Law (Title 17, U.S. Code)

THE UNIVERSITY OF MINNESOTA.
SAINT ANTHONY, MINN.,
December 1st, 1871.

To the Honorable H. B. Wilson, Superintendent of Public Instruction, for the State of Minnesota:

SIR: I have the honor to transmit the fifth Annual Report of the University of Minnesota, for the year ending this date.

I am, sir, very respectfully,
Your obedient servant,
WILLIAM W. FOLWELL,
President.

REPORT

OF THE

PRESIDENT OF THE UNIVERSITY.

With the exception of the usual holidays and vacations, the work of the institution has proceeded without interruption. Instruction has been given to 321 different students, representing 26 different counties, and in the following departments and studies:

MATHEMATICS—in Higher Arithmetic, Algebra, Geometry, Plane and Spherical Trigonometry, Surveying and Mensuration, Analytical Geometry and the Differential Calculus.

SCIENCES—in Natural Philosophy, Physical Geography, Botany, Chemistry and Physics.

LANGUAGES—

1. English—in Grammar, Rhetoric and Logic, in the study of Words, the History of English Literature, and in a great number and variety of literary and elocutionary exercises, both public and private.

2. Latin—in the Grammar, and Reader and Composition, in Cæsar's Commentaries, Cicero's Orations and the De Senectute, Virgil, Livy and Horace.

3. Greek—in Grammar and Reader and Composition, in Xenophon, Herodotus, Homer's Iliad, Demosthenes' Phillippics, the Prometheus Vinctus of Æschylus, Plato's Apology and Crito and the Clouds of Aristophanes.
4. German—Grammar and Reader, Composition and a variety of selections for reading.
5. French—Grammar, Reader and numerous exercises in translation both ways.

IV. History—in the History of the United States, and the Civil Government, An Outline of General History, Roman History and Antiquities and Grecian History and Antiquities, and the History of England.

V. Drawing—in the use of instruments and materials, Plane Problems and Elementary Projections.

No instruction has been given in military tactics nor in agriculture, the vacant professorships in those departments not having been filled.

At the close of the academic year 1870-71, June 28th, 1871, those students who had "passed" the examinations were advanced to the next higher rank. This promotion gave us a junior class in the "College of Science, Literature and the Arts."

The past year has been the first under the new or modified organization, adopted by the Board of Regents in July 1870, which, as it went into operation without causing confusion, has worked smoothly. A little longer time may be necessary to familiarize the people at large with its details and nomenclature, already well understood by educational men. At the time referred to, the Board of Regents established only the main features of the plan. At a subsequent meeting that body requested the General Faculty to prepare for their consideration a detailed programme of studies and courses of study for the Collegiate Department. The special faculties were likewise directed to furnish similar schedules for the Colleges of Agriculture and the Mechanic Arts, and Science, Literature and the Arts.

Synopsis of the Studies of the Collegiate Department.

CLASS	COURSE	FIRST TERM.			SECOND TERM.			THIRD TERM.		
IV.	Classical.	Greek, begun.	Rhetoric.	Cæsar.*	Greek Grammar.	Algebra.	Cæsar.	Greek Reader.	Algebra.	Cicero.
	Scientific.	Nat. Philosophy.	do	Hist. Eng. Cæsar, or German.	Nat. Philosophy.	do	Eng. Comp. Cæsar, or German.	Uranog.	do	Eng. Words. Cicero, or German.
	Literary.	Hist. Eng., or Cæsar,	do	German, (begun).	Eng. Comp. or Cæsar.	do	German.	Eng. Words, or Cicero.	do	German.
III.	Classical.	Anabasis.*	Plane Geometry.	Cicero.	Anabasis,	Gen. History.	Virgil.	Herodotus	Hr. Algebra.	Virgil.
	Scientific.	Phys. Geog.	do	Anc. Hist. Cicero, or German.	Phys. Geog. and Botany.	do	Latham, Virgil, or German.	Botany.	do	Latham, Virgil, or German
	Literary.	Anc. Hist. or Cicero.	do	German.	Latham, H'd B'k. or Virgil.	do	German.	Latham, or Virgil.	do	German.
II.	Classical,	Herodotus.	Hr. Alg.	Chemistry.	Homer.	Solid and Sph. Geom.	Livy.	Homer.	Trig. and Surv'g.	Livy.
	Scientific.	Chemistry.	do	Civ. Gov't. or French.	Chem. and Physiology,	do	Anglo-Saxon, Livy, or French.	Physiology.	do	Anglo-Saxon. Livy, or French.
	Literary.	Civ. Gov't. or Chem.	do	French.	Anglo-Saxon, or Livy.	do	French.	Anglo-Saxon, or Livy,	do	
I.	Classical.	Physics.	Analyt. Geom.	Horace.	Demosth.	Logic.	Horace.	Prom. Vinc.	Desc. Astr.	Zoology.
	Scientific.	do	do	Guizot.	Physics.	Desc. Geom.	Logic.	Rhetoric.	do	do
	Literary.	do	do	do	do	do	do	do	do	do

Drawing—Plane Problems. Drawing; use of Instruments. Drawing—Elm Projection. Drawing—Linear Perspective.

*Collaterals, History, Geography, Antiquities, &c., throughout.

A great deal of time and labor was given to this work during the spring term, the results of which were laid before the Board at the July meeting of the present year. The schemes presented were adopted without essential modification and have been embodied in the announcements for 1871-2. No change was made in the general plan of organization. The colleges or departments, therefore, retain the same relative positions as in my previous annual report. The Latin or preparatory school is still in operation for the benefit of those youth who desire to pursue one or both of the classical languages and cannot receive instruction in Latin in their local schools. At the beginning of the current academic year the two courses of study previously offered in this school were consolidated, and the Latin language is therefore obligatory upon all who enter it. Students wishing to pursue merely the "common branches," can be more economically instructed elsewhere.

The studies associated with the Latin in this department are, English Analysis, United States History, Elementary Algebra and Higher Arithmetic.

The present condition of the institution, so far as relates to its proper educational work may be best set forth by some extracts from the latest official circulars.

THE ORGANIZATION.

The act of the Legislature of Minnesota, approved February 18, 1868, reorganizing the University, requires the Board of Regents to establish "five *or more* Colleges or Departments, that is to say:

"A Department of Elementary Instruction;
"A College of Science, Literature and the Arts;
"A College of Agriculture and the Mechanic Arts;
"A College or Department of Medicine;
"A College or Department of Law."

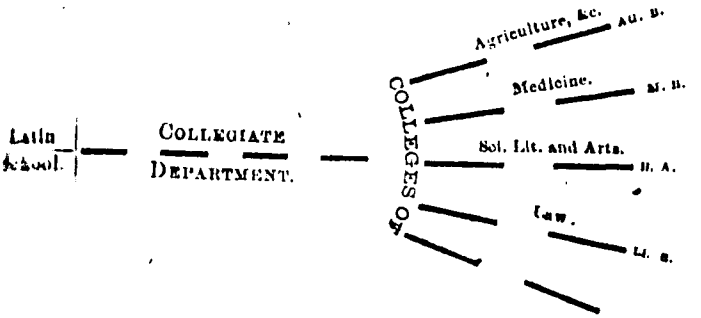
Of these the first three have been organized, and the first two are in operation.

The COLLEGE of AGRICULTURE and the MECHANIC ARTS is organized in two divisions, (1) that of Agriculture, (2) that of the Mechanic Arts. The latter will be in operation from the beginning of the next Academic year, Sept. 3, 1872; the former so soon as the vacant professorship of Agriculture can be filled.

The Department of Elementary Instruction is represented by the Collegiate Department and the so-called Latin School, introductory to it.

The Departments of Law and Medicine will be put in operation so soon as the means of the University will permit.

The following diagram will suggest, though inadequately,* the relations of the Departments:



Remarks.—1. The Collegiate Department, receiving the student from the Latin School or from the Public High School, brings him, in the course of four years, to the end of the Second (commonly called the Sophomore) year of the ordinary College course. At this point he has the option, whether, equipped with the *fair preparation* for special studies required in the Collegiate Department, to enter at once some one of the professional schools as they may hereafter be established, or to proceed on the higher academic studies, scientific, literary or classical, in the "College of Science, Literature and the Arts," with a view to securing the *best and fullest preparation* for professional or technical studies. The courses of study offered in this College cover, at present, a period of two years (Junior and Senior), and lead to Baccalaureate degrees.

2. It is a *part of the plan* of organization that the studies, not only of the Latin School, but of the Collegiate Department, shall be carried off as fast as the High and other Secondary Schools can take the work. *The University Begins Wherever They Leave Off.* It is hoped that not many years may pass before the whole work of the Collegiate Department will have been assumed by those schools.

* It must by no means be understood that students going into Agriculture, Engineering, Law, Medicine, &c., are expected, as of course, to enter upon their professional studies immediately upon leaving the Collegiate Department. A "University course" is urgently recommended to all who can, by any reasonable means and sacrifice, attain to it.

THE COLLEGIATE DEPARTMENT.

1. THE FACULTY.

THE PRESIDENT,
Professor CAMPBELL,
" TWINING,
" WALKER,
" BROOKS,
" DONALDSON,
" BEARDSLEY,
" THOMPSON,
Miss SUTHERLAND.

THE COURSES OF STUDY ARE:

1. CLASSICAL; of which the leading studies are, Greek, Mathematics and Latin:

2. SCIENTIFIC; of which the leading studies are, the Natural Sciences and Mathematics, with ONE at a time (as prescribed,) of the following Languages, viz: English, Latin, French, German.

3. LITERARY; of which the leading studies are, English *or* Latin, Mathematics and the Modern Languages.

In addition to the principal studies, there are exercises in Military Tactics, Drawing, Elocution and Composition, common to and required in all the courses.

Lectures are given upon Agriculture and the Mechanic Arts and other subjects.

The following studies and exercises are common to all the courses:

1. All the Mathematics, except that Descriptive Geometry is not given in the Classical course. 2. English Composition and Rhetoric. 3. The Outlines of General History. 4. The Elements of General Chemistry. 5. Elementary Physics. 7. Zoology. 8. Descriptive Astronomy. 9. Drawing. 10. Composition and Declamation throughout.

To the above may be added the Military Exercises, which are obligatory upon all the male students of the COLLEGIATE DEPARTMENT, unless specially excused by the Faculty.

THE COURSE OF STUDY to be followed is selected for the student at the time of his entrance, by his parent or guardian, who should notify the President of his choice.

ADMISSION.

CANDIDATES FOR ADMISSION TO THE COLLEGIATE DEPARTMENT must be at least 14 years of age. They are examined in Reading, Writing and Spelling, Arithmetic and Elementary Algebra, U. S. History, Geography, English *or* Latin Grammar.

The examinations in Reading, Writing and Spelling are rigorous.

Candidates for advanced standing are further examined in the studies already passed by their respective classes or sections. Only *real equivalents* are accepted.

We desire to call your attention and that of our educational friends to the plan of studies and courses which have been provided for the collegiate department. It is this department, which, including the Freshman and Sophomore years of the older colleges, and therefore named *Collegiate*, the University wishes to make over as fast as possible to the high schools. While it is obvious that these schools cannot presently undertake such an amount of work, there is not the least doubt but they can begin it, and, at no very distant day, assume it all. A few are already offering nearly all the scientific and mathematical studies; and quite a number are fitting students to enter as Freshman. All considerations of economy, of discipline, of efficiency, are in favor of such a distribution of work, and such a close and vital connection of the University with the high schools. We note with satisfaction the fact that President Angell, in his late inaugural address as President of the University of Michigan, proposes that the Union Schools shall assume at once the work of the Freshman year; thus endorsing an essential feature of our Minnesota plan.

It is not proposed in the Collegiate department to offer to the students who resort to it, as yet immature and undisciplined, a large or unrestricted option of studies. Boys and girls are not always good judges of what studies are best for them. It is thought most advantageous to arrange the studies of the department into courses, adjusted to the average demands of the principal classes of students entering upon higher education. Three such courses are offered, designated agreeably to the style of that branch of the University proper, to which they are primarily introductory, namely: the "College of *Science, Literature*, and the *Arts*," *Scientific, Literary and Classical.*

The classical course does not vary in any important particular from the good old New England routine. It is a great advantage to this course that the existence of the parallel course removes the temptation to overload it with incongruous studies. Classical culture, like law, is a jealous

...material may be protected by copyright law (Title 17 U.S. Code)

The scientific course follows that line of studies which has been struck out in the better class of modern schools, fitting students for business or polytechnic institutions. The course is introductory to the College of Agriculture and the Mechanic Arts. The scientific student has his choice of the English, the Latin, and the Modern Languages. As the Greek is the distinguishing study of the classical course, so Natural Science is characteristic of the Scientific course.

The Literary course will be taken by those students who may wish to pursue the English or Latin languages in connection with Modern Languages. A marked feature of this course will be a thorough, systematical and classical treatment of the English language. Not that it is intended to slight our own tongue in the other courses, but that more extended and critical work is proposed than can be afforded to students in the other courses. Those students of the Scientific course who elect English, will receive this instruction *and may, if they so choose, study no language but their own.*

It will be seen that the three courses are very easily distinguished. Has a student Greek, he is in the *Classical* course. Has he a branch of Natural Science, he is in the *Scientific* course. All others are following a *Literary* course.

THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS.

THE FACULTY.

THE PRESIDENT,
Professor CAMPBELL,
" TWINING,
" WALKER,
" BROOKS,
" DONALDSON,
" THOMPSON.

THE COURSE OF INSTRUCTION.

Agreeably to the legal style of this College, there are three courses of instruction, designated respectively:

"THE COURSE IN SCIENCE;"
THE COURSE IN LITERATURE;"
"THE COURSE IN ARTS."

These courses extend, at present, over a period of two years. The terms and recesses are the same as those of the Collegiate Department

THE COURSE IN ARTS.—(Classical.)

JUNIOR YEAR.

Greek:—Plato—Apology and Crito, with their Literature, History and Biography—Lectures on Greek Antiquities and Art. *Latin:*—Tacitus—Horace—Roman Literature, (Lectures.) *English:*—History of English Literature. *Philosophy:*—Psychology and the History of Philosophy. *Philology:*—Linguistics. ELECTIVE STUDIES.—*Mathematics:*—The General Theory of Equations—the Modern Geometry—the Differential and Integral Calculus. *Science:*—Analytical Chemistry—Geology and Mineralogy. *Literature:*—Late English and American Authors. *Modern Languages:*—French, German, &c. *Æsthetics:*—Lectures on the Fine Arts.

SENIOR YEAR.

Greek:—Aristophanes, with collaterals—Lectures on Greek Literature. *Latin:*—Comedy—Terence and Plautus. *Philosophy:*—Ethics and Onthology. *Political Science. The American Constitution.* ELECTIVE STUDIES. *Science:*—Analytical Chemistry—Dynamical Physics—Botany. *Literature:*—Elements of Criticism. *Modern Languages:*—French, German, &c. *Mathematics:*—Practical Astronomy.

THE COURSE IN SCIENCE.—(Scientific.)

JUNIOR YEAR.

Science:—Analytical Chemistry—Geology and Mineralogy. *Mathematics:*—The General Theory of Equations—the Modern Geometry—the Differential and Integral Calculus. ELECTIVE STUDIES.—*Literature:*—History of English Literature. *Philosophy:*—Psychology and the History of Philosophy. *Latin:*—Tacitus and collaterals. *Philology:*—Linguistics. *Æsthetics:*—Lectures on the Fine Arts. *Modern Languages:*—French, German, &c.

This material may be protected by copyright law (Title 17 U.S. Code)

SENIOR YEAR.

Science:—Analytical Chemistry—Dynamical Physics—Botany. *Mathematics:*—Practical Astronomy. *Political Science. The American Constitution.* ELECTIVE STUDIES.—*Philosophy:*—Ethics and Ontology. *Literature:*—Elements of Criticism. *Latin:*—Terence and Plautus. *Modern Languages:*—French, German, &c.

THE COURSE IN LITERATURE.—(Literary.)

JUNIOR YEAR.

Literature:—History of English Literature. *Mathematics:*—The General Theory of Equations and the Modern Geometry. *Philosophy:*—Psychology and the History of Philosophy. *Philology:*—Linguistics. *Aesthetics:*—Lectures on the Fine Arts. ELECTIVE STUDIES.—*Science:*—Analytical Chemistry—Geology and Mineralogy. *Mathematics:*—Differential and Integral Calculus. *Modern Languages:*—French, German, &c. *Latin:*—Tacitus and collaterals—Satires. *Literature:*—History of Greek and Roman Literature.

SENIOR YEAR.

Literature:—Elements of Criticism. *Philosophy:*—Ethics and Ontology. *History:*—History of Free Institutions. *Political Science. The American Constitution.* ELECTIVE STUDIES:—Analytical Chemistry—Dynamical Physics—Botany. *Mathematics:*—Practical Astronomy. *Latin:*—Terence and Plautus. *Modern Languages:*—French, German, &c.

ADMISSION, &c.

Applicants for admission who bring final certificates from the COLLEGIATE DEPARTMENT are admitted without further examination.

Other applicants must be at least 17 years of age, and must pass examinations in all the studies of those courses of the Collegiate Department corresponding to those they propose entering upon, respectively, in the College. *Real Equivalents* only are accepted.

In each course there are two required studies. The third is selected by the student from the respective range of elections. No student may have fewer than three studies unless by permission of the Faculty. Exercises in Writing and Speaking are required throughout, in all the courses.

Admitted applicants must declare in writing their choice of courses of study, within three days after the beginning of the First Term.

DEGREES AND EXAMINATIONS.

The following degrees appropriate to the respective courses of study are conferred by the Board of Regents upon recommendation of the Faculty of this College:

1. THE DEGREE OF BACHELOR OF ARTS;
2. THE DEGREE OF BACHELOR OF SCIENCE;
3. THE DEGREE OF BACHELOR OF LITERATURE.

The merit of students is ascertained from Examinations only.

Course of Studies in the College of Science, Literature and the Arts

		FIRST TERM.	SECOND TERM.	THIRD TERM.
JUNIOR YEAR.	Arts.	1. Greek. 2. English Literature. 3. {Mathematics, Science, Mod. Languages.	1. Latin. 2. Psychology. 3. {Mathematics, Science, Eng. Literature, Mod. Languages.	1. Greek and Latin. 2. Linguistics. 3. {Mathematics. Science. Æsthetics.
	Science.	1. Science. 2. Mathematics. 3. {Eng. Literature, Mod. Languages.	1. Science. 2. Mathematics. 3. {Psychology, Eng. Literature, Mod. Languages, Latin.	1. Science. 2. Mathematics. 2. {Linguistics, Æsthetics.
	Literature.	1. Eng. Literature. 2. Mathematics. 3. {Science, Mod. Languages.	1. Eng. Literature. 2. Psychology. 3. {Mathematics. Science, Mod. Languages, Latin.	1. Linguistics. 2. Æsthetics. 3. {Mathematics. Science. Greek and Latin (lectures).
SENIOR YEAR.	Arts.	1. Latin. 2. Ethics. 3. {Science, Pract. Astronomy. Mod. Languages. Criticism.	1. Greek. 2. Political Science. 3. American Constitution.	No stated Exercises; Candidates for degrees prepare Orations and Theses.
	Science.	1. Science. 2. Pract. Astronomy. 3. {Ethics, Criticism, Mod. Languages, Criticism.	1. Science. 2. Political Science. 3. American Constitution.	
	Literature.	1. Elements of Criticism. 2. Ethics. 3. {Science, Pract. Astronomy, Mod. Languages, Latin.	1. History of Free Institutions. 2. Political Science. 3. American Constitution.	

This material may be protected by copyright law (Title 17 U.S. Code)

THE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

THE FACULTY.

THE PRESIDENT.
Professor BEARDSLEY,
" ———
" TWINING,
" THOMPSON,
" ———
Mr. FIELD.

I. DIVISION OF AGRICULTURE.

The instruction in Agriculture is conducted upon the following general plan:

Departments.	*Associated Subjects.*	*Practical Applications.*
CHEMISTRY,	GEOLOGY, MINERALOGY,	Nature and origin of soils and their Analysis, Chemistry of Animals and Vegetables, Fertilizers, Food, Processes of Dairy, Sugar Factory, &c., &c.
BOTANY,		Horticulture & Pomology, Arboriculture, Improv't of Var'ties, Cereals, Textile Plants, Weeds, &c.
ZOOLOGY,	ANATOMY, ENTOMOLOGY, ORNITHOLOGY,	Stock-Breeding, Veterinary Science, Insects Injurious to Vegetation, Poultry, Pisciculture, &c.
PHYSICS,	METEOROLOGY, CLIMATOLOGY,	Effects of Light, Heat and Electricity, Theory of winds and storms, acclimat'n of plants, animals &c.
MECHANICS,	ENGINEERING, ARCHITECTURE,	Construction and Tests of Farm Impl'ts and Machinery, Roads, Ditching, Fencing, Farm Buildings and Grounds, &c.
ECONOMICS,		General Theory and Practice of Agriculture, Rent, Wages, Accounts, Market, Transport'n, &c.
JURISPRUDENCE.	HISTORY AND LITERATURE OF AGRICULTURE, &c.	Tenures of lands, Laws of Highways, Taxation, Estrays, Contracts, &c.

The course of study extends over a period of two years. The Terms and Recesses are the same as those of the Collegiate Department.

Applicants for admission who bring a Final Certificate for the Scientific Course of the COLLEGIATE DEPARTMENT, are admitted without further examination.

Other applicants must pass examinations in all the studies of the Scientific course.

GRADUATION.

Students who complete a course of study to the satisfaction of the Faculty, will, upon their recommendation, receive the degree of BACHELOR OF AGRICULTURE, *but* ANY PERSON *not a candidate for this degree, who may appear to be competent to receive the instruction, may attend the classes and undergo examination in any subject, and if successful, will receive a certificate to that effect.*

The merit of students in this College is ascertained from examinations only

2. DIVISION OF THE MECHANIC ARTS.

THE COURSES OF INSTRUCTIONS.

At present offered, are those in

1. CIVIL ENGINEERING;
2. MECHANICAL ENGINEERING.

THE COURSE IN CIVIL ENGINEERING.

JUNIOR YEAR.

FIRST TERM.—*Geodesy.*—Theory, Adjustment and Use of Instruments. Farm Surveying; Levelling; Topographical Surveying. *Drawing*; Elements of Topographical Drawing; Maps of Farm Surveys; Structure Drawing. *Mathematics.*—General Theory of Equations; Differential Calculus. *Chemistry.*—Qualitative Analysis. *Elective Studies.*—English Literature; Modern Languages.

SECOND TERM.—*Stereotomy.*—Shades, Shadows, and Perspective with Drawing. *Drawing.*—Maps of Topographical Surveys; Machine Drawing. *Cinematics.*—Elements of Machine Construction. *Mathematics.*—Integral Calculus. *Astronomy.*—Determination of Time, Latitude and Longitude. *Chemistry.*—Determinative Mineralogy; Blowpipe Analysis. *Elective Studies*—Psychology; English Literature; and Modern Languages.

THIRD TERM.—*Geodesy.*—Triangular Surveying; Hydrographical Surveying. *Drawing.*—Maps of Hydrographical Surveys. Visits to and Descriptions of Machinery and Structures. *Analytical Mechanics.*—Solids and Fluids. *Natural Science.*—Geology and Mineralogy. *Elective Studies.* Languages; Lectures on the Fine Arts.

This material may be protected by copyright law (Title 17 U.S. Code)

SENIOR YEAR.

FIRST TERM.—*Engineering.*—Theory of Roads and Railroads; Preliminary Survey and Final Location of a Railroad. *Drawing.*—Structures. *Stereotomy.*—Constructions in Stone Cutting, &c. *Analytical Mechanics.* Solids and Fluids. *Applied Mechanics.*—Friction and other Resistances, Stress and Strength of Materials. *Machines.*—General Theory of Machines. *Elective Studies*—Ethics; Criticism; Modern Languages.

SECOND TERM.—*Applied Mechanics.*—Fluids; Practical Hydraulics. Water Engineering, Canals, Water Supply and Distribution, Irrigation, Drainage, Sewerage; Practical Pneumatics, Compressed Air. *Constructions.*—Stability of Structures; Building Materials; Foundations, Superstructures of wood, of stone, and of iron; Bridge Engineering. *Machines*—Theory of Prime Movers. *Drawing.*—Plans, Profiles and Sections of Railroad Surveys; Structures; Bridge and other Engineering Structures.—Specifications, Estimates, Contracts, &c. *Elective Studies.*—Political Science; The American Constitution.

THIRD TERM.—*Engineering.*—Staking out for construction; Railway Management; Designs for, and Reviews of Special Engineering and Architectural Work. Theses. Final Examination.

THE COURSE IN MECHANICAL ENGINEERING.

JUNIOR YEAR.

The studies of this year are the same as those of the Junior Year of the Civil Engineering Course, without the Astronomy, with less Geodesy and Topographical Drawing and with a more extended course in Structural and Machine Drawing.

SENIOR YEAR.

FIRST TERM.—*Machines.* General Theory of Machines; their Location, Construction, Efficiency; *Mechanics.*—Statics and Dynamics of Solids and Fluids, *Physics*—Thermodynamics; Electrodynamics.—*Applied Mechanics.*—Friction and other Resistances; Stress and Strength of Materials. *Drawing.*—Machines and Structures; Pattern Making. *Elective Studies.*—Ethics; Criticism; Modern Languages.

SECOND TERM.—*Machines.*—Theory of Prime Movers, Steam Engines, Water Wheels, Windmills. *Applied Mechanics.*—Practical Hydraulics, Pumping Engines; Practical Pneumatics; Use of Compressed Air. *Drawing.*—Plans, Elevations, Sections and Working Drawings of Machinery and Structures; Specifications. *Constructions.*—Stability of Structures; Building materials; Foundations, Superstructures of wood, of stone, of iron. *Elective Studies.*—Political Science; the American Constitution.

THIRD TERM.—Designs for, and Reviews of Machines for special purposes.—Theses.—Final Examination.

ADMISSION.

Applicants who bring Final Certificates for the Scientific Course of the Collegiate Department are admitted without further examination. Other applicants must pass examinations in all the studies of the Scientific course. Real equivalents are accepted.

DEGREES AND EXAMINATIONS.

The following degrees appropriate to the respective courses of study are conferred by the Board of Regents upon recommendation of the Faculty of this College:

1. THE DEGREE OF CIVIL ENGINEER.
2. THE DEGREE OF MECHANICAL ENGINEER.

The merit of students is ascertained from examinations only.

The location of the University, in the near neighborhood of the great and rapidly extending Manufacturing Industries of the cities of St. Paul, Minneapolis and St. Anthony, renders it a desirable resort for students of Mechanical Science.

GENERAL INFORMATION.

THE LIBRARY.—During the last year large and valuable additions have been made. The number of volumes now on the shelves is over 5,200. The books purchased in Europe by Prof. Campbell—about 2,802 volumes—will be ready for use early this year. An alphabetical catalogue of authors will probably appear in the forthcoming Annual Report of the Board of Regents.

THE MUSEUM.—A small collection of minerals and fossils forms a nucleus of this portion of the University apparatus.

TUITION—is still FREE in all Departments.

BOARDING—is obtained in families, at prices varying with the seasons. Table Board in the best families is now $4.00 a week. A limited number of young men are accommodated with rooms in the University building furnished with bedstead and mattress, wash-stand, table and stove, at $1.00 per term. A Boarding Club formed by them is allowed the use of a dining room, a kitchen and some furniture. The cost to each member has not exceeded $2.00 per week.

A well known friend of the University has just erected at his own cost the first of a "set" of buildings designed for the boarding and lodging of students.

The plan contemplates two dormitories each 28x38 feet and two stories high with four rooms 12x15 each on a floor, flanking a third building of somewhat larger dimensions, containing a kitchen and dining-room, large enough to accommodate all the lodgers of the three structures.

The rooms will be let at a moderate rent, and arrangements will be made under which boarding will be furnished economically.

THE UNIVERSITY FACULTY.

The Faculty is at present composed as follows:

WILLIAM W. FOLWELL, M.A.,
President and Librarian.

GABRIEL CAMPBELL, M.A., B.D.,
Professor of Mental and Moral Philosophy and Instructor in German

EDWARD H. TWINING, M.A.,
Professor of Chemistry and Instructor in Natural Sciences and in French.

VERSAL J. WALKER, M.A.,
Professor of the Latin Language and Literature.

JABEZ BROOKS, M.A., D.D.,
Professor of the Greek Language and Literature.

ARIS B. DONALDSON, B.A.,
Professor of Rhetoric and English Literature.

EDWIN J. THOMPSON, M.A.,
Professor of Mathematics.

ARTHUR BEARDSLEY, C.E.,
Professor of Civil Engineering and Industrial Mechanics.

HELEN SUTHERLAND, M.A.,
Assistant Professor of Latin and Preceptress.

Professor of Military Science.

Professor of Agriculture.

WALTER E. FIELD,
Superintendent of the Farm and Instructor in Practical Agriculture

The changes in the University Faculty during the year have been as follows:

The resignation of Maj. Gen. R. W. Johnson, Professor of Military Science, referred to in the last report as having been tendered, was accepted by the Board of Regents, and that officer severed his connection with the institution at the close of the first term of the academic year, 1870-71.

Miss Helen Sutherland, M.A., having been elected *Preceptress* and assistant Professor of Latin, reported for duty at the beginning of the last winter term.

Professor Campbell, absent in Europe during the whole of the past academic year, returned and resumed his duties soon after the opening of the present year in September last.

I should do violence to my feelings and also fail of my duty if I did not now bear witness to you of the cheerfulness and fidelity with which my respected associates have borne a very heavy burden of work, much of it not the proper work of the university professor, at a time when, such being the condition of the funds, the Board of Regents have been unable to make their salaries commensurate with the services rendered.

The following tables will exhibit the number and classification of the students. It is proper to remark that no names have been enumerated of persons not for some time during the year in actual attendance. The lists could be considerably swelled, by including, as is customary, the names of students absent with leave, and who have not severed their connection with the University.

THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS.

The Junior Class consists of three young men, two of whom are pursuing the classical and one the scientific course.

THE COLLEGIATE DEPARTMENT.

Class.	Course.	Gentlemen.	Ladies.	Total.
First.	Classical,	1	.....	1
	Scientific,	5	1	6
	Literary.	2	2	4
		8	3	11
Second.	Classical,	9	.....	9
	Scientific,	8	.....	8
	Literary.	.....	4	4
		17	4	21
Third.	Classical.	20	.....	20
	Scientific,	11	1	12
	Literary.	6	10	16
		37	11	48
Fourth.	Classical,	24	.....	24
	Scientific,	30	1	31
	Literary.	27	35	62
		81	36	117
Grand Total,		143	54	197

THE LATIN SCHOOL.

Gentlemen, 75; Ladies, 29; Total, 104.

SPECIAL STUDENTS—(Unclassified.)

Gentlemen, 8; Ladies, 9; Total, 17.

SUMMARY.

Department.	Course.	Gentlemen.	Ladies.	Total.
Junior Class,		3	.....	3
Collegiate Dept.	Classical,	54	.....	54
	Scientific,	54	3	57
	Literary,	35	51	86
Latin School,		75	29	104
Special Students,		8	9	17
		229	92	321

The whole number of candidates for entrance who presented themselves during the year was 130; of this number 11 either failed to complete the examinations or to report for duty, 12 were rejected and 14 were admitted with conditions. The number of transient and local students has been much diminished, and the number of those intending to pursue a full course as largely increased. It is becoming better understood that the business of the University is to give *systematic higher education*, classical, scientific and professional.

The standard of scholarship and of the qualifications for admission has been materially advanced by the increased rigor of the examinations.

The wants of the University remain about the same as set forth in the last report. They may be summed up: Money for everything; for buildings, furniture and apparatus; for additional instructors; for books, maps and models; for providing lodgings and furnishing labor to needy students; and for erecting houses for professors.

The impression seems to be general that the University is rich. She may in time, from the sale of the lands which have been granted, possess a fund of one million of dollars. The interest on that sum at 7 per cent. is $70,000. Harvard University expends more than double that sum annually. The University of Michigan is using $80,000 a year, $15,000 of which is *annual state aid;* and this in addition to large sums invested in buildings and their outfit. This institution needs immediately an assured income of $30,000 a year to enable her to provide for present and imminent demands. She needs furthermore $100,000 to erect additional buildings. Upon this point allow me to quote a paragraph from my last report. "The time is at hand when our various departments must have separate accommodation. The Latin school ought immediately to be set apart from the Collegiate Department. After this year the Colleges of SCIENCE, LITERATURE and the ARTS, and of AGRICULTURE and the MECHANIC ARTS, will demand special rooms and furniture. The experiment of mixed education ought not to be carried further

tice: This material may be protected by copyright law (Title 17 U.S. Code)

without better facilities than now exist in the way of entrances, corridors, privies, &c. Furthermore no safe nor economical provision for heating, warming and ventilating the present fraction of a building can be made until the main portion of the plan be added; as for ventilation there is simply none at all."

If the people of Minnesota wish and intend to have a University *indeed*, they must vote money. I close the subject with the remark, that a generous citizen of a distant state has within a few months sent a larger sum in cash, to endow a private institution in our state than the people have yet consented to devote to the upbuilding of their State University.

All of which is respectfully submitted.

WILLIAM W. FOLWELL,
President

REPORTS

FROM

SUPERINTENDENTS

OF

CITY GRADED SCHOOLS.