and no deduction is made for absence or late entrance. Students provide their own books. Laboratory charges depend upon the amount of material used.

The average necessary expenses of students boarding in families appear to be about $275; those of students boarding in clubs, about $200.

In the departments of law and medicine tuition fees are charged. See announcements of these departments *infra*.

STUDENTS' SOCIETIES.

THE STUDENTS' CHRISTIAN ASSOCIATION. This society was formed by students for the purpose of mutual moral and spiritual improvement. Devotional meetings are held weekly, and Sunday afternoon lectures are given by prominent men of the State. All students are cordially invited

to attend these meetings and aid in the work. The lecturers before the Students' Christian Association the past year have been as follows: Oct. 7th, President Cyrus Northrop, LL. D.; topic, "Christian Unity." Oct. 14th, the Rev. David J. Burrell, D. D.; topic, "God's Silent Work in Nature, Providence and Grace." Oct. 21st, the Rev. Jabez Brooks, D. D.; topic, "The Basis of Christian Benevolence and Work." Oct. 28th, the Rev. H. M. Simmons; topic, "The Good Lesson in the Book of Jonah." Nov. 4th, Prof. John Dewey, Ph. D.; topic, "Are Christian Ethics Social?" Nov. 11th, the Rev. H. C. Mabie, D. D.; topic, "Experiment the test of the Supernatural." Nov. 18th, Mr. Taminosian; topic, "The People and Country of Syria." Dec. 9th, the Rev. C. A. Van Anda, D. D.; topic, "The Bible and Art." Dec. 16th, Prof. John F. Downey, M. A., C. E.; topic, "Blessed are the Merciful." Jan. 13th, Prof. Christopher W. Hall, M. A.; topic, "The Book of Job." Jan. 20th, Dean William S. Pattee, M. A.; topic, "Evidence for the Existence of God." Jan. 27th, the Rev. President T. A. McCurdy, D. D.; topic, "Diversity in Unity." Feb. 3rd, Prof. R. O. Beard, M. D.; topic, "Physical Basis of Spiritual Life." Feb. 10th, Rev. Thos. O'Gorman, D. D.; "The Spiritual in the Physical, or the Soul of Man." Feb. 17th, the Rev. President G. H. Bridgman, D. D.; topic, "The Resurrection." Feb. 24th, the Rev. Marion D. Shutter; topic, "The Poetic Element in Jesus." March 3rd, the Rev. W. J. Lhamon; topic, "The Historic Basis of the Christian Faith." March 17th, the Rt. Rev. Mahlon H. Gilbert, D. D.; topic, "A Religionless World." March 31st, the Rev. S. G. Smith, D. D.; topic, "Reward and Punishment." April 7th, the Hon. David L. Kiehle, M. A.; topic, "The Bible and Its Study." April 14th, Prof. Harry Pratt Judson, M. A.; topic, "The Obsolete Law of Reverence." A committee of the Association will be glad to assist all new students in securing rooms and board, and in giving any needed information. All communications should be addressed to K. C. Babcock, or Miss Anna Guthrie, care of University of Minnesota.

Literary Societies. There are two literary societies, meeting every Monday evening during the school year, which furnish excellent and much prized opportunity for practice in extemporaneous speaking and parliamentary procedure. Besides these two societies, which are open to all students, several of the college classes have debating clubs of a similar nature.

The Athletic Association is a university organization, having for its object the general physical culture of the students, and the encouragement of a proper spirit in favor of hearty, manly sports. The Monday before Commencement is the Annual Field Day of the association.

The Pi Beta Nu is an honorary society established in the spring of 1888. Its object is the selection of five men from each junior class who shall be decided to have attained the highest intellectual culture at the University. The society was founded by Helmus W. Thomp-

son, William D. Willard, Ulysses S. Grant, Albert Graber, Albert A. Finch. The senior members are Henry Johnson, Kendric C. Babcock, R. Leslie Moffett, Arthur E. Giddings, Oscar L. Triggs. The junior members are Patrick Kennedy, J. B. Pike, Henry P. Bailey, Siever Serumgard, Charles Sommers.

ALUMNI ASSOCIATION.

This association was organized in 1875. The graduates of the existing colleges of the university are members. The members of the Board of Regents and 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 following are the officers of the Association for the present year: President, J. F. Miner, '75; Vice-President, Wm. W. Keyser, '79; Secretary, Oscar Firkins, '79; Treasurer, Ida V. Mann, '85; Historian, James Gray, '85; Orator, F. C. Bowman, '79; Poet, Mary L. Blanchard, '88.

FELLOWSHIP ASSOCIATION.

This association was incorporated March 10, 1888. Its object is to encourage graduate students in special lines of study and for that purpose to raise a fund by endowment gift, grant, bequest, or annual contribution of its members. Awards of $250 each have been made to the following recipients, known as "Fellows of the University": 1888-89, U. S. Grant, Biology; 1889-90, K. C. Babcock, History, and O. L. Triggs, English Literature. Alumni, former students and other friends of the University become members of the association by pledging financial support of not less than five dollars annually for five years. Life membership certificates are issued upon payment of $100. The annual meeting is held at the University during the forenoon of the day preceding Commencement. The officers for the closing year are: John Goodnow, President; James Gray, Secretary; F. B. Snyder, (55 South Fourth Street) Treasurer; Mrs. V. F. Miner, W. J. Warren, W. E. Leonard, A. H. Hall, Geo. B. Aiton, Directors.

PRIZES.

Three prizes of $30, $25 and $20, offered by the Hon. J. S. Pillsbury, will be awarded every year for the best work in the Rhetorical Department as evidenced finally by an oration in public.

A prize of twenty-five dollars, known as the "'89 Memorial Prize" established by the class of 1889, is given for the best work done in the Historical Department as evidenced by a thesis.

MILITARY SCIENCE AND TACTICS.

This chair is filled by an officer of the regular army detailed by the President of the United States at the request of the Board of Regents of the University.

The duties prescribed at present are one hour's drill five days in the week, and a few lectures in Military Science.

During the past year the course has been effective and the organization consists of a battalion, composed of three companies of Infantry, for the male students and one company of female students. The course is to be compulsory during the Freshman year for all students who enter the collegiate course in the future, (unless specially excused by the faculty); all are expected to provide themselves with uniforms. That for the male students will be manufactured by tailors in the city of Minneapolis and will cost complete about $20.00. It consists of a dress coat, trousers and cap, modeled after the West Point Cadet uniforms, with flat buttons. A description of uniform worn by the female students is inserted to enable them to make up their uniforms before coming to the University.

It is proposed to organize a battery of artillery and a band in future years, and each is to reorganize at the beginning of the collegiate year.

The commissioned and non-commissioned officers will be selected at the beginning of each year as far as practicable from the Senior and Junior classes.

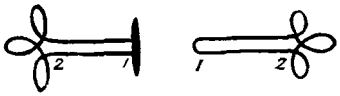
A course of lectures during one term will be given to Seniors and Juniors upon the following subjects:

Army Organization and Administration, Tactics, Strategy, Military Engineering, Ordnance and Gunnery, and Military Law and Courts Martial.

LADIES' DRILL UNIFORM.

The material shall be of dark navy-blue flannel trimmed with light-gray broadcloth. The skirt shall be a plain full skirt, containing two and one-half widths, or three if necessary, of the navy-blue material, so gathered at the waist that the main fulness shall fall behind. In length the skirt shall be exactly five inches from the floor; and shall be finished with a hem four and one-half inches wide. Just above the hem shall be a band of the light-gray broadcloth two inches wide when finished, the lower edge being exactly four inches from the bottom of the skirt. This skirt shall be sewed to a silicia waist. The blouse shall be made without lining, just long enough to fall over the belt of the blouse, and with no more fulness around the bottom than is necessary. The belt of the blouse must be fastened to the skirt. The neck shall be finished with a short standing collar, also a sailor collar, the pattern of which will be sent with the goods. The sleeves shall be straight and full enough to allow free movement. They shall be gathered at the wrist into a band of the broadcloth two inches deep.

The blouse shall be fastened in front with five frogs, made of gray braid as follows:



Each half frog contains one-half yard of the braid, sewed together as shown in the cut. The distance from 1 to 2 is three inches, and the remainder of the one-half yard makes the loops. Stiff waists, bustles and reeds are prohibited, and no changes, and no additions must be made to these directions by individuals. The material can be procured only at Hale, Thomas & Co.'s, Minneapolis, Minn. In ordering, state the number of yards needed of the navy-blue material, and this, together with the necessary trimmings, will be sent upon request from the above-named firm.

UNIVERSITY BATTALION, SPRING TERM, 1889.

Commandant—Edwin F. Glenn, First Lieut. 25th Infantry.

Adjutant Captain—Alfred S. Pillsbury.

Quartermaster Captain—Max West.

Sergeant-Major—Sergeant George K. Belden.

Quartermaster Sergeant—Sergeant A. M. Bull.

COMPANY A.	COMPANY B.	COMPANY C.
Captain, B. E. Trask.	Captain, John F. Hayden.	Captain, J. Paul Goode.
1st Lieut., W. B. Ladue.	1st Lieut., M. H. Gerry.	1st Lieut., O. L. Triggs.
2d Lieut., F. L. Douglass.	2d Lieut., H. M. Woodward.	2d Lieut., W. H. Hoyt.
1st Serg't, W. W. Dann.	1st Serg't, J. C. Grant.	1st Serg't, W. E. Winslow.
2d " E. M. Spaulding.	2d " George P. Huhn.	2d " A. W. Shaw,
3d " H. G. Richardson.	3d " C. L. Sommers.	3d " W. W. Harmon.
4th " H. D. Dickinson.	4th " F. M. Mann.	4th " T. G. Soares.
5th " John Pritchett.	5th " F. H. Gilman.	5th " ————
1st Corporal, J. L. Burt.	1st Corporal, M. Trench.	1st Corporal, J. R. Pitman.
2d " C. D Hale.	2d " G. B. Rossman,	2d " J. N. Cross.
3d " F. D. Monfort.	3d " T. D. Hall.	3d " B. T. Hurd.
4th " H. D. Lackor.	4th " S. S. Start.	4th " B. C. Taylor.
Musician, F. A. Smith.	Musician, S. P. Jellum.	
Privates—	*Privates*—	*Privates*—
V. S. Clark,	E. P. Burch,	H. M. Bertram,
A. E. Covell,	C. S. Coe,	C. W. Bray,
F. E. Covell,	R. Chadborn,	T. Carey,
J. E. Carroll,	C. R. E. Cutts,	H. Cotton,
C. W. Ferree,	R. C. Dewey,	W. H. Day,
W. D. Frost,	A. H. Elftman,	G. G. Dickerman,
D. P. Fridley,	C. E. Goodsell,	J. A. Fairbanks,
W. W. Greenwood,	C. E. Guthrie,	J. H. Gill,
H. O. Hannum,	J. T. Hammer,	F. W. Hanft,
E. J. Krafft,	J. J. Hankinson,	E. O. Huntington,
W. C. Leary,	M. S. Howard,	T. M. Knappen,
J. E. Madigan,	J. E. Merrill,	G. Mashek,
R. A. Munroe,	W. B. Morris,	C. D. Matteson,
J. C. Ohnstad,	W. C. Muir,	E. C. Phoenix,
H. F. Pierce,	O. A. Pettibone,	S. S. Paquin,
J. B. Pike,	Fred Sardeson,	J. W. Schlenker,
A. Rannum,	R. W. Sherer,	C. D. Shaw,
O. K. Richardson,	G. L. Thornton,	G. C. Sikes,
E. P. Sheldon,	W. F. Trussell,	R. W. Squires,
A. W. Selover,	Duane Wheeler.	V. A. Stearns,
E. Sumner,		R. L. Thompson,
R. A. Turrell,		H. H. Taylor,
A. Zeleny,		W. P. Upton,
J. Zeleny.		F. C. Waite,
		John Whitmore,
		O. K. Wilson,
		A. E. Williams.

COMPANY Q.

Captain—Miss Ada E. Smith.
1st Lieutenant—Miss Grace Countryman,
2d Lieutenant—Miss Louise Montgomery,
1st Sergeant—Miss Clara Baldwin.
2d Sergeant—Miss Effie Ames.
3d Sergeant—Miss Florence Rose.
1st Corporal—Miss Frances Montgomery.
2d Corporal—Miss Myrtle Connor.

Privates—

Miss Antoinette Abernethy,
" Hattie Andrews,
" Clara Bailey,
" Nellie Burritt,
" Grace Chapman.
" May Cheney,
" Kittie Comfort,
" Nell Cross,
" Edith Dodge,
" Mattie Elwell,

Privates—

Miss Anna Erb,
" Laura Frankenfield,
" Esther Friedlander,
" Nora Frye,
" Anna Guthrie,
" Dora Guthrie,
" Mary Hawley,
" Clara Kellogg,
" Mary Lougee,
" Bird Lucy,

Privates—

Miss Kathrina Manson,
" Lillie Martin,
" Lizzie Mathes,
" Adelaide Pearson,
" Jessie Pratt,
" Minnie Rexford,
" Carrie Severance,
" Margaret Sewall,
" Stella Stearns,
" Helen Toombs.

GEOLOGICAL SURVEY.

The University is charged by law with the work of the geological and natural history survey of the state, under direction of the board of regents. This survey has been in operation since 1872, but has been confined principally to the geological portion of the work. More lately the regents have also ordered the beginning of botanical collections, with a view to the creation of a full herbarium of the flora of the state, and instituted systematic observation and reports on the birds, mammals and insects of Minnesota.

The law creating the survey embraces not only a 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 a permanent exhibition to be made in the buildings 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, the final report is made to the governor. The first two volumes of the final report have been published. These reports are placed in all the public libraries in the state, and in each High School working under the supervision of the State High School Board. The remainder of the edition is sold at the cost of printing ($3.50 per copy), and can be had by addressing the state geologist, Prof. N. H. Winchell.

THE COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

THE FACULTY.

CYRUS NORTHROP, LL. D.
President.
WILLIAM W. FOLWELL, LL. D.
Professor of Political Science.
JABEZ BROOKS, D. D.
Professor of Greek.
JOHN G. MOORE, B. A.
Professor of German.
CHRISTOPHER W. HALL, M. A.
Professor of Geology, Mineralogy and Biology.
JOHN C. HUTCHINSON, B. A.
Associate Professor of Greek and Mathematics.
JOHN S. CLARK, B. A.
Professor of Latin.
MATILDA J. WILKIN, B. L.
Instructor in English and German.
MARIA L. SANFORD,
Professor of Rhetoric and Elocution.
JOHN F. DOWNEY, M. A., C. E.
Professor of Mathematics and Astronomy.
JAMES A. DODGE, PH. D.
Professor of Chemistry.
CHARLES W. BENTON, B. A.
Professor of French.
JOHN DEWEY, PH. D.
Professor of Mental and Moral Philosophy and Logic.
O. J. BREDA.
Professor of Scandinavian.
CHARLES F. SIDENER, B. S.
Instructor in Chemistry.
HENRY F. NACHTRIEB, B. S.
Professor of Animal Biology.
GEORGE EDWIN MACLEAN, PH. D.
Professor of English.
HARRY PRATT JUDSON, M. A.
Professor of History.
CONWAY MCMILLAN, M. A.
Instructor in Botany.
JOHN WHITMORE, B. A.
Instructor in Physics.
HENRY T. ARDLEY,
Instructor in Free Hand Drawing.
ALBERT J. SCHUMACHER.
Instructor in Mechanical Drawing.

TERMS.

The University year embraces thirty-eight weeks, beginning on the Tuesday before the first Thursday in September, and is divided into three terms. The first term has thirteen, the second twelve, and the third thirteen weeks. Commencement day comes on the first Thursday in June. See calendar for days and dates, on page five.

COURSES OF STUDY.

The College of Science, Literature and the Arts offers three courses of study, called the Classical, Scientific and Literary. Applicants desiring to pursue Greek and Latin will select the Classical course. Those desiring specially to pursue English, German, and French, with or without Latin, will select the Literary course. Those desiring specially to pursue scientific studies, will select the Scientific course. Mathematics is required to the same extent in all. These courses lead, respectively, to the degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Literature. Applicants are free to select their courses of study on admission, but cannot thereafter change them except as allowed by vote of the General Faculty.

The courses of this college are open, free of all charges for instruction, to all persons over fourteen years of age, whether residents of the state or not, who may pass the required examinations. Applicants will not, however, be admitted to the preparatory class (Sub-Freshman), provided they can get instruction in the subjects taught in this class in the school district in which they live.

ADMISSION.

Applicants for admission to the Sub-Freshman Class will be examined in the following studies:

[*This class will be discontinued at the close of the next University year. For requisites for admission to the Freshman Class September, 1890, see announcements at end of Catalogue.*]

LATIN GRAMMAR,—This will include the subjects of orthography, etymology and syntax as found in Harkness, or etymology and syntax as found in Allen & Greenough's Latin Grammar. Greater proficiency than has heretofore been shown is particularly desired in the following subjects: Classification of the letters. Rules of phonetic changes as given in sections 19–36 inclusive, in Harkness, or sections 9–11 (and elsewhere) in Allen & Greenough. The analysis of the verb forms. The rules of syntax, and the principal parts of the irregular verbs.

ENGLISH GRAMMAR,—The examination will cover, in general, the essentials of grammar as indicated in the following particulars: The derivation and composition of words; the inflection of words; declension, and synopsis of conjugation; the classification of words, according to their office, as parts of speech, their definitions, and their properties or attributes. The syntax; the relations of agreement and government; the various kinds of sentences, simple, compound or complex as to form, and declarative, etc., as to meaning. Sentential analysis; definition of parts or elements of a given sentence, whether primary or secondary elements, and whether words only or phrases or clauses, and the office of each of these elements. In short, the candidate should be prepared to parse, including the etymology and syntax, each word, and to analyze each sentence in a given ex-

ercise. He should be trained to illustrate by specimen-words, phrases, clauses, and sentences selected or composed by himself. He should be able to correct grammatical errors and give reasons for the corrections.

ENGLISH COMPOSITION.—The candidate should have such knowledge of form, penmanship, orthography, punctuation, syntax and construction as will enable him to write with ease and elegance any letter of business or friendship; to draft resolutions and petitions; to prepare for the press, reports of meetings and brief notices of current events. Accuracy upon these fundamental points will cover three-fourths of the examination. In addition to this some knowledge of English composition as a fine art is expected, of the power and beauty gained by the right use of rhetorical figures; of what is meant by purity, precision, brevity and harmony and style; and this not merely by committing to memory definitions and rules, but by studying the English classics and learning to appreciate the life and vigor of the great masters of English poetry and prose.

ARITHMETIC.—The examination in arithmetic will cover the following topics: The fundamental rules, cancelation, greatest common divisor, least common multiple, common fractions, decimal fractions, denominate numbers, ratio and proportion, percentage (including profit and loss, commission, stocks, taxes, duties, and other applications), simple and compound interest, discount, partial payments, equation of payments, simple and compound partnership, alligation, involution, evolution, and the metric system. Proofs by casting out the nines, circulating decimals, continued fractions, exchange, permutations, and combinations are omitted, and arithmetical and geometrical progression are reserved for Algebra

ELEMENTARY ALGEBRA.—Any one of the following books will furnish the necessary preparation on this subject: Ray's Elementary Algebra, Greenleaf's New Elementary Algebra, Davies' Elementary Algebra, Olney's Introduction to Algebra. If Olney's Complete Algebra or Wentworth's Elements of Algebra be used, selections can be made equivalent to the above.

HISTORY OF GREECE AND ROME.—The history of Greece and Rome should be made a study of the evolution of Greek and Roman institutions. Events should be considered in their bearing on that evolution. Any good outline history will answer as a text-book, but it should be supplemented by other material, such as the books of Wilkin and Mahaffy in the History Primer series. It should be noted that a definite portion of the examination will be devoted to the geography of the country.

HISTORY OF THE UNITED STATES.—For grammar school grades the text book prepared by Horace E. Scudder, is recommended But if, as is much better, this subject is systematically studied in the high school, with elementary work in lower grades, the book of Alexander Johnston will be found valuable. In either case it is suggested that much more time be given to the development of the United States since the revolutionary war than to the story of the colonial period. The main features of the Constitution should be clearly understood, and its practical working as interpreted by the Supreme Court, and seen in operation in the growth of the nation. The chief object of this study should be that the student may understand the institutions of the republic, by learning how they came to be what they are. It should be noted that a definite portion of the examination will be devoted to the geography of the country.

NATURAL PHILOSOPHY.—As much as is contained in Gage's Introduction to Physical Science.

PHYSIOLOGY.—The candidate should be thoroughly familiar with as much anatomy, histology and physiology of the human body as is given in Martin's "Human Body," brief course. As much knowledge of hygiene and the effect of the use of stimulants and narcotics on the human body as can be gained from both the general text and the special chapter on narcotics and stimulants in the briefer course of the "Human Body," is also required.

In addition to the above subjects, those intending to pursue Latin will be examined in:

CÆSAR.—First three books of the Gallic war. Translations of passages of the text into correct idiomatic English. Grammatical questions connected with the text, more especially on the subjunctive mood, indirect discourse and the sequence of tenses. The pupil should be able to rewrite in the *oratio recta* all the passages in the *oratio obliqua* that occur in these books. The life of Cæsar and an account of his wars, especially those car-

ried on in Gaul, with the geography of that country and the location of the different tribes mentioned in the text. The organization of the Roman army, the method of reckoning time, distance, etc., etc.

CICERO.—Four orations against Catiline. Translations as in Cæsar. Grammatical questions, more especially on the syntax of the cases, the infinitive mood and participles.

Those who do not intend to pursue Latin will be examined in Cæsar and Cicero as above or, in lieu thereof:

PHYSICAL GEOGRAPHY,—As contained in Geikie's text book or equivalent.

HISTORY OF ENGLAND,—Gardiner's English History will sufficiently cover the ground of the examination in this subject.

Applicants for admission to the Freshman Class will be further examined in the work of the sub-Freshman year, in the course chosen.

Examinations for admission will be held at the beginning of the year. See calendar on page 4 and program of examinations in appendix. Entrance examinations cannot be held at any other time unless permission be granted by the General Faculty. Students prevented from entering at the beginning of the year may be admitted at a subsequent date, when the circumstances are such as to justify the faculty in examining them privately. Such students are, however, at a great disadvantage, being behind the class, and all students expecting to enter the University during the year are earnestly requested to be present at the beginning of the year.

Apply to the registrar for a blank application and registration number. Fill up the blank as indicated, retaining the coupon containing the number. Preserve this number as long as you have any connection with the University. If you do not enter at once use the same number when you apply again.

Present yourself in the examination room at the hour appointed, and bring with you a lead pencil and eraser; paper will be furnished. Put your number, not your name, at the top of every sheet you use.

A box in the post-office on the first floor of the main building will be assigned to each candidate. As soon after the close of the examination as the papers can be read, the results will be made known through the post-office.

ADMISSION ON DIPLOMA.

By a special resolution of the Board of Regents, graduates of St. Paul and Minneapolis High Schools, and the Minneapolis Academy, will be admitted to the Freshman class without examination upon presentation of their diploma. The State High School Board has inspected and classified the schools of the State under its supervision. Graduates of schools of the first rank are admitted to the Freshman class upon presentation of their diploma. At present the following schools are in this rank: Duluth, Hastings, Lake City, Mankato, Red Wing, Stillwater, Owatonna, Anoka and Winona. Candidates holding diplomas from High Schools of the first rank should present their diplomas on making application. Candidates holding certificates of

the High School Board or records from other Colleges or Normal Schools should present their credentials on making application.

REGISTRATION.

All students of this college are required to pay an annual incidental fee of five dollars. No reduction is made for late entrance or for withdrawal before the end of the year. On payment of this fee, a registration card is issued which admits the holder to the recitations and lectures.

INSTRUCTION.

It would be impracticable to attempt to give a full description of the work in the various departments, and of the methods used in teaching. The courses of study given below will sufficiently indicate the scope of the work in the different subjects offered in this college. It will be noticed that in the earlier years of all the courses the studies are required, while in the junior year more than half are elective, and in the senior year all studies are elective. The object of this arrangement is to secure, in the earlier years, a thorough discipline, and to help the student to form correct habits of study and investigation, by compelling him to pursue the studies chosen long enough to enable him to master them in a good degree. He is then prepared to take up the work of the later years and to make selections for himself, guided by his own tastes and judgment.

CURRICULUM.

The following schedule shows the studies for the different courses, classes, and terms. The figures in brackets indicate the number of exercises a week.

CLASSICAL COURSE.

SUB-FRESHMAN YEAR.

FIRST TERM.

GREEK [5],—Brooks' Introduction to Attic Greek.

LATIN [5],—Cicero: four orations, with particular attention to the rules for composition of words as given in sections 313-343 of Harkness' Grammar; historical and geographical references found in the text; the life of Cicero and the history of his times, and of the Catilinian conspiracy; the antiquities connected with the text, particularly the Roman Senate, its origin, constitution, powers, duties, etc., the functions of the consulship, praetorship and other offices.

MATHEMATICS [2],—Higher Algebra: factoring, highest common divisor, lowest common multiple, fractions, involution, evolution, and radicals.

FREE-HAND DRAWING [3],—Six hours a week.

RHETORICAL WORK,—Compositions.

SECOND TERM.

GREEK [5],—Brooks' Introduction (continued). Xenophon's Anabasis (begun).

LATIN [5],—Virgil: two books of the Aeneid; peculiarities in the form and construction of words; general review of grammar; the geography, antiquities, biographies, and mythology connected with the text.

MATHEMATICS [5],—Plane Geometry: Olney's text-book, including the unsolved problems.

RHETORICAL WORK,—Elocution.

THIRD TERM.

GREEK [5],—Xenophon's Anabasis (completed).

LATIN [5],—Virgil: four books of the Aeneid; peculiarities in the form and construction of words; general review of the grammar; prosody and composition of words: the life of Virgil, and an account of his times and writings, the geography, antiquities, biographies, and mythology connected with the text.

MATHEMATICS [5],—Solid Geometry: Olney's text-book, including the exercises.

FRESHMAN YEAR.

FIRST TERM.

GREEK [5],—Xenophon's Cyropædia (begun).

LATIN [5],—Livy, with review of syntax; Latin composition and Roman history.

MATHEMATICS [5],—Higher Algebra: simple equations, proportion, progression, variation, quadratic equations, simultaneous equations of the second degree, inequalities, binomial theorem, indeterminate co-efficients.

SECOND TERM.

GREEK [5],—Cyropædia (completed); Smith's and Grote's Histories of Greece.

LATIN [5],—Livy (continued).

MATHEMATICS [5],—Logarithms and Plane and Spherical Trigonometry with numerous applications.

FREE-HAND DRAWING [3],—Six hours a week (OPTIONAL).

RHETORICAL WORK,—Elocution.

THIRD TERM.

GREEK [5],—Demosthenes, Olynthiacs and Phillipics.

ENGLISH [5],—Old English (Anglo-Saxon) elements, and history of the English language.

BOTANY [5],—Gray's Lessons and Manual, with lectures on the leading characters of the lower forms, and on the physiology of plants.

SURVEYING [2],—Four hours a week (OPTIONAL).

RHETORICAL WORK,—Compositions.

CLASSICAL COURSE—Continued.

SOPHOMORE YEAR.

FIRST TERM.

LATIN [4],—Horace, with history of Roman literature.
RHETORIC [4],—Genung's text-book; study and criticism of authors; essays.
PHYSICS [4],—Mechanics, sound and heat as given in Olmsted's College Philosophy.
FRENCH [4], Bôcher's Otto's French Grammar and Reader.
OR
ENGLISH [4],—Milton's Comus and studies in Paradise Lost.

SECOND TERM.

GREEK [4],—Greek Tragedy: Antigone or Prometheus, with essays; Smith's History of Greece; collateral readings.
HISTORY [4],—Europe during the Middle Ages.
PHYSICS [4],—Light, Magnetism and Electricity as given in Olmsted's College Philosophy.
FRENCH [4],—Bôcher' course (continued).
OR
ENGLISH [4],—Shakspere, King Lear (Rolfe's), with Abbott's Shaksperean Grammar.
RHETORICAL WORK,—Elocution.

THIRD TERM.

GREEK [4],—Plato's Apology and Crito; Smith's History of Greece; Essays on Plato and collateral readings.
HISTORY [4],—England during the Middle Ages.
CHEMISTRY [4],—A brief course in General Chemistry, consisting of lectures, recitations and laboratory work.
LATIN [4],—Tacitus; Pliny's Letters with the history of Rome and Roman society under the Emperors.
RHETORICAL WORK,—Orations.

JUNIOR YEAR.

FIRST TERM.

ENGLISH LITERATURE [4],—History of New English Literature. Lectures and "Seminary" with reading of authors.
GREEK [4],—Homer's Iliad or Odyssey; the literature of Homer; essays on Homer; collateral readings.
RHETORICAL WORK,—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected.

HISTORY [4],—Modern History of England.
MATHEMATICS [4],—Analytical Geometry; the conic sections, both by rectilinear and polar co-ordinates: producing equations of loci whose law of development is known; constructing and discussing such equations; transformation of co-ordinates; properties of loci by means of their equations.
GERMAN [4],—begun with the sub-Freshman Class.
SCANDINAVIAN [4],—Peterson's Norwegian Reader with exercises in writing and speaking.
ANALYTICAL CHEMISTRY [4],—Laboratory work eight hours a week.
PHYSIOLOGY AND HISTOLOGY [4],—Lectures and laboratory work: Martin's Human Body. (This term's work can be taken by all.)
PHYSICS [4],—With the scientific section.

CLASSICAL COURSE—Continued.

JUNIOR YEAR—Continued.

SECOND TERM.

LOGIC [4].

LATIN [4],—Plautus with study of early Latin language and literature.

RHETORICAL WORK,—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

MATHEMATICS [4],—Differential Calculus; differentiation of algebraic and transcendental functions; development of functions; maxima and minima; treatment of tangents, sub-tangents, normals, sub-normals, asymptotes, direction and rate of curvature, evolutes, and envelopes. The text-book used is based on the infinitesimal method, but the fluxionary method is given orally, and the system fully developed.

GERMAN [4],—With the sub-Fresman Class.

HISTORY [4],—Colonial History of the United States.

ENGLISH [4],—Shakespere's King Lear.

PHYSIOLOGY AND HISTOLOGY [4],—Can be taken only by those who have had the first term's work.

ANALYTICAL CHEMISTRY [4],—Laboratory work 8 hours a week.

SCANDINAVIAN [4],—B. Björnson's "En Glad Gut," with exercises in writing and speaking.

MINEROLOGY [4],—With the Scientific section.

FRENCH [4],—With the Literary section.

PHYSICS [4],—With the Scientific section.

THIRD TERM.

PSYCHOLOGY [4],—Lectures.

ASTRONOMY [4],—The text-book work is supplemented by lectures, especially upon the history of the science, and upon recent astronomical discoveries and theories.

RHETORICAL WORK,—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

MATHEMATICS [4],—Integral Calculus: Integration of the various forms, rectification of curves, quadrature of plane and curved surfaces, cubature of volumes, equations of loci by means of the calculus.

LATIN [4],—Outline of the history and elements of Roman Law, embracing lectures and text-book work, with translations at sight from Latin writers, illustrating the subject.

GERMAN [4],—Deutsche Lyric and history of German literature.

OR

GERMAN [4],—With the sub-Freshman Class.

SCANDINAVIAN [4],—B. Björnson's "Synnöve Solbakken" with exercises in writing and speaking.

FRENCH [4],—Le Cid par Corneille; La Philosophie de l' Art par M. Taine; La Philosophie de l' Art en Italie par M. Taine; La Litterature du XVII. siecle par Marcillac.

ENGLISH [4],—American literature; syllabus of, lectures and studies in authors.

PHYSICS [4],—Light—recitations and laboratory work; Wright's Experimental Optics or Sophomore Physics.

ANIMAL MORPHOLOGY [4],—Lectures and laboratory work. This can be taken only by those who have had the Zoölogy of Sophomore year.

CHEMISTRY [4],—Organic and Analytical.

MINERALOGY [4],—Descriptive and determinative; lectures and laboratory work; this is essentially a study of minerals and must be preceded by the second term work.

SENIOR YEAR.

Sixteen exercises a week, chosen from the following list.

FIRST TERM.

GEOLOGY [4],—Dynamical and structural. The cosmic aspects of geology, erosion, sedimentation, oscillations of level and geological dynamics with discussions of facts and theories.

HISTORY OF PHILOSOPHY [4],—Lectures embracing a historical exposition of ancient and modern philosophy—the principles of the leading philosophers—the historical relations of the succeeding systems—accompanied by recitations and discussions.

CLASSICAL COURSE—Continued.

SENIOR YEAR—Continued.

FIRST TERM—(CONTINUED).

PRACTICAL ASTRONOMY [4],—The work embraces the theory and use of instruments, the use of the Ephemeries 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.

*FRENCH [4],—Madame Theresa ou les Voluntaires de '92 par Erkmann. Chatrian. Maximes par Vauvenargues. La Litterature Française Classique par Marcillac. Tableaux de la Revolution Française. La France par M. Rougemont.

GREEK [4],—Lyrics—Lectures.

POLITICAL ECONOMY [4],—Lectures on the history of economic science and established principles of private economics. Essay and written exercises.

HISTORY [4],—The History of Civilization with lectures on the philosophy of history.

†**SCANDINAVIAN** [4],—Critical reading of masterpieces of Scandinavian literature with essays.

GERMAN [4],—with the Junior Class, Literary section.

MATHEMATICS [4],—with the Junior Class.

RHETORICAL WORK,—Orations or essays.

SECOND TERM.

POLITICAL SCIENCE [4],—Lectures: Historical and analytical outline. Critical reading of the Constitutions of the United States and Minnesota. De Tocqueville's Democracy in America to be privately read by the class. Short course in International Law. Written exercises.

ETHICS [4],—Lectures.

GEOLOGY [4],—Lithology and Historical Geology: (*a*) the different forms under which rock masses occur; (*b*) the classification and composition of rocks; (*c*) the microscopic examination of typical thin sections; (*d*) the nature and significance of fossils; (*e*) a study of the Cambrian and Silurian faunas.

FRENCH [4],—La Philosophie de l' Art en Grece par M. Taine. De l' Ideal dans l' Art. Historie de la Revolution Française. Lectures in French on the Literature of the Eighteenth Century.

LATIN [4],—L. Senica's Dialogues and "Latin Hymns."

MATHEMATICS [4],—Quaternions; Hardy, with Kelland and Tait.

ENGLISH LITERATURE [4],—Lectures on oratory by the President, and critical studies in the authors at the opening of the Nineteenth Century.

SCANDINAVIAN [4],—Lectures on the History of Danish, Norwegian and Swedish Literature, with selections from the authors. Essays and conversation.

CHEMISTRY [4],—History of Chemical Theory and Laboratory Work.

GERMAN [4],—With the Junior Class, Literary section.

RHETORICAL WORK,—Oration or essays.

THIRD TERM.

POLITICAL SCIENCE [4],—Lectures: American Public Economy,—Syllabus,—with special treatment of taxation, money, banks, public education, protection, transportation, public health, &c. Written exercises.

FRENCH [4],—Cinq. Mars par Alfred de Vigny, Hernani par Victor Hugo. La Litterature Contemporaine. Lectures on the Literature of the Nineteenth Century in France.

GREEK [4],—Lectures on Greek language and literature with selected readings.

APPLIED GEOLOGY [4],—Relation of geology to mining—Nature and origin of ore deposits and a survey of the geological and geographical distribution of the ores of the most important metals, building stones, precious stones, fuels, mineral springs, artesian wells and water supply, the formation and constitution of soils.

GERMAN [4],—With the Junior Class, Literary section.

SCANDINAVIAN [4],—Lectures on the History of Danish, Norwegian and Swedish Literature, with selections from the authors. Essays and Conversation.

ENGLISH LITERATURE [3],—Discussions on the philosophy of art and criticism with original work in criticism, and on the philosophy of criticism and literature by the professor.

NATURAL THEOLOGY [2],—Lectures.

COMPARATIVE PHILOLOGY [2],—Lectures: Historical outline, syllabus and treatment of leading topics.

SHAKSPERE [1],—Lectures by the President.

PEDAGOGICS [1],—Lectures.

SANITARY SCIENCE [1],—Lectures.

* Seniors who have not had French can take this subject with the Sophomore Class.

† Seniors who have not had Scandinavian can take this subject with the Juniors.

SCIENTIFIC COURSE.

SUB-FRESHMAN YEAR.

FIRST TERM.

CHEMISTRY [3],—Recitations and laboratory work; non-metallic elements and their compounds.

BOTANY [2],—Four hours a week—Bessy's Essentials used as a guide. A study is made of slime moulds, bacteria, yeast green, slimes, desmids, diatoms, pond scums, volvox, the moulds, the blights, the rust, mushrooms, lichens, mosses, etc.

MECHANICAL DRAWING [3],—Six hours a week.

MATHEMATICS [2],—Higher algebra: factoring, highest common divisor, lowest common multiple, fractions, involution, evolution and radicals.

*__LATIN__ [5],—Cicero: *four orations, with collateral work as in the Classical Course.*

OR

*__GERMAN__ [5],—MacMillan's German Course, with blackboard exercises in translating English into German.

OR

*__ENGLISH__ [5],—Etymologies of Latin and later Romance origin illustrated by selections from Bacon, Dr. Johnson, and scientific text-books.

RHETORICAL WORK,—Compositions.

SECOND TERM.

MECHANICAL DRAWING [2],—Four hours a week.

FREE-HAND DRAWING [3],—Six hours a week.

MATHEMATICS [5],—Plane Geometry: Olney's text-book, including the unsolved problems.

LATIN [5],—Virgil, two books of the Aeneid, with collateral work as in the Classical Course.

OR

GERMAN [5].—Boisen's German Prose (34 pages) and Whitney's Brief German Grammar, with oral and blackboard exercises.

OR

ENGLISH [5],—*The Greek in English by Thomas D. Goodell, Ph. D.*

RHETORICAL WORK [1],—Elocution.

THIRD TERM.

CHEMISTRY [2],—A continuation of the work of the first term. The work of the two terms corresponds nearly with the first 150 pages of Eliot and Storer's Elementary Manual of Chemistry.

BOTANY [3],—Six hours a week—a continuation of the work of the first term.

MATHEMATICS [5],—*Solid Geometry*: Olney's text-book, including the exercises.

LATIN [5],—Virgil, four books of the Aeneid, with collateral work as in the Classical Course.

OR

GERMAN [5],—Boisen's German Prose (102 pages) and Whitney's Grammar completed, with oral and blackboard exercises.

OR

ENGLISH [5],—Work of second term continued.

*The language chosen this term must be continued during the sub-Freshman and Freshman years.

SCIENTIFIC COURSE—Continued.

FRESHMAN YEAR.

FIRST TERM.

DRAWING [5], Ten hours a week—Free-hand or Mechanical.

MATHEMATICS [5],—Higher Algebra:—Same as for the Classical Course.

LATIN [5],—Livy, with review of syntax; Latin composition and Roman history.

OR

GERMAN [5],—Schiller's Egmont and Siege of Antwerp, with a review of the complete Grammar.

OR

ENGLISH [5],—Old English (Anglo Saxon) Grammar, and prose masterpieces.

SECOND TERM.

MATHEMATICS [5],—Logarithms and Plane and Spherical Trigonometry with numerous applications.

LATIN [5],—Livy (continued).

OR

GERMAN [5],—Wagner's German Historical Ballads with history and geography.

OR

ENGLISH [5],—Old and Middle English poetry.

*__CHEMISTRY__ [5],—Lectures, recitations and laboratory work: chemistry of the metals (begun).

OR

*__PHYSICS__ [5],—Mechanics of solids, liquids and gases. Dana's Mechanics and Ganot's Physics are used.

RHETORICAL WORK,—Elocution.

THIRD TERM.

ENGLISH [5],—History of the English language with Chaucer for those in the English course. Old English (Anglo Saxon) elements, and history of the English language for those not in the English course.

GERMAN [5],—Lessing's Minna von Barnhelm and German composition.

OR

DRAWING [5],—Ten hours a week—Free-hand or Mechanical.

†__SURVEYING__ [2],—Four hours a week.

*__BOTANY__ [5],—Lectures and laboratory work—study of living matter, analogies and differences between plants and animals, principles of classification, general anatomy of mosses, ferns and flowering plants.

OR

*__ZOÖLOGY__ [5],—Lectures and laboratory work—a general study of: the phenomena of living matter, the cell and the biology of a plant, with a general survey of vegetal biology, Sedgwick and Wilson's General Biology, Part I, is used as a reference book and laboratory guide; Animal Biology begun with protozoa.

RHETORICAL WORK [1],—Compositions.

*Whichever of these subjects is chosen, it must be continued during the three terms of the Sophomore year.

†Not required of lady students.

SCIENTIFIC COURSE—Continued.

SOPHOMORE YEAR.

FIRST TERM.

RHETORIC [4],—Genung's text-book; study and criticism of authors; essays.

CHEMISTRY [4],—Lectures, recitations and laboratory work—study of metallic elements completed; brief study of organic compounds.

OR

PHYSICS [4],—Ganot's Physics: Sound and Heat.

BOTANY [4],—Study of the Compositae, and general vegetable histology, using Bessey's Elements of Botany as a manuel

OR

ZOÖLOGY [4],—Lectures and laboratory work; Animal Biology continued.

FRENCH [4],—Bôcher's Otto's French Grammar and Reader.

OR

LATIN [4],—Horace, with history of Roman literature.

OR

ENGLISH [4],—Milton's Comus and studies in Paradise Lost.

SECOND TERM.

HISTORY [4],—Europe during the Middle Ages.

CHEMISTRY [4],—Qualitative Analysis (begun).

OR

PHYSICS [4],—Ganot's Physics: Electricity.

BOTANY [4],—A continuation of histological work and lectures upon general physiology and the physiology of nutrition, following the lines of Sachs, Strasburger and Nägeli.

OR

ZOÖLOGY [4]—Lectures and laboratory work; Animal Biology (continued).

FRENCH [4],—Bôcher's course (continued).

OR

ENGLISH [4],—The English of Shakspere's King Lear (Role's) with Abbott's Shaksperean Grammar.

RHETORICAL WORK,—Elocution.

THIRD TERM.

HISTORY [4],—England in the Middle Ages.

CHEMISTRY [4],—Qualitative Analysis (completed).

OR

PHYSICS [4],—Ganot's Physics: Light.

BOTANY [4],—Physiology of growth, irritability and reproduction; lectures and experiments; special histology of ferns and flowering plants with comparative anatomy and theoretical deductions; a brief course of lectures upon evolution; thesis work.

OR

ZOÖLOGY [4],—Lectures and laboratory work; Animal Biology, closing with development of the chick.

FRENCH [4],—Bôcher's course completed; Fenelon's Telemaque; exercises in writing and speaking French.

OR

LATIN [4],—Tacitus; Pliny's Letters with the history of Rome and Roman society under the Emperors.

OR

ENGLISH [4],—American literature: syllabus of lectures and studies in authors.

JUNIOR YEAR.

FIRST TERM.

ENGLISH LITERATURE [4],—History of New English Literature; Lectures and "Seminary" with reading of authors.

PHYSICS [4],—Electricity, recitations and laboratory work; Ayrton and Perry's Practical Electricity and Kempe's Electrical Testing or Sophomore Physics.

OR

PHYSIOLOGY AND HISTOLOGY [4],—Lectures and laboratroy work; Martin's Human Body. This term's work is open to all.

RHETORICAL WORK,—One oration or two essays.

SCIENTIFIC COURSE—Continued.

JUNIOR YEAR—Continued.

FIRST TERM—(CONTINUED).

In addition to the above required work, two of the following subjects must be selected:

HISTORY [4],—Modern History of England.

MATHEMATICS [4],—Analytical Geometry:—Same as in the Classical Course.

GERMAN [4],—(Begun) with the sub-Freshman Class, or with the Junior Class, Literary section, for those who had the subject in the sub-Freshman and Freshman years.

SCANDINAVIAN [4],—Perterson's Norwegian Reader with exercises in writing and speaking.

ANALYTICAL CHEMISTRY [4],—Laboratory work eight hours a week.

SECOND TERM.

LOGIC [4].

MINERALOGY [4], Lectures and laboratory work, eight hours a week; general principles of the science; and outline of crystallography accompanied by a blow-pipe analysis.

RHETORICAL WORK,—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

MATHEMATICS [4],—Differential Calculus:—Same as in the Classical Course.

ANALYTICAL CHEMISTRY [4],—Laboratory work 8 hours a week.

PHYSICS [4]—Work of the first term continued or Sophomore Physics.

FRENCH [4],—With the Literary section.

PHYSIOLOGY AND HISTOLOGY [4],—Can be taken only by those who have had the first term's work.

SCANDINAVIAN [4],—B. Björnson's "En Glad Gut" with exercises in writing and speaking.

GERMAN [4],—With the sub-Freshman Class or with the Junior Class. Literary section, for those who had the subject in the sub-Freshman and Freshman years.

HISTORY [4],—Colonial History of the United States.

ENGLISH [4],—Shakspere's King Lear.

LATIN [4],—Plautus with study of early Latin language and literature.

THIRD TERM.

PSYCHOLOGY [4],—Lectures.

ASTRONOMY [4],—The text-book work is supplemented by lectures, especially upon the history of the science and upon recent astronomical discoveries and theories.

RHETORICAL WORK,—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

MATHEMATICS [4],—Integral Calculus: integration of the various forms, rectification of curves, quadrature of plane and curved surfaces, cubature of volumes, equations of loci by means of the calculus.

LATIN [4],—Outline of the history and elements of Roman Law, embracing lectures and text-book work with translations at sight from Latin writers, illustrating the subject.

GERMAN [4],—Deutsche Lyric and history of German literature.

OR

GERMAN [4],—With the sub-Freshman Class.

SCANDINAVIAN [4],—B. Björnson's "Synnöve Solbakken" with exercises in writting and speaking.

FRENCH [4],—Le Cid par Corneille; La Philosophie de l' Art par M. Taine; La Philosophie de l' Art en Italie par M. Taine; La Litterature du XVII. siecle par Marcillac.

ENGLISH [4],—American Literature, Syllabus of, lectures and studies in authors.

PHYSICS [4],—Light; recitations and laborary work; Wright's Experimental Optics or Sophomore Physics.

ANIMAL MORPHOLOGY [4],—Lectures and laboratory work. This can be taken only by those who have had the Zoölogy of Sophomore year.

CHEMISTRY [4],—Organic or Analytical.

MINERALOGY [4],—Descriptive and determinative; lectures and laboratory work; this is essentially a study of minerals and must be preceded by by the second term's work.

SENIOR YEAR.

The studies for this year are the same as for the Classical Course. See pages 54 and 55.

LITERARY COURSE.

SUB-FRESHMAN YEAR.

FIRST TERM.

GERMAN [5],—MacMillan's German Course, with blackboard exercises in translating English into German.

FREE HAND DRAWING [3],—Six hours a week.

MATHEMATICS [2],—Higher Algebra; factoring, highest common divisor, lowest common multiple, fractions, involution, evolution, and radicals.

***LATIN** [5].—Cicero; four orations, with collateral work as in the Classical Course.

OR

***ENGLISH** [5],—Etymologies of Latin and later Roman origin, illustrated by selections from Bacon, Dr. Johnson, and scientific text-books.

RHETORICAL WORK,—Compositions.

SECOND TERM.

GERMAN [5],—Boison's German Prose (34 pages) and Whitney's Brief German Grammar, with oral and blackboard exercises.

MATHEMATICS [5],—Plane Geometry: Olney's text-book, including unsolved problems.

LATIN [5],—Virgil: two books of the Aeneid, with collateral work, as in the Classical Course.

OR

ENGLISH [5],—The Greek in English by Thomas D. Goodell, Ph. D.

RHETORICAL WORK,—Elocution.

THIRD TERM

GERMAN [5],—Boisen's German Prose (102 pages) and Whitney's Grammar completed, with oral and blackboard exercises.

MATHEMATICS [5],—Solid Geometry: Olney's text-book, including the exercises.

LATIN [5],—Virgil: four books of the Aeneid, with collateral work, as in the Classical Course.

OR

ENGLISH [5],—Work of second term continued.

FRESHMAN YEAR.

FIRST TERM.

GERMAN [5],—Schiller's Egmont and Siege of Antwerp, with a review of the complete Grammar.

MATHEMATICS [5]—Higher Algebra:—Same as for the Classical Course.

LATIN [5].—Livy, with review of syntax; Latin composition and Roman history.

OR

ENGLISH [5],—Old English (Anglo Saxon) Grammar, and prose master-pieces.

SECOND TERM.

GERMAN [5],—Wagner's German historical ballads, with German history and geography.

MATHEMATICS [5].—Logarithms and Plane and Spherical Trigonometry with numerous applications.

LATIN [5].—Livy (continued).

OR

ENGLISH [5].—Old and Middle English poetry.

FREE-HAND DRAWING [3],—Six hours a week (OPTIONAL).

RHETORICAL WORK.—Elocution.

*The language chosen this term must be continued to the Junior year.

LITERARY COURSE Continued.

FRESHMAN YEAR—Continued.

THIRD TERM.

ENGLISH [5],—History of the English language with Chaucer, for those in the English course, or Old English (Anglo Saxon) Elements and history of the English language, for those not in the English course.

GERMAN [5],—Lessing's Minna von Barnhelm and German composition.

BOTANY [5],—Gray's Lessons and Manual, with lectures on the leading characters of the lower forms and on the physiology of plants.

SURVEYING [2],—Four hours a week (OPTIONAL).

RHETORICAL WORK.—Compositions.

SOPHOMORE YEAR.

FRENCH [4],—Bôcher's Otto's French Grammar and Reader.

PHYSICS [4],—Mechanics: Sound and Heat as given in Olmsted's College Philosophy.

RHETORIC [4],—Genung's text-book; study and criticism of authors; essays.

LATIN [4],—Horace, with history of Roman literature.

OR

ENGLISH [4],—Milton's Comus and studies in Paradise Lost.

SECOND TERM.

FRENCH [4],—Bôcher's course (continued).

HISTORY [4],—Europe during the Middle Ages.

PHYSICS [4],—Light, Magnetism and Electricity as given in Olmsted's College Philosophy.

ENGLISH [4],—Shakspere's King Lear (Rolfe's) with Abbott's Shakspearean Grammar.

RHETORICAL WORK,—Elocution.

THIRD TERM.

FRENCH [4],—Bôcher's course completed; Fenelon's Telemaque; exercises in writing and speaking French.

HISTORY [4],—England in the Middle Ages.

CHEMISTRY [4],—A brief course in General Chemistry consisting of lectures, recitations and laboratory work.

LATIN [4],—Tacitus; Pliny's Letters with the history of Rome and Roman society under the Emperors.

OR

ENGLISH [4],—American Literature; syllabus of, lectures and studies in authors.

RHETORICAL WORK,—Orations.

JUNIOR YEAR.

FIRST TERM.

ENGLISH LITERATURE [4],—History of New English Literature: Lectures and "Seminary" with reading of authors.

GERMAN [4],—Schiller's Wilhelm Tell and Gœthe's Faust, first part.

RHETORICAL WORK [1],—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

HISTORY [4],—Modern History of England.

MATHEMATICS [4],—Analytical Geometry:—Same as in the Classical Course.

ANALYTICAL CHEMISTRY [4],—Laboratory work eight hours a week.

SCANDINAVIAN [4],—Peterson's Norwegian Reader with exersises in reading and speaking.

PHYSIOLOGY AND HISTOLOGY [4],—Lectures and laboratory work—Martin's Human Body. This term's work is open to all.

PHYSICS [4],—With the Scientific section.

LITERARY COURSE—Continued.

JUNIOR YEAR—Continued.

SECOND TERM.

LOGIC [4].

FRENCH [4],—Sous la Neige par Jacques Porchat; Roman d'un Jeune Homme Pauvre par Octave Feuillet; Athalie par Racine; Petite Grammaire Française; Histoire de la Litterature Française au Moyen Age par Marcillac.

RHETORICAL WORK,—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

MATHEMATICS [4],—Differential Calculus:—Same as in the Classical Course.

ANALYTICAL CHEMISTRY [4],—Laboratory work eight hours a week.

PHYSIOLOGY AND HISTOLOGY [4],—Can be taken only by those who have had the first term's work.

SCANDINAVIAN [4],—B. Bjornson's "En Glad Gut" with exercises in writing and speaking.

GERMAN [4],—Lessing's Laocoon and Nathan der Weise.

HISTORY [4].—Colonial History of the United States.

ENGLISH [4],—Shakspere's King Lear.

PHYSICS [4],—With the Scientific section.

MINERALOGY [4],—With the Scientific section.

THIRD TERM.

PSYCHOLOGY [4],—Lectures.

ASTRONOMY [4],—The text-book work is supplemented by lectures, especially upon the history of the science and upon recent astronomical discoveries and theories.

RHETORICAL WORK.—One oration or two essays.

In addition to the above required work, two of the following subjects must be selected:

MATHEMATICS [4],—Intergral Calculus: integration of the various forms, rectification of curves, quadrature of plane and curved surfaces, cubature of volumes, equations of loci by means of the calculus.

LATIN [4],—Outline of the history and elements of Roman Law, embracing lectures and text-book work with translations at sight from Latin writers, illustrating the subject.

GERMAN [4],—Deutsche Lyric and history of German literature,
OR
GERMAN [4],—With the sub-Freshman class.

SCANDINAVIAN [4],—B. Bjornson's "Synnove Solbakken" with exercises in writing and speaking.

FRENCH [4],—Le Cid par Corneille; La Philosophie de l' Art par M. Taine; La Philosphie de l' Art en Italie par M. Taine; La Litterature du XVII siecle par Marcillac.

ENGLISH [4],—American Literature; Syllabus of, lectures and studies in authors.

PHYSICS [4],—Light—Recitations and laboratory work; Wright's Experimental Optics or Sophomore Physics.

ANIMAL MORPHOLOGY [4],—Lectures and laboratory work. This can be taken only by those who have had the Zoology of Sophomore year.

CHEMISTRY [4],—Organic or Analytical.

MINERALOGY [4],—Descriptive and determinative; lectures and laboratory work; this is essentially a study of minerals and must be preceded by the second term's work.

SENIOR YEAR.

The studies for this year are the same as for the Classical course; see pages 54 and 55.

DAILY ROUTINE.

As a general rule each student has three or four recitations or lectures a day for five days in the week, besides rhetorical exercises. Monday is taken as a holiday. The morning session begins at 8:15 o'clock, and is divided into five periods of fifty-five minutes each. A general assembly of students and faculty is held each day at 11 o'clock, at which there are brief and simple religious exercises. Special students and students in the Sub-Freshman, Freshman and Sophomore classes are required to attend.

LECTURES TO NEW STUDENTS.

Members of the Sub-Freshmen class and students lately admitted are required to attend courses of lectures, as follows: 1. On the relation of students to the university, delivered by the president during the first term. 2. On the use of the library, by the librarian during the first term. 3. On books and reading, by the professor of English during the second term. The lectures occur in alternate weeks.

EXAMINATIONS.

At the close of each term examinations are held in the studies of the term. In order to be "passed" the student must obtain sixty-five per cent. of the available marks in the Sub-Freshman class, and seventy-five per cent. in the other classes.

In determining the standing of a student in any subject the result of his daily work in that subject is combined with the result of the final examination in the ratio of two to one.

Students who are unsuccessful in any subject of any term are reported by the professor as being conditioned or as having failed. Students who fail must take the work over with the next succeeding class. Students who are conditioned will be given one examination and if they fail to pass at that examination, they must take the subject with the next succeeding class. These examinations for conditioned students, are held at the beginning of the fall term, in the work of the fall term; at the beginning of the winter term, in the work of the winter term; and at the beginning of the spring term, in the work of the spring term. Conditions of any term that are not made up by the beginning of the term must be taken in class.

A student who at any time is deficient in more than three studies of five hours per week, or four studies of four hours per week, loses his class rank and is regarded as a member of the next lower class.

GRADUATION.

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.

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.

SPECIAL STUDENTS.

Persons of mature years and judgment may be admitted to pursue studies to be selected from the regular course of study. The subjects are arranged in groups. Special students must confine their work to one or two of the groups as tabulated below. All applicants, as conditional to their admission as special students, shall pass an examination in so many of the subjects known as requisites for entrance to the regular course of study, as properly belong to, or are naturally introductory to the line or lines of study they have elected; for instance, if they have elected mathematics, they shall be examined in entrance mathematics; if history, then entrance history; if science, then entrance science; if English studies, or a modern language, then entrance English; if Latin, then entrance Latin; if Greek, then entrance Latin or English.

The grouping of the subjects is as follows:

I. MODERN PHILOLOGY.—English, French, German, Scandinavian.
II. CLASSICAL PHILOLOGY.—Greek, Latin.
III. COMPARATIVE PHILOLOGY.—
IV. BIOLOGICAL SCIENCE.—Botany, Zoology, Physiology, Paleontology.
V. PHYSICAL SCIENCE.—Lithological Geology, Chemistry, Physics, Mineralogy.
VI. MATHEMATICS.—Algebra, Geometry, Quaternions, Astronomy.
VII. HISTORY.—
VIII. POLITICAL SCIENCE.—Political Economy, National Economy, International Law.
IX. PHILOSOPHY.—Logic, Psychology, Natural Theology, History of Philosophy.

Candidates for admission to pursue special studies make a further application on a blank provided for that purpose. This application must be presented in person to a committee of the General Faculty, Prof. W. A. Pike, Chairman. This application, if approved, is then placed on file with the registrar. Special students desiring to change their lines of study must again present their application to the committee for approval. All special students must renew their application at the beginning of each year.

SCHOOL OF MINING AND METALLURGY.

FACULTY.

CYRUS NORTHROP, LL. D.,
President.

CHRISTOPHER W. HALL, M. A.,
Professor of Geology and Mineralogy.

JOHN F. DOWNEY, M. A., C. E.,
Professor of Mathematics.

JAMES A. DODGE, PH. D.,
Professor of Chemistry.

Professor of Mining Engineering.

JOHN H. BARR, B. M. E.,
Assistant Professor of Mechanical Engineering.

FRED. S. JONES, B. A.,
Professor of Physics.

The studies in languages will be taken with the classes of the College of Science, Literature and the Arts.

ENTRANCE.

The requirements for admission are the same as for admission to the Freshman year in the Scientific Course in the College of Science, Literature and the Arts; Free-Hand Drawing and German being also required.

COURSE OF STUDY.

FRESHMAN YEAR.

I. TERM.	II. TERM.	III. TERM.
Mathematics. Drawing, Mechanical. English. German.	Mathematics. Chemistry. English. German.	Drawing, Mechanical. Chemistry. English. Surveying. German.

SOPHOMORE YEAR.

I. TERM.	II. TERM.	III. TERM.
Analytical Geometry. Physics. Carpentry. French.	Differential Calculus. Physics. Chemistry. French.	Integral Calculus. Physics (optional). Surveying and Field Work in Surveying. French.

JUNIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Mineralogy	Mineralogy.	Mineralogy.
Geology.	Geology.	Geology.
Chemistry.	Mechanics.	Mechanics.
Forge Work.	Machine Shop Practice.	Testing Materials.

SENIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Mining (lectures, etc.)	Ore Dressing and Metallurgy.	Mine Surveying and Designs.
Geology (special work).	Assaying.	Metallurgy.
Machinery	Steam Engines and Motors.	Chemistry.
Assaying.	Hydraulics.	Thesis.

The instruction in the studies of the first three years, and in a part of the studies of the fourth year of this course, is substantially given already by the several departments in the College of Science, Literature and the Arts, and in the College of Mechanic Arts. In these branches the various laboratories and work-rooms of the University, with a good equipment already furnished, and with additions to apparatus and material constantly being made, will afford facilities for practical and thorough work. For the remaining studies of this course, provision is made by assigning for the accommodation of the School of Mining and Metallurgy, rooms in the new Museum building, or Science Hall. In the basement of this building will be furnished the usual appliances for the study of assaying and metallurgy, the practical treatment of ores and the separation of metals, including crushing machinery, amalgamating apparatus and furnaces. Visits to mines, stamp mills, smelters and blast furnaces, will form a part of the course.

DEGREES.

Students who complete the full course of study will receive the degree of Bachelor of Mining Engineering.

THE COLLEGE OF MECHANIC ARTS.

FACULTY.

CYRUS NORTHROP, LL. D.
President.
WILLIAM A. PIKE, S. B.
Professor of Engineering and Director.
CHRISTOPHER W. HALL, M. A.
Professor of Geology and Mineralogy.
JOHN F. DOWNEY, M. A., C. E.
Professor of Mathematics.
JAMES A. DODGE, PH. D.
Professor of Chemistry.
WILLIAM R. HOAG, B. C. E.
Assistant Professor of Civil Engineering.
JOHN H. BARR, B. M. E.
Assistant Professor of Mechanical Engineering.
FREDERICK S. JONES, A. B.
Instructor in Electricity.
HENRY T. ARDLEY.
Instructor in Wood Carving, Design and Free Hand Drawing.
GRANT A. COVELL, M. E.
Instructor in Mechanical Engineering and Wood-Working.
ALBERT I. JONES.
Instructor in Metal Working, &c.

CHARLES H. WHIPPS.
Engineer.

[During the past winter Mr. A. L. Crocker, M. E., has delivered a series of lectures on the "Metallurgy of Iron."]

In this college there are four regular courses of study, viz: Civil Engineering, Mechanical Engineering, Electrical Engineering, and Architecture, leading to the corresponding baccalaureate degrees. Applicants are also admitted to pursue, under direction of the faculty, one or two distinct lines of study selected from the regular courses. In the School of Practical Mechanics, a department of this college, special courses are arranged in shop-work, drawing, and mathematics, and in the care and management of engines and boilers. There is also a school of design, free hand drawing and wood carving.

The aim of the instruction given in the regular undergraduate courses of this college is to lay a broad and solid foundation in mathematics, mechanics, electricity, and drawing, so that, with the practice in field, shop, office, and laboratory work given to the students in the respective courses, they shall be fitted for immediate use-

fulness upon graduation, and after a moderate amount of subsequent practice and experience, be capable of taking charge of important works.

ADMISSION.

The condition for admission to the regular courses are the same as for the Scientific course in the College of Science, Literature and the Arts.

CURRICULUM.

The following schedule shows the studies for the various terms in the different courses. The figures in brackets indicate the number of exercises a week.

CIVIL ENGINEERING COURSE.

SUB-FRESHMAN YEAR.

[The work of this year will be discontinued after the close of the University year 1889-90. See announcements at end of Catalogue.]

I. TERM.	II. TERM.	III. TERM.
Botany, [2]. Chemistry, [3]. Higher algebra, [2]. Drawing, Mechanical, [3], 6 hrs. English, or German, or Latin.	Drawing (Freehand, 6 hours; Mechanical, 4 hours). Plane geometry, [5]. English, or German, or Latin	Chemistry, [2]. Botany, [3]. Solid geometry, [5]. English, or German, or Latin.

FRESHMAN YEAR.

I. TERM.	II. TERM.	III. TERM.
Drawing (10 hours). [5]. Higher algebra, [5]. English, or German, or Latin, [5].	Chemistry, [5]. Logarithms and Trigonometry, [5]. English, or German, or Latin, [5].	Drawing. Perspective. [5]. (10 hours). Botany, [5]. English, [5]. Surveying, [2].

SOPHOMORE YEAR.

I. TERM.	II. TERM.	III. TERM.
Analytical Geometry, [4], Physics, [4]. English, or German, or Latin, Topography, [5].	Differential Calculus, [4]. Physics, [4]. English or French, [4]. Hydrography and Drawing, [5].	Integral Calculus, [4]. Higher Surveying, [5]. English, or French, or Latin, [4]. Field Work and Mapping, [5].

JUNIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Curves and Earthwork, [5]. Descriptive Geometry, [5]. Any Junior first term elective, [4]. Field Work, [5].	Mechanics, [5]. Hydraulics, [5]. Mineralogy, [4]. Carpentry, Bridge details, [5].	Mechanics, [5]. Testing Materials, [5]. Any Junior third term elective, [4]. Railroad Work, [5].

SENIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Practical Astronomy, [4].	Roofs, Trusses, etc., [5].	Designs, Specifications, etc., [5].
Geology, [4].	Stereotomy, [5].	Bridges and Thesis, [5].
Arches, Retaining Walls, etc., [5].	Any Senior second term elective, [4]. *	Any Senior third term elective, [4]. *
Iron Bridge Details, [5].	Drawing, [5].	Drawing on Designs, [5].

MECHANICAL ENGINEERING COURSE.

In Sub-Freshman and Freshman years the studies are the same as for the Civil Engineering Course.

SOPHOMORE YEAR.

I. TERM.	II. TERM.	III. TERM.
Analytical Geometry, [4].	Differential Calculus, [4].	Integral Calculus, [4].
Physics, [4].	Physics, [4].	Elements of Mechanism, [4].
English or French or Latin, [4]	English or French, [4].	English or French or Latin, [4].
Carpentry, [5].	Pattern Work, [5].	Foundry Work and Drawing, [5].

JUNIOR YEAR.

I. TERN.	II. TERM.	III. TERM.
Kinematics, [5].	Mechanics, [5].	Mechanics, [5].
Descriptive Geometry, [5].	Hydraulics, etc., [5].	Testing Materials, [5].
Any Junior first term elective, [4]. *	Mineralogy, [4].	Any Junior third term elective, [4]. *
Forge Work, [5].	Vise and Machine Work, [5].	Machine Work, [5].

SENIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Applied Descriptive Geometry, [5].	Steam Engines and Motors, [5].	Designs, Specifications, etc., [5].
Geology or Astronomy, [4].	Experimental Mechanics, [5].	Machine Tools and Thesis, [5].
Machinery, [5].	Any Senior second term elective, [4]. *	Any Senior third term elective, [4]. *
Machine Details, [5].	Steam Engine Details, [5].	Drawing on Designs, [5].

ELECTRICAL ENGINEERING COURSE.

In the Sub-Freshman and Freshman years the studies are the same as for the Civil Engineering Course.

SOPHOMORE YEAR.

I. LERM.	II. TERM.	III. TERM.
Analytical Geometry, [4].	Differential Calculus, [4].	Integral Calculus, [4].
Physics, [4].	Physics, [4],	Elements of Mechanism, [5].
English or French or Latin, [4].	English or French, [4].	English or French or Latin, [4].
Carpentry, [5].	Pattern Work, [5].	Foundry Work and Drawing, [5].

JUNIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Physics (Electricity and Acoustics), [5].	Mechanics, [5].	Mechanics, [5].
Descriptive Geometry, [5].	Physics (Electricity and Acoustics), [5].	Testing Materials, [5].
Chemistry, [4].	Mineralogy, [4].	Any Junior third term elective, [4]. *
Physical Laboratory Work, [5]	Vise and Machine Work. [5].	Physical Laboratory Work, [5]

SENIOR YEAR.

I. TERM.	II. TERM.	III. TERM.
Dynamos and Electric Motors. [5].	Steam Engines and Motors, [5].	Designs, Specifications, etc., [5].
Geology or Astronomy, [4].	Experimental Mechanics, [5].	Photometry and Thesis, [5].
Machinery, [5].	Any Senior second term elective, [4]. *	Any Senior third term elective, [4].
Machine Details, [5].	Electrical Tests, [5].	Drawing on Designs, [5].

* Electives are chosen from the Scientific Course in the College of Science, Literature and the Arts.

ARCHITECTURE.

This course coincides with that in civil engineering, except as follows:

1. The drawing throughout this course is especially arranged for architectural work.

2. In the first and second term of the Sophomore year shop work and drawing are substituted for field work and drawing.

3. In the first term of the Junior year history and orders of architecture are substituted for curves.

4. In the second and third terms of the Senior year building construction, and lectures on decoration are substituted for bridge work.

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

The rhetorical exercises of this college consists of papers or reports each term, on professional subjects, approved by the professor in charge of the course in which the student is enrolled. The labor of preparing these papers or reports is not designed to exceed that required by the rhetoricals in the college of Science, Literature, and the Arts. As a condition of graduation, each student is required to present a satisfactory thesis, with the necessary drawings, which is accepted in lieu of other rhetoricals in the last term of the Senior year. These theses are to be deposited in the University library.

GRADUATION.

Students completing the foregoing regular courses, to the satisfaction of the faculty, are entitled respectively to receive appropriate baccalaureate degress, to wit: Bachelor of Civil Engineering, Bachelor of Mechanical Engineering, Bachelor of Electrical Engineering, Bachelor of Architecture.

Students completing either of the courses of the School of Practical Mechanics and Designs may receive certificates of proficiency from the faculy.

Special students receive certificates for successful completion of the brances 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 to the appropriate degree.

METHODS OF INSTRUCTION.

In all the regular courses in this college, instruction is given by means of text books, lectures, reading in the library, practical problems, and a large amount of work in the drawing rooms, laboratories, shops, and in the field. It is the aim to lay a solid foundation of principles, which, with the large amount of practical work we are able to give, will fit the graduate for immediate usefulness among engineers. In all the work the strictest accuracy is insisted upon.

CIVIL ENGINEERING.

In Civil Engineering thorough instruction is given in the class room and the field, in the various branches of surveying, from the ordinary land surveying of the Freshman class through the topographical, hydrographical, railroad, solar compass, plane-table, and geodetic work of the upper classes. In topography the students make a complete survey and plat of a piece of land; in hydrography they make a survey of a part of the Mississippi River, determining the flow, etc., while in railroad work a reconnaisance, preliminary survey and final location are made, and all necessary estimates, profiles, etc., drawn up; in fact everything done in practice, up to actual construction, is done by them. The department is accumulating a good collection of standard instruments and employs the best methods in use among the best surveyors.

The civil engineering student receives a thorough drill in mechanics and the strength of materials, at the same time making in the testing laboratory many tests of building materials, such as iron, steel, timber, brick, stone, cement, etc., thus actually seeing the phenomena treated of in the class room. After completing the course in mechanics, the facts and principles thus obtained are applied to hydraulics, bridges, roofs, arches, dams, retaining walls, etc. All the class room work is supplemented by practical problems which illustrate the application of the principles to actual engineering work and in which close attention is paid to the details as well as to the general principles of the work.

In the drawing-room, the student, having in the earlier years of his course become proficient in the art of drawing, applies his knowledge to engineering work, making working and finished drawings of structures and maps and plans of surveys.

Stundets are required to visit engineering works in the neighborhood and to make reports upon them, care being taken to have them inspect those of faulty as well as perfect construction and to point out the imperfections of the same.

The last term of the course is devoted to making designs and specifications of bridges, roofes, etc., and to writing a graduating thesis which is intended to show, to a certain extent, the result of the technical training of the course.

MECHANICAL ENGINEERING.

In this course shop-practice and work in experimental mechanics takes the place of the field work in the civil engineering course. The shop-work covers two years' time, and it is the intention to give the student such a drill as shall enable him to design machinery with a view to simplicity of construction, and to superintend its construction.

In the testing laboratory the same drill in testing materials is given as to the civil engineering students, while in addition, accurate and complete tests of belting, cutting power of tools, lubricants, engines, boilers, pumps, &c., are made, thus preparing the student for expert work as well as impressing by actual experiment the principles of the text-books. Carefully kept records are required in every case and the results of each experiment are worked up in the most approved manner.

In the class room after the drill in mechanics and the strength of materials referred to, courses are given in hydraulics, machine design, the steam engine, and other motors, beside courses previously given in mechanism and kinematics.

In the drawing-rooms working and finished drawings are made of various machines as well as tracings and blue prints of the same, care being taken to follow as far as possible the methods of the best machine shops.

During the last term of the course original designs and specifications, of machinery, engines, boilers, etc., are made and a thesis prepared, which, with the necessary drawings, is a condition of graduation.

ELECTRICAL ENGINEERING.

This course is a modification of the course in Mechanical Engineering, in which work in the physical laboratory and recitations and lectures on electricity and accoustics, and on the various practical applications of the same, take the place of part of the shop work and some class-room work on the subjects not important to the specialist in electricity.

Special attention is given to the distribution of light and power by electricity, to the various applications of electricity to telegraphy and the telephone, and to actual practice in every kind of electrical testing and measurement. The University is supplied with a good and

increasing collection of electrical test instruments, and has lately added a hundred-light dynamo, which, with its regulating apparatus and indicators is available for much practical work. The remarks as to methods in the course in Mechanical Engineering apply equally well to this course.

APPARATUS.

This college possesses the following apparatus:

For mechanical engineering—The tools and instruments referred to in connection with the work shops, engine room and testing laboratory; a number of models of machinery, including a set of belting models, and one of screw threads; a collection of drawings or plates of machine construction; a pair of very accurate and highly finished test guages, registering pressure up to 300 pounds, presented by the Ashcroft Manufacturing Co.; a test pump for pressure guages; a pump for testing boilers, and a mercury column for testing steam guages.

For civil engineering—five transits (one with Saegmuller and another with Smith's solar attachment), three engineer's levels with levelling rods, a plane-table, a magnetic compass, a prismatic compass, a hand level, a clinometer, an aneroid and a mercury barometer, a telemeter rod, five steel tapes, (one standardized by the U. S. Coast Survey and kept as a permanent standard), seven chains, besides pins, transit rods, plumb bobs, etc.

For general use, a testing machine, of 50,000 pounds capacity, mentioned under the head of testing laboratory; the plates and models used in the drawing rooms; apparatus for taking blue prints, with adjustments for turning the paper so as to be always perpendicular to the direction of the sun's rays, made from designs by the department, and which is used by the engineering students in copying drawings; a photographic outfit, by means of which photographs from four by five to eight by ten inches can be taken.

The United States Coast Survey has furnished the University with a set of standard weights and measures which have been put under the charge of this college. The complete set embraces: 1. A yard scale divided to inches and tenths; with a matrix for comparison of end yards. 2. Weights from one grain to twenty-five pounds. 3. Liquid capacity measures, a pint, a quart and a gallon. 4. Dry capacity measures, a quart, a half peck, a peck, and a half bushel.

THE BUILDING.

The new building contains commodious and well lighted rooms, in the basement and one-story wing, for the work shops and testing laboratories; on the first floor for apparatus rooms, study and dark room, for the department of physics; also, civil and mechanical engineering recitation rooms, with a study connected. The second floor is devoted to the general drawing room, engineering drawing and apparatus rooms, dark room, and blue-print room. The building is well

ventilated, heated by steam, supplied by water from the city water works, and is lighted by electricity.

TESTING LABORATORY.

A room, 24x46 feet, is fitted up for the testing laboratory. It is supplied with power, and contains a 50,000 pounds testing machine, manufactured by Tinius Olson, of Philadelphia, which can be adapted for compressive, tensile, transverse, torsion, and shearing tests. Other pieces of apparatus have been designed by the department to be used in connection with the testing machine in making tests of full-sized beams, up to 25 feet in length. An instrument recently purchased for use in connection with tensile tests, is capable of accurately measuring extension to one ten-thousandth of an inch. There is also a cement tester, a dynamometer for measuring transmitted power, an oil testing machine, standard scales, and other apparatus for making mechanical tests. There is now under construction in the machine shops, a dynamometer for determining the power of lathe tools, and a ten-horse power steam engine which will be used for experimental purposes.

DRAWING ROOMS.

The general drawing room, 25x49 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, including a full set of Schroeder's models for descriptive geometry for lessons and illustrations, has been made. A good selection of plaster casts, selected with special reference to the instruction in design and wood carving, has been recently obtained.

The engineering drawing room, 24x44 feet, contains tables, cases, etc., for students in civil and mechanical engineering, architecture, and other advanced work. An engineering apparatus room joins the drawing room, and connected with these are blue print and dark rooms, fitted up for use in duplicating drawings by the "blue print" process or photography.

WORK SHOPS.

The basement of the new building is occupied by the testing laboratory, machine and vise shop, and wood working shop; the wing by the engine and boiler room, forge shop and foundry.

These shops are completely equipped with tools from leading manufactures, which represent the best American practice. Each shop will accommodate ten students at a time, which is as large a number as can be advantageously instructed together. The capacity of the shops can be increased to meet any probable requirements by forming additional classes.

The instruction given is based on the "Russian System," in which the leading idea is to teach principles rather than to produce objects

of commercial value. It is believed that the greaest progress can be made in a given time by this method, as the student proceeds, by a carefully-planned series of exercises, from the simplest to the most difficult operations, learning the processes but avoiding the repitition of the ordinary shop. So far as is consistent with this system, the work is adapted to parts of some machine or structure, in common use, and after finishing the exercises referred to above, the class will build some complete machine or structure, as a review and application of the preceding work.

Shop work is required of students in mechanical and electrical engineering, in divisions A, B, and C, of the School of Practical Mechanics and Design, and carpentry is required of students in architecture and civil engineering.

THE ENGINE ROOM.—The engine and boiler room, 20x24 feet, is provided with an automatic cut-off engine, of modern type, capable of developing thirty-five horse power. A steel boiler of ample size furnished with a feed pump and heater supplies steam. A dynamometer, friction brake, calorimeter, pyrometer, revolution counter, tanks, steam-engine indicators, gauges, thermometers, and other instruments required for complete steam-engine and boiler tests, are provided for the use of students in experimental work.

In this room is also a hundred-light Edison dynamo, with amperemeter, regulator, and pressure indicator.

THE MACHINE SHOP.—The machine and vise shop, 25x50 feet, contains one speed lathe, ten engine lathes of various sizes, a planer, shaper, universal milling machine, vertical drill press, emery tool grinder, grinding attachment to lathe, benches with ten vises, surface plates, a set of Betts' standard gauges, taps, dies, reamers, drills, chucks, and other hand tools and accessories for practice in machine, tool, and vise work.

THE WOOD-WORKING SHOP.—The shop for pattern making and general wood work, 24x48 feet, contains benches with ten vises, ten lathes, ten sets of hand and lathe tools, two circular saws, a jig saw, band saw, planer, boring machine, gr ndstone, and other tools for use in the courses of carpentry and pattern making.

THE FORGE SHOP.—The forge shop, 31 feet square, is provided with a portable hand forge, ten stationary forges with anvils and sets of tools, a blower, exhaust fan, hand drill press, drills, taps, dies, sledges, swages, a grindstone, and the other tools generally used in blacksmithing.

THE FOUNDRY.—The foundry, 20x30 feet, contains an 18-inch cupola, brass furnace, core oven, cinder mill, moulding tools and benches, core plates, arbors, sweeps, ladles, crucibles, and all of the tools and materials ordinarily needed in moulding and casting iron, brass or white metal.

THE SCHOOL OF PRACTICAL MECHANICS.

This school has been established as a department of the college of Mechanic Arts to meet the wants of Mechanics and others.

Work of this school is classified as follows:

A. A two years' course in shop work, drawing and mathematics for young men who wish to fit themselves for positions of trust in shops and factories.

B. A one year's course in the care and management of engines and boilers, intended as a preparation for the examinations of the State Inspectors.

C. A course in shopwork and drawing or drawing alone for those time or lack of fitness prevents them from entering division A.

A. DIVISION—FIRST YEAR.

I. TERM.	II. TERM.	III. TERM.
Carpentry [20h].	Pattern making [20h].	Foundry Work [20h].
Drawing [10h].	Drawing [10h].	Drawing [10h].
Elementary Algebra [3] and Free Hand Drawing [2].	Algebra and Geometry.	Geometry.

SECOND YEAR.

I. TERM.	II. TERM.	III. TERM.
Forge Work [15h].	Vise and Machine Work [15]	Machine Work [15h].
Trigonometry.	Mechanics.	Mechanism.
Drawing (Machine details) [10h].	Drawing (Machine details) [10h].	Drawing (Designing) [10h].

B. DIVISION.

I. TERM	II. TERM.	III. TERM.
Recitations and Lectures on care of Engines and Boilers.	Principles of Engines and Boilers.	Indicators and Engine Tests.
Drawing [10h].	Vise and Machine Work [15h].	Drawing (Engines and Boilers) [10h].
Engine Running [10h].	Engine Running [10h].	Engine Running [10h].
Forge Work [10h].		Machine Work [10h].

ADMISSION AND CERTIFICATES.

Applicants for admission to any of the divisions must be at least fifteen years of age, and must pass examination as follows: A and B divisions, in Arithmetic, Writing, English Grammar, and Composition; C division, *no examination required.*

Members of division A who can pass in any of the mathematics or other work of the course, and who pass examination in Geography and United States history, may be allowed to substitute, for the subjects passed, studies from the other courses, under direction of the faculty.

Members of divisions A and B who satisfactorily complete the courses as laid down, may receive certificates of having done so, signed by the President of the University and the Directors of this College.

METHODS OF INSTRUCTION.

In the courses of the School of Practical Mechanics the instruction in shop work is given by means of carefully prepared exercises. These exercises are planned wholly with the object of instructing the student in the use of tools, leaving out the idea of *con*struction, except in so far as it may not interfere with *in*struction. The function of this school being to teach the use of tools in general, rather than any particular trade, much time can be saved by devoting the entire attention of both student and instructor to the manipulation of the tools, and avoiding the repetition of the same operation, which necessarily occurs when construction is an object rather than an incidental. The preparation of exercises, in any particular branch of work, consists in first carefully analyzing the various operations and reducing them to their simplest forms, and then classifying them it such a way as to have them succeed each other in the order of their difficulty. Thus, if we examine into the work usually done at the vise, we see that the greater part of the work done there is made up of various combinations of the following operations: Filing to straight or curved lines, either between two lines or to one line alone, filing to template, fitting, free hand filing, with and without the hand vise, sawing and chipping plain and curved surfaces. Starting, then, with these operations to be taught, a course is designed which shall take them up, one at a time, and apply them to wrought iron, cast iron, and steel. Where, however, it is possible to perform these operations on a form used in construction it is done, and before completing any course students are required to combine the operations previously acquired in the construction of the whole or part of a machine or other structure. The other courses are on the same general plan as that outlined for vise work.

The drawing in this school is conducted on the same plan as in the engineering courses, the students first using the text-book prepared for the department, and afterwards varying their work to meet their individual requirements.

In mathematics the instruction covers algebra, plain and solid geometry, and trigonometry, taught with special reference to the needs of this class of students, and give many applications to practical matters, while the instruction in mechanics and mechanism is made as clear of higher mathematics as the subjects will allow.

The instruction in the course in the care and management of engines and boilers is given by means of practice in the engine room, under the immediate direction of the engineer. Students in this course are required to keep records on suitable blanks of the work done by the engine, and of the fuel, water, and oil consumed, and to figure out the

cost and relative economy of various fuels and methods of running. By means of lectures and recitations the reasons for the regulations, as laid down for running, are explained, and the principles of the steam engine and of the construction of boilers is given in a manner not difficult for one of ordinary intelligence to understand; and finally, tests of engines and boilers are given. It is believed that this course will fill a need which has long existed, and will help to supply engineers who are competent and trustworthy.

REGULATIONS.

Members of the School of Practical Mechanics are required to pay the following fees to the Registrar, viz: Divisions A and B, $5.00 for each term of shop work. Division C: those taking shop work, $5.00 per term; those taking drawing alone, $5.00 per year.

Members of this school come under the general regulations of the University as to attendance, etc.

Students of A and B divisions should, if possible, enter at the beginning of the year; of C and D divisions, at the beginning of terms, though for good reasons students will be admitted at any time.

For further information as to the college, apply in person or by letter to the director, Prof. Wm. A. Pike.

Students in the regular engineering courses, taking shop work, pay $3.00 per term.

SCHOOL OF DESIGN, FREEHAND DRAWING AND WOOD CARVING.

Applicants for this special course, except students of the University required to take Freehand Drawing, will pass an examination in the freehand sketching of lines at various angles, circular, elliptical and spiral forms, and such plain elementary drawing as will prove the applicant prepared to commence the drawing of simple objects in outline, prior to the study of light and shade, and freehand perspective.

This elementary knowledge of drawing is also required of all applicants desiring to take a special course of study in Ornamental Design.

In the course of Ornamental Design, instruction is first given in the elementary principles of original composition, in their relation to natural growth, as applied to decorative art, with the intention of fostering originality of thought and individuality of expression. Students learn from the beginning to produce their own designs in both natural and conventional form, and when they are thoroughly conversant with the principle of natural growth, and when simple forms can be rendered with grace and feeling, the study of historic ornament in relation to different art periods will be introduced, embracing the Egyptian, Greek,

Roman, Byzantine, Gothic, Renaissance, etc., with their practical application to the construction of original ornament.

A two years course in Wood Carving and Design is here outlined, and intended for those desiring to fit themselves for practical, useful and original work.

FIRST YEAR.

I. TERM.	II. TERM.	III. TERM.
Drawing simple conventional forms. Carving these forms in low relief. Care of carving tools.	Drawing from the cast. Elementary study of historic ornament. Modeling from casts. Wood finishing.	Surface carving. Study of natural plant forms. Elementary Conventional design. Carving from original designs.

SECOND YEAR.

I. TERM.	II. TERM.	III. TERM.
Study of the fundamental principles of design. Elementary original composition. Carving in intaglio.	Advanced design. Study of light and shade in crayon. Carving in high relief. Modeling in clay.	Study of historic ornament. Original composition. Advanced carving in high relief.

In the foregoing special studies the student will be advanced as rapidly as his, or her, individual talent and perseverance will permit, and will not be retarded by any lack of application or ability in others of the same class. Mr. Henry T. Ardley has special charge of this school.

Fees in this Department are Five Dollars per year, to be paid in advance to the Registrar of the University.

THE COLLEGE OF AGRICULTURE.

THE FACULTY.

CYRUS NORTHROP, LL. D.
President.
WILLIAM W. FOLWELL, LL. D.
Professor of Political Science.
CHRISTOPHER W. HALL, M. A.
Professor of Geology, Mineralogy and Biology.
MARIA L. SANFORD.
Professor of Rhetoric and Elocution.
WILLIAM A. PIKE, C. E.
Professor of Engineering and Physics.
JOHN F. DOWNEY, M. A., C. E.
Professor of Mathematics and Astronomy.
JAMES A. DODGE, PH. D.
Professor of Chemistry.

Professor of Theory and Practice of Agriculture.
GEORGE EDWIN MACLEAN, PH. D.
Professor of the English Language and Literature.
HENRY F. NACHTRIEB, B. S.
Assistant Professor of Biology.
HARRY PRATT JUDSON, M. A.
Professor of History.

HISTORICAL.

The College of Agriculture is both National and State in its origin; its objects and aims are defined by the following extracts from the laws of Congress and the Legislature of Minnesota:

"Its leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislature of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."—*Act of Congress, 1862, Section 4.*

"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, and endowments heretofore granted or conferred, are hereby perpetuated 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."—*Art. 8 of the State Constitution.*

"The object of the University of Minnesota, established by the Constitution, at or near the Falls of St. Anthony, shall be to provide the means of acquiring a thorough knowledge of the various branches of literature, science, and the arts, and such branches of learning as are related to Agriculture and the Mechanic Arts, including military tactics, and other scientific and classical studies."—*Sec. 1, Chap. 10, Gen. Laws of 1872.*

"There shall be established in the University of Minnesota, five or more Colleges or Departments, that is to say, a College of Science, Literature and Arts, a College of Agriculture, including Military Tactics, a College of Mechanic Arts, a College or Department of Law, and also a College or Department of Medicine."—*Sec. 2, Chap. 10, Gen. Laws of 1872.*

"In addition to all the rights, immunities, franchises and endowments, heretofore granted to, or conferred upon, the University of Minnesota, for the endowment, support, and maintenance thereof, there shall be, and is hereby inviolably appropriated and placed at the disposal of the Board of Regents thereof, to be drawn from the State Treasury, upon the order of the President, drawn upon the State Auditor, countersigned by the Secretary of the Board, and payable to the order of the Treasurer of the Board, all the interest and income of the fund to be derived from the sale of all the land granted, and to be granted, to the State of Minnesota, by virtue of an act of Congress, entitled, 'An act donating land to the several states and territories, which may provide Colleges for the benefit of Agriculture and the Mechanic Arts,' approved July 2, 1862, and also all such gifts, grants and contributions, to the endowment thereof, as may be derived from any and all such sources."—*Sec. 7, Chap. 10, Gen. Laws of 1872.*

The above section, placing the income derived by the State from the so-called "Agricultural College" land grant, at the disposal of the Board of Regents, imposes upon them the duty of carrying out the provisions of the act of Congress, making the grant referred to in that section, and in the discharge of this duty they have made most ample provision for the "Liberal and practical education of the industrial classes in the several pursuits and professions of life," not only by the establishment of the general courses of study embraced in the College of Science, Literature and the Arts, but by the organization of the special Colleges of Agriculture, and the Mechanic Arts, where the principles of science receive their practical application.

The course of studies and exercises in the College of Mechanic Arts are fully detailed in the circular of that Department.

THE COLLEGE OF ARGRICULTURE

is designed to give to young men, who may desire it, the advantages of a thorough, liberal, and practical education, not only to prepare them

for the successful prosecution of Agriculture in all its branches, but to secure to the student the mental discipline and training necessary to qualify him for any other calling or profession, and fit him to discharge intelligently the duties of an American citizen.

The period of study requisite for graduation will extend through five years, but the course of study is so arranged as to be complete and progressive, and a pupil who can remain only one, two or three years will find the course of study prescribed such as can be pursued to the best advantage, but full liberty of choice is permitted in any branch of instruction taught in the University, which can be followed with advantage, such instruction being *optional*, and not a substitute for any regular study.

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 more than 20,000 volumes, and receiving frequent additions. Many volumes are especially devoted, in a practical manner, to the subjects of agriculture, horticulture, tree culture, stock raising, and veterinary science. Besides these, there 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 animals, and birds.

(3.) The museum of technology, containing moterials 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, grain and grass seeds in glass jars; a collection of grains and grasses in the straw; a collection of fruits in alcohol; cabinets of insects of Minnesota; a large collection of woods from the United States Department of Agriculture; a collection of plats and lithographs; miscellaneous objects and materials used in agriculture. Donations 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, and a testing machine.

(8). The College of Mechanic Arts, with its departments of vise work, forge work, wood work, and foundry, where a thorough knowledge of the use of tools, and the processes employed in these branches may be acquired.

(9). The Agricultural Experiment Station, furnishes young men an opportunity of observing, and taking part in, lines of experimental work, there carried on, pertaining to general farming, the manage-

ment of stock, and the dairy, and the various branches of practical horticulture.

THE UNIVERSITY FARM.

Consisting of 250 acres of most valuable land, is located between St. Paul and Minneapolis, adjoining the State Fair Grounds, and within fifteen minutes ride of either city, by the Manitoba Railroad to St. Anthony Park Station, or ten minutes from the University. It contains every variety of soil and exposure required for illustrative and experimental work, and is furnished with a full equipment of buildings, stock, implements, and machinery.

The farm is well stocked with fine specimens of the best breeds of domestic animals, designed to illustrate their characteristics and value for various purposes, and for experiments in feeding, breeding, and management and their adaptation to the agriculture of our state.

OBJECTS OF THE FARM.

The farm is designed to accomplish the following purposes:

(1.) To furnish to students practical illustration in the field, stable, orchard, garden, and vineyard, of the instruction given in the classroom and laboratory.

(2). To train young men in all the details of practical agriculture.

(3.) To aid students in defraying by their labor, a portion of their expenses while acquiring their education.

(4.) To carry on the work of an Agricultural Experiment Station and to assist, by scientific investigation and experiment, in determining the adaptation of new varieties of grain, grasses, fruits, and vegetables to the soil, climate, and wants of Minnesota, and to distribute the results of such investigation among the farmers of the State.

SCOPE OF INSTRUCTION.

The object of this college is to teach practical and scientific agriculture, combined with such other branches of learning as are necessary for mental discipline and training, and such as constitute a liberal education, and embrace the following studies and exercises:

In Practical Agriculture.—History of Agriculture; brief review of the chemical composition and physical properties of air and water as related to the soil and vegetation; the chemical constituents and practical classifications of soil; 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 and 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 arrangement of farm buildings, and their adaptation to purposes for which they are intended.

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, etc.; soils and manures, and their manipulations; propagation of plants; grafting, budding, pruning, training, etc.; 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 Arborculture.—Reasons for planting forest tress; what trees to plant; methods of propagating; care of the nursery; special culture of each species.

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, calcicum, iron, sulphates and phosphates.

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

In Economic Entomology.—General character 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 Comparative Anatomy and Physiology.—Anatomy, physiology, and hygiene 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, etc.

Besides the foregoing subjects, the course of study will embrace Mathematics, Botany, History, English, Physics, Biology, English Literature, Drawing and Shop Work, as will be seen by examination of the tables showing course of study for each year.

REQUIREMENTS OF ADMISSION.

Candidates for admission to the sub-Freshman class are required to show attainments equal to those represented by the certificate of graduation from the School of Agriculture, and graduates of the School of Agriculture are admitted on certificate.

COURSE OF INSTRUCTION.

SUB-FRESHMAN YEAR.

I.	II.	III.
Agriculture. (Farm Practice). Chemistry (3). Botany (2). Algebra (2). Drawing (3).	Agriculture (Lectures). Chemistry. Practical Mathematics. Drawing. Farm Accounts. Shop Work.	Agriculture (Practice). Botany (3). Chemistry (2). Geometry. Shop Work.

FRESHMAN YEAR.

I.	II.	III.
Agriculture (Farm). Drawing. Entomology. Natural Philosophy. Trigonometry.	Agriculture (Lectures). Anat., Phys. and Hygiene. Drawing. Shop Work. Chemistry.	Horticulture (Farm). Botany. Surveying: Shop Work.

SOPHOMORE YEAR.

I.	II.	III.
Agriculture (Farm). Chemistry (Organic). English. Shop Work.	Agriculture (Lectures). History. Zoölogy. Shop Work.	Agriculture (Farm). History. Zoölogy. Shop Work.

JUNIOR YEAR.

I.	II.	III.
Animal Physiology. Vegetable Physiology. Chemistry (Analytical). English.	Farm Crops (Lectures). Mineralogy. Chemistry (Lab. Practice). English.	Agr. Expt. Station Work. Astronomy. Chemistry (Lab. Practice). Physiology.

SENIOR YEAR.

I.	II.	III.
Soils and Fertilizers. Geology. English. Veterinary Science.	Agricultural Chemistry. Farm Economy. Political Science. Veterinary Science.	Economic Geology. Farm Animals. English. Veterinary.

Rhetorical work, and Oratory, shall be pursued during the entire course.

Students completing any year of the above course, shall be entitled to receive a certificate to that effect; those completing the entire five years' course shall receive the degree of "Bachelor of Agriculture."

THE SCHOOL OF AGRICULTURE.

Observation and experience have shown that all the facilities afforded by the regular colleges of the country, for agricultural education, have failed to attract any large number of farmers' sons.

The requirements for admission are such as to compel the average farmer's boy to leave home for one or two years to secure such preparation, and this, together with the four years necessary to complete a full course, entails an expenditure of time and money which comparatively few can afford, and the education thus received, while valuable in itself, fails in many respects to furnish the training and knowledge needed by young men for the practical duties of the farm.

In order to meet the wants of this class the Board of Regents of the University has established a "School of Agriculture," with its full equipment of buildings and instructors on the Experimental Farm, where students will live, work and study, during the two years devoted to this department.

The organization of this school is now complete for the thorough and practical instruction of youth in all the elements and principles of this industry.

ADVANTAGES AND LOCATION.

The site of the school building is a beautiful and commanding eminence on the State Experimental Farm, midway between St. Paul and Minneapolis, affording a magnificent view of both cities and the adjacent country. It is surrounded by a charming grove of young oaks. It is supplied with an abundance of pure water brought from the farm well. Every part of the building is heated by steam. The drainage is perfect. In short, no more delightful or healthful spot could have been chosen in the state, and none more easy of access.

AIM.

The object of the school is to take such boys as aspire to become successful and intelligent farmers, overseers of farms, veterinary surgeons, entomologists, agricultural chemists, botanists, lecturers, etc., who have already had some experience in farm work, together with a good common school education, and give them a sound practical training that will broaden and strengthen them as citizens of the state, while it educates them in the branches of natural science which

will cultivate their tastes for agriculture and develope skill in the practice of it.

It is hoped that it will meet the wants of those who desire a knowledge of such matters of business, science, and agricultural experience as belong to the calling.

It aims to give the diligent boys who are attached to it a good business, mechanical, and agricultural education with a practical knowledge of the elements of the sciences on which such education is based, so that they can read and observe intelligently whatever may have a bearing upon the work in which they are engaged. The natural sciences, such as Animal Physiology, Chemistry, and Zoology, are studied in connection with their practical application to agriculture and associated industries. The importance of a clear understanding of the reason why each step is taken is impressed upon the student so that he may be strong, self-reliant, and able to distinguish between the false and true in theory—thus saving time and expense that would otherwise be wasted in useless experiments.

As it is intended for those whose life and labor are on the farm, the terms have been made to include the time when they are most at leisure, from the middle of October to the middle of April. It is the constant endeavor so to reduce the expenses as to bring the advantages of the school within the reach of all the farmers of the state.

EQUIPMENT.

Facilities will be afforded at this school for all that the course requires in a work shop, laboratory of Chemistry and Philosophy, and Biology, plant houses for Botany and Horticulture, dissecting rooms for Physiology, and all the apparatus and facilities of the Experiment Station.

THE COURSE.

The course will extend through two years. Each year will consist of two terms of twelve weeks each, with subjects as follows:

FIRST YEAR.

I. TERM.	II. TERM.
Physical Geography.	Algebra.
Algebra.	Farm Accounts.
Farm Accounts.	Grasses, Forage Crops and Grains.
Dairying, Breeding, Feeding and Farm Management.	Zoölogy.
Horticulture.	Dairying (afternoon practice).
Veterinary.	Lectures.
Lectures.	Stock History. Selection of Individuals. Principles of Heredity.
Shop Work and Drawing.	Shop Work and Drawing.
	Dairying, Breeding, Feeding and Farm Management.

SECOND YEAR.

I. TERM.	II. TERM.
Physics. Chemistry. Civil Government. Greenhouse Propagation. } Ornamental Planting. } Veterinary.	Physics. Chemistry. Plane Geometry, Land Measurement. Soils, Drainage, Cultivation. } Buildings and Fences, Fertilizers. } Forestry. Feeding Animals.

VETERINARY DEPARTMENT.

In the Veterinary Department the subjects are Anatomy, Physiology, Pathology, Conformation, Hygiene, Obstetrics, Surgery, and general diseases of the domestic animals.

The lectures will be illustrated by means of skeletons, models, and, where practicable, by the living subjects.

Large numbers of animals from the surrounding neighborhood are brought to the school for treatment, all of which are taken advantage of to instruct the pupils how to diagnose, treat diseases, administer medicines, and care for sick animals.

HORTICULTURE.

Instruction is given in this department in the cultivation of small fruits, the construction and management of greenhouses, hot beds and cold frames, market gardening and farm gardens; marketing, propagation of plants by seeds, grafting, budding, cuttings, layers and offsets, care and management of nurseries; forestry, floriculture and landscape gardening.

Students are encouraged to work in the gardens, greenhouses and nurseries and every opportunity is used to make the work practical and illustrative of the principles taught in the lecture room.

BOTANY

Is taught in connection with Horticulture, and is illustrated by the products of the farm, the garden, the nursery and the greenhouse.

It is intended to make the instruction in this department thorough and practical and to have it bear with directness upon the every day problems of the farm and garden.

PENMANSHIP AND ACCOUNTS.

Students are taught a plain, rapid business hand. The work in accounts is thoroughly practical, students to a great extent furnishing their own data and making their own calculations. They are drilled in the use of the several books and the common business forms.

Special attention is given to folding and filing papers, to business correspondence, habits and methods; the work is so plain and practical that no student need have difficulty in learning to keep accurately the accounts of any ordinary business.

EQUIPMENTS.

The plan of the school includes a well appointed laboratory and museum, apparatus sufficient for all ordinary experiments in Chemistry and Physics and a choice library.

ENTRANCE.

Admission is given to students who have completed a common school course in English Grammar, Arithmetic, U. S. History and Geography, as prescribed by the State department of public instruction.

Students will be received without examination in subjects for which they can furnish the certificates of high schools or of county superintendents.

Students who cannot meet the requirements for entrance, as above, will be admitted to special classes in Arithmetic, Grammar, Penmanship, Botany, Physiology in addition to the regular classes which they may be prepared to take. Unless students are prepared in English Grammar, Arithmetic, U. S. History, and Geography it may be necessary for them to spend three years at the school before receiving the certificate of the University.

THE TERMS.

The next year will open October 22nd, 1889, and will close April 5th, 1890.

A SUMMER COURSE OF PRACTICE.

is provided, by which all students who desire, may continue on the farm in practice under the instruction and direction of the Professor of Agriculture, in the several lines which are there pursued.

Reasonable remuneration, not exceeding twelve cents per hour, will be allowed students for services having industrial value.

All students receiving the certificate of graduation are required to give the summer to practice in some department of agriculture, and those who do not remain at the farm will pursue the work of their choice under some other management.

THE FARM HOME.

A beautiful and commodious building has been erected for the comfort of students, and another is in process of construction. Its culinary department is under the direction of an experienced matron, and the entire house is under the supervision of the principal. The building is warmed by steam, and the sleeping rooms are each furnished with a bedstead, mattress, dressing bureau and table. Students will furnish their own pillows, bedding and towels.

The Experimental Farm, on which the schoolhouse is situated, includes two hundred and fifty acres, of which fifteen acres are set apart for the uses of the school. Trains on the St. P., M. & M. Ry. stop at St. Anthony Park, one mile distant. Baggage will be transported from the station free.

CONNECTION WITH THE AGRICULTURAL COLLEGE.

The school will articulate with the College of Agriculture, in which these subjects will be continued to meet the demands of the smaller but most importrnt class in agriculture, lecturers, professors, physicians and statesmen.

TEXT BOOKS AND TOOLS

Will be furnished at a small rental sufficient to cover the necessary wear. Students wishing to do so, may own their books by paying cost prices.

EXPENSE.

The cost to the students is no more than the actual cost of maintaining the table and caring for the house. This does not exceed three dollars per week. A month's board is assessed in advance for the purchase of provisions at cash prices. At the end of the month the exact cost will be calculated and the proper deduction made from the next assessment.

LABOR.

This school is conducted upon the principle that character makes all labor honorable. As much, therefore, of the labor at the home and on the farm as can be distributed among the students will be given to them at fair rates of compensation.

GRADUATION.

Students will be entitled to the certificate of the University upon the following conditions:

First.—The completion of the prescribed course with an honorable standing in order, thoroughness and intelligence in subjects studied.

Second.—A practical experience in field work either at the State Farm or elsewhere as shall appear in reports received from responsible sources.

This certificate will admit students into any one of the special lines of study provided in the College of Agriculture.

For further information, and in making applications for admission, address, W. W. Pendergast, Principal, St. Anthony Park, Ramsey County, Minnesota.

DEPARTMENT OF VETERINARY SCIENCE.

THE FACULTY.

CYRUS NORTHROP, LL. D.,
President.

OLAF SCHWARTZKOPFF, V. M. D.,
Professor of Veterinary Science.

J. CLARK STEWART, A. B., M. D.,
Professor of Histology, Pathology, and Bacteriology.

GEORGE A. HENDRICKS, M. S., M. D.,
Professor of Anatomy.

RICHARD O. BEARD, M. D.,
Professor of Physiology.

C. J. BELL, A. M.,
Professor of Chemistry.

HENRY F. NACHTRIEB, B. S.,
Professor of Animal Biology.

OTTO LUGGER, PH. D.,
Professor of Botany.

H. M. BRACKEN, M. D.,
Professor of Materia Medica and Therapeutics.

WILLIAM E. LEONARD, A. B., M. D.,
Professor of Materia Medica and Therapeutics in the College of Homeopathy.

I. YEAR.	II. YEAR.	III. YEAR.
Anatomy of horse, cattle, pig, dog, etc.	General Pathology.	Clinics: Equine, Bovine, Canine, Etc.
Histology and Practical Microsopy.	Materia Medica.	Veterinary Surgery and Operative Surgery.
Botany and Zoology.	Equine Pathology } Theory and practice of	Obstetrics.
Chemistry.	Bovine Pathology } Veterinary Medicine and	Pathological Anatomy and Microscopical Pathology.
Physiology, human and comparative.	Canine Pathology } Th'r'p't's	Veterinary Police—(Meat and Milk Inspection) and Sanitary Medicine,
Veterinary Hygiene.	Physical Diagnosis, Examination of Urine, etc.	History of Veterinary Medicine.
	Theoretical and Practical Horse-Shoeing, (Clinics).	Veterinary Jurisprudence.

ENTRANCE.

Any person who has completed the two years' course in the School of Agriculture may be admitted to the department of veterinary science; all other candidates will be required to prove by examination that they have an equivalent degree of culture.

TERMS.

The department will open October 1st, on the same day as the medical department of the University, and will continue in session six months. The work of the first year willl be taken in a large degree with the medical department, at the Medical College.

FEES.

An entrance fee of ten dollars is charged to all students in the department, and a fee of fifteen dollars is required to be paid for the lectures of the medical department the first year.

DEGREES.

The degree of doctor of veterinary medicine will be conferred on students who complete the full course of study.

THE AGRICULTURAL EXPERIMENT STATION.

THE CORPS OF EXPERIMENTATION.

NELSON WYLIE MCLAIN, LL. B.
Director.

WILLET M. HAYS, B. S. A.,
Assistant in Agriculture.

SAMUEL B. GREEN, B. S.,
Horticulturist.

CHARLES POUMEROULIE,
Assistant in Horticulture.

OTTO LUGGER, PH. D.,
Entomologist and Botanist.

DAVID N. HARPER, PH. B.,
Chemist.

OLAF SCHWARTZKOPFF, V. M. D.,
Veterinarian.

DANIEL W. SPRAGUE,
Accountant and Recorder.

E. H. S. DARTT,
Superintendent of Owatonna Forest Tree Station.

HISTORICAL.

The Legislature of Minnesota, at its session in 1885, passed the following act:

"Section 1. It shall be the duty of the Board of Regents, of the University of Minnesota, as soon as practicable after the passage of this act, to establish at said University an Agricultural Experiment Station for the purpose of promoting agriculture in its various branches, by scientific investigations, and experiments; which station shall be under the control and supervision of the said Board of Regents."

The Agricultural Experiment Station is the Experiment Farm of the College of Agriculture of the University of Minnesota. All the income from the sales of the lands granted to the several states by the Act of Congress of 1862, was specifically devoted to the purposes of *instruction;* and with this object in view, the Experimental Farm was purchased, and equipped for the purpose of giving practical instruction in all the departments of agriculture, and this work has been successfully carried on for three years past.

For several years, the friends of advanced agriculture, have engaged in a concerted movement to secure the establishment in the several

states of "Agricultural Experiment Stations," where the chief object should be to promote scientific and practical investigations upon all subjects affecting the agricultural interests of the country. As the result of these efforts, the Congress of the United States passed an act, approved March 2, 1887, popularly known as the "Hatch Bill," making an annual appropriation for agricultural investigation.

It will be noted that the Act of Congress of 1862 was designed to promote Agricultural *Education*, while that of 1887 provides for Agricultural *Investigation*.

In compliance with the acts of State and National legislation, the Board of Regents has recognized and equipped the Experiment Station on the University Farm, using so much of the land, buildings, stock and machinery of said farm as may be needed for this purpose, and devoting the balance to instruction and illustration. An additional building for the Experiment Station was erected in 1888, which contains the offices of the station, laboratories for the departments of chemistry, biology, and veterinary, a library, and a museum.

During the past year seven bulletins have been issued by the Director containing valuable information, and the results of the year's experiments, copies of which can be had on application.

GRADUATE DEPARTMENT.

This department is designed to meet the wants of graduates of colleges who desire to pursue special lines of study further than is possible in undergraduate courses. It is not intended to be a mere extension of the college course in the interest of general culture, but rather a school for the education of *specialists* in the various branches of knowledge offered. The work required will be much less general than the subjects as stated below would indicate, the object being to secure higher attainments in something, rather than a superficial knowledge of everything. The department is open to all graduates of colleges, whether desiring to become candidates for the master's degree or not.

The regulations governing this department are contained in the following resolutions, adopted by the general faculty in April, 1885, and amended May, 1888.

MASTERS' DEGREES.

I. Masters' degrees in science, literature, and the arts will be conferred on bachelors of this or any other reputable college or university, who, not sooner than two years after graduation, pass an examination on certain prescribed lines of classical, scientific, or literary studies, and present a satisfactory thesis.

II. Candidates are required to present their applications on the proper blank, stating the particular degree desired, the several subjects selected by them in which to be examined, and the titles of their theses. Graduates of other colleges or universities will exhibit their diplomas on filing their applications. After the approval of the application by the faculty of the college, no changes or departures will be permitted.

III. The following studies are offered to candidates:

DIVISIONS.	GROUPS.	LINES.
A.	*a.* Modern Philology.	1. English. 2. French. 3. German. 4. Scandinavian Languages.
	b. Classical Philology.	1. Greek. 2. Latin.
	c. Comparative Philology.	

DIVISION.	GROUPS.	LINES.
B.	*a.* Biological Sciences.	1. Botany. 2. Zoology. 3. Physiology. 4. Palæontology.
	b. Physical Sciences.	1. Lithological Geology. 2. Chemistry. 3. Physics. 4. Mineralogy.
	c. Mathematics.	1. Co-ordinate Geometry. 2. Calculus. 3. Quaternions. 4. Astronomy.
C.	*a.* History.	1. Mediæval Institutions. 2. Institutions of England. 3. Institutions of the United States. 4. The Philosophy of History.
	b. Political Science.	1. Political Economy. 2. National Economy. 3. International Law.
	c. Philosophy.	1. Logic. 2. Psychology. 3. Natural Theology. 4. History of Philosophy.

IV. The amount of work done by the candidates shall be equivalent to that done by the Senior class, viz: Three terms' work on *three* distinct subjects each term, with a thesis in addition.

V. The following is the schedule of work requisite for the Masters' degrees:

FOR MASTER OF ARTS.

1. Greek and Latin.
2. Any two other distinct lines of study selected from the table in III. above.
3. A thesis on a classical subject.

FOR MASTER OF SCIENCE.

1. Two distinct lines from the groups in Division B.
2. Any two other distinct lines of study selected from the table in III. above.
3. A thesis on a scientific subject.

FOR MASTER OF LITERATURE.

1. German and Romance Languages.
2. Any two other distinct lines of study selected from the table in III. above.
3. A thesis on a literary subject.

VI. The time allowed for each line of study shall be from one to three terms.

VII. The proficiency of candidates shall be determined by examinations only.

VIII. A residence at the university is not required of candidates for the masters' degrees, but instruction will be given to such candidates

as are resident and desire it, by the professors in charge of the studies pursued.

IX. All examinations shall be held at the university.

SECOND DEGREE IN THE COLLEGE OF MECHANIC ARTS.

All the regulations governing candidates for the masters' degrees shall apply to the candidates for the second degree in the College of Mechanic Arts. The following is a schedule of work requisite for the degree:

FOR CIVIL ENGINEERING.

1. Some subject in civil engineering.
2. Any two distinct lines of study selected from the table in III. above.
3. A design in civil engineering.
4. A thesis on a subject in civil engineering.

FOR MECHANICAL ENGINEERING.

1. Some subject in mechanical engineering.
2. Any two distinct lines of study selected from the table in III. above.
3. A design in mechanical engineering.
4. A thesis on a subject in mechanical engineering.

FOR ARCHITECT.

1. Some subject in architecture.
2. Any two distinct lines of study selected from the table in III. above.
3. A design in architecture.
4. A thesis on a subject in architecture.

DEGREE OF DOCTOR OF PHILOSOPHY.

The Degree of Doctor of Philosophy will be conferred on bachelors of this or any other reputable college or university within not less than three years after graduation therefrom, under the following conditions:

1. The candidate shall elect some one of the *Groups* of study from the table in III. (p. 94), and within that group some special field, such as shall be approved by the faculty.
2. He shall pass a minute examination on the special field selected, and shall show such acquaintance with other studies of the group as the faculty may require.
3. He shall present a thesis on some subject connected with his special field of work; which thesis shall be the result of original investigation by the candidate, and shall be a contribution to knowledge.

4. Each candidate for this degree shall devote the time of at least two years to preparation for his examination, such study being his principal occupation for that period; provided, however, that if such study shall not be his principal occupation, then the time of preparation shall be extended as the faculty may think proper.
5. The candidate shall be in actual residence at the University and shall pursue his studies therein at least one year, and that the year next preceding his final examination.
6. At the beginning of said year next preceding his final examination, the candidate shall pass a preliminary examination on the work for his degree that he has done up to that time.
7. A fair copy of the thesis shall be placed in the hands of a committee of the faculty on or before the first day of April next preceding the final examination. No candidate shall be admitted to said final examination unless his thesis shall be approved by the committee. If the degree thereafter be conferred, at least one hundred printed copies of the thesis shall be deposited with the President of the University.
8. The final examination for this degree shall be held on or about the third Thursday in May, as the President of the University may decide.
9. Each examination for the degree of doctor of philosophy shall be held in the presence of the general faculty and shall be conducted as said faculty may direct. A quorum for such examination shall be five.
10. Besides the final examination, the candidate shall be required to make a public defense of his thesis, at such time and place as the general faculty may determine.

GRADUATE WORK NOT LEADING TO A DEGREE.

Bachelors of this or any other reputable college or university, not desiring to take a degree, are allowed, subject to all the regulations governing the candidates for degrees, to pursue the studies of the graduate courses, and to be examined in them, and a certificate of attainment will be given if desired.

For the year 1889-90, the following subjects will be offered:

I. MATHEMATICS.

1. An advanced course in Co-ordinate Geometry.
2. An advanced course in Differential Calculus.
3. An advanced course in Integral Calculus.

The following subjects are offered to those who do not elect them in their under-graduate course:

1. Analytical Geometry.
2. Differential Calculus.
3. Integral Calculus.
4. Quaternions.

II. ASTRONOMY.—A course in Practical Astronomy.

III. CHEMISTRY.—Graduate students desiring to add to their knowledge of chemistry, will find here good facilities for laboratory prattice; and they will be enabled to take up such practice at almost any point, either by themselves or with classes organized in the same work. The aim of the department will be to meet the wishes, on the one hand, of individual graduate or special students pursuing the more practical branches, as assaying, toxicology, etc., and on the other hand, of those who seek a better familiarity with the general and theoretical portions of the science. Graduate students will be invited to attend the lectures on theoretical chemistry, with the Senior class, in which these lectures are regularly given.

IV. GREEK.—Greek Poetry, embracing the Epic, Lyric, and Dramatic, with critical reading of authors, or Greek Philosophy, with critical reading of authors.

V. GERMAN.—Alternative courses.

1. *a.* Niebelungenlied.
   b. History of German Literature during the Twelfth and Thirteenth centuries.
2. *a.* Lessing's Laocoon and Dramaturgy.
   b. History of German Literature from 1749 to 1832.

VI. ROMANCE LANGUAGES.

1. Philological; especially with reference to the French element in English; the Norman dialect of Old French as it appears in the Laws of William the Conqueror; the Anglo-Norman poet Nace's Roman de Burt, Chason de Roland; the later French of Rousaul and Montaigue.
2. A systematic study of some special topic, as: the Philosophy of the Nineteenth Century; the literature of the Eighteenth Century.

VII. HISTORY.—

1. Representative Governmet in England and the United States.
2. The History and Philosophy of Education.
3. School Law.

VIII. GEOLOGY AND MINERALOGY.—The granite rocks of Central Minnesota, with such preliminary mineralogical work as may be fonud necessary.

IX. ENGLISH.—Criticism in selected master pieces from Chancer to Cowper.

X. LATIN.—

1. Roman Law. Institutes of Justinian.
2. Roman Philosophy,—Cicero.

XI. ECONOMICS AND POLITICAL SCIENCE.—The work of graduate students in this department is conducted on the "seminary" plan of foreign universities. The particular subjects of investigation are selected by individals or groups, upon consultation with the professor.

THE DEPARTMENT OF LAW.

THE FACULTY.

CYRUS NORTHROP, LL. D.,
President.

HON. WM. S. PATTEE, M. A.,
Dean and Professor of the Law of Contracts.

HON. S. J. R. MCMILLAN,
Lecturer on International Law.

HON. GORDON E. COLE,
Lecturer on Corporations.

FRANK B. KELLOGG, ESQ.,
Lecturer on Equity Jurisprudence and Procedure.

CHARLES A. WILLARD,
Lecturer on the Law of Bailments.

JUDGE JAMES O. PIERCE,
Lecturer on Constitutional and Statuary Law and the Law of Domestic Relations.

HON. CHARLES E. FLANDREAU,
Lecturer on the Law of Torts.

HON. GEORGE B. YOUNG,
Lecturer on the Conflict of Laws.

JOHN B. ATWATER, B. A.,
Lecturer on the Law of Real Property.

HON. C. D. O'BRIEN,
Lecturer on Criminal Law and Procedure.

GEORGE N. BAXTER,
Lecturer on Common Law and Code Pleading.

HON. W. D. CORNISH,
Lecturer on Life and Fire Insurance.

JUDGE JOHN M. SHAW,
Lecturer on Evidence.

JUDGE P. M. BABCOCK,
Lecturer on Wills and Administration.

CHARLES H. BOARDMAN, M. D.,
Professor of Medical Jurisprudence.

CHARLES W. BUNN,
Lecturer on Suretyship and Mortgages, Practice in United States Courts.

SUMNER LADD,
Lecturer on the Law of Taxation.

"There is little, if any, dispute now as to the relative merit of education by means of law schools, and that to be got by mere practical training or apprenticeship as an attorney's clerk. Without disparagment of mere practical advantage, the verdict of the best informed is in favor of the schools.

"The benefits which they offer are easily suggested, and are of the most superior kind. They afford the student an acquaintance with general principles, difficult, if not impossible

to be otherwise obtained: they serve to remove difficulties which are inherent in scientific and technical phraseology, and they as a necessary consequence furnish the student with the means for clear conception and accurate and precise expression. They familiarize him with leading cases, and the application of them to discussion. They give him the valuable habit of attention, teach him familiar maxims, and offer him the priceless opportunities which result from contact and generous emulation. They lead him readily to survey the law as a science, and imbue him with the principles of ethics as its true foundation. Disputing, reasoning, reading, and discoursing, become his constant exercises: he improves remarkably as he becomes acquainted with them, and obtains progress otherwise beyond his reach."—*Report of the Committee on Legal Education to the American Bar Association, August 21st, 1879, at Saratoga, N. Y.*

Provision was made in the charter of the University for the establishment, at the proper time, of a College of Law; and in the early part of 1888 the Regents, believing the proper time had come, established the department by electing a Dean and providing a full corps of lecturers. The college opened on September 11, 1888, and during the year it has received to its membership of students sixty-seven young gentlemen of good ability, and with excellent preparation for their work. It is the design of this department to furnish such instruction in the fundamental principles of law as will prepare the student for the practice of his profession in any part of the United States.

LOCATION.

The lectures and instruction have been given in the main building during the last year, and such will be the arrangements for the future until the new Law Building shall have been built, which, it is hoped, may be done by the beginning of the fall term of 1889.

The new building is arranged with special reference to the study of law, its court room, lecture rooms, library, and society rooms all being constructed upon the very best plan for a college of law.

It is located upon the banks of the Mississippi river, and commands a fine view of the City of Minneapolis and the river below. Its surroundings are all pleasant, and it is devoted exclusively to the work of the law school. The street car line comes within two blocks of its entrance, upon which one can easily reach any part of the city, and within one block is the University depot, from which frequent trains convey passengers to the Union depot in Minneapolis in five minutes, and to St. Paul in twenty.

ADMISSION.

Any person of good moral character will be allowed to matriculate in this department. If, however, the person applying for admission intends to be a candidate for a degree at the end of his course, he must not be less than eighteen years of age.

There is no list of studies prescribed which the candidate must pass in order to be admitted. Each candidate must satisfy the faculty that he has such a general education as will enable him to pursue the study of law with advantage and justify his entering upon the practice of law when his legal studies are completed. Persons who are deficient in English grammar, composition, U. S. history, and other branches usually taught in common schools, will not be admitted. Special attention should be given to the English language, grammar, composition, and literature, history of the United States, of England, and of Rome. In addition, candidates will find a knowledge of Latin very useful, and students who are fitting themselves to pursue the study of law are earnestly recommended to study Latin.

Examinations for admission to the College of Science, Literature and Arts will be held, beginning Tuesday, September 4. See program in appendix. Candidates for admission to the Law Department should present themselves in the general office (room 21) in the main university building, at 8 o'clock on that day, and register their names. They should take an examination in as many of the subjects for admission to the Freshman class in the College of Science, Literature and Arts as they feel themselves prepared in.

The results of these examinations will be reported to the faculty of the College of Law, and the names of the successful candidates will be announced.

Candidates who are graduates of high schhols, academies or colleges, or similar institutions, will exhibit their diplomas and file with the registrar, on making their application, a list of studies they have pursued, and the grade, standing or degree of attainment they have obtained in each, duly signed by the principal or other officer. These certificates of standing, if accepted by the faculty, will exempt the candidate from examination, in whole or in part, as may be decided by the faculty in each particular case.

REGISTRATION.

After having satisfied the faculty of his educational attainments, the candidate will, on paying his tuition fee to the registrar of the University, receive a registration card or ticket, which will admit him to the lecture room.

TUITION.

FOR MINNESOTA STUDENTS.

Matriculation fee	$10 00
Annual fee	30 00

FOR NON-RESIDENT STUDENTS.

Matriculation fee	$20 00
Annual fee	35 00
Diploma fee, for all alike	10 00

GENERAL INFORMATION.

For any general statements concerning the University, the cost of board, etc., see page 28 and following.

COURSE OF STUDY.

The course of study will extend over a period of two years, and will comprise the following subjects:

FIRST YEAR, (JUNIOR).

CONTRACTS.
TORTS.
CRIMINAL LAW AND PROCEDURE.
REAL PROPERTY.
EQUITY JURISPRUDENCE AND PROCEDURE.
DOMESTIC RELATIONS.
SURETYSHIP AND MORTGAGE.
PARTNERSHIP.
COMMON LAW AND CODE PLEADING.
EVIDENCE.

SECOND YEAR, (SENIOR).

CONTRACTS.
CORPORATIONS.
FIRE AND LIFE INSURANCE.
WILLS AND ADMINISTRATION.
LAW OF TAXATION.
INTERNATIONAL LAW.
CONFLICT OF LAWS.
ADMIRALTY LAW.
MEDICAL JURISPRUDENCE.
JURISDICTION AND PRACTICE OF UNITED STATES COURTS.

The course on contracts extends through both the junior and senior years, and embraces, among other topics, bills, notes and commercial law generally; contract liabilities of infants, incapables, and married women; agency; bailments; bankruptcy and insolvency. These specific topics will be considered during the two years, at such times and in connection with the treatment of such general subjects, as shall be most advantageous, and convenient for students and instructors.

METHOD OF INSTRUCTION.

The method of instruction is not confined to either lectures or recitations, but such a combination of both is adopted as is best calculated to interest the student and secure for him a thorough, acurate, and comprehensive knowledge of the principles and rules of law. And in addition thereto such a use of the reports is made as will familiarize the student with the leading cases upon the various subjects in which he receives instruction.

LIBRARY.

The Bar Association of Minneapolis has an excellent Law Library, located within easy reach of the University, the free use of which has been secured for all members of the Law Department. The State Library also, at St. Paul, is easily accessible and will be open to their free use each day in the week except Sunday.

The library of the dean is in the rooms of the department and always accessible to the students.

The Bar Association Library at Minneapolis furnishes all the facilities for consultation of authorities that the students require. It contains all the Reports, State and National, which the student would have occasion to examine; and also the English text-books and Reports which are so necessary for the student in his study of the fundamental principle of the Law.

This library is open to those who wish to use it, both forenoon and afternoon. The lectures and recitations are given at 2 o'clock P. M. in order to give the student the entire forenoon for study.

BOOKS.

Students will be expected to furnish themselves with such text-books as the faculty shall adopt for use in the recitation room. In all cases they will be such books as will be found necessary in the student's practice.

In addition to these, should any of the students desire to have at hand other standard works upon the subjects taught, a judicious selection could be made from the following list and the faculty will be glad to aid them in making such a selection:

Contracts—Parsons, Anson, Metcalf, Pollock, Bishop.

Bailments—Schouler, Edwards, Story.

Sales—Benjamin, Blackburn.

Domestic Relations—Schouler or Reeves on Domestic Relations; Schouler on Husband and Wife; Bishop on Marriage and Divorce; Bishop on Married Women; Cord on Married Women; Macdonnell on Master and Servant; Simpson on Infants.

Corporations—Angell and Ames, Field, Morawetz, Taylor; Dillon on Municipal Corporations; Thompson on Liability of Stockholders.

Bills and Notes—Byles, Chalmers, Parsons; Daniels on Negotiable Instruments; Edwards on Bills and Notes; Bigelow's Leading Cases; Ames' Leading Cases.

Torts—Cooley, Bigelow, Addison; Wharton on Negligence.

Evidence—Greenleaf on Evidence; Best's Principles of Evidence; Stephen's Digest of Law of Evidence; Wharton or Starkie on Evidence; Rogers on Expert Testimony; Roscoe's Criminal Evidence.

Real Property—Williams, Washburn, Tiedeman, Boone, Willard.

Partnership—Lindley, Parsons, Bates, Pollock.

Wills and Administration of Estates—Redfield on Wills; Jarman on Wills (Randolph & Talcott's or Bigelow's edition); Hawkins on Construction of Wills; Schouler on Wills; Williams on Executors.

Common Carriers—Hutchinson on Carriers; Thompson on Passenger Carriers; Redfield or Pierce on Railways.

Equity—Pomeroy's or Storey's Equity Jurisprudence; Snell's, Bispham's or Adam's Equity.

Criminal Law—Harris, Bishop, Wharton, May, Washburn; Stephen's Digest of the Criminal Law; Stephen's History of the Criminal Law.

Pleading—Gould, Stephens, Chitty, Hurd; Bliss on Code Pleading; Story's Equity Pleading; Pomeroy on Remedial Rights.

Agency—Evans, Story, Wharton.

Damages—Sutherland, Sedgwick.

Mortgages—Jones, Thomas.

Insurance—May on Insurance; Wood on Fire Insurance; Bliss on Fire Insurance; Arnold on Marine Insurance;

Shipping and Admiralty—Abbott, Conkling, Desty.

Easements—Goddard, Washburn.

Taxation—Cooley, Burroughs, Desty.

Medical Jurisprudence—Ewell, Wharton and Stille, Beck.

Constitutional History—Hallam's Constitutional History of England (1485-1760); May's Constitutional History of England (1760-1870); Yonge's Constitutional History of England (1760-1860); Stubb's Constitutional History of England; Bagehot's English Constitution; Gheist's English Constitutional History; Curtis's History of the Constitution of the United States; Bancroft's History of the Constitution of the United States; Von Holst's Constitutional History of the United States.

Constitutional and State Law—Pomeroy's Introduction to the Constitutional Law of the United States; Von Holst's Constitutional Law of the United States; Cooley's Principles of Constitutional Law; Cooley's Constitutional Limitations; Story's Commentaries on the Constitution of the United States; Sedgwick on Constitutional and Statutory Law; Jameson's Constitutional Conventions; Bishop's Written Law; Maxwell on the Interpretation of Statutes; Farrar's Manual of the Constitution of the United States; Stearn's Concordance to the Constution of the United States.

Jurisprudence—Holland's Elements of Jurisprudence; Austin's Lectures on Jurisprudence; Lorimer's Principles of Jurisprudence; Amos on the Science of Law.

International Law—Wheaton's Elements of International Law; Woolsey's Introduction to International Law; Hall's International Law; Davis's International Law; Story's Conflict of Laws.

Roman Law—Morey's Outlines on Roman Law; Hadley's Introduction to Roman Law; Mackenzie's Roman Law; Moyle's Justinian; Roby's Introduction to the Digest; Muirhead's Roman Law.

COURSE.

The department is located within easy reach of both the Federal and State courts. At St. Paul the United States courts are in session several months in the year, which, with the Supreme court of the state, together with the District and Municipal courts of both cities, will furnish all the opportunities for witnessing the actual practice of law, that the student will have either time or desire to improve.

MOOT COURT.

A moot Court was organized at the beginning of the first term and continued during the year. As fast as the student becomes acquainted with the primary rights of persons, cases are prepared for his consideration, wherein he may apply the principles of law with which he has become familiar.

There is now established a system of Moot Courts, corresponding to the Justice, the District, and the Supreme Courts of Minnesota, wherein the student may become familiar with the practice and the rules of the courts respectively.

It is the aim of the department to acquaint the student with the practice as well as the theory of the law, and to this end, the subjects of pleading, evidence, rules of practice adopted by our State Courts,

methods of securing provisional remedies, appeals from one court to another, the writs of hebeas corpus, certiorari, and others of frequent use, conveyancing, drawing contracts, and other like practices which comprise the daily work of the general practitioner, will, during the Senior year, receive especial and careful attention.

Some member of the faculty will preside over each of these courts, associating with him such members of the class as he shall from time to time select. Briefs will be prepared, and all other steps taken, so far as possible, which practice requires in the actual conduct of cases.

EVENING CLASSES.

Evening classes are formed for those who are unable to attend during the day. Persons who enter the evening department go over the same subjects, and are entitled to their diplomas if on final examination they show themselves possessed of the requisite qualifications.

They are subjected to the same rules and have all the advantages of Moot Courts and other general exercises that the students of the day-class enjoy.

THE LECTURERS.

All the lecturers in the department are lawyers actively engaged in the practice of their profession. They come to the class-room direct from the bar, bringing with them fresh experiences and the spirit of actual contests. They all possess a high ideal of what a lawyer should be and do, and the student who enters here is expected to come with the fixed purpose of attaining a high degree of excellency in his legal acquirements, and to respond in earnestness, and fidelity to the faithful efforts of his instructors in his behalf.

LITERARY SOCIETY.

The students of the Department, Juniors and Seniors, have joined in organizing a literary society for the purpose of general improvement, and for cultivation in the practice of extemporaneous speaking. They hold weekly meetings, and derive great benefit from their exercises.

UNIVERSITY DEPARTMENTS.

Students of this department will be admitted, under proper regulations, to exercises in the other departments or colleges of the University, without extra charge, and so far as does not interfere with their law studies, they are urged to avail themselves of this opportunity to attend lectures and recitations in the other departments. The following subjects are suggested as being particularly suitable: Rhetorical work, including elocution, compositions, orations; International Law, Constitutional History and Political Science.

DEGREES.

The degree of Bachelor of Laws will be conferred upon all students who pursue the full course of two years in this department, and pass

an approved examination. The degree will also be conferred upon those, who, having attended another law school for a period of one year, shall also attend for one year in this department, and pass a like examination.

ADMISSION TO THE BAR.

The Legislature of Minnesota in the early part of the year 1889, recognized the Legal Department of the University of Minnesota, in the following enactment, whereby students graduating therefrom are entitled to admission to the bar without further examination:

AN ACT to amend sections one and two of chapter eighty-eight of the General Statutes of one thousand eight hundred and seventy-eight, relating to the admission of persons to practice law in the courts of this state.

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

SECTION 1. That section one of chapter eighty-eight of the General Statutes of one thousand eight hundred and seventy-eight be amended so as to read as follows:

Section 1. Any person of the age of twenty-one years, of good moral character, who possesses the requisite qualifications of learning and ability, and who has read law in the office of a regularly admitted attorney and counselor at least two years, is entitled to admission to practice law in all the courts of this state.

SEC. 2. That section two of said chapter be amended so as to read as follows:

Section 2. For the purpose of admission he shall apply to the supreme court or any district court when in session, and shall show first, that he is of the age of twenty-one years, which proof may be made by his own affidavit; second, that he is a person of good moral character, and has read law in the office of a regularly admitted attorney and counselor for at least two years, which may be shown by certificate or other evidence satisfactory to the court; provided, that any person who was rrading law as above required on the first day of July, A. D., 1888, may apply for admission at any time after July 1, 1889, without further proof as to time of such reading: *provided further, that any person having received a diploma from the law department of the University of Minnesota, shall, upon presenting the same to the court, within two years from date thereof, be admitted, as provided in this chapter, to practice in this state without further examination as to his learning, ability and time of reading.*

SEC. 3. This act shall take effect and be in force from and after its passage.

Approved April 24, 1889.

CALENDAR.

There are three terms in each year. The first has thirteen, the second twelve, and the third thirteen weeks. See almanac on pages 4 and 5 for days and dates.

THE DEPARTMENT OF MEDICINE.

CYRUS NORTHROP, LL. D., - - - - President.
*PERRY H. MILLARD, M. D., - - - - Dean.

This Department is composed of the following Colleges, to-wit:
The College of Medicine and Surgery, the College of Homœopathic Medicine and Surgery, and the College of Dentistry.

THE COLLEGE YEAR.

The second course of instruction in this Department will commence Tuesday, October 1st, 1889, and continue six months. The Spring course will commence April 1st and close early in June, at time of Commencement Exercises. There will be no lectures Thanksgiving or Washington's birthday. The holiday vacation begins December 21st, and closes January 2d.

COURSE.

To meet the requirements of the constantly increasing expansion of Medical Science, this department has been organized, with a view of affording the student of Medicine or Dentistry a thorough course of medical and dental instruction. It is with satisfaction that the announcement is made that the Legislature has wisely provided the necessary means for the establishment of the various colleges comprising this department, upon a basis that will enable the Regents to maintain a most competent corps of instructors. It is gratifying to know that the profession of the Northwest appreciates our efforts in establishing a high grade school, as was evinced in our first year's experience. Of the one hundred and thirty-one matriculates, one hundred and seventeen were in actual attendance during the session. Matriculates not able to pass the entrance examination, do not appear in the "roster of students," and their matriculation fee is returned.

Laboratory work and clinical instruction will be a leading feature of this department. A thorough course of instruction will be required in Histology, Pathology, Bacteriology, Qualitative Analysis, Urinalysis, and Toxicology. The work in the various Laboratories will be under the direct supervision of the didactic professors, and not left to assist-

*All correspondence relating to the various Colleges of this Department should be addressed to the Dean's office, 6th st. 9th ave. So., Minneapolis, Minn.

ants. Where practicable, students are advised to take one or more spring courses, thus affording more time for laboratory instruction.

The curriculum in the Department of Medicine covers a period of three years, each year of which represents a course of lectures of six months duration. Students from other colleges may be admitted, however, to the second year of lectures in the college which corresponds to their previous course of study, by furnishing evidence, (1), of their possession of the specified preliminary education or its alternatives; (2), of the prosecution of their medical or dental studies for one year, and (3), of attendance upon one full course of lectures in some recognized college of medicine or dentistry. Admission may similarly be gained to the senior year by furnishing evidence, (1), of the necessary preliminary qualifications; (2), of the continuance of their professional studies for two years, and (3), of attendance upon two full courses of instruction in some recognized medical or dental college; and, finally, by sustaining satisfactory examinations, or giving evidence of having already successfully passed examinations in the studies of the first and second years.

The students of all the colleges grouped under this department of the University will attend lectures in common upon Anatomy, Physiology, and Chemistry, and must pass satisfactory examinations in all of these studies before they complete the course or enter for the general examinations in either college. They will attend lectures in common upon such other branches as the faculty under which their studies are pursued may determine.

No college that graduates students upon two courses of lectures is recognized by this department. Students of colleges not recognized, desiring admission to the junior or senior courses, will be required to comply with the rules governing the entrance examinations, and if the applicant desires admission to the senior year, he or she will be required to undergo an examination upon the studies of the first and second years.

Veterinary students will receive their instruction in the primary branches in the Department of Medicine. Individual students may pursue their studies in one or more branches at will.

This class of students will be classed as "special students." They are not eligible for a degree, and the instruction received cannot be considered as equivalent to a course of lectures.

The fee is fifteen dollars.

LOCATION.

The University proper is located in East Minneapolis, corner of University and Fourteenth avenues S. E., but lectures will be delivered and the laboratory work will be conducted at the buildings formerly occupied by the Minnesota Hospital College, corner Sixth street and Ninth avenue south, near which point students should secure lodgings. The clinical instruction will be given at the various dispensaries and

hospitals in both Minneapolis and St. Paul. Special arrangements will be made with the railroads for the transportation of students to the weekly clinic to be held at St. Paul, thus affording students the advantages of material for instruction from two large cities. The faculty is well represented upon the staff of all the large hospitals in these two cities, and special arrangements will be completed for giving clinical instruction.

EQUIPMENT.

The University is well equipped for laboratory work. The general museum, comprising the collections of the Geological and Natural History Surveys of the State, and containing upwards of twelve thousand specimens, will be at the disposal of the student for purposes of examination and study. Laboratory work will be a special feature of this department.

The library of the University contains upwards of twenty-one thousand volumes, and is open daily for the use of students of all departments.

Several thousand dollars are being spent in the purchase of additional apparatus, charts, manikins, etc.

ENROLLMENT.

New students are required to enroll with the registrar, in his office, room 21 of the main University building. After enrollment and the payment of the matriculation fee and the annual dues, the student is assigned a seat and can then take the entrance and professional examinations.

Former matriculates in this department can enroll and pay their fees to the registrar at the Medical College building, Wednesday morning, October 2.

ENTRANCE EXAMINATIONS.

The entrance examination will commence at 9 a. m. Tuesday, October 1, 1889. This examination will be conducted by a committee, appointed by the President, from the department of Science, Literature and Arts, assisted by the Dean.

QUALIFICATIONS.

Applicants for admission to the College of Medicine and Surgery, the College of Homeopathic Medicine and Surgery, or the College of Dentistry will be required to prove their fitness to enter these Colleges:

1. By writing legibly and correctly an English composition of not less than two hundred words.

2. By translation of easy Latin prose, or, in lieu thereof, by passing an examination upon one of the following subjects: French, German, or one of the Scandinavian languages.

3. By passing an examination upon either the elements of Algebra, Plane Geometry, or Botany.

4. By showing such a knowledge of Physics as may be obtained from the study of Gage's, Avery's, or Balfour Stewart's Elements of Physics.

It is provided, however, that no examination for admission shall be required of matriculates or graduates of any reputable college of Science, Literature and Arts; of graduates of State High Schools or Normal Schools; of persons holding a first-class teacher's certificate, or the certificate of the High School Board of the State of Minnesota.

Canditates are given one year to make up a condition on any of the branches of the preliminary entrance examination.

PROFESSIONAL EXAMINATIONS.

The following regulations govern these examinations:

First, the student is either passed unconditionally; or second, he is conditioned, or third, he is rejected.

Students whose average percentage in term quizzes and written examinations is above the required percentage entitling them to pass, are admitted to advanced standing unconditionally. Those falling below in one or more branches are conditioned, and those with a low general average are rejected or dropped one year in the course of study.

The examination for advanced standing and for students conditioned, at former examination, will be held at the Medical College building, at 9 A. M., Wednesday, October 2d, 1889.

WINTER TERM.

The course of lectures in this department will commence October 1st, and will continue until the end of March. This is the essential part of the college year, and consists of didactic lectures, practical demonstration, laboratory work, and clinical teaching, in the lecture rooms and in the dispensaries and hospitals of both cities. Frequent class examinations, or "quizzes," will be conducted by each professor, and are considered an important feature of the course. Attendance upon at least four-fifths of the lectures under each chair is requisite in order to entitle the student to enter for final examination, or to a certificate of attendance.

SPRING SESSION.

A spring course will be conducted in each of the colleges, beginning April 1st, at the close of the winter term, and extending over a period of nine weeks. Attendance upon this course is desirable, but it is not obligatory. It is supplemental to the longer winter session, but cannot be regarded as a substitute therefor.

Series of lectures will be delivered in this course upon "surgical landmarks," surgical pathology, gynecological and abdominal surgery, mental diseases, medical botany, rectal diseases, urinalysis, and elec-

tro-therapeutics. Opportunity will be afforded, also, for clinical instruction and laboratory work.

Students are strongly urged to avail themselves of the advantages presented during this spring session.

GRADUATION.

Candidates for graduation, and for the degrees conferred by the University upon graduates of the colleges in this department, must possess the following qualifications: (1), They must be upwards of twenty-one years of age; (2), they must be of good moral character; (3), they must have spent three full years in the study of medicine or dentistry; (4), they must have attended three full courses of lectures, the last of which, at least, must have been in this University, and the two former in this or some other recognized university or college of medicine or dentistry, and (5), they must have sustained satisfactory examinations in the various branches of study, in accordance with the rules of the general faculty.

DEGREES.

In the Department of Medicine, the following degrees will be granted by the University:

To graduates of the College of Medicine and Surgery, the degree of Doctor of Medicine (M. D.).

To graduates of the College of Homœopathic Medicine and Surgery, the degree of Doctor of Medicine (M. D.).

To Graduates of the College of Dentistry, the degree of Doctor of Dental Surgery (D. D. S.).

Graduates of the College of Dentistry can obtain the degree of Doctor of Medicine by attending one full course of lectures in either of the allied colleges, and by passing the final examinations required therein. Similarly graduates of the College of Medicine and Surgery, or of the College of Homœapathy, can obtain the degree of Doctor of Dental Surgery by attending one full course of lectures in the College of Dentistry, and by passing the final examinations in that college.

FEES.

Students of the various colleges of the department will be uniformly charged as follows:

Matriculation fee, payable annually, for students who are actual residents of Minnesota, $10.00; for all others, $25.00.

Lecture courses, annually, for students of Minnesota, $25.00; for all others, $35.00.

Material for dissection, $10.00 per part; bodies are divided into four parts for dissection.

Histological and Pathological laboratory courses, not to exceed $5.00 each.

Expenses of the course in Qualitative Analysis, Urinalysis, and Toxicology, will not exceed the actual cost of material used and breakage. There will be no charges for dispensary and hospital tickets. All fees are payable before enrollment.

Graduation fee, for all students alike, $10.00.

For information regarding the expense of living, see general statements under the heading "The University," page 41.

CALENDAR.

1889.

October 1.—Tuesday, 9 A. M., enrollment and entrance examination, at University building; 7:30 in the evening, at Medical College building, opening address by George E. MacLean.

October 2.—Wednesday, 8:30 A. M., Medical lectures begin.

December 25.—Commencement of holiday vacation.

1890.

January 5.—End of holiday vacation.

March 21–29.—Examinations for degrees and promotion.

April 1.—Spring term opens.

June 5.—Commencement.

THE COLLEGE OF MEDICINE AND SURGERY.

THE FACULTY.

CYRUS NORTHROP, LL. D.,
President.

GEORGE A. HENDRICKS, M. S. M. D.,
Professor of Anatomy.

RICHARD O. BEARD, M. D.,
Professor of Physiology.

C. J. BELL, A. M.,
Professor of Chemistry.

H. M. BRACKEN, M. D., L. R. C. S. E.,
Professor of Materia Medica and Therapeutics.

ALBERT E. SENKLER, M. D.,
Professor of Theory and Practice of Medicine.

CHARLES H. HUNTER, A. M., M. D.,
Professor of Clinical Medicine.

EVERTON J. ABBOTT, A. B., M. D.,
Professor of Clinical Medicine.

CHARLES A. WHEATON, M. D.,
Professor of Principles and Practice of Surgery.

FREDERICK A. DUNSMOOR, M. D.,
Professor of Clinical and Operative Surgery.

PERRY H. MILLARD, M. D.,
Dean and Professor of Clinical Surgery.

ALEX. J. STONE, LL. D., M. D.,
Professor of Diseases of Women.

AMOS W. ABBOTT, M. D.,
Clinical Professor of Diseases of Women.

PARKS RITCHIE, M. D.,
Professor of Obstretrics.

JOHN F. FULTON, PH. D., M. D.,
Professor of Ophthalmology and Otology.

FRANK ALLPORT, M. D.,
Clinical Professor of Ophthalmology and Otology.

C. EUGENE RIGGS, A. M., M. D.,
Professor of Nervous and Mental Diseases.

CHARLES H. BOARDMAN, M. D.,
Professor of Medical Jurisprudence.

ARTHUR B. ANCKER, M. D.,
Professor of Hygiene,

JAMES H. DUNN, M. D.,
Professor of Diseases of the Genito-Urinary Organs.

CHAS. L. WELLS, A. M., M. D.,
Professor of Diseases of Children.

JAMES E. MOORE, M. D.,
Professor of Orthopaedic Surgery.

M. P. VANDERHORCK, M. D.,
Professor of Diseases of the Skin.

W. S. LATON, M. D.,
Professor of Diseases of the Throat and Nose.

J. CLARK STEWART, B. S., M. D.,
Professor of Histology, Pathology and Bacteriology.

J. W. BELL, M. D.,
Professor of Physical Diagnosis and Diseases of the Chest.

E. C. SPENCER, A. B., M. D.,
Professor of Surgical Anatomy.

A. B. CATES, A. M., M. D.,
Adjunct Professor of Obstetrics.

A. MCLAREN, A. B., M. D.,
Adjunct Professor of Gynecology.

W. A. JONES, M. D.,
Adjunct Professor of Diseases of the Nervous System.

BURNSIDE FOSTER, M. D.
Demonstrator of Anatomy.

ANNOUNCEMENT.

Under the title of the College of Medicine and Surgery is represented th "old school" branch of this department of the University.

It creation has been the signal for the discontinuance of the leading medical institutions of Minneapolis and St. Paul, whose faculties have thus sought to enlarge the opportunity for the establishment of a strictly high grade school. The event marks an era in the history of medical education in Minnesota.

The faculty of the new college, in presenting its second annual announcement to the profession and the public, desires to emphasize the high standard of its curriculum. It will conduct a three years' course of instruction which will largely follow the graded method. Matriculates must demonstrate their fitness for professional study by evincing their possession of a fair degree of preliminary education. Students must pass the fundamental or primary branches before entering for advanced or final examinations. Each winter term will be of the prescribed legal period of six months.

While maintaining these superior educational conditions, the college will afford its students correspondingly superior advantages. It will place at their command, the clinical opportunities of the dispensaries and hospitals of two cities. In Minneapolis and St. Paul, it will have entree to the wards of the city hospitals and of the private institutions. In each city, the clinicians of of its faculty will support and control free dispensaries, to the clinics of which the students of the second and third years will be admitted. These clinics attract a large number of patients and afford opportunity for illustration, diagnosis,

and tretment in every department of practical instruction—in general surgery and medicine, diseases of women and children, diseases of the eye and ear, of the throat and nose, of the nervous system, of the genito-urinary organs, and of the skin.

Laboratory work will be a leading feature of the course in this college. It will include practical demonstrations in physiology, histology, bacteriology, pathology, chemistry, and urinalysis. In these exercises, students will personally participate and will thus be provided with an opportunity to perfect themselves in microscopy.

In addition to the regular didactic course, special lectures will be given upon topics of peculiar interest.

An ample supply of material will be provided for dissections and the demonstration of anatomy will be thoroughly conducted.

Several post-graduate hospital appointments, in Minneapolis and St. Paul, will be open to students of this college through competitive examination.

In a word, the faculty will spare no endeavor to put the College upon a plane with the foremost medical institutions of the country, and, in the realization of this purpose, it bespeaks the support of the medical profession of the northwest.

COURSE OF INSTRUCTION.

I. YEAR.	II. YEAR. *Continuation of first year studies.*	III. YEAR. *Continuation of second year studies (without those of first).*
Anatomy.	Pathology.	Therapeutics.
Chemistry.	Medical Jurisprudence.	Neurology.
Histology.	Theory and Practice.	Ophthalmology.
Physiology.	Clinical Medicine.	Dermatology.
Materia Medica.	Obstetrics.	Laryngology.
Laboratory Work.	Diseases of Children.	Clinical Instruction in all branches.
	Physical Diagnosis.	Electro-therapy.
	Hygiene.	Otology.
	Surgery.	Genito-Urinary Diseases.
	Clinical Surgery.	Orthopædia.
	Gynecology.	
	Clinical Instruction.	

PROFESSIONAL EXAMINATIONS.

The following regulations govern the professional examinations:

Examinations will be conducted at the end of the first, second, and third years' work. An examination will be held at the end of the first year upon the subjects of Anatomy, Chemistry, Physiology, and Histology; the examination in Anatomy will be mainly confined to Osteology and Syndesmology; in Chemistry, the student will be expected to complete his work in General Chemistry and Qualitative Analysis; the final examination in Histology will be held at the end of the first year. A final examination in Anatomy, Chemistry, Physiology, and Materia Medica, will be conducted at the end of the second year. The examination at the end of the third year, for those entering the graduating class, will be divided into eight sections:

1. An examination in Therapeutics, Medical Jurisprudence and Hygiene.
2. Practice of Medicine, Physical Diagnosis, and Diseases of Children.
3. Surgery, Orthopædia, and Genito-Urinary.
4. Diseases of the Nervous System, Dermatology.
5. Ophthalmology, Otology, and Laryngology.
6. Obstetrics.
7. Gynecology.
8. Bacteriology and Pathology.

ANATOMY.

The course in Anatomy is graded; first year students will attend separate lectures and recitations. At the close of the term they will be examined, to determine their fitness to continue the advanced work of the second year. The subject will be taught by lectures, demonstrations with specimens, preparations and dissections. The work in the dissecting room will be conducted under the supervision of the professor of anatomy, assisted by the demonstrator.

This work will be supplemented with lectures and recitations.

Text Books—Gray's Anatomy and Holden's Landmarks.

Collateral Reading—Quain's and Wilson's Anatomy; Holden's Osteology.

PHYSIOLOGY.

The course in Physiology is graded. First year students will attend separate lectures and recitations. At the close of the term they will be examined to determine their fitness to continue the advanced work of the second year. The subject will be taught by lectures, practical demonstrations in the laboratory, and recitations.

Text Books.—Foster and Yoe.

Collateral Reading.—Landois, and Stirling, and Chapman.

CHEMISTY.

First Year.—Lectures on General Inorganic Chemistry, three hours per week. Laboratory, six hours per week. General Chemistry and Qualitative Analysis.

Second Year.—Lectures on Medical Chemistry, two hours per week. Elements of Organic Chemistry, Toxicology, and Urinalysis.

Laboratory Work.—Toxicology and Urinalysis.

Text Books.—Attfield, Green's Medical Chemistry.

Collateral Reading.—Bowman, and Taylor on Poisons.

HISTOLOGY AND BACTERIOLOGY.

Lectures and laboratory work. The student will be taught to mount normal tissues and specimens containing bacteria. The course in Normal Histology and Bacteriology will cover a period of not less than twelve weeks. If possible, the student will provide himself with a microscope.

Text Books.—Pruden's Practical Histology, Shaefer's Essential Histology.

Collateral Reading.—Cornil and Ranvier.

PATHOLOGY.

Pathology and Morbid Anatomy will be taught by lectures, recitations, and work in the dead house. The technique of the autopsy will be carefully dwelt upon, so that each student can learn to make a correct post-mortem examination. Diseased processes will be illustrated by fresh alcoholic specimens, that theories of disease may be as much matters of demonstration as the nature of the subjects will admit.

Text Books.—Delafield and Prudden, Cornil and Ranvier, Orth.

MATERIA MEDICA AND THERAPEUTICS.

Lectures, practical demonstrations in the laboratory, and recitations. Third year students will attend a special course of lectures on Therapeutics.

Text Books.—Wood, Bartholow, and Edes.

Collateral Reading.—Lauder Brunton.

OBSTETRICS.

Lectures, illustrated by operations on the manakin, and recitations. During the senior year opportunities will be given members to attend cases of Obstetrics.

Text Books.—Lusk.

Collateral Reading.—Playfair, Galabin, Charpentier.

SURGERY.

Lectures and recitations; also clinical instruction, and special courses in minor surgery, bandaging, and operative surgery.

Text Books.—Wyeth and Bryant.

Collateral Reading.—Agnew, Ashhurst's International Encyclopædia, and Erichsen.

PRACTICE OF MEDICINE.

Lectures, recitations, and clinical instruction. Bedside instruction will be a special feature in the teaching of this branch.

Text Books.—Hilton Fagge.

Collateral Reading.—Flint, Reynold's System, Loomis, Niemeyer, and Roberts.

DISEASES OF WOMEN.

Lectures, clinical instruction, and attendance upon opertions. The opportunities of practical instruction in this branch will be very ample.

Text Books.—Thomas, Schroeder, Byford.

Collateral Reading.—Emmett, Hart, and Barbour.

EYE AND EAR.

Lectures, clinical instruction, and recitations.

Text Books.—Nettleship (eye), Roosa (ear), and Williams.

Collateral Reading.—Juler, Stellwag, Soelberg Wells, and Politzer (ear).

NERVOUS AND MENTAL DISEASES.

Lectures and clinical instructions. Special opportunities will be afforded students in differential diagnosis.

Text Books.—Gower's Nervous System, Bramwell (cord), and Folsom (insanity).

Collateral Reading.—Ranney's Applied Anatomy of the Nervous System, Hammond's Diseases of the Nervous System, Bastian's Paralysis, and Clauston's Mental Diseases.

GENITO-URINARY DISEASES.

Lectures and clinical instruction.

Text Books.—Thompson's Diseases of the Urinary Organs.

Collateral Reading.—Vanburen and Keyes, and Bumstead and Taylor.

DISEASES OF CHILDREN.

Lectures, didactic and clinical in their character, will be given under this chair.

Text Books.—J. Lewis Smith, Eustace Smith, Meigs and Pspper, and Goodhart.

DISEASES OF THE SKIN.

Lectures and clinical instruction.

Text Book.—Duhring.

Collateral Reading.—Hyde and Van Haslingen.

LARYNGOLOGY.

Lectures and the use of the Laryngoscope. Clinical instruction.

Text Book.—McKenzie.

Collateral Reading.—Bosworth.

PHYSICAL DIAGNOSIS.

Lectures, class exercises, beside instruction.

Text Book.—Loomis.

Collateral Reading.—Bramwell (heart).

ORTHOPÆDIC SURGERY.

Lectures and clinics.

Text Book.—Rums (Practical Orthopædia).

Collateral Reading.—McNamara and Gibney.

HYGIENE.

Lectures.

Text Book.—Parks.

Collateral Reading.—Richard's Preventive Medicine, Buck's Hygiene.

MEDICAL JURISPRUDENCE.

Lectures.

Text Book.—Taylor's Manual, by Ruse, last edition.

Collateral Reading.—Taylor's Principles and Practice of Medical Jurisprudence.

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY.

FACULTY.

CYRUS NORTHROP, LL. D.
President.

WILLIAM E. LEONARD, A. B., M D.
Professor of Materia Medica and Therapeutics.

HENRY HUTCHINSON, M. D.
Professor of Theory and Practice of Medicine.

GEORGE E. RICKER, A. B., M. D.
Professor of Clinical Medicine and Dermatology.

ROBERT D. MATCHAN, M. D.
Professor of the Principles and Practice of Surgery.

WARREN S. BRIGGS, B. S., M. D.
Professor of Clinical and Orthopædic Surgery.

HENRY C. LEONARD, B. S., M. D.
Professor of Obstetrics.

B. HARVEY OGDEN, B. S., M. D.
Professor of Gynecology and Genito-Urinary Diseases.

ALBERT E. HIGBEE, M. D.
Clinical Professor of Gynecology.

JOHN F. BEAUMONT, M. D.
Professor of Opthalmology

Professor of Mental and Nervous Diseases.

HENRY W. BRAZIE, M. D.
Professor of Paedology.

EUGENE L. MANN, A. B., M. D.
Professor of Physical Diagnosis and Laryngology.

D. A. STRICKLER, M. D.
Professor of Otology and Rhinology.

HENRY C. ALDRICH, M. D, D. D. S.
Adjunct Professor of Materia Medica and Therapeutics.

ANNOUNCEMENT.

In the organization of this department the Board of Regents of the University of Minnesota has aimed to secure the united efforts of the homeopathic practictioners of the State in the establishment of a College broader in its scope and complete in its teaching corps than that of any similar institution in this country.

The College of Homeopathic Medicine and Surgery confidently appeals, therefore, to the profession of the Northwest to second its

efforts to educate thoroughly those students who wish to practice homeopathy.

Minneapolis and St. Paul are well-known centers of enterprise and capital in every commercial and material interest and are rapidly becoming a medical center. The vast domain north and west of us is our legitimate field. The Twin Cities have been for twenty-five years—thanks to the men who have grown gray in the profession—a center of homeopathic patronage and interest. It has taken but a few years to build up in Minneapolis a hospital devoted to this system of practice which equals any in the northwest, while a similar institution in St. Paul, situated in the natural center for accidents, within two blocks of most of the railroads that enter the city, and surrounded by car shops and manufacturing industries, secures a large share of surgical cases.

Arrangemets have been made, and are being made, whereby students will be admitted to both of these hospitals and will visit patients at the bedside.

These advantages, with those furnished by the dispensaries of two large cities, will give unsurpassed opportunities for the special study of auscultation and percussion, minor surgery, speculum examinations, the use of the laryngoscope, the ophthalmoscope, the thermometer, the urinometer, etc., and will make practical clinical work a special feature of the college.

Hospital appointments will be open to graduates through comptitive examination.

COURSE OF INSTRUCTION.

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.
Anatomy. Physiology. Chemistry. Materia Medica. Histology. Laboratory Work.	Anatomy. Physiology. Chemistry and Toxicology. Materia Medica. Theory and Practice. Clinical Medicine. Surgery and Clinical Surgery. Obstetrics. Gynecology. Ophthalmology. Mental and Nervous Diseases Pædology. Physical Diagnosis. Pathology. Medical Jurisprudence. Hygiene. Clinical Instruction.	As the second year, without the first three studies, and in addition. Otology and Rhinology. Dermatology and Venereal Diseases. Laryngology. Orthopoedia.

The students in this college will take lectures and examinations in the College of Medicine and Surgery upon the following branches: Anatomy, Physiology, Chemistry, Medical Jurisprudence, Pathology, Histology and Hygiene.

Quizzes of the nature of a daily recitation will be given by each professor upon the subjects of the previous lecture.

Senior students will have opportunity to attend out-door patients, to assist in special and general surgical operations, and to attend at least one obstetrical case during their last course of lectures.

MATERIA MEDICA AND THEROPUTICS.

First-year students will have two lectures a week upon Toxicology, Physiological Materia Medica and Pharmacology, and pass a final examination upon these branches at the end of the year.

The remaining years will be devoted to the study of the drugs of the Homeopathic Materia Medica, classified according to their scientific relations in the natural kingdoms, and their practical relations in applied medicine. One lecture a month will be devoted to the principles of Homeopathic Therapeutics as laid down in Hahnemann's writings, and in those of such teachers as Hering, Dunham, Farrington, etc.

Text Books.—Farrington, Cowperthwaite, Guernsey's Key Notes, Hawke's Characteristics, Hahnemann's Organon.

Reference Books.—Hering's Condensed and Guiding Symptoms, Dunham, and Allen's Encyclopaedia.

THEORY AND PRACTICE OF MEDICINE.

Lectures on the Theory and Practice of Medicine will be delivered to students of the second and third year. The chief purpose of this chair will be to educate the student in systematic habits of investigating and treating disease.

Text Books.—Raue's Pathology and Diagnosis, Ruddock's Text Book of Medicine and Surgery, Arndt's System of Medicine, Pepper's System of Medicine, Loomis' Practical Medicine, Bartholow's Practice, DaCosta's Diagnosis.

CLINICAL MEDICINE AND DERMATOLOGY.

Material for clinical instruction will be drawn from the dispensary and hospital clinics. This department will aim to teach the student the practical application of homeopathic principles in therapeutics.

Text Books.—Lippe's Repertory, Lilienthal and Hughes' Therapeutics.

OBSTRETRICS.

The teaching of this chair will embrace a practical presentation of the development of the embryo, the anatomy of the pelvis and the mechanism of labor and its complications. The homeopathic treatment of the disorders incident to the pregnant and puerpural states will be fully discussed, as will likewise the feeding, care and homeopathic treatment of infants.

Text Books.—Guernsey, Leavitt, Playfair, Leishman, Cazeaux, and Savage on the Pelvic Organs.

GYNECOLOGY.

In this department the student will be familiarized with the principles which underlie success in this important branch of practice, homeopathic therapeutics being especially emphasized. Instruction will be illustrated by clinical cases.

Text Books.—Ludlam, Emmet, Thomas, Barnes, Munde.

PRINCIPLES AND PRACTICE OF SURGERY.

A comprehensive course of lectures on General Surgery will be given. Surgical Pathology will be treated in a concise and comprehensive manner. Surgical operations and methods will be thoroughly demonstrated on the living and on the cadaver.

Text Books.—Helmuth, Bryant, Erichsen, Packard and Holmes.

CLINICAL SURGERY.

The diagnosis, prognosis, and homeopathic treatment of surgical diseases will be practically taught. Surgical operations will be performed before the class. There will be two clinics and one lecture each week on surgical emergencies, minor surgery and orthopaedia.

Text Books.—Gilchrist's Surgical Therapeutics, Ranney's Surgical Diagnosis, Smith's Operative Surgery.

Reference Books.—Helmuth, Franklin, Gross and Sayre.

OPHTHALMOLOGY.

The instruction in this branch will combine didactic and clinical teaching. Lectures on the anatomy, physiology and pathology of the regions involved will be thoroughly practical.

Text Books.—Buffum and Norton.

Reference Book.—Wells.

MENTAL AND NERVOUS DISEASES.

Lectures in this course will include the anatomy and functions of the brain; also regional diagnosis as pertaining to the nervous system, and the mental and nervous diseases of most interest to the general practitioner, illustrated by cases from dispensary and private practice.

Text Books.—Worcester, Hart, Hamilton, Ranney.

PAEDOLOGY.

A thorough course will be given upon the general diseases of children and their homeopathic treatment, including their etiology, pathology and hygiene.

Text Books.—Hall's Jahr, Duncan, Ruddock, Teste, Guernsey, Smith, Edmonds.

Reference Book.—Ziemssen.

PHYSICAL DIAGNOSIS AND LARYNGOLOGY.

The practical teaching of Physical Diagnosis and the study of the diseases of the nose and throat and their treatment, with the uses of special diagnostic and therapeutic instruments, will be the aim of this department.

Text-Books.—On Physical Diagnosis: Flint's Auscultation and Percussion, Hudson, Gutmann and Loomis. On Laryngology: Lennox Brown, Sajous, McKenzie, Bosworth.

OTOLOGY AND RHINOLOGY.

A series of practical lectures will be given on the anatomy, physiology and pathology of the ear, and treatment of its diseases; also of the nasal passages, and their relation to other affections.

Text-Books.—Winslow and Houghton.

Reference Book.—Rosa.

Acknowledgment is due to the following lecturers, in the Spring Course of 1888:

Geo. H. Hawes, Hastings, Therapeutics of Dentistry,

Geo. E. Clark, Ph. B., M. D., Stillwater, Therapeutics of Diseases of the Lungs.

H. H. Leavitt, M. D., Pædology.

M. H. Lufkin, M. D., Gynecology.

COLLLGE OF DENTISTRY.

FACULTY.

CYRUS NORTHROP, LL. D.
President.
CHARLES M. BAILEY, D. M. D.
Professor of Prosthetic Dentistry.
THOMAS E. WEEKS, D. D. S.
Professor of Operative Dentistry.
EDWARD H. ANGLE, D. D. S.
Professor of Histology and Orthodontia.
L. D. LEONARD.
Professor of Pathology and Oral Surgery.
GEO. A. HENDRICKS, M. S., M. D.
Professor of Anatomy.
RICHARD O. BEARD, M. D.
Professor of Physiology.
C. J. BELL, A. M.
Professor of Chemistry.
H. M. BRACKEN, M. D., L. C. R. S. E., OR
WILLIAM E. LEONARD, A. B., M. D.,
Professors of Materia Medica and Therapeutics.
W. J. BRADY, D. D. S.
Demonstrator in Charge of Infirmary and Technical Teaching.

Lectures will be attended and examinations taken upon Anatomy, Physiology, Chemistry, and Materia Medica in common with the students of the College of Medicine and Surgery; or the latter study, at the option of the student, in the College of Homeopathic Medicine and Surgery.

This college is established upon the basis of the highest scientific dental education, as to its requirements both for admission and graduation.

COURSE OF INSTRUCTION.

The course of instruction is graded and is of three years duration, comprising three terms of six months each.

The studies for each year are as follows:

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.
Anatomy.	Anatomy.	Prosthetic Dentistry.
Physiology.	Physiology.	Operative Dentistry.
Chemistry.	Chemistry.	Oral Surgery.
Materia Medica.	Materia Medica.	Orthodontia.
Histology.	Histology.	
Prosthetic Dentistry.	Prosthetic Dentistry.	
	Pathology.	
	Therapeutics.	
	Operative Dentistry.	

EXAMINATIONS.

Examinations will be held at the end of each year in the studies of that year for advancement to the next grade.

CLINICAL INSTRUCTION.

Clinical instruction will embrace all practical subjects relating to dentistry.

The Infirmary will be under the direction of the Faculty, and students will be required to exhibit results of every variety of operation. Ample facilities and conveniences are provided in the Infirmary and an abundance of clinical material is at hand, and attendance upon clinics will be obligatory.

A complete practical elementary course in both operative and prosthetic dentistry is provided, by which the student is taught the characteristics of the teeth, the preparation of the cavities, the technique of manipulation, soldering, etc., of metals, and the use of all instruments and materials, before their application to cases in practice.

A very thorough course will be given in Histology. In connection with the regular lectures the student will be required to devote at least three hours each week to practical work with the microscope, and will be required to mount a series of slides, which they will be allowed to retain as the nucleus of a collection.

TEXT-BOOKS.

FIRST YEAR.

Anatomy: Gray.
Physiology: Foster.
Chemistry: Attfield.
Materia Medica: Edes, Guernsey's Key-notes.
Histology: Pruden.
Prosthetic Dentistry: Richardson.

SECOND YEAR.

Histology: Tome's Dental Anatomy.
Pathology: Parreidt's Compendium.
Chemistry: Hill's Analysis.
Operative Dentistry: Fillebrown.

THIRD YEAR.

Operative Dentistry: Flagg's Plastics.
Oral Surgery: Garrettson.
Orthodontia: Guilford.
Prosthetic Dentistry: Essig's Metallurgy.

COLLATERAL READING.

Evans' Crown and Bridge Work.
Kingsley's Oral Deformities.
Haskell's Prosthetic Dentistry and American System of Dentistry.

GRADUATES.

1873.

BACHELOR OF ARTS.

Warren Clark Eustis,	Hennepin County.
Henry Martyn Williamson,	Nicollet County.

1874.

BACHELOR OF ARTS.

George Edwin Ricker,	Hennepin County.

BACHELOR OF SCIENCE.

Edward Chatfield,	Fillmore County.

1875.

BACHELOR OF ARTS.

Andrew Russell Cass,	Canada.
Julius Elliott Miner,	Goodhue County.
*Simon Peter Starritt,	Wright County.

BACHELOR OF SCIENCE.

Samuel Addison Rank,	Fillmore County.
Clark Stewart,	Hennepin County.

BACHELOR OF LITERATURE.

—Helen Mar Ely,	Winona County.

BACHELOR OF CIVIL ENGINEERING.

Henry Clay Leonard,	Fillmore County.
Samuel Addison Rank,	Fillmore County,
Clark Stewart,	Hennepin County.

1876.

BACHELOR OF ARTS.

John Sinclair Clark,	Nova Scotia.
John Corrin Hutchinson,	Dakota County.
William Edwin Leonard,	Hennepin County.

BACHELOR OF SCIENCE.

—Martha Appleton Butler,	Missouri.
Robert Henry Crafts,	Hennepin County.
Lewis Singer Gillette,	Michigan.
Eugene Alvin Hendrickson,	Ramsey County.
William Herod Locke,	Hennepin County.

BACHELOR OF CIVIL ENGINEERING.

Lewis Singer Gillette,	Michigan.
Eugene Alvin Hendrickson,	Ramsey County.
Charles Edward Thayer,	Hennepin County.

1877.

BACHELOR OF ARTS.

Graham Cox Campbell,	Nova Scotia.
Joel Nathaniel Childs,	Wisconsin.
Ebenezer Currie,	Fillmore County.
Frank Eustis,	Hennepin County.
Fred Eustis,	Hennepin County.
Stephen Mahoney,	Scott County.
John Waldo Perkins,	Wright County.
Charles Wilber Savidge,	LeSueur County.
Albert McClure Wells,	Ramsey County.

BACHELOR OF SCIENCE.

Albert Preston Hendrickson,	Ramsey County.
*John Charles Kassube,	Hennepin County.
Edwin Burnham Pribble,	Hennepin County.

BACHELOR OF LITERATURE.

—Matilda Jane Campbell,	Maine.
—Viola Fuller,	Mower County.
—*Charlotte Adelaide Rollit,	Hennepin County.

BACHELOR OF ARCHITECTURE.

Walter Stone Pardee,	Hennepin County.

1878.

BACHELOR OF ARTS.

Julian Clarence Bryant,	Nicollet County.
John Hamilton Lewis,	Wright County
Thomas Rogers Newton,	Hennepin County.
Evan Roland Pritchard,	Blue Earth County.
Daniel Williams,	Iowa.

BACHELOR OF SCIENCE.

Fred Leslie Couillard,	Hennepin County.
—Nettie Getchell,	Hennepin County.
Judson Torrey Howell,	Houston County.
Henry Clay Leonard (B. C. E., '75),	Hennepin County.
—Mary Warwick Robinson,	Hennepin County.
Harvey J. Smith,	Goodhue County.
Myron DeVere Taylor,	Stearns County.
Wm. John Warren,	Rice County.

BACHELOR OF LITERATURE.

—Mary Anna Meas,	Steele County.
George Albert Wood,	Fillmore County.

BACHELOR OF MECHANICAL ENGINEERING.

Charles Spencer Bushnell,	Hennepin County.

1879.

BACHELOR OF ARTS.

John Franklin Collom,	Hennepin County.
—Etta Medora Elliott,	Hennepin County.
John Finley Goodnow,	Hennepin County.
Frank Smith McKean,	Washington County.
Robert William Rhames,	Olmsted County.
Chelsea Joseph Rockwood,	Blue Earth County.
George Burt Thompson,	Hennepin County.
Willis Mason West,	Stearns County.

BACHELOR OF SCIENCE.

Walter Barret,	Dodge County.
Fred Capin Bowman,	Meeker County.
—Catherine Amelia Burns,	Hennepin County.
Timothy Edward Byrnes,	Meeker County.
—Evelyn May Champlin,	Hennepin County.
*Addison Gage, Jr.,	Anoka County.
Allen Jay Greer,	Wabasha County.
—Laura Alberta Linton,	Wabasha County.
George Henry Partridge,	Winona County.
—Etta Thompson,	Hennepin County.

BATCHELOR OF LITERATURE.

William Lincoln Bassett,	Hennepin County.
Alvin Hildreth,	Freeborn County.
William Winchester Keyser,	Blue Earth County.
—Marion Hooker Roe,	Washington County.
—Caroline Rollit,	Hennepin County.
—Martha Isabel West,	Hennepin County.

BACHELOR OF CIVIL ENGINEERING.

William Sanborn Dawley, - - - - - - Wabasha County.
Pierce Power Furber, - - - - - - Washington County.

1880.

BACHELOR OF ARTS.

—Cora Inez Brown, - - - - - - Hennepin County.
James Francis Bryant, - - - - - - Nicollet County.
Albert William Rankin, - - - - - - Nicollet County.
William Wadsworth Williams, - - - - - - Iowa.

BACHELOR OF SCIENCE.

*Frederick Gerald Berry, - - - - - - Hennepin County.
Horace Burnham Greeley, - - - - - - Blue Earth County.
Clarence Luther Herrick, - - - - - - Hennepin County.
Robert Peter Andrew Nix, - - - - - - Brown County.
—Minnie Aurora Reynolds, - - - - - - Clay County.
Alva Lucius Roe, - - - - - - Washington County.
Gilman Walter Smith, - - - - - - Goodhue County.
Harvey Page Smith, - - - - - - Goodhue County.
—Lillian Sanborn Todd, - - - - - - Hennepin County.

BACHELOR OF LITERATURE.

Andrew Holt, - - - - - - Carver County.
Joseph Elisha Horton, - - - - - - Fillmore County.
—Lizzie Augusta House, - - - - - - Hennepin County.
—Bessie Summer Lawrence, - - - - - - Hennepin County.

1881.

BACHELOR OF ARTS.

George Briggs Aiton, - - - - - - Nicollet County.
Samuel Gilmore Anderson, - - - - - - Hennepin County.
Otway Wilkinson Baldwin, - - - - - - Wright County.
*William Cullen Bryant, - - - - - - Nicollet County.
Herbert Oscar Chowen, - - - - - - Hennepin County.
—Emily Louise Hough, - - - - - - Pennsylvania.
Charles Edward Kent, - - - - - - Ohio.
William Leslie King, - - - - - - Blue Earth County.
Quintin John Rowley, - - - - - - Freeborn County.
Fred Beal Snyder, - - - - - - Hennepin County.

BACHELOR OF SCIENCE.

Fred Leslie Bardwell, - - - - - - Hennepin County.
*Herbert John Broughton, - - - - - - Hennepin County.
—Diana Burnes, - - - - - - Hennepin County.
George Sutherland Grimes, - - - - - - Hennepin County.
James Jennison, - - - - - - Goodhue County.
David Albert Locke, - - - - - - Hennepin County.
Samuel Allen Locke, - - - - - - Hennepin County.
—Sarah Ellen Palmer, - - - - - - Mower County.
William Hines Savidge, - - - - - - LeSueur County.
—Lila Ruth Williams, - - - - - - Blue Earth County.

BACHELOR OF LITERATURE.

Harlow Horace Bonniwell, - - - - - - McLeod County.
—Margaret Agnes Campbell, - - - - - - Nova Scotia.
—Lettie May Crafts, - - - - - - Hennepin County.
—Emma Elizabeth Grimes, - - - - - - Hennepin County.
William Edmund Harrington, - - - - - - McLeod County.
—Emma Ernestine Maes, - - - - - - Steele County.
Bradley Phillips, Jr., - - - - - - Wisconsin.

1882.

BACHELOR OF ARTS.

James Bennett Gould,	Hennepin County.
Frank Healy,	Fillmore County.
Andrew Franklin Hillyer,	Hennepin County.
—Carrie Warner Holt,	Fillmore County.
—*Lydia Rossiter Holt,	Fillmore County.
—Frances Ada Knox,	Blue Earth County.
Frank Nichols Leavens,	Rice County.
Alexander Hamilton Nunn,	Dodge County.
Eli Milton Skiff Pickett,	Freeborn County.
Charles Myron Webster,	Goodhue County.
Jesse Craig Wilson,	Rice County.

BACHELOR OF SCIENCE.

George Joseph Backus,	Goodhue County.
William Wyckoff Clarke,	Blue Earth County.
—Alice Elizabeth Demmon,	Vermont.
—Carrie Delania Fletcher,	Ramsey County.
—Emma Laura Hendrickson,	Ramsey County.
William Beans Linton,	Wabash County.
Henry Francis Nachtrieb,	Washington County.
Rasselas Hamlin Prosser,	Fillmore County.
Herbert Paine Shumway,	Fillmore County.
Edward Duffield Neill Whitney,	Hennepin County.

BACHELOR OF LITERATURE

—Agnes Virginia Bonniwell,	McLeod County.
—Grace Webster Curtis,	Iowa.
Arthur Edward Dickerman,	Iowa.
—Marie Louise Henry,	Hennepin County.
—Mary Eliza Holt,	Fillmore County.
—Mary Nancy Hughes,	Hennepin County.
Richard Hartwell Johnson,	Winona County.
—Louise Lillian Kilbourn,	Hennepin County.
—Emily Dana McMillan,	Hennepin County.
—*Ada Eva Pillsbury,	Hennepin County.
Harry Amy Strong,	Iowa.

BACHELOR OF AGRICULTURE.

William Johnson Barrett,	Dodge County.

1883.

BACHELOR OF ARTS.

Edward Payson Baldwin,	Dakota County.
William Eatman Fay,	Massachusetts.
Edson Starr Gaylord,	Hennepin County.
David Percy Jones,	Hennepin County.
Joseph Henry Locke,	Stearns County.
—Helen Louise Pierce,	Olmsted County.
—Martha Alma Sheldon,	Hennepin County.
Sumner Lincoln Trussell,	Hennepin County.

BACHELOR OF SCIENCE.

Robert Mowry Bell,	Hennepin County.
Frederick Henry Clark,	Massachusetts.
—Louise Elma Hollister,	Lincoln County.
Edward Corydon Jones,	Hennepin County.
George Nelson Salisbury,	Rice County.
Charles Frederic Sidener,	Goodhue County.
—Emma Jane Ware,	Fillmore County.

BACHELOR OF LITERATURE.

Samuel Doak Catherwood, - - - - - - Mower County.
—Annie Harriet Jefferson, - - - - - - Hennepin County.
—Kate Louise Kennedy, - - - - - - Hennepin County.
—*Sarah Pierrepont McNair, - - - - - Hennepin County.
—Anna Calista Marston, - - - - - - Hennepin County.
—Jenet Nunn, - - - - - - - Dodge County.
—Emma Frances Trussell, - - - - - - Hennepin County.

BACHELOR OF CIVIL ENGINEERING.

William George Peters, - - - - - - Hennepin County.
Louis Orville Smith, - - - - - - Le Sueur County.

BACHELOR OF MECHANICAL ENGINEERING.

John Henry Barr, - - - - - - - Blue Earth County.

1884.

BACHELOR OF ARTS.

Elmer Ellsworth Adams, - - - - - - Vermont.
Patrick Joseph Butler, - - - - - - Hennepin County.
Oscar Firkins, - - - - - - - Hennepin County.
Joseph Henry Capper Hutchinson, - - - - - Dakota County.
Anthony Johnson, - - - - - - Houston County.
Eli Larson, - - - - - - - Houston County.
—Hannah Robie Sewall, - - - - - - Ramsey County.
—Susan Winifred Sewall, - - - - - - Ramsey County.
Zenas Newton Vaughn, - - - - - - Mower County.

BACHELOR OF SCIENCE.

Nathan Morton Baker, Jr., - - - - - - Nicollet County.
Jeremiah Ignatious Donohue, - - - - - - Fillmore County.
George Lorenzo Hendrickson, - - - - - - Ramsey County.
George Horace Klepper, - - - - - - Freeborn County.
—Bessie Laythe, - - - - - - - Fillmore County.
James Eugene Munchester, - - - - - - Steele County.
Henry Hastings Sibley Rowell, - - - - - - Hennepin County.
Charles Christian Schmidt, - - - - - - Brown County.
—Emma Zwinggi, - - - - - - - Nicollet County.

BACHELOR OF LITERATURE.

—Anna Helen Bonfoy, - - - - - - - Hennepin County.
—Belle Marion Bradford, - - - - - - - Dakota County.
—Adalyna Kinsbury, - - - - - - - Michigan.

BACHELOR OF CIVIL ENGINEERING.

William Ricketson Hoag, - - - - - - Olmsted County.
George John Loy, - - - - - - - Carver County.
Irving Webber Matthews, - - - - - - Rock County.

BACHELOR OF MEDICINE.

James Kid Simpson, - - - - - - - Manitoba.
Hugo Sprier, - - - - - - - Scott County.

1885.

BACHELOR OF ARTS.

—Mary Lathrop Benton, - - - - - - Hennepin County.
Samuel Solfest Langland, - - - - - - Martin County.
Charles William Moulton, - - - - - - Ohio.

BACHELOR OF SCIENCE.

James Gray, - - - - - - - - Hennepin County.
Cassius Marcius Locks, - - - - - - Hennepin County.
Curtis Langdon Greenwood, - - - - - - Goodhue County.

BACHELOR OF LITERATURE.

Howard Strickland Abbott,	Wright County.
Albert Melancthon Baldwin,	Dakota.
—Bertha Minnie Brown,	Hennepin County.
—Mary Eliza Irving,	Steele County.
—Ida Victoria Mann,	Hennepin County.
—Mabel Lorain Smith,	LeSueur County.

BACHELOR OF MECHANICAL ENGINEERING.

Elbert Elsworth Bushnell,	Hennepin County.

BACHELOR OF AGRICULTURE.

Thomas Ezekiel Trussell,	Hennepin County.

BACHELOR OF MEDICINE.

Karl Henry E. Castle,	Ramsey County.
William Byther Pineo,	Hennepin County.

BACHELOR OF CIVIL ENGINEERING.

*Patrick Thomas Fitzgerald,	Stevens County.
Albert Irving Reed,	Dakota County.

1886.

BACHELOR OF ARTS.

John William Adams,	Wabasha County.
Henry James Grannis,	Olmsted County.
James Charles Elliot King,	Wright County.
—Ida Victoria Mann (B. L., '85.)	Hennepin County.
—Elizabeth Quincy Sewall,	Ramsey County.
William Franklin Webster,	Stearns County.

BACHELOR OF SCIENCE.

John William Bennet,	Wright County.
Fremont Crane,	Blue Earth County.
—Mary Whitmore Elweli,	Hennepin County.
Frank Amos Johnson,	Lyon County.
Joseph Kennedy,	Nicollet County.
—Lillian Lincoln Ware,	Mower County.

BACHELOR OF LITERATURE.

—Jennie May Amy,	Hennepin County.
Leo Melville Crafts,	Hennepin County.
—Ada May Kiehle,	Hennepin County.
—Maud Julia Lyall,	Hennepin County.
—Josephine Florence Marrs,	Hennepin County.
—Mary Alden Powell,	Hennepin County.

BACHELOR OF ARCHITECTURE.

Charles Comstock Woodmansee,	Hennepin County.

BACHELOR OF MEDICINE.

William C. E. VanDamm,	Hennepin County.
A. W. Brunnell,	Hennepin County.
James J. O'Reiley,	Dakota.

1887.

BACHELOR OF ARTS.

Henry Webb Brewster,	Hennepin County.
Joshua Ethan Gilman	Dodge County.
Alfred Burt Gould,	Dodge County.
George Harry Hammond,	Wabasha County.
Millard Everett Hinshaw,	Hennepin County.
Ralph Murdoch McKenzie,	Anoka County.
Joseph Henry Rosselot,	Rice County.

BACHELOR OF SCIENCE.

Frank Harley Bassett,	Clay County.
Norton Murdoch Cross,	Hennepin County.
Thomas Henry Croswell,	Ramsey County.
Adelbert Orsman Dinsmoor,	Mower County.
Christopher Graham,	Olmsted County.
John Blackstock Hawley,	Goodhue County.
Jesse Doddridge Hinshaw,	Hennepin County.
Lowell Andrew Lamoreaux,	Hennepin County.
Milton Sprague Lamoreaux,	Hennepin County.
Edwin Arthur McKinney,	Meeker County.
William Patton Milliken,	Wabasha County.
Ingerval M. Olson,	Nicollet County.

BACHELOR OF LITERATURE.

George Edwin Burnell,	Hennepin County.
Elwood Allen Emery,	Hennepin County.
Everson Ryder McKinney,	Meeker County.
Mary Isadore Smith,	Lyons County.
Edward Winterer,	LeSueur County.

MASTER OF ARTS.

George Briggs Aiton, B. A., '81,	Nicollet County.

BACHELOR OF CIVIL ENGINEERING.

Fremont Crane, B. S., '86,	Blue Earth County.

BACHELOR OF MECHANICAL ENGINEERING.

George Cutler Andrews,	Hennepin County.

BACHELOR OF AGRICULTURE.

Jeremiah Ignatius Donohue, B. S., '84,	Fillmore County.

BACHELOR OF MEDICINE.

Catherine Amelia Burns, B. S., '79,	Hennepin County.
E. F. Conyngham,	Manitoba.

1888.

BACHELOR OF ARTS.

Percival Ramsey Benson,	Anoka County.
Albert Ernest Fillmore,	Hennepin County.
Albert Graber,	Hennepin County.
Francis Newton Stacy,	Wright County.
Helmus Wells Thompson,	Faribault County.
William Dodsworth Willard,	Blue Earth County.

BACHELOR OF SCIENCE.

Bruno Bierbauer,	Blue Earth County.
—Edna Cook,	Hennepin County.
Albert Ames Finch,	Dakota.
Ulysses Sherman Grant,	Hennepin County.
Walter Benjamin Holmes,	Rice County.
Elwin Bird Johnson,	Lyon County.
Arthur Teall Mann,	Hennepin County.
Sumner Warren Matteson, Jr.,	Iowa.
Melville Emerson Reed,	Dakota.
Warren Cogswell Rowell,	Winona County.
Dow Samuel Smith,	Lyon County.
John Lucius Torrens,	Freeborn County.

BACHELOR OF LITERATURE.

—Alice Anna Adams,	Hennepin County.
—Lucy Lloyd Baker,	Hennepin County.

—Mary Lizzie Blanchard, - - - - - Goodhue County.
—Ina Firkins, - - - - - - - Hennepin County.
Severt Gormo, - - - - - - - Blue Earth County.
—Florence Ellen Gideon, - - - - - - - Hennepin County.
Fred Ezra Hobbs, - - - - - - Winona County.
—Susan Hawley Olmstead, - - - - - Connecticut.
—Sadie Belle Pillsbury, - - - - - - Hennepin County.
—Olivia Canby Porter, - - - - - - - Hennepin County.
—Anna Shillock, - - - - - - Hennepin County.
Johannes Jens Skördalsvold, - - - - - Hennepin County.
Charles Thompson, - - - - - - - - - Maine.
—Ima Caroline Winchell, - - - - - - Hennepin County.

MASTER OF SCIENCE.

John Henry Barr, B. M. E., 1883, - - - - - Blue Earth County.

DOCTOR OF PHILOSOPHY.

Charles Burke Elliott, LL. B., 1881 (Iowa State University), - - - Hennepin County.

BACHELOR OF CIVIL ENGINEERING.

Christian Anderson, - - - - - - - Fillmore County.

BACHELOR OF MECHANICAL ENGINEERING.

Eric Haldorson Loe, - - - - - - - Hennepin County.
John Morris, - - - - - - - - Fillmore County.

CIVIL ENGINEER.

William Ricketson Hoag, B. C. E., 1884, - - - - - Olmsted County.

ANNOUNCEMENTS.

The sub-Freshman Class will be discontinued at the close of the school year 1889-'90. Applicants for admission to the Freshman Class at the opening of the school year, September, 1890, will be examined in the following subjects:

REQUISITES FOR ADMISSION IN 1890.

FOR ALL COURSES.

ENGLISH GRAMMAR AND COMPOSITION WITH AN ESSAY.—The essay will be on a subject to be announced at the examination, preparation for which will require the careful reading of Shakspere's Julius Cæsar, Goldsmith's Vicar of Wakefield, Scott's Lady of the Lake and Irving's Sketch Book. Equivalents of these four books will be accepted.

MATHEMATICS.—*Elementary Algebra complete and Higher Algebra*, to Indeterminate Coefficients, *Plane and Solid Geometry*.

HISTORY.—*History of the United States* and *History of Greece and Rome*.

PHYSIOLOGY.

NATURAL PHILOSOPHY.

ADDITIONAL REQUIREMENTS FOR THE CLASSICAL COURSE.*

GREEK.—Brooks' Attic Greek, Xenophon's Anabasis, three books.

LATIN.—Grammar and Reader; Cæsar, three books; Cicero, six orations; Virgil's Aeneid, six books.

ADDITIONAL REQUIREMENTS FOR THE SCIENTIFIC COURSE.

DRAWING.—†Two terms of Freehand or Mechanical Drawing.

CHEMISTRY.—The non-metallic elements.

BOTANY.—Phenogamic, Gray's Lessons and Manual.

LATIN.—As in the Classical Course.

OR

ENGLISH.—Latin elements of English and History of English Literature

AND

GERMAN.—Meissner's German Grammar [Parts I, II, III], H. Grimms Märchen.

OR

FRENCH.—Chardenal's Course, first two books of Telemaque.

ADDITIONAL REQUIREMENTS FOR THE LITERARY COURSE.

LATIN.—As in the Classical Course.

AND

GERMAN OR FRENCH.—As in the Scientific Course.

OR

ENGLISH, and GERMAN, and FRENCH.

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*Three books of the Iliad will be accepted in place of any subject required for admission to the Classical Course except Latin and Mathematics.

†Physical Geography may be offered in lieu of Drawing, but only in schools where drawing cannot be taught.

APPENDIX.

PROGRAM FOR EXAMINATIONS, SEPTEMBER, 1889.

[The numbers placed after the subjects, where given, indicate the room in which the examination will be held. When no number is given the examination will be held in the chapel, on the third floor of the main building].

Day.	Hour.	Subjects for admission to Sub-Freshman Class.	Subjects for admission to Freshman Class.	For students conditioned in the work of 1st term Fresh. and Soph. years.*
TUESDAY, SEPT. 3.	8:00–10:30 10:45– 1:15 2:30– 5:00	Latin Grammar..... English Grammar.... Elementary Algebra.		
WEDNESDAY, SEPT. 4.	8:00–10:30 10:45– 1:15 2:30– 5:00	{Cæsar .....48 {Physical Geography {Cicero .....48 {History of England U. S. History.....	Cicero 48	
THURSDAY, SEPT. 5.	8:00–10:30 10:45– 1:15 2:30– 5:00	Arithmetic..... Physiology..... English Composition		{D. Trigonometry....38 {C. Physics.....† D. Livy.....48 C. Rhetoric 25
FRIDAY, SEPT. 6.	8:00–10:30 10:45– 1:15 2:30– 5:00	His. of Greece & Rome..... Natural Philosophy.	.... Plane Geometry....38	C. French.....50 {D. Greek.....36 {D. English .....37 C. English.....37
SATURDAY, SEPT. 7.	8:00–10:30 10:45– 1:15 2:30– 5:00	....	Solid Geometry .....38 {Virgil.....48 {English..... .....37 {Greek.....36 {German 35	C. Mathematics ..... .38 C. Horace .....48 {C. Greek.....36 {D. German.....35
MONDAY SEPT. 9.	8:00–10:30 10:45– 1:15 2:30– 5:00	....	Botany.....47 Chemistry.....38 High Algebra 38	D. Botany .....47 C. Chemistry.....38 .....

Candidates for admission to the sub-Freshman Class will get a statement of the result of their examinations Saturday morning, Sept. 7th. Candidates for admission to the Freshman Class will get a statement of the result of their examinations Tuesday morning, Sept. 10th. These results will be made known through the university post office.

Students conditioned in the work of the *first term* not mentioned in the above schedule, will arrange with the professors to take their examinations some time during the week.

* Examinations for the removal of conditions of the second term will be held at the end of the first term, and for the removal of conditions of the third term at the end of the second term. No other examinations for the removal of conditions will be offered during the year.

† In the Physics Recitation Room, in the College of Mechanic Arts.