FOURTH ANNUAL REPORT OF THE

BOARD OF TRUSTEES

OF THE

ILLINOIS INDUSTRIAL UNIVERSITY

FOR THE YEAR 1870-1.

EMBRACING

THE ACADEMIC YEAR AND SUBSEQUENT VACATION,
WITH LECTURES, ETC.

SPRINGFIELD:
ILLINOIS JOURNAL PRINTING OFFICE.
1872.
"The great advantage of directing education towards the pursuits and occupations of the people, instead of wasting it on dismal verbalism, is that while it elevates the individual, it at the same time gives security for the future prosperity of the nation."—Lyon Playfair, Address on Education.

"That man, I think, has had a liberal education, who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of: whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order: ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind: whose mind is stored with a knowledge of the great fundamental truths of nature and of the laws of her operations: one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience: who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself."—Huxley, on a Liberal Education.
OFFICERS AND MEMBERS OF THE BOARD OF TRUSTEES.

HON. JOHN M. GREGORY, LL.D.,
   PRESIDENT.

HON. WILLARD C. FLAGG,
   CORRESPONDING SECRETARY.

PROFESSOR EDWARD SNYDER,
   RECORDING SECRETARY.

JOHN W. BUNN, ESQ.,
   TREASURER.

MEMBERS EX-OFFICIO.

HON. JOHN M. PALMER, Governor.
HON. NEWTON BATEMAN, LL.D., Sup't of Public Inst.
DAVID A. BROWN, President State Agricultural Society.
JOHN M. GREGORY, LL.D., Regent of University.

MEMBERS APPOINTED BY GOVERNOR AND SENATE.

<table>
<thead>
<tr>
<th>NAME</th>
<th>DISTRICT</th>
<th>POST OFFICE</th>
<th>COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson, W. B.</td>
<td>11th Congressional</td>
<td>Mt. Vernon</td>
<td>Jefferson</td>
</tr>
<tr>
<td>Blackburn, A.</td>
<td>9th</td>
<td>Macomb</td>
<td>McDonough</td>
</tr>
<tr>
<td>Brayman, Mason</td>
<td>3d Grand Division</td>
<td>Quincy</td>
<td>Adams</td>
</tr>
<tr>
<td>Brown, G. S.</td>
<td>8th</td>
<td>Chicago</td>
<td>Cook</td>
</tr>
<tr>
<td>Brown, A. M.</td>
<td>13th Congressional</td>
<td>Villa Ridge</td>
<td>Pulaski</td>
</tr>
<tr>
<td>Cobb, Emory</td>
<td>3d Grand Division</td>
<td>Kankakee</td>
<td>Kankakee</td>
</tr>
<tr>
<td>Cunningham, J. O</td>
<td>3d</td>
<td>Urbana</td>
<td>Champaign</td>
</tr>
<tr>
<td>Edwards, Samuel</td>
<td>5th Congressional</td>
<td>La Moille</td>
<td>Bureau</td>
</tr>
<tr>
<td>Gaines, O. B.</td>
<td>5th</td>
<td>Morris</td>
<td>Grundy</td>
</tr>
<tr>
<td>Goins, M. C.</td>
<td>10th</td>
<td>Jacksonville</td>
<td>Morgan</td>
</tr>
<tr>
<td>Greenleaf, L. L.</td>
<td>3d Grand Division</td>
<td>Chicago</td>
<td>Cook</td>
</tr>
<tr>
<td>Griggs, C. R.</td>
<td>3d</td>
<td>Urbana</td>
<td>Champaign</td>
</tr>
<tr>
<td>Harrington, R. B.</td>
<td>8th Congressional</td>
<td>Pontiac</td>
<td>Livingston</td>
</tr>
<tr>
<td>Hayes, S. S.</td>
<td>3d Grand Division</td>
<td>Chicago</td>
<td>Cook</td>
</tr>
<tr>
<td>Johnson, John S.</td>
<td>4th Congressional</td>
<td>Warsaw</td>
<td>Hancock</td>
</tr>
<tr>
<td>Lawrence, L. W.</td>
<td>2d</td>
<td>Belvidere</td>
<td>Boone</td>
</tr>
<tr>
<td>McMurray, L. B.</td>
<td>1st Grand Division</td>
<td>Relfingham</td>
<td>Effingham</td>
</tr>
<tr>
<td>Mahan, Isaac S.</td>
<td>1st</td>
<td>Centralla</td>
<td>Marion</td>
</tr>
<tr>
<td>Pearson, John M.</td>
<td>12th Congressional</td>
<td>Godfrey</td>
<td>Madison</td>
</tr>
<tr>
<td>Pickard, J. L.</td>
<td>1st</td>
<td>Chicago</td>
<td>Cook</td>
</tr>
<tr>
<td>Pickrell, J. H.</td>
<td>2d Grand Division</td>
<td>Harris town</td>
<td>Macon</td>
</tr>
<tr>
<td>Pullen, Burden</td>
<td>1st</td>
<td>Centralla</td>
<td>Marion</td>
</tr>
<tr>
<td>Scott, James R.</td>
<td>7th Congressional</td>
<td>Champaign</td>
<td>Champaign</td>
</tr>
<tr>
<td>Scoogg, J. W.</td>
<td>2d Grand Division</td>
<td>Champaign</td>
<td>St. Clair</td>
</tr>
<tr>
<td>Sade, James P.</td>
<td>1st</td>
<td>Belleville</td>
<td>Cook</td>
</tr>
<tr>
<td>Van Osel, J. M.</td>
<td>3d</td>
<td>Chicago</td>
<td>Carroll</td>
</tr>
<tr>
<td>Wagner, D. C.</td>
<td>3d Congressional</td>
<td>Shannon</td>
<td>Carroll</td>
</tr>
<tr>
<td>Wright, Paul R.</td>
<td>1st Grand Division</td>
<td>South Pass</td>
<td>Union</td>
</tr>
</tbody>
</table>
STANDING COMMITTEES.

I.

Executive.—The Regent, Pickrell, Brown, Cobb, Goltra, Lawrence, Griggs, Pearson, Cunningham.

II.

Auditing.—Lawrence, Wright, Blackburn, Galusha, Mahan.

III.

Finance.—Cobb, Hayes, Griggs, Bowen, Scroggs.

IV.

Faculty and Study.—Regent, Bateman, Pickard, Hayes, Slade, Edwards.

V.

Agricultural Department.—Pickrell, Blackburn, D. A. Brown, Harrington, Scott.

VI.

Horticultural Department.—A. M. Brown, Pullen, Galusha, Wright, Edwards.

VII.

Military Department.—Brayman, Anderson, Scroggs, Wright, D. A. Brown.

VIII.

Mechanical Department.—Pearson, Greenleaf, Bowen, Harrington, Goltra.

IX.

Buildings and Grounds.—Goltra, Van Osdel, Cunningham, Greenleaf, Scott.

X.

Library and Cabinet.—Bateman, Slade, Griggs, Pullen, Van Osdel.

XI.

By-Laws and Rules.—Mahan, Pickard, Anderson.

XII.

BOARD OF TRUSTEES.

BY-LAWS, AS AMENDED AND REVISED.

I. MEETINGS OF THE BOARD.

Section 1. All meetings of the Board of Trustees shall be held at the University building, in Champaign county, and a majority of all the Board shall constitute a quorum.

Sec. 2. The annual meeting shall be held on the second Tuesday in March.

Sec. 3. Special meetings may be called, whenever necessary, by the Regent, Corresponding Secretary or any five members of the Board, by mailing to each member of the Board, or personally serving a copy of such call, at least ten days before the day of meeting, provided, that in such notice the business to be attended to at such meeting shall be specified.

II. ORDER OF BUSINESS.

Section 1. The order of business, at each meeting of the Board, shall be:

1. Reading of the Scripture, and prayer.
2. Calling the roll of members.
3. Reading, correction and approval of minutes of last meeting.
4. Reports of the Executive Committee of all business transacted since the last meeting of the Board.
5. Reception and consideration of communications.
6. Reports of officers.
7. Reports of standing committees.
8. Reports of special committees.

III. RULES OF DEBATE.

Section 1. In discussion, and the disposition of business, the Board shall be governed by the parliamentary rules and usages usually governing deliberative bodies.

Provided, That every motion, or resolution, contemplating any disbursement from the funds of the University, shall either emanate from, or be referred to, some standing committee, before final action thereon.

Sec. 2. Every resolution offered, shall be reduced to writing, and sent to the Secretary's table.

Sec. 3. No member shall speak more than ten minutes, or more than twice, upon any proposition, without the consent of the Board.

IV. OFFICERS AND APPOINTEES OF THE BOARD.

The officers of the Board shall consist of the Regent, Treasurer, Corresponding Secretary, and Recording Secretary; and the Board may, from time to time, appoint such professors, tutors or instructors, and such subordinate officers and employes, as they may deem necessary to carry on the Institution.

V. TERMS OF OFFICE.

Section 1. The Regent and Treasurer shall be elected at each biennial meeting, and hold their offices for two years, and until their successors are elected and qualified.

Sec. 2. The Corresponding and Recording Secretaries shall be elected at the annual meeting, and hold their offices for one year, and until their successors are elected and qualified.

Sec. 3. Professors, and other officers and employes, shall be appointed at such time, in such manner, and for such term, as the Board shall, by resolution, in each case, direct, and be subject to removal at the pleasure of the Board.
VI. DUTIES OF REGENT.

Section 1. The Regent shall be the President of the Board of Trustees, and of all the several Faculties of the University; may vote on all questions or propositions submitted to the Board, and, upon calling any member to the chair, may participate in debate.

Sec. 2. He shall be the chief executive officer of the Board, and shall see that the orders and resolutions of the Board are carried into effect, when the Board shall not otherwise direct; and shall take care that the by-laws and regulations relating to the duties of subordinate officers, instructors and students, are faithfully observed.

Sec. 3. He shall be the Chairman of the Executive Committee, and as such shall report, at each meeting of the Board, the doings of the Committee since the last session of the Board.

Sec. 4. He shall also, as Regent, make an annual report to the Board, exhibiting the progress and condition of the several departments of the University, with such suggestions as he may deem needful for their improvement.

VII. TREASURER.

The Treasurer shall give bond, with approved security, in the sum of three hundred thousand dollars. He shall be the custodian of all moneys and securities belonging to the University, except such as are, by law, placed in the custody of the State, and of the land scrip, until the same shall be sold or located. He shall invest the funds of the University, as directed by the Board, and he shall pay no money out of the treasury, except upon a warrant of the Regent, countersigned by the Recording Secretary. He shall, also, annually, and oftener, when required, make a detailed report to the Board of all receipts and disbursements, since making his last report.

VIII. CORRESPONDING SECRETARY.

The Corresponding Secretary shall perform the duties indicated and required by the act creating his office. He shall hold his office in the University building as soon as the Institution is opened.

IX. RECORDING SECRETARY.

Section 1. The Recording Secretary shall perform the duties required him by law, and usually appertaining to his office. He shall keep the books and papers belonging to his office, at the University building, at Champaign, and the same shall be open to the inspection of any member of the Board, or officer of the University. He shall be the clerk of the Executive Committee, and, as soon as the University is open, reside at or near thereto.

Sec. 2. He shall countersign all warrants on the Treasurer, and note on each the date of the order of the Board or Executive Committee authorizing the issuing of the same.

X. SALARIES.

The salary of each officer, professor, instructor and other employee of the University, shall be fixed by resolution at the time the appointment is made, subject to alteration in the discretion of the Board; and a warrant shall be drawn for the same, according to law, on the Treasurer, as the same shall fall due, provided there are funds in the treasury to pay the same. Salaries shall be payable quarterly, on the first days of April, July, October and January, of each year.

XI. DISABILITIES OF MEMBERS.

No Trustee, except as provided in the charter, shall receive any salary or compensation (except actual expenses) for services as an officer, or while acting under any appointment of the Board; nor shall any Trustee be interested in any contract made with, or on behalf of, the Board: Provided, That this section shall not apply to any of the present officers or appointees of the Board.

XII. STANDING COMMITTEES.

At the annual meeting, the following standing committees shall be appointed:
1. An Executive Committee, consisting of the Regent and eight members.
2. An Auditing Committee, of five members.
3. A Finance Committee, of five members.
4. Committee on Faculty and Study, of Regent and five members.
5. Committee on Agricultural Department, of five members.
6. Committee on Horticultural Department, of five members.
7. Committee on Military Department, of five members.
8. Committee on Mechanical Department, of five members.
9. Committee on Buildings and Grounds, of five members.
10. Committee on Library and Cabinets, of five members.
11. Committee on By-Laws and Rules, of three members.

12. Committee on the state of the Institution, who's duty it shall be, at stated times in each year, to visit the University, and examine thoroughly into the method of teaching in the various departments, and upon the progress of the students, and the general efficiency of the discipline, and report to the Board at each meeting.

XIII. DUTIES OF EXECUTIVE COMMITTEE.

Section 1. The Executive Committee shall meet, at the seat of the College, at least quarterly, and oftener if they shall find it necessary, for the transaction of any business necessary to be done in the vacation of the Board.

Sec. 2. The Executive Committee shall, for the purposes for which they were appointed, possess all the powers of the Board: Provided, That they shall not revise or change the acts of the Board, nor act upon any matters referred to any committee of the Board, that may be entrusted with any special business; shall not purchase or sell real estate, nor the land scrip, nor bonds belonging to the University, without the consent, in writing, of a majority of all the members of the Board, and shall be strictly confined to such business as cannot be left till the annual meetings of the Board.

Sec. 3. The Committee shall hold their office till the annual meeting next after their appointment; and they shall submit the minutes of their proceedings, or make a report through their Chairman, to every meeting of the Board, of all their transactions since the last meeting of the Board.

Sec. 4. Special meetings of the Executive Committee may be called in the same manner as special meetings of the Board.

XIV. AUDITING COMMITTEE.

The Auditing Committee shall examine and report upon all accounts of the Regent and the Treasurer, and audit all accounts referred to them by the Board or Executive Committee.

XV. FINANCE COMMITTEE.

The Finance Committee shall have the general supervision of the financial affairs of the University, subject to the rules and control of the Board. They shall make to the Board, at the annual meetings, a statement of the condition of the finances of the University, and an estimate of the income from all sources, and of its necessary and probable outlay for the succeeding year. And they shall report at all other meetings of the Board and of the Executive Committee, when required, and shall recommend such measures for the management of the revenues as they may think best.

XVI. COMMITTEE ON FACULTY AND COURSE OF STUDY.

The Committee on Faculty and Course of Study shall recommend, from time to time, suitable persons for positions in the Faculty, in its various departments, and all necessary changes or modifications in the course of study.

XVII. DUTIES OF COMMITTEES ON DEPARTMENTS.

The Committee on Agricultural, Horticultural, Mechanical and Military Departments, shall attend to the several subjects indicated by the titles of the committees. They shall recommend all measures necessary for the advancement of the interest of the various departments.

XVIII. COMMITTEE ON BUILDINGS AND GROUNDS.

The Committee on Buildings and Grounds shall consider and report upon all plans, estimates or proposals for the sale or exchange, repair or improvement of the buildings or grounds belonging to the University, or for the erection of buildings or fences on the same, and for their convenient division; and all orders of the Board for improvements on buildings and grounds (except the farms) shall be under the charge and control of the Committee.

XIX. COMMITTEE ON LIBRARY AND CABINETS.

The Committee on Library and Cabinets, of which the Regent shall be one, shall consider and report upon all matters relating to the care and arrangement of the library and cabinets. They shall have charge of the purchase and exchange, under the direction of the Board, of all cabinet materials, books, pamphlets, periodicals or specimens. They shall report, from time to time, the condition of the library and cabinets, and their future wants.

XX. COMMITTEE ON RULES AND BY LAWS.

The Committee on Rules and By-Laws shall prepare and recommend, from time to time, by-laws for the government of the Board in its business, and rules for the management of all departments of the University.

XXI. AMENDMENTS OF BY-LAWS.

These By-Laws may be repealed or amended, at any meeting of the Board, by a vote of a majority of all the members of the Board.
TABLE OF CONTENTS.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth Annual Circular</td>
<td>4</td>
</tr>
<tr>
<td>Fifth Annual Meeting of Board of Trustees</td>
<td>59</td>
</tr>
<tr>
<td>Minutes of Meetings of the Executive Committee, 1870-71</td>
<td>116</td>
</tr>
<tr>
<td>Courses Agricultural Lectures and Discussions</td>
<td>139</td>
</tr>
<tr>
<td>Convention of Friends of Agricultural Education</td>
<td>215</td>
</tr>
<tr>
<td>Laying of corner-stone of new University Building</td>
<td>352</td>
</tr>
</tbody>
</table>
FOURTH ANNUAL REPORT OF THE

BOARD OF TRUSTEES

OF THE

ILLINOIS INDUSTRIAL UNIVERSITY

FOR THE YEAR 1870-1.

EMBRACING

THE ACADEMIC YEAR AND SUBSEQUENT VACATION,
WITH LECTURES, ETC.

SPRINGFIELD:
ILLINOIS JOURNAL PRINTING OFFICE.
1872.
"The great advantage of directing education towards the pursuits and occupations of the people, instead of wasting it on dismal verbalism, is that while it elevates the individual, it at the same time gives security for the future prosperity of the nation."—Lyon Playfair, Address on Education.

"That man, I think, has had a liberal education, who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of: whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order: ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind: whose mind is stored with a knowledge of the great fundamental truths of nature and of the laws of her operations: one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience: who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself."—Huxley, on a Liberal Education.
OFFICERS AND MEMBERS OF THE BOARD OF TRUSTEES.

HON. JOHN M. GREGORY, LL.D.,
PRESIDENT.

HON. WILLARD C. FLAGG,
CORRESPONDING SECRETARY.

PROFESSOR EDWARD SNYDER,
RECORDING SECRETARY.

JOHN W. BUNN, ESQ.,
TREASURER.

MEMBERS EX-OFFICIO.

HON. JOHN M. PALMER, Governor.
HON. NEWTON BATEMAN, LL.D., Sup't of Public Inst.
DAVID A. BROWN, President State Agricultural Society.
JOHN M. GREGORY, LL.D., Regent of University.

MEMBERS APPOINTED BY GOVERNOR AND SENATE.

<table>
<thead>
<tr>
<th>NAME</th>
<th>DISTRICT</th>
<th>POST OFFICE</th>
<th>COUNTY</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson W. B.</td>
<td>11th Congressional</td>
<td>Mt. Vernon</td>
<td>Jefferson</td>
<td>1877</td>
</tr>
<tr>
<td>Blackburn, Alexander</td>
<td>9th</td>
<td>Macomb</td>
<td>McDonough</td>
<td>1875</td>
</tr>
<tr>
<td>Brayman, Mason</td>
<td>2d Grand Division</td>
<td>Quincy</td>
<td>Adams</td>
<td>1873</td>
</tr>
<tr>
<td>Bowen, G. S.</td>
<td>8th</td>
<td>Chicago</td>
<td>Cook</td>
<td>1877</td>
</tr>
<tr>
<td>Brown, A. M.</td>
<td>13th Congressional</td>
<td>Villa Ridge</td>
<td>Pulaski</td>
<td>1875</td>
</tr>
<tr>
<td>Cobb, Emory</td>
<td>3d Grand Division</td>
<td>Kankakee</td>
<td>Kankakee</td>
<td>1875</td>
</tr>
<tr>
<td>Cunningham, J. O.</td>
<td>5th Congressional</td>
<td>La Moille</td>
<td>Bureau</td>
<td>1877</td>
</tr>
<tr>
<td>Edwards, Samuel</td>
<td>5th</td>
<td>Urbana</td>
<td>Bureau</td>
<td>1877</td>
</tr>
<tr>
<td>Gage, O. B.</td>
<td>8th</td>
<td>Morris</td>
<td>Grundy</td>
<td>1877</td>
</tr>
<tr>
<td>Goitra, M. C.</td>
<td>10th</td>
<td>Jacksonville</td>
<td>Morgan</td>
<td>1873</td>
</tr>
<tr>
<td>Greenleaf, L. L.</td>
<td>8d Grand Division</td>
<td>Urbana</td>
<td>Champaign</td>
<td>1875</td>
</tr>
<tr>
<td>Griggs, C. R.</td>
<td>2d</td>
<td>Urbana</td>
<td>Champaign</td>
<td>1875</td>
</tr>
<tr>
<td>Harrington, R. B.</td>
<td>8th Congressional</td>
<td>Pontiac</td>
<td>Livingston</td>
<td>1877</td>
</tr>
<tr>
<td>Hayes, S. S.</td>
<td>3d Grand Division</td>
<td>Chicago</td>
<td>Cook</td>
<td>1877</td>
</tr>
<tr>
<td>Johnson, John S</td>
<td>4th Congressional</td>
<td>Warsaw</td>
<td>Hancock</td>
<td>1875</td>
</tr>
<tr>
<td>Lawrence, L. W.</td>
<td>2d</td>
<td>Belvidere</td>
<td>Boone</td>
<td>1877</td>
</tr>
<tr>
<td>McMurray, L. B.</td>
<td>1st Grand Division</td>
<td>Riffingham</td>
<td>Effingham</td>
<td>1871</td>
</tr>
<tr>
<td>Mahan, Isaac S.</td>
<td>1st</td>
<td>Centralla</td>
<td>Marion</td>
<td>1875</td>
</tr>
<tr>
<td>Pearson, John M.</td>
<td>12th Congressional</td>
<td>Godfrey</td>
<td>Madison</td>
<td>1875</td>
</tr>
<tr>
<td>Pickard, J. L.</td>
<td>1st</td>
<td>Chicago</td>
<td>Cook</td>
<td>1873</td>
</tr>
<tr>
<td>Pickrell, J. H.</td>
<td>2d Grand Division</td>
<td>Harris-town</td>
<td>Macon</td>
<td>1877</td>
</tr>
<tr>
<td>Pullen, Burden</td>
<td>1st</td>
<td>Centralla</td>
<td>Marion</td>
<td>1877</td>
</tr>
<tr>
<td>Scott, James R.</td>
<td>7th Congressional</td>
<td>Champaign</td>
<td>Champaign</td>
<td>1873</td>
</tr>
<tr>
<td>Shoeggs, J. W.</td>
<td>2d Grand Division</td>
<td>Champaign</td>
<td>St. Clair</td>
<td>1875</td>
</tr>
<tr>
<td>Smedes, James P</td>
<td>1st</td>
<td>Belleville</td>
<td>Cook</td>
<td>1873</td>
</tr>
<tr>
<td>Van Oetel, J. M.</td>
<td>3d</td>
<td>Chicago</td>
<td>Carroll</td>
<td>1877</td>
</tr>
<tr>
<td>Wagner, D. C.</td>
<td>8d Congressional</td>
<td>Shannon</td>
<td>Union</td>
<td>1875</td>
</tr>
<tr>
<td>Wright, Paul H.</td>
<td>1st Grand Division</td>
<td>South Pass</td>
<td>Union</td>
<td>1875</td>
</tr>
</tbody>
</table>
STANDING COMMITTEES.

I.

*Executive.*—The Regent, Pickrell, Brown, Cobb, Goltra, Lawrence, Griggs, Pearson, Cunningham.

II.

*Auditing.*—Lawrence, Wright, Blackburn, Galusha, Mahan.

III.

*Finance.*—Cobb, Hayes, Griggs, Bowen, Scroggs.

IV.

*Faculty and Study.*—Regent, Bateman, Pickard, Hayes, Slade, Edwards.

V.

*Agricultural Department.*—Pickrell, Blackburn, D. A. Brown, Harrington, Scott.

VI.

*Horticultural Department.*—A. M. Brown, Pullen, Galusha, Wright, Edwards.

VII.

*Military Department.*—Brayman, Anderson, Scroggs, Wright, D. A. Brown.

VIII.

*Mechanical Department.*—Pearson, Greenleaf, Bowen, Harrington, Goltra.

IX.

*Buildings and Grounds.*—Goltra, Van Osdel, Cunningham, Greenleaf, Scott.

X.

*Library and Cabinet.*—Bateman, Slade, Griggs, Pullen, Van Osdel.

XI.

*By-Laws and Rules.*—Mahan, Pickard, Anderson.

XII.

BOARD OF TRUSTEES.

BY-LAWS, AS AMENDED AND REVISED.

I. MEETINGS OF THE BOARD.

Section 1. All meetings of the Board of Trustees shall be held at the University building, in Champaign county, and a majority of all the Board shall constitute a quorum.

Sec. 2. The annual meeting shall be held on the second Tuesday in March.

Sec. 3. Special meetings may be called, whenever necessary, by the Regent, Corresponding Secretary or any five members of the Board, by mailing to each member of the Board, or personally serving a copy of such call, at least ten days before the day of meeting, provided, that in such notice the business to be attended to at such meeting shall be specified.

II. ORDER OF BUSINESS.

Section 1. The order of business, at each meeting of the Board, shall be:
1. Reading of the Scripture, and prayer.
2. Calling the roll of members.
3. Reading, correction and approval of minutes of last meeting.
4. Reports of the Executive Committee of all business transacted since the last meeting of the Board.
5. Reception and consideration of communications.
6. Reports of officers.
7. Reports of standing committees.
8. Reports of special committees.

III. RULES OF DEBATE.

Section 1. In discussion, and the disposition of business, the Board shall be governed by the parliamentary rules and usages usually governing deliberative bodies.

Provided, That every motion, or resolution, contemplating any disbursement from the funds of the University, shall either emanate from, or be referred to, some standing committee, before final action thereon.

Sec. 2. Every resolution offered, shall be reduced to writing, and sent to the Secretary's table.

Sec. 3. No member shall speak more than ten minutes, or more than twice, upon any proposition, without the consent of the Board.

IV. OFFICERS AND APPOINTEES OF THE BOARD.

The officers of the Board shall consist of the Regent, Treasurer, Corresponding Secretary, and Recording Secretary; and the Board may, from time to time, appoint such professors, tutors or instructors, and such subordinate officers and employees, as they may deem necessary to carry on the Institution.

V. TERMS OF OFFICE.

Section 1. The Regent and Treasurer shall be elected at each biennial meeting, and hold their offices for two years, and until their successors are elected and qualified.

Sec. 2. The Corresponding and Recording Secretaries shall be elected at the annual meeting, and hold their offices for one year, and until their successors are elected and qualified.

Sec. 3. Professors, and other officers and employees, shall be appointed at such time, in such manner, and for such term, as the Board shall, by resolution, in each case, direct, and be subject to removal at the pleasure of the Board.
VI.

DUTIES OF REGENT.

Section 1. The Regent shall be the President of the Board of Trustees, and of all the several Facul­ties of the University; may vote on all questions or propositions submitted to the Board, and, upon calling any member to the chair, may participate in debate.

Sec. 2. He shall be the chief executive officer of the Board, and shall see that the orders and resolutions of the Board are carried into effect, when the Board shall not otherwise direct; and shall take care that the by-laws and regulations relating to the duties of subordinate officers, instructors and students, are faithfully observed.

Sec. 3. He shall be the Chairman of the Executive Committee, and as such shall report, at each meeting of the Board, the doings of the Committee since the last session of the Board.

Sec. 4. He shall also, as Regent, make an annual report to the Board, exhibiting the progress and condition of the several departments of the University, with such suggestions as he may deem needful for their improvement.

VII. TREASURER.

The Treasurer shall give bond, with approved security, in the sum of three hundred thousand dollars. He shall be the custodian of all moneys and securities belonging to the University, except such as are, by law, placed in the custody of the State, and of the land scrip, until the same shall be sold or located. He shall invest the funds of the University, as directed by the Board, and he shall pay no money out of the treasury, except upon a warrant of the Regent, countersigned by the Recording Secretary. He shall, also, annually, and oftener, when required, make a detailed report to the Board of all receipts and disbursements, since making his last report.

VIII. CORRESPONDING SECRETARY.

The Corresponding Secretary shall perform the duties indicated and required by the act creating his office. He shall hold his office in the University building as soon as the Institution is opened.

IX. RECORDING SECRETARY.

Section 1. The Recording Secretary shall perform the duties required him by law, and usually appertaining to his office. He shall keep the books and papers belonging to his office, at the University building, at Champaign, and the same shall be open to the inspection of any member of the Board, or officer of the University. He shall be the clerk of the Executive Committee, and, as soon as the University is open, reside at or near thereto.

Sec. 2. He shall countersign all warrants on the Treasurer, and note on each the date of the order of the Board or Executive Committee authorizing the issuing of the same.

X. SALARIES.

The salary of each officer, professor, instructor and other employé of the University, shall be fixed by resolution at the time the appointment is made, subject to alteration in the discretion of the Board; and a warrant shall be drawn for the same, according to law, on the Treasurer, as the same shall fall due, provided there are funds in the treasury to pay the same.

Salaries shall be payable quarterly, on the first days of April, July, October and January, of each year.

XI. DISABILITIES OF MEMBERS.

No Trustee, except as provided in the charter, shall receive any salary or compensation (except actual expenses) for services as an officer, or while acting under any appointment of the Board; nor shall any Trustee be interested in any contract made with, or on behalf of, the Board: Provided, That this section shall not apply to any of the present officers or appointees of the Board.

XII. STANDING COMMITTEES.

At the annual meeting, the following standing committees shall be appointed:

1. An Executive Committee, consisting of the Regent and eight members.
2. An Auditing Committee, of five members.
3. A Finance Committee, of five members.
4. Committee on Faculty and Study, of Regent and five members.
5. Committee on Agricultural Department, of five members.
6. Committee on Horticultural Department, of five members.
7. Committee on Military Department, of five members.
8. Committee on Mechanical Department, of five members.
9. Committee on Buildings and Grounds, of five members.
10. Committee on Library and Cabinets, of five members.
11. Committee on By-Laws and Rules, of three members.

12. Committee on the state of the Institution, whose duty it shall be, at stated times in each year, to visit the University, and examine thoroughly into the method of teaching in the various departments, and upon the progress of the students, and the general efficiency of the discipline, and report to the Board at each meeting.

XIII. DUTIES OF EXECUTIVE COMMITTEE.

Section 1. The Executive Committee shall meet, at the seat of the College, at least quarterly, and oftener if they shall find it necessary, for the transaction of any business necessary to be done in the vacation of the Board.

Sec. 2. The Executive Committee shall, for the purposes for which they were appointed, possess all the powers of the Board: Provided, That they shall not revise or change the acts of the Board, nor act upon any matters referred to any committee of the Board, that may be entrusted with any special business; shall not purchase or sell real estate, nor the land, scrip, nor bonds belonging to the University, without the consent, in writing, of a majority of all the members of the Board, and shall be strictly confined to such business as cannot be left till the annual meetings of the Board.

Sec. 3. The Committee shall hold their office till the annual meeting next after their appointment; and they shall submit the minutes of their proceedings, or make a report through their Chairman, to every meeting of the Board, of all their transactions since the last meeting of the Board.

Sec. 4. Special meetings of the Executive Committee may be called in the same manner as special meetings of the Board.

XIV. AUDITING COMMITTEE.

The Auditing Committee shall examine and report upon all accounts of the Regent and the Treasurer, and audit all accounts referred to them by the Board or Executive Committee.

XV. FINANCE COMMITTEE.

The Finance Committee shall have the general supervision of the financial affairs of the University, subject to the rules and control of the Board. They shall make to the Board, at the annual meetings, a statement of the condition of the finances of the University, and an estimate of the income from all sources, and of its necessary and probable outlay for the succeeding year. And they shall report at all other meetings of the Board and of the Executive Committee, when required, and shall recommend such measures for the management of the revenues as they may think best.

XVI. COMMITTEE ON FACULTY AND COURSE OF STUDY.

The Committee on Faculty and Course of Study shall recommend, from time to time, suitable persons for positions in the Faculty, in its various departments, and all necessary changes or modifications in the course of study.

XVII. DUTIES OF COMMITTEES ON DEPARTMENTS.

The Committee on Agricultural, Horticultural, Mechanical and Military Departments, shall attend to the several subjects indicated by the titles of the committees. They shall recommend all measures necessary for the advancement of the interest of the various departments.

XVIII. COMMITTEE ON BUILDINGS AND GROUNDS.

The Committee on Buildings and Grounds shall consider and report upon all plans, estimates or proposals for the sale or exchange, repair or improvement of the buildings or grounds belonging to the University, or for the erection of buildings or fences on the same, and for their convenient division; and all orders of the Board for improvements on buildings and grounds (except the farms) shall be under the charge and control of the Committee.

XIX. COMMITTEE ON LIBRARY AND CABINETS.

The Committee on Library and Cabinets, of which the Regent shall be one, shall consider and report upon all matters relating to the care and arrangement of the library and cabinets. They shall have charge of the purchase and exchange, under the direction of the Board, of all cabinet materials, books, pamphlets, periodicals or specimens. They shall report, from time to time, the condition of the library and cabinets, and their future wants.

XX. COMMITTEE ON RULES AND BY LAWS.

The Committee on Rules and By-Laws shall prepare and recommend, from time to time, by-laws for the government of the Board in its business, and rules for the management of all departments of the University.

XXI. AMENDMENTS OF BY-LAWS.

These By-Laws may be repealed or amended, at any meeting of the Board, by a vote of a majority of all the members of the Board.
TABLE OF CONTENTS.

Fourth Annual Circular ...................................................... 4
Fifth Annual Meeting of Board of Trustees ................................ 59
Minutes of Meetings of the Executive Committee, 1870–71 ......... 116
Courses Agricultural Lectures and Discussions .......................... 139
Convention of Friends of Agricultural Education ....................... 215
Laying of corner-stone of new University Building ..................... 352
<table>
<thead>
<tr>
<th>Name</th>
<th>Field</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leers, Mathew</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Lisk, Byron</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Love, S. Sharon</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Lufkin, George A</td>
<td>Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>Lyman, George H</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Lynch, Edward</td>
<td>Civil Engineering and Military</td>
<td></td>
</tr>
<tr>
<td>Lyon, John L</td>
<td>Chemical and Military</td>
<td></td>
</tr>
<tr>
<td>Lytle, George W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mann, Howard A</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Matthews, James W</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Mathews, Wilson</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Marsters, Hezekiah E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maxey, John F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McKinley, William B</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>McKinley, Thomas</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>McDannell, Urillo S</td>
<td>Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>McCauley, John C</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Merrill, Warren</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Michener, Levi W</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Miller, Charles W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miller, Benjamin C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miller, Robert W</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Miller, Jesse</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Minnich, William</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mingle, Charles J</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Moore, Edwin F</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Morris, John C. C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morrow, Andrew T</td>
<td>Mechanical and Military</td>
<td></td>
</tr>
<tr>
<td>Mumper, William G</td>
<td>Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>Ness, Joseph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newby, Samuel M.</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Ockerson, John A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancake, George H</td>
<td>Mining Engineering</td>
<td></td>
</tr>
<tr>
<td>Parker, Calvin E</td>
<td>Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>Parker, George F</td>
<td>Agricultural and Military</td>
<td></td>
</tr>
<tr>
<td>Patch, Emery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paton, John</td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Peadro, Benjamin F</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Perry, Edward E</td>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Philips, Parley A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sigel</td>
<td></td>
<td>Shelby</td>
</tr>
<tr>
<td>Onarga</td>
<td></td>
<td>Iroquois</td>
</tr>
<tr>
<td>Philo</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Villa Ridge</td>
<td></td>
<td>Pulaski</td>
</tr>
<tr>
<td>Richland</td>
<td></td>
<td>Sangamon</td>
</tr>
<tr>
<td>Wapella</td>
<td></td>
<td>De Witt</td>
</tr>
<tr>
<td>Chicago</td>
<td></td>
<td>Cook</td>
</tr>
<tr>
<td>Champaign</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Batavia</td>
<td></td>
<td>Kane</td>
</tr>
<tr>
<td>Mason</td>
<td></td>
<td>Effingham</td>
</tr>
<tr>
<td>Freeport</td>
<td></td>
<td>Stephenson</td>
</tr>
<tr>
<td>Rantoul</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Mt. Vernon</td>
<td></td>
<td>Jefferson</td>
</tr>
<tr>
<td>Champaign</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Champaign</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Rock Island</td>
<td></td>
<td>Rock Island</td>
</tr>
<tr>
<td>Lincoln</td>
<td></td>
<td>Logan</td>
</tr>
<tr>
<td>Astoria</td>
<td></td>
<td>Fulton</td>
</tr>
<tr>
<td>Homer</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Chicago</td>
<td></td>
<td>Cook</td>
</tr>
<tr>
<td>Carlinville</td>
<td></td>
<td>Macoupin</td>
</tr>
<tr>
<td>Willow Hill</td>
<td></td>
<td>Jasper</td>
</tr>
<tr>
<td>Willow Hill</td>
<td></td>
<td>Jasper</td>
</tr>
<tr>
<td>Villa Ridge</td>
<td></td>
<td>Pulaski</td>
</tr>
<tr>
<td>Clyde</td>
<td></td>
<td>Whiteside</td>
</tr>
<tr>
<td>Tolono</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Lincoln</td>
<td></td>
<td>Logan</td>
</tr>
<tr>
<td>Pittsfield</td>
<td></td>
<td>Pike</td>
</tr>
<tr>
<td>Tuscola</td>
<td></td>
<td>Douglas</td>
</tr>
<tr>
<td>Rossville</td>
<td></td>
<td>Vermilion</td>
</tr>
<tr>
<td>Mooresville</td>
<td></td>
<td>Indiana</td>
</tr>
<tr>
<td>Elmwood</td>
<td></td>
<td>Peoria</td>
</tr>
<tr>
<td>Mahomet</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Philo</td>
<td></td>
<td>Champaign</td>
</tr>
<tr>
<td>Sonora</td>
<td></td>
<td>Hancock</td>
</tr>
<tr>
<td>Janesville</td>
<td></td>
<td>Wisconsin</td>
</tr>
<tr>
<td>Lincoln</td>
<td></td>
<td>Logan</td>
</tr>
<tr>
<td>Windsor</td>
<td></td>
<td>Moultrie</td>
</tr>
<tr>
<td>Beaufort</td>
<td></td>
<td>North Carolina</td>
</tr>
<tr>
<td>Damascus</td>
<td></td>
<td>Stephenson</td>
</tr>
<tr>
<td>Name</td>
<td>Course</td>
<td>Year of attendance</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Phenix, Samuel T.</td>
<td>Chemical</td>
<td>1</td>
</tr>
<tr>
<td>Pickrell, William</td>
<td>Horticultural</td>
<td>1</td>
</tr>
<tr>
<td>Platt, Franklin C.</td>
<td>Agricultural</td>
<td>2</td>
</tr>
<tr>
<td>Porterfield, E. Newlan</td>
<td>Military</td>
<td>2</td>
</tr>
<tr>
<td>Prather, Frank</td>
<td>Mechanical</td>
<td>1</td>
</tr>
<tr>
<td>Prather, Hamar S.</td>
<td>Agricultural</td>
<td>1</td>
</tr>
<tr>
<td>Prickett, Charles M.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Proudfoot, Samuel M.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Rader, Adolphus L.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Rafferty, James N.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Raymond, Isaac S.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Reiss, Willis A.</td>
<td>Civil Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Reynolds, Stephen A.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Reynolds, Henry S.</td>
<td>Military</td>
<td>2</td>
</tr>
<tr>
<td>Rice, Walter B.</td>
<td>Agricultural</td>
<td>1</td>
</tr>
<tr>
<td>Richards, Geo. B.</td>
<td>Horticultural</td>
<td>1</td>
</tr>
<tr>
<td>Richey, George W.</td>
<td>Mechanical</td>
<td>3</td>
</tr>
<tr>
<td>Rickard, Thomas E.</td>
<td>Military</td>
<td>3</td>
</tr>
<tr>
<td>Ricker, N. Clifford.</td>
<td>Agricultural</td>
<td>2</td>
</tr>
<tr>
<td>Rieger, William V.</td>
<td>Agricultural</td>
<td>2</td>
</tr>
<tr>
<td>Riley, Ozias</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Robbins, H. Edward</td>
<td>Mechanical</td>
<td>2</td>
</tr>
<tr>
<td>Robbins, S. Volney</td>
<td>Mechanical</td>
<td>1</td>
</tr>
<tr>
<td>Robinson, Elna A.</td>
<td>Mechanical</td>
<td>1</td>
</tr>
<tr>
<td>Rolfe, Charles W.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rutherford, Cyrus</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Salter, Rembrandt R.</td>
<td>Military</td>
<td>1</td>
</tr>
<tr>
<td>Satterlee, Frank W.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Satterlee, Lewis A.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Short, Albert R.</td>
<td>Chemical</td>
<td>1</td>
</tr>
<tr>
<td>Silver, Charles W.</td>
<td>Agricultural</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post Office</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloomington</td>
<td>McLean</td>
</tr>
<tr>
<td>Mechanicsburg</td>
<td>Sangamon</td>
</tr>
<tr>
<td>Warren</td>
<td>Jo Daviess</td>
</tr>
<tr>
<td>Sydney</td>
<td>Champaign</td>
</tr>
<tr>
<td>Decatur</td>
<td>Macon</td>
</tr>
<tr>
<td>Urbana</td>
<td>Champaign</td>
</tr>
<tr>
<td>Ringwood</td>
<td>McHenry</td>
</tr>
<tr>
<td>McLeansboro</td>
<td>Hamilton</td>
</tr>
<tr>
<td>Bristol</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Vermillion</td>
<td>Edgar</td>
</tr>
<tr>
<td>Champaign</td>
<td>Champaign</td>
</tr>
<tr>
<td>Belleville</td>
<td>St. Clair</td>
</tr>
<tr>
<td>Belvidere</td>
<td>Boone</td>
</tr>
<tr>
<td>Urbana</td>
<td>Champaign</td>
</tr>
<tr>
<td>Champaign</td>
<td>Champaign</td>
</tr>
<tr>
<td>Seneca</td>
<td>McHenry</td>
</tr>
<tr>
<td>Blue Ridge</td>
<td>Platt</td>
</tr>
<tr>
<td>Springfield</td>
<td>Sangamon</td>
</tr>
<tr>
<td>La Harpe</td>
<td>Hancock</td>
</tr>
<tr>
<td>Beaufort</td>
<td>North Carolina</td>
</tr>
<tr>
<td>Urbana</td>
<td>Champaign</td>
</tr>
<tr>
<td>Wenoza</td>
<td>Marshall</td>
</tr>
<tr>
<td>Wenoza</td>
<td>Marshall</td>
</tr>
<tr>
<td>Janesville</td>
<td>Wisconsin</td>
</tr>
<tr>
<td>Montgomery</td>
<td>Kane</td>
</tr>
<tr>
<td>Oakland</td>
<td>Coles</td>
</tr>
<tr>
<td>Joliet</td>
<td>Will</td>
</tr>
<tr>
<td>Batavia</td>
<td>Kane</td>
</tr>
<tr>
<td>Batavia</td>
<td>Kane</td>
</tr>
<tr>
<td>Fairmount</td>
<td>Vermillion</td>
</tr>
<tr>
<td>Urbana</td>
<td>Champaign</td>
</tr>
<tr>
<td>Name</td>
<td>Field</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Silver, Howard</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Singletary, Charles A</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Sloan, Thomas B</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Smith, Ira W.</td>
<td>Agricultural and Military</td>
</tr>
<tr>
<td>Smith, Charles A.</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Soper, Hubell.</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Stayman, John M</td>
<td></td>
</tr>
<tr>
<td>Stevens, Harmon G.</td>
<td></td>
</tr>
<tr>
<td>Stevens, Francis A.</td>
<td></td>
</tr>
<tr>
<td>Story, George</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Stribling, Edgar N</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Swartz, Alexander C.</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Swisher, Riley</td>
<td></td>
</tr>
<tr>
<td>Swyer, David E.</td>
<td></td>
</tr>
<tr>
<td>Tackaberry, Elijah</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Talbott, Charles W.</td>
<td>Agricultural and Military</td>
</tr>
<tr>
<td>Tate, Charles M.</td>
<td>Agricultural and Military</td>
</tr>
<tr>
<td>Taylor, Wm. O</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Teeple, Jared</td>
<td>Military</td>
</tr>
<tr>
<td>Tennis,Israel W.</td>
<td></td>
</tr>
<tr>
<td>Terry, Theodore</td>
<td></td>
</tr>
<tr>
<td>Terrell, James N.</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Thompson, Alonzo O.</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Titus, William L.</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Town, Henry L.</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Towle, Irvin B.</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Trowbridge, Silas</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Tyndale, Hector H.</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Walker, Edwin G.</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Warder, Walter</td>
<td></td>
</tr>
<tr>
<td>Weston, Charles.</td>
<td></td>
</tr>
<tr>
<td>Wells, Daniel T.</td>
<td>Civil and Mg. Engineering</td>
</tr>
<tr>
<td>Wharton, Jacob N.</td>
<td></td>
</tr>
<tr>
<td>Wharry, Walter W.</td>
<td>Chemical and Military</td>
</tr>
<tr>
<td>White, Wallace</td>
<td>Mechanical</td>
</tr>
<tr>
<td>White, Alfred</td>
<td></td>
</tr>
<tr>
<td>Whitcomb, Alonzo L.</td>
<td>Chemical</td>
</tr>
<tr>
<td>Whitcomb, Alva H.</td>
<td></td>
</tr>
<tr>
<td>Whitney, Albert S.</td>
<td></td>
</tr>
<tr>
<td>Whitney, Lewis C.</td>
<td></td>
</tr>
<tr>
<td>Names</td>
<td>Course</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Wilcox, Albert C.</td>
<td></td>
</tr>
<tr>
<td>Williams, Charles A.</td>
<td></td>
</tr>
<tr>
<td>Williams, Louis E</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Williams, James A</td>
<td></td>
</tr>
<tr>
<td>Winkler, Joseph</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Winn, George L</td>
<td></td>
</tr>
<tr>
<td>Wood, Reuben O</td>
<td>Military</td>
</tr>
<tr>
<td>Wood, Abraham D</td>
<td></td>
</tr>
<tr>
<td>Woods, H. Chester</td>
<td>Civil Engineering and Military</td>
</tr>
<tr>
<td>Wright, Frank E</td>
<td></td>
</tr>
<tr>
<td>Yeazel, Abraham</td>
<td>Agricultural</td>
</tr>
<tr>
<td>Young, Horace D</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Baker, Ella S</td>
<td></td>
</tr>
<tr>
<td>Chase, Ella</td>
<td></td>
</tr>
<tr>
<td>Cheever, Alice</td>
<td></td>
</tr>
<tr>
<td>Coffeen, Sadie</td>
<td></td>
</tr>
<tr>
<td>Canine, Frances</td>
<td></td>
</tr>
<tr>
<td>Detmers, Jennie H M</td>
<td></td>
</tr>
<tr>
<td>Douglas, Sarah M</td>
<td>Chemical</td>
</tr>
<tr>
<td>Field, Ella</td>
<td></td>
</tr>
<tr>
<td>Fillmore, Delia M</td>
<td></td>
</tr>
<tr>
<td>Goodwin, Frances E</td>
<td></td>
</tr>
<tr>
<td>Gregory, Mary E</td>
<td></td>
</tr>
<tr>
<td>Gregory, Helen B</td>
<td></td>
</tr>
<tr>
<td>Ivers, Mary A</td>
<td></td>
</tr>
<tr>
<td>Kellogg, Flora L</td>
<td></td>
</tr>
<tr>
<td>Osgood, Anna</td>
<td></td>
</tr>
<tr>
<td>Potter, Adelia F</td>
<td></td>
</tr>
<tr>
<td>Romine, Mary</td>
<td></td>
</tr>
<tr>
<td>Rankine, Lucy E</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Gender</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Raymond, Jennie</td>
<td>1</td>
</tr>
<tr>
<td>Rea, Margaret A.</td>
<td>1</td>
</tr>
<tr>
<td>Summers, Charlotte</td>
<td>1</td>
</tr>
<tr>
<td>Whitcomb, Abbie</td>
<td>1</td>
</tr>
<tr>
<td>Whitcomb, Emma</td>
<td>1</td>
</tr>
<tr>
<td>Whitcomb, Mary</td>
<td>1</td>
</tr>
</tbody>
</table>

FEMALES, 24; MALES, 254; total, 278.
### Recapitulation

#### By Studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>56</td>
</tr>
<tr>
<td>Horticulture</td>
<td>9</td>
</tr>
<tr>
<td>Agriculture and Military</td>
<td>4</td>
</tr>
<tr>
<td>Mechanics</td>
<td>37</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>21</td>
</tr>
<tr>
<td>Mining Engineering</td>
<td>1</td>
</tr>
<tr>
<td>Civil and Mining Engineering</td>
<td>1</td>
</tr>
<tr>
<td>Civil Engineering and Military</td>
<td>2</td>
</tr>
<tr>
<td>Architecture</td>
<td>4</td>
</tr>
<tr>
<td>Mechanics and Military</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry and Military</td>
<td>4</td>
</tr>
<tr>
<td>*Military</td>
<td>-11</td>
</tr>
<tr>
<td>Unassigned</td>
<td>-115</td>
</tr>
<tr>
<td>Total</td>
<td>278</td>
</tr>
</tbody>
</table>

#### By Counties, etc., Showing also the Counties not Represented.

<table>
<thead>
<tr>
<th>County</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
<td>2</td>
</tr>
<tr>
<td>Boone</td>
<td>2</td>
</tr>
<tr>
<td>Brown</td>
<td>2</td>
</tr>
<tr>
<td>Bureau</td>
<td>2</td>
</tr>
<tr>
<td>Champaign</td>
<td>86</td>
</tr>
<tr>
<td>Christian</td>
<td>1</td>
</tr>
<tr>
<td>Clay</td>
<td>4</td>
</tr>
<tr>
<td>Clifton</td>
<td>2</td>
</tr>
<tr>
<td>Coles</td>
<td>3</td>
</tr>
<tr>
<td>Cook</td>
<td>6</td>
</tr>
<tr>
<td>De Kalb</td>
<td>3</td>
</tr>
<tr>
<td>De Witt</td>
<td>1</td>
</tr>
<tr>
<td>Douglas</td>
<td>10</td>
</tr>
<tr>
<td>Edgar</td>
<td>3</td>
</tr>
<tr>
<td>Effingham</td>
<td>4</td>
</tr>
<tr>
<td>Fulton</td>
<td>2</td>
</tr>
<tr>
<td>Greene</td>
<td>1</td>
</tr>
<tr>
<td>Hamilton</td>
<td>2</td>
</tr>
<tr>
<td>Hancock</td>
<td>8</td>
</tr>
<tr>
<td>Iroquois</td>
<td>5</td>
</tr>
<tr>
<td>Jasper</td>
<td>3</td>
</tr>
<tr>
<td>Jefferson</td>
<td>1</td>
</tr>
<tr>
<td>Jersey</td>
<td>1</td>
</tr>
<tr>
<td>Jo Daviess</td>
<td>3</td>
</tr>
<tr>
<td>Johnson</td>
<td>1</td>
</tr>
<tr>
<td>Kane</td>
<td>9</td>
</tr>
<tr>
<td>Kankakee</td>
<td>1</td>
</tr>
<tr>
<td>Lake</td>
<td>1</td>
</tr>
<tr>
<td>LaSalle</td>
<td>2</td>
</tr>
<tr>
<td>Lawrence</td>
<td>1</td>
</tr>
<tr>
<td>Logan</td>
<td>4</td>
</tr>
<tr>
<td>Macon</td>
<td>5</td>
</tr>
<tr>
<td>Macoupin</td>
<td>4</td>
</tr>
<tr>
<td>Madison</td>
<td>3</td>
</tr>
<tr>
<td>Marshall</td>
<td>2</td>
</tr>
<tr>
<td>Mason</td>
<td>1</td>
</tr>
<tr>
<td>McDonough</td>
<td>1</td>
</tr>
<tr>
<td>Moffeney</td>
<td>7</td>
</tr>
<tr>
<td>McLean</td>
<td>2</td>
</tr>
<tr>
<td>Montgomery</td>
<td>1</td>
</tr>
<tr>
<td>Ogle</td>
<td>5</td>
</tr>
<tr>
<td>Peoria</td>
<td>2</td>
</tr>
<tr>
<td>Perry</td>
<td>1</td>
</tr>
<tr>
<td>Platte</td>
<td>3</td>
</tr>
<tr>
<td>Pike</td>
<td>1</td>
</tr>
<tr>
<td>Pulaski</td>
<td>2</td>
</tr>
<tr>
<td>Randolph</td>
<td>3</td>
</tr>
<tr>
<td>Richland</td>
<td>1</td>
</tr>
<tr>
<td>Rock Island</td>
<td>2</td>
</tr>
<tr>
<td>Sangamon</td>
<td>6</td>
</tr>
<tr>
<td>Schuyler</td>
<td>1</td>
</tr>
<tr>
<td>Shelby</td>
<td>2</td>
</tr>
<tr>
<td>St. Clair</td>
<td>7</td>
</tr>
<tr>
<td>Stephenson</td>
<td>4</td>
</tr>
<tr>
<td>Union</td>
<td>2</td>
</tr>
<tr>
<td>Vermilion</td>
<td>7</td>
</tr>
<tr>
<td>White</td>
<td>1</td>
</tr>
<tr>
<td>Whiteside</td>
<td>5</td>
</tr>
<tr>
<td>Will</td>
<td>2</td>
</tr>
<tr>
<td>Indiana</td>
<td>3</td>
</tr>
<tr>
<td>Iowa</td>
<td>1</td>
</tr>
<tr>
<td>Michigan</td>
<td>1</td>
</tr>
<tr>
<td>Missouri</td>
<td>1</td>
</tr>
<tr>
<td>New York</td>
<td>3</td>
</tr>
<tr>
<td>North Carolina</td>
<td>2</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>1</td>
</tr>
<tr>
<td>Tennessee</td>
<td>2</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>2</td>
</tr>
<tr>
<td>Total from Illinois, 59 Counties</td>
<td>269</td>
</tr>
<tr>
<td>Total from other States, 9 States</td>
<td>17</td>
</tr>
<tr>
<td>Total Foreign Countries</td>
<td>2</td>
</tr>
<tr>
<td>Grand total</td>
<td>278</td>
</tr>
</tbody>
</table>

*The students marked "Military" take the study of Military Science, besides their regular studies, whatever those may be.

†Students who have not yet selected their vocation, and are not therefore decided upon their course, as also all who are taking elective courses, are enumerated as "Unassigned."
HISTORY OF THE UNIVERSITY.

The Illinois Industrial University is both State and National, in its origin and relations. It was created by a grant from Congress, and its great leading aims were prescribed by a law of Congress. The State, accepting the grant and its conditions, founded the University, and further endowed it with the large donations received from the county in which it is located.

The public movement which gave rise to this University, began a quarter of a century ago. Public meetings of the friends of industrial education were held in all parts of the State, and numerous petitions, signed by thousands of the agriculturists and other industrial classes, flooded the State Legislature. At length, in 1857, the General Assembly adopted joint resolutions asking Congress to make grants of public lands to establish colleges for industrial education. After long discussions, Congress passed the necessary law in July, 1862, making the magnificent grant of public lands out of which has arisen that long list of Agricultural Colleges and Industrial Universities now scattered over the continent.

Illinois, the first to ask, was among the first to accept the grant, and great public interest was immediately excited in the question of its organization and location. Princely donations, in some cases of half a million of dollars, were tendered by several counties to secure the location of the institution in their midst. In February, 1867, a law was passed fixing the location and defining the plan of the University, and in May of the same year the Board of Trustees met at the University Building donated by Champaign county, and finally determined the location. During the year much of the scrip was sold or located, necessary alterations were made in the buildings, apparatus and library were purchased, a faculty partly selected, and preparations made for active work. The 2d day of March, 1868, the University was opened for students, and on the 11th of the same month formal inauguration exercises were held. In 1869, the Legislature appropriated $25,000 to
the Agricultural Department for barns, tools, stock, etc., and $20,000 to the Horticultural Department for green house, barns, drainage, trees, tools, etc., besides $5,000 to Chemical Laboratory, and $10,000 for Library and apparatus. The present Legislature has lately appropriated $75,000 to begin the erection of a main building which is to cost $150,000; and $25,000 for a Mechanical Building and machinery, to include a large Drill Hall for the Military Department. Plans have been adopted and the erection of these buildings is to begin at once. The new Mechanical Building is to be ready for use at the opening of the Fall Term, and the walls of the main building are to be erected this year.

The University began in 1868 with seventy-five students. The number has rapidly increased, till now its catalogue shows a total number of two hundred and seventy-eight in attendance during the year closing June 7, 1871. As fast as required, the several Departments have been organized, till at length all the great industrial classes are represented, including Agriculturists, Mechanics, Engineers, Miners, Architects, Chemists, Merchants and Publishers, and each class may find here the instructions necessary to the best understanding and performance of its work.

In the Autumn of 1870 the University was opened for the instruction of female students, and now it offers all its advantages to all classes of society, without regard to sex, sect or condition.

LOCATION.

The University is situated in the city of Urbana, adjoining the limits of the city of Champaign, in Champaign county, Illinois. It is 128 miles from Chicago, on the Illinois Central Railroad. The new and splendid Indianapolis, Bloomington and Western Railway passes near the grounds. The county is one of the most beautiful prairie regions in the West. The two contiguous cities, constituting, really, only one community, have together a population of nearly 9,000, well supplied with churches and schools, and affording boarding facilities for a large body of students.

GROUNDS AND FARMS.

The lands occupied by the University embrace about 623 acres, divided as follows:

1. The Campus, about 13 acres, including ornamental grounds and a Military Parade ground.
2. The Horticultural Grounds, about 130 acres, embracing gardens, orchards, nurseries, arboretum and forest plantations.
3. The *Experimental Farm*, 70 acres, including the experimental plats and fields.

4. The *Stock Farm*, 410 acres.

The University owns another farm near Urbana, designed to be sold.

The experimental apple orchard has over 3,000 trees of nearly 1,400 varieties. The pear orchard has, already planted or growing in nursery, over 400 varieties of pears. The other fruit plantations embrace a large number of varieties of various fruit trees and small fruits.

The forest plantations already include 20 acres of timber trees planted in rows, and designed to illustrate artificial forest culture.

**BUILDINGS.**

The old University Building, now occupied partly by class rooms, library and laboratory, and partly with private rooms for students, is of brick, 125 feet in length and five stories in height, with a wing of 40 feet by 80 feet, four stories in height. The building was donated by Champaign county.

The new University Building, of which the above is a cut, is to be 214 feet in length, with wings extending back 124 feet. It is three stories beside basement and Mansard roof. It is designed wholly for public use, and will contain a large public hall for chapel and general exercises, large drawing rooms and thirty class and lecture rooms, sufficient for the instruction of 1,000 or 1,200 students. In one wing, to be made fire-proof, will be provided a spacious library and reading
hall, and large and commodious rooms for museums of Natural History and the useful arts. Several large rooms for literary societies will also be provided in the Mansard story. The building is surmounted by campanile towers for clock and bells.

The new Mechanical Building and Drill Hall is to be built this summer and to be ready for use in September. It will be of brick, 128 feet in length by 80 feet in width, two stories in height, with towers three stories in height, as shown in above perspective view. It will contain a boiler and forge room, a machine shop, furnished with steam engine, lathes, and other machinery; pattern and finishing shop, and shops for carpentry, cabinet work, wood working machinery, paint rooms, printing rooms, draughting rooms, and rooms for models, finishing, etc.

In the second story will be a large drill hall, 120 feet by 60 feet, sufficient for the evolutions of a company of infantry, or a section of a battery of field artillery. On the ground floor of one of the towers will be an armorer's shop, a band room, officer's rooms and a military model room.

The new Green House, shown here, is 70 feet by 24, exclusive of wing containing potting, seed and furnace rooms. There is, besides, another green house 12 feet by 35 feet.

The Veterinary Stables and operating rooms are to occupy the building heretofore used as shops. It is provided with a good yard and
sheds, and will be fitted up for practical instruction in the care and treatment of sick animals during the winter clinic.

The University has three barns belonging to the stock and experimental farms and gardens, and three dwelling houses for the superintendents.

We present here the plans and a perspective view of the farm house recently built on the Experimental Farm of the Industrial University. This house is designed to afford a fair model for a farmer's house. It is tasteful in appearance, economical in cost, and compact and convenient in arrangement. We offer it as another contribution to rural architecture.

Downing recognized the truth that a house should be in keeping with the scenery by which it is surrounded. One would build a very different style of house among the rugged hills of New England from that which would be appropriate on the prairies of Illinois. The house here shown is not so marked in style as to demand surroundings of any extreme type. If well set off by clumps of conical evergreens, or of tall and branching elms, it will look well on the prairie. The dimensions of the several rooms are given in the plans.

A cellar under the whole, walled with hard brick and having a cement floor, affords a laundry, a large cistern and an ample cellar, in two compartments, one of which may be given to dairy uses and the other to vegetables.

The front door is sheltered by a pleasant verandah, and the front hall or entry affords direct admission to office, parlor and kitchen. The "office," a small room which the intelligent farmer will find abundantly useful for his business affairs, will also serve as a library and
reading room on wet days, and in the evenings. The "parlor" is a spacious apartment, and rendered doubly pleasant by the bay window. The "kitchen" is also of good size, as many farmers' families make this the "living room," as they call it, where the cooking and eating are both done and the family work goes on. A lean-to, serving as a summer kitchen, and well room, has been added since the building was first erected.

A glance at the second floor will show a goodly number of sleeping rooms, all but two of which are supplied with good closets. There is room both for the farmer's own family and for the largest force he will need to employ in the hay and harvest fields.

The entire cost of the house, furnished, and well painted outside and in, was about $2,500. The summer kitchen was added afterwards, and was not included in the above amount.
We present at foot of preceding page the perspective, and below the plans of the basement and first floor of the Barn recently erected on the Stock Farm of the Industrial University. The barn has a north and west front of 80 feet each. Each limb, or ell, is 40 feet wide. It is of the kind known as a side hill barn.

In the basement plan, the space marked A is under the horse stalls and has a concrete bottom, sloping towards the cistern, O, designed to catch the liquid manures. The space marked U is a manure pit, open at both ends and sloping to the center with concrete bottom. R is a root cellar. C, the cook room, to be furnished with a steam boiler to steam food, and to run a small engine to furnish power for grinding, threshing and cutting. D is a set of hog pens, and E another set of pens or yard under the shed which extends along both sides of the barn in the angle. S represents a set of bull stalls for the several breeds. S, a series of stalls for fine breeding cows, with calf pens in the rear of each. O O shows the place of the large cisterns taking the water from the roofs. H shows location of the hay scales.

In the plan of the first floor, B B are bridges. T T T show trap doors in the rear of horse stalls to allow droppings to be thrown into manure pit. L shows a series of box stalls for breeding mares. G G grain bins. M a harness room. P a large ventilating tube or flue, leading from cattle room below to the cap above the roof. There are doors in the sides of this flue, through which hay can be thrown down for feeding the cattle. Above the main floor are ample hay lofts. The foundation walls are of heavy stone work.
PROPERTY AND FUNDS.

Besides the lands and buildings already described, which are with furniture, library, etc., valued at $216,000, the University owns 25,000 acres of well selected wild lands in Minnesota and Nebraska. It has also endowment funds, invested in State and county bonds, amounting to $364,000, besides other property and avails valued at $50,000.

LIBRARY.

The Library, which has been carefully selected to aid the scientific studies required in the several practical courses, includes now about 5,000 volumes, and an appropriation of $10,000 has just been made by the General Assembly for its increase. The large Library Hall is fitted up as a reading room, and richly provided with American, English, French and German papers and periodicals, embracing the most important scientific and art publications, monthlies, quarterlies, etc. The reading room, well warmed and lighted, is open every day and evening, and is constantly resorted to by the faculty and students. The following are some of the periodicals regularly received by the library:

AGRICULTURAL.
Agronomische Zeitung, (German.)
American Agriculturist.
American Bee-keeper's Journal.
Bonham's Rural Messenger.
California Farmer.
Carolina Farmer.
Central Union Agriculturist.
Chemische Ackersman, (German.)
Colman's Rural World.
Cultivator and Country Gentleman.
Farmer's Union.
Fruit Grower.
Hearth and Home.
Journal for Landwirtschaft, (German.)
Journal of Agriculture.
Kansas Farmer.
Landwirtschaft Versuchstation, (German.)
Massachusetts Ploughman.
Michigan Farmer.
North Western Farmer.
Ohio Farmer.
Prairie Farmer.
Rural Home Visitor.
Rural New Yorker.
Southern Cultivator.
Southern Planter and Farmer.
Western Farmer.
Western Rural.
Willamette Farmer.

EDUCATIONAL.
Michigan Teacher.

HORTICULTURAL.
Gardener's Monthly.
Horticulturist.
Southern Gardener.
Tilton's Journal of Horticulture.

MECHANICAL.
American Builder.
Architectural Review.
Manufacturer and Builder.
Scientific American.
Van Norstrand's Eclectic Engineers Magazine.
The Workshop.

CHEMISTRY AND NATURAL SCIENCE.
American Naturalist.
American Journal of Microscopy.
Annalen der Physik, (German.)
Comptes Rendues, (French.)
Zeitschrift Annalen Chemie, (German.)
AIMS OF THE UNIVERSITY.

"Its leading object 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 legislatures 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, Sec. 4.

"The Trustees shall have power to provide the requisite buildings, apparatus and conveniences; to fix the rates of tuition; to appoint such professors, and instructors, and establish and provide for the management of such model farms, model art, and other departments and professorships, as may be required to teach, in the most thorough manner, such branches of learning as are related to agriculture and the mechanic arts, and military tactics, without excluding other scientific and classical studies.—Act of General Assembly 1867, Sec. 7.

In accordance with the two acts above quoted, and under which the University is organized, it holds as its principal aim to offer freely the most thorough instruction which its liberal means will provide, in all the branches of learning useful in the industrial arts, or necessary to "the liberal and practical education of the industrial classes, in the several pursuits or professions in life." It includes in this, all useful learning—scientific and classical—all that belongs to sound and thorough scholarship.

It aims to make the fields of learning free to all, and all free, that whoever comes may learn what he wills.

It aims also to make learning practical. It would avoid the endless, and often useless study of books—of countless words and theorizings—and unite theory and practice, making books subservient to the practical knowledge of things. In its methods it employs the hand and eye, as well as the brain of the student, to the fullest extent, and seeks to fit him to act as well as to think.

Its practical aims will be best understood by a survey of the following departments of instruction, for which it offers the best facilities:
1. *Scientific Agriculture*, embracing Soil Culture in all its varieties, and for all crops, Animal Husbandry, Stock breeding, feeding, etc., Veterinary Science, Agricultural Chemistry, Rural Engineering and Drainage of lands.


6. *English Language and Literature*. A thorough and extended course in higher Grammar, Rhetoric, Criticism and Essay Writing, to fit students for editorial or other literary work, or teaching.

7. *Analytical Chemistry*. Chemistry applied to the Arts, Laboratory practice with reagents, blow-pipe, and spectroscope. A full course, to fit students to become Chemists, Druggists and Pharmacists.


13. *Commercial Science*, Book Keeping, Commercial Law, etc.


15. *Natural History*, Botany, Zoology, Geology, Physical Geography.

**FREEDOM IN CHOICE OF STUDIES.**

The University being designed, not for children, but for young men and women who may claim to know something of their own wants, powers and tastes, *entire freedom in choice of studies*, is allowed to each student, subject only to such necessary conditions as the progress of the classes, or the convenience in teaching, requires. It is not thought useful or right to urge every student, without regard to his capacity, taste or practical wants, to take entire some lengthened curriculum, or “course of studies.” Liberty every where has its risks and responsibilities as well as its benefits—in schools as well as in society; but it is yet to be proved that compulsory scholarship is necessarily better, riper and more certain than that which is free and self-inspired. Each student is exhorted to weigh carefully his own powers and needs, to counsel freely with his teachers, to choose with serious and independent consideration, the branches he may need to fit him for his chosen career, and then to pursue them with earnestness and perseverance, without faltering or fickleness.
It is necessarily required: 1st, That students shall be thoroughly prepared to enter and keep pace with the classes in the studies chosen; and 2d, That they shall take these studies in the terms in which they are taught in course.

It is expected that each student shall have three distinct studies, affording three class exercises each day. But on special request to the Faculty, he may be allowed less or more, to meet the exigencies of his course.

No change in studies can be made after the beginning of a term, without permission of the Faculty.

It is recognized that students will often need advice in the selection of studies and in the arrangement of a proper course. To meet this need the Faculty have carefully arranged several courses of studies which may be wisely followed by those who have no special reasons for diverging from them.

Due care will be taken to prevent, as far as possible, all abuse of the liberty of choice. Students failing to pass satisfactory examinations in their chosen studies, will not be permitted to remain and take other studies without a vote of the Faculty.

DEPARTMENTS AND COLLEGES.

Heretofore the courses of instruction have been exhibited only under the headings of the several Departments. It is found desirable, in order to afford a clearer view of the actual work of the University, to add the sub-divisions into Colleges. This implies no change in the character or plan of the University, but only the adoption of a usage now common in the American Universities, to exhibit more impressively the several courses of studies.

A Department embraces a single branch of study, taught usually by a single professor and his assistants, as the Department of English Literature, or of Mathematics.

A College includes a combined course, made up of the several branches needful for some one calling or profession. Thus, in the older universities, there were Medical Colleges and Law Schools, and in the new Industrial or Polytechnic Universities, are found Colleges of Agriculture, of Engineering, of Mechanical Science, etc.

Under the following several Departments will be found an exhibit of the nature and extent of the instruction afforded in each of the several branches of learning taught in the University. The student may learn from this the character of any branch and the time necessary to complete it.
Under the head of the several Colleges he will find marked out the course of studies needful to fit him for his chosen profession or pursuit. These studies are the same as those shown under the heads of the Departments, but each College embraces studies from several departments, taken not in full, but to such extent as the practical aim of the college course may require.

It is expected that each student will enroll himself in one of the colleges, though he may vary from the course of studies prescribed.

The course of studies, both in the Departments and Colleges, are subdivided according to terms and years, to meet the necessities of class teaching. The student is at liberty to take as many or as few of these terms of any particular study as his needs may require, or his time will allow, but the full course marked out will be found necessary to complete mastery of the subject.

DEPARTMENTS OF STUDY.

AGRICULTURE.

This Department embraces a thorough course of instruction in the theory and practice of land culture and cropping in its several varieties; Animal Husbandry, including stock and dairy farming; Sheep and Swine Husbandry and the principles of stock breeding. It includes also the principles of the amelioration of soil, veterinary science, and the general management of farming estates. For a statement of the full course of sciences involved in Agriculture, see the article headed "College of Agriculture."

The following presents a full course in this Department:

First Year—*The Farm.*—Its measurements and mapping; subdivisions—meadows, pastures, orchards, woodlands, gardens, etc. Fences, hedges, farm buildings. Soil—classification and mechanical treatment of soils, plowing, etc. Drainage. *Plant Culture*—Structure and physiology of plants; classes of the useful plants, their characteristics, varieties, and values. Wheat culture, maize culture, grass culture, root culture.

THIRD YEAR—Agricultural Economy.—Relation of Agriculture to the other industries and to Commerce. The several branches of Agriculture. Agricultural book-keeping—the farm-book, herd-book, etc. Rural Law.—Of tenures and conveyances of land, of highways, of cattle, of fences, of noxious weeds, etc. Laying out of large farming estates. Rural architecture and engineering. Foreign and ancient agriculture. History and literature of agriculture.

The instruction will be aided and illustrated with practical exercises on the experimental and stock farms, and in the management of fine and graded stock of several varieties. But it must be fully understood that it is no part of the business of the Department to teach the mere manual processes of plowing, hoeing, harvesting, etc., these can be learned in the employ of some good practical farmer, such as may be found in every township.

HORTICULTURE.

The studies in this Department will include the formation, management and care of gardens, hot-beds, propagating houses, green houses, nurseries, orchards, tree plantations and ornamental grounds. The instruction will be from text-books, and by lectures in the class room, together with illustrations and applications in the propagating and green houses, botanical garden and arboretum, and upon the vegetable and fruit grounds.

FIRST YEAR—First Term.—Composition and classes of soils, with reference to their uses; fertilizers, vegetable physiology, and laws of growth of plants. Second Term.—Chemical treatment of soils; manufacture and application of manures; laying out and mapping of grounds. Third Term.—Mechanical treatment of soils. Drainage. Insects injurious to vegetation.


MECHANICAL SCIENCE AND ENGINEERING.

The studies of this Department are intended to qualify young men for the designing, construction or superintendence of all kinds of machinery. It will embrace a thorough course of instruction in the principles of mechanical philosophy, of mechanical devices and the parts of machines, of pattern making, finishing and mechanical proportion, and of mechanical designing and drawing.
A very important element of mechanical training, too often overlooked, is that of shop practice. Many of the schools of mechanical engineering have met with but partial success from the neglect of this important element of instruction. Here practical instruction goes hand in hand with the study of theory, not for the purpose of teaching mere mechanic art, which can be learned in any of the thousand shops of the country; but to give a practical character and value to the instruction, and to teach more effectually the work of the mechanical engineer.

First Year.—First Term.—Drawing. The use of draughting Instruments by the student in delineating various objects placed before him. Principles of Projection and Isometrical Drawing. Application of water colors in Finishing drawings by Tinting and Graining. Second Term.—Descriptive Geometry. Generation of lines and surfaces of single and double curvature; Graphical solution of various problems by the theory of Projections; Construction of Tin and Sheet Iron workers' patterns.

Second Year—First Term.—Designing and Drawing. Practice in making working drawings of Original Designs. Designing of Machines intended for specific purposes, the parts shaped, proportioned and arranged by the student. Second Term. Shades, Shadows and Perspective. Principle of Light and Shade; Use of Water Colors in giving actual external appearance. Projection of Shadows, representing objects as shown in direct light. Finished and Colored Perspectives or Pictures. Practical Mechanics. Shop practice in constructing Models or Machines from working drawings of the student's own design; Making Patterns for moulder's use; Moulding and casting brass and other metals; Bench work, filing. Third Term—Practical Mechanics continued. Shop practice in constructing machines and models. Study of cutting tools, such as Drills, Counterbores, Reamers' Turning Cutters or Tools, Revolving or Milling Cutters, Taps, Dies, Chasers, Knerls, Dial Plates for Gear Cutters, etc.

Third Year—First Term.—Cinematics or Comparison of Motion. Relative motion of points in any system of connected lines of pieces; motion, considered independent of force; velocity ratio. Principles of Mechanism. Cinematics applied to the investigation of the motion of different elementary parts of machines, such as friction wheels; curves in rolling contact; cams and curves in sliding contact; correct working gear teeth; gearings chains; escapements; link work; cylindrical, conical and double screws. Second Term. Analytical Mechanics. Equilibrium and resultant of forces; principle of moments and of virtual velocities; determination of "Center of Gravity"; support of bodies on inclined planes; friction considered in connection with motion of bodies upon surfaces; relation of force, time and space when bodies are projected in the air. Motion of rotating and vibrating masses. Physics. Properties of matter; liquids and gases; laws of falling bodies; Atwood's Machine; weight in different latitudes; molecular forces; elasticity and compressibility; theory of undulations and vibrations; musical instruments; light; solar spectrum and mode of ascertaining the composition of the Sun, stars and nebule. Correction of the aberration of lenses for microscopes, telescopes and other optical instruments. Third Term—Analytical Mechanics continued. Motion of Material points as constrained to move in given paths; amount and center of hydrostatic pressure upon surfaces. Descriptive Astronomy—Relative size and position of the Earth as compared with other heavenly bodies, and the movement among them; relative mass and density of the distinct bodies of the solar system; parallax aberration and velocity of light; precession nutation; physical construction of the Sun, planets, comets, stars, nebule, etc. Physics continued—Heat. Intensity, quantity and effects, latent and specific heat; steam
heating apparatus; ventilating and warming of buildings; heating power of fuel; mechanical equivalent heat. Magnetic dip, declination, variation, intensity, etc.; convertibility of magnetism and electricity; identity of lightning and the electric spark; proper form of lightning rods, electric telegraph.


**CIVIL ENGINEERING.**

The studies of this Department extend through four years. Those of the first three will prepare a student for undertaking many engineering operations, such as the building of railroads, canals, embankments, etc. The fourth year is intended for those who wish to fit themselves for the higher engineering constructions, such as the building of arches, trussed bridges, and supporting frames of all kinds.

**First Year—First Term.—**Projection drawing. [See Mechanical Department.] Second Term.—Descriptive Geometry. Representation and discussion of lines, surfaces, angles, etc., by their projections; solution of problems.

**Second Year—First Term.—**Surveying, chain, compass and transit instruments applied to land surveying; laying out, parting off and dividing up land; running perpendiculars and parallels; measuring inaccessible distances and angles; method of survey of the public lands of the United States. Leveling; measuring the difference of height between two or more points. Maps and plats of surveys. Second Term.—Shades, shadows and perspective. [See Mechanical Department.] Topographical surveying and drawing. Surveys made with the transit and leveling instruments in the ordinary way, also by the more approved modern methods as adopted upon the government surveys of the United States, with the stadia, for the determination of heights above a datum plane of different points; location of contour lines passing through points of equal height; field sketching, etc.

**Third Year—First Term.—**Roads and railroads. Preliminary surveys and final location of ideal roads by the actual use of engineer's instruments in the field; laying out on the ground of circular and parabolic railroad curves, turnouts, crossings, etc.; elevation of the outer rail; cuttings and embankments; plans, profiles, sections, etc. Second Term.—Analytical mechanics and physics. [See Mechanical Department.] Third Term.—Analytical mechanics and physics continued. [See Mechanical Department.] Also, three year students: Mahan's Civil Engineering. Building materials; results of experimental researches on strength of materials; masonry; framing; foundations; embankment walls; canal locks; sea-coast improvements.

**Fourth Year—First Term.—**Strength of materials. Tensile compressive and transverse strength and elasticity of steel, iron, wood and stone, when in the form of beams, pillars, etc. Hydraulics. Flow of liquids through orifices, weirs, pipes, canals, rivers, and the distribution
of water and gas in cities. Practical Astronomy. Use of the sextant, transit, equatorial and zenith instruments in the determination of latitude and longitude, by the method of equal altitudes; circum-meridian altitudes; meridian transits, and any altitude of a star or the Sun. Second Term.—Stability of frames. Derivation of formulae for the strength and stability of the various members of trussed frames of all kinds, such as trussed bridges and roofs; steel iron, and stone arches; stability of a wall sustaining a building, roof, pressure of water in dams, or pressure of earth in embankments. Construction drawing. Drawing of existing engineering constructions, with due regard to the most approved methods of uniting materials in structures. Third Term.—Stone cutting. Application of the theory of descriptive geometry and graphics to the determination of the dimensions and form of stone required in buildings; plain, groined, cloistered, skew, and other arches; lining for tunnels, etc. Geodesy. Determination of the figure of the earth; methods of conducting extended surveys of the earth's surface; ordinary methods of measuring base lines; method by the standard compensating rods of the United States Coast and lake surveys; running of standard meridians and parallels for government land surveys, etc. Drawing. Finished drawings of bridges and other structures.

MINING.

This Department embraces two branches of studies: 1st. Engineering operations; including mine surveys, the opening and working of mines, all mining constructions, etc., taught at present in the College of Engineering. 2d. The subjects of Mineralogy, Metallurgy, Assaying, treatment of ores, smelting, etc., as taught in the College of Chemistry. The course in Engineering and in Metallurgy will be found under the head of those two colleges.

ENGLISH LANGUAGE AND LITERATURE.

In the arrangement of the studies in this Department, the endeavor has been to present so thorough and extended a drill in grammatical and philological study, and in the authors and history of our language, as to afford the advantages, so far as may be, of the ordinary study of Latin and Greek.

The course is arranged to extend through three years, but it may be shortened according to the ability or needs of the student.

Instruction will be given by text books and lectures; and constant practice in essay writing, forensics, presentation of plans and criticisms, will be required. Public declamations, original or selected, and original essays, are required of every student at least twice a term, during his entire connection with the University.

First Year—First Term.—Punctuation; use of capitals; sources of the English language; principles of composition and essay writing. Second Term.—Primary rhetoric; advanced grammar; philological and grammatical analysis of modern authors. Third Term.—Advanced grammar; philological and grammatical analysis of Milton and other authors; history of their times and contemporaries.

Second Year—First Term.—Grammatical and philological analysis of Shakespeare and early dramatists; history of the times and contemporaries of Shakespeare. Second Term.—
Grammatical and philological analysis of Spenser, Gower, Chaucer, etc., and history of their times. **Third Term.**—History of English literature, essays and criticisms.

**Third Year.**—History of English and American literature, essays and criticisms. **Second Term.**—Rhetoric proper; invention; plans, etc. **Third Term.**—Elements of criticism; methods of philological study, etc.

**GERMAN LANGUAGE AND LITERATURE.**

This language being of quite practical value to the farmer and artisan of this country, it will be taught thoroughly in a two years' course. The first year aims to enable a student to read such German scientific works as his course demands. The second year completes the course, and makes the student thoroughly acquainted with the language.

**First Year.**—**First Term.**—Worman's Complete German Etymology, to lesson 28. **Second Term.**—Etymology completed; Conversational Reader; German Echo commenced. **Third Term.**—Syntax; Reader completed.

**Second Year.**—**First Term.**—Review of Etymology; Classic Reader. **Second Term.**—Review of Syntax; Schiller's William Tell; Goethe's Iphigenia. **Third Term.**—Lectures on the German Language; conversation and composition; Schiller's Jungfrau von Orleans; reading of German papers through second and third terms.

Books for reference—Grimm's Deutsche Sprachlehre; Adler's Dictionary.

**FRENCH LANGUAGE AND LITERATURE.**

The course of instruction in French will extend through two years, but students who desire to pursue the language only far enough to enable them to read the scientific works which they may find it necessary to consult, are expected to acquire sufficient for this in a single year. The reading room is well supplied with French Agricultural and Scientific journals, and much of the best French literature.

**First Year.**—**First Term.**—Etymology. Oral exercises in French pronunciation; written exercises in translating English into French. **Second Term.**—Etymology. Select readings; conversazioni weekly. **Third Term.**—Syntax. Translating; French composition; conversazioni, weekly.

**Second Year.**—**First Term.**—Review of Grammar; classic French literature; conversazioni, weekly. **Second Term.**—Modern French Literature, novels, comedies, etc.; conversazioni, weekly; composition. **Third Term.**—Modern French Literature continued; history of French Literature; written criticisms of French authors by the class weekly.

**LATIN LANGUAGE AND LITERATURE.**

Students will not be admitted to this department who are not prepared to enter at once upon the reading of Cicero.

**First Year.**—Orations of Cicero; Latin prose composition begun and continued through the course; selections from Virgil; Latin prosody.

**Second Year.**—Selections from Livy; Horace; Juvenal.

**Third Year.**—Cicero de Officiis; Cicero de Oratore; lectures on the origin and structure of the Latin language; Friese's Quintilian. Other authors will occasionally be substituted in the place of some of the above.
GREEK LANGUAGE AND LITERATURE.

This course will resemble that in the Department of Latin.

FIRST YEAR.—First three books of Xenophon's Anabasis; Herodotus; Greek prose composition begun and continued throughout the course.

SECOND YEAR.—Demosthenes; Thucydides; Homer's Iliad.

THIRD YEAR.—Xenophon's Memorabilia of Socrates. Selections from Plato and Greek poets.

Select portions of Smith's History of Greece will be read in course, and lectures given on Greek history and philosophy.

CHEMISTRY.

The full course in this Department will occupy four years, and is designed to make students at home in the applications of chemistry to agriculture, and the arts and manufactures; in a word, to make them thorough chemists.

FIRST YEAR—First Term.—Inorganic Chemistry and Chemical Physics. Second Term.—Organic Chemistry. Third Term.—Qualitative Analysis—detection of the alkalies, the alkaline earths, the earths, the metals, the mineral acids and the organic acids. Use of the blow-pipe and the spectroscope. Crystallography and Descriptive Mineralogy. Instructions on the subject will be given by lectures, and the students will have practice in determining minerals.

SECOND YEAR—First Term.—Qualitative Analysis—a series of substances for practice in the detection and separation of the elements. Practice in Mineralogy continued. Second Term.—Quantitative Analysis. Salts, minerals, ores, alloys, furnace products, etc. Third Term.—Quantitative analysis of soils, manures, ashes of plants and mineral waters.

THIRD YEAR—First Term.—Quantitative Analysis continued; assaying; volumetric analysis. Second Term.—Organic Analysis. Detection and separation of organic acids and bases, and other organic compounds. Third Term.—Quantitative Organic Analysis: 1st, of compounds containing carbon and hydrogen; 2d, of compounds containing carbon, hydrogen and oxygen; 3d, estimation of nitrogen, sulphur, chlorine, bromine and iodine in organic compounds.

FOURTH YEAR—First Term.—Preparation of chemicals. Second Term.—Chemistry applied to the arts of dyeing, bleaching, calico printing, electrotyping and photographing. Third Term.—Lectures on the manufacture of glass and porcelain, the smelting of ores; heating and illumination, etc.

ARCHITECTURE.

This Department is for the present appended to the College of Engineering. Its studies embrace many of those belonging to the course in Civil Engineering. They include, also, Architectural Drawing, the principles and styles of Architecture, the history of Architecture, and plans and estimates for buildings of all kinds.

NATURAL HISTORY.

FIRST YEAR—Second Term.—Structural and Physiological Botany. Form, arrangement, structure, morphology, growth and office of the leaves and flowers; forms, growth and office of the stem and root; cellular tissue, cell development, cell contents and cell transformations; structure, parts and uses of seeds and fruits, and the food, nutrition and repro-
duction of plants—the whole illustrated by living and dried specimens and drawings. Also enough of Systematic Botany to enable the general student to analyze the flowering plants.

Third Term.—Botany in lectures: 1st, the natural orders, their extent, properties, uses and distribution; 2d, use of the microscope. Vegetable Physiology continued. Classification—distribution and reproduction of cryptogamous plants.

Second Year—First Term.—Systematic Botany. Practical examination and collection of the flowering and flowerless plants from all parts of the State, as far as practicable. Botanical excursions and surveys. Zoology. Principles of Zoology. Development, structure, classification and distribution of animals. Second Term.—Systematic Zoology in lectures: 1st, natural orders, families, etc.; 2d, Embryology and peculiar modes of reproduction; alternate generation; Comparative Anatomy as applied to classification. Collection and preservation of specimens, and Natural History of domestic animals. Third Term.—Entomology. Classification of insects; habits of those injurious to vegetation, with means of checking their ravages. Habits of beneficial species.


Fourth Year—First Term.—Historical Geology. Second Term.—Physical Geography and Meteorology. Third Term.—Special Geology of Illinois. Method of conducting surveys. Practical excursions.

PURE MATHEMATICS.

The studies of this Department extend through eight terms. Those of the first six are, it is thought, what the general student will require; the seventh is considered necessary, and the eighth desirable for the engineer.

First Year—First Term.—Geometry, Davies' Legendre, i-v books; elementary principles, ratios and proportions, the circle and the measurement of angles, measurement and properties of polygons, area of the circle. Second Term.—Geometry, vi-ix books; planes; polyedral angles; the prism, pyramid, cylinder, cone and sphere, the properties and measurement of; area of a spherical polygon, of a lune; measurement of spherical angles. Algebra, Davies' Bourdon, chapters vi and vii; formation of powers; binomial theorem; extraction of roots of any degree; radicals of any degree; theory of exponents. Third Term.—Higher Algebra; series, properties and summation of; binomial theorem, general demonstration of; exponential quantities; logarithms; general theory of equations.

Second Year—First Term.—Trigonometry, plane, spherical and analytical; formation and use of tables; solution of right angled and oblique angled triangles; relations between the circular functions of any arc. Second Term.—Analytical Geometry; geometrical construction; point and right line on a plane; properties and measurement of the circle, ellipse, parabola and hyperbola; point, right line, plane and surface of revolution in space. Third Term.—Differential Calculus; differentials of algebraic functions of a single variable; Maclaurin's Theorem; Taylor's Theorem; differentials of transcendental functions; maxima and minima of functions of a single variable; equations of tangent and normal; expressions for sub-tangent, sub-normal, etc.; differentials of an arc, plane area, surface and volume of revolution. Integral Calculus; integration of monomials, of particular binomials, of rational fractions; applications in the rectification and quadrature of curves, in the quadrature of surfaces of revolution, and in the cubature of volumes of revolution.

Third Year—First Term.—Analytical Geometry; curves in space; discussion of the general equation of the second degree; discussion of the surfaces of the second order. Differential Calculus; differentials of functions of two or more variables; maxima and minima of
functions of two or more variables; tendency of curves to coincide; osculatory curves; radius of curvature; evolutes and involutes; envelopes; construction and discussion of algebraic curves, the logarithmic curve, the cycloid, spirals; general surfaces; equations of tangent plane and normal line; partial differentials of a surface and of a volume. Integral Calculus; integration of the differentials of circular functions and of circular arcs; of certain irrational differentials; of differentials containing transcendental quantities; of the differentials of the higher orders; and of differential equations; rectification and quadrature of curves; cubature of volumes in general. Second Term.—Calculus of Variations. Method of Least Squares.

HISTORY AND SOCIAL SCIENCE.

The instruction in this Department will be given partly with text books, but chiefly by lectures, with systematic readings of specified authors, and daily examinations on the same. The study of historical geography will keep even pace with the history studied, and the chronology will be rendered as clear and distinct as possible. Written exercises on chronology, and essays in historical criticism, will constitute prominent features of the course.

First Year—First Term.—Discovery, settlement and colonial history of the United States, with notices of other American States; American geography. Two lectures (or lessons) a week. Second Term.—History of the United States from the time of the Revolution. Two lectures (or lessons) a week.

Second Year—First Term.—Ancient History of Greece and Rome, with notices of other ancient nations; ancient Geography. Five lessons (or lectures) a week. Second Term.—Medieval history. Third Term. Modern history—general European history: European geography. Five lessons (or lectures) a week. Political economy.

Third Year—First Term.—Constitutional history of England, and of the United States. Two lectures a week. Second Term.—History of Civilization; analysis of historical forces and phenomena; notices of the history of the arts and of the inductive sciences. Third Term.—Political philosophy; constitutional and international law.

COMMERCIAL.

The course in this Department will occupy one year, the first term of which will be occupied in teaching the principles of book-keeping in general; the second, their application to special lines of business, general business forms and papers, and the third, to the higher operations of a counting house, commercial law and political economy. Students who wish to prepare for a commercial career, and also acquire a general education, may extend this course through two or more years, by taking such collateral studies as their contemplated vocation may render desirable. Studies recommended for this purpose, would be: The English and German Languages, Mathematics, one or two terms of Chemistry (for druggists, etc.), and History.

First Term.—Book-keeping by single and double entry; theory of mercantile accounts, and the several principal and auxiliary books. Penmanship; commercial calculations.
Second Term.—Partnership accounts; commission and shipping; farm books; business forms and papers; notes, drafts, exchange, endorsements; bills of lading; accounts current; account sales; inventories, invoices, etc. Commercial correspondence.

MILITARY SCIENCE AND TACTICS.

This Department is organized under the provision of the Acts of the National and State Governments, requiring the instruction in Military Tactics. The Board of Trustees of this University have adopted the rule, that all students shall, unless excused for sufficient cause, take part in military exercise, as aggregation of numbers is a paramount necessity to render such instruction effective.

The instruction in this Department will be given in two sub divisions, arranged as follows:

1. Practical instruction in Military Tactics (for the present, confined to the infantry arm), to all able-bodied students of the University, comprising the following branches:

   Manual of arms; squad and company drill; bayonet exercise; skirmish drill; battalion drill; guard and picket duty; evolutions of the brigade; target practice.

   The exercises are confined to three hours' drill and instruction per week.

2. Military Science. There will be taught a class in Military Science and Art, as far as it is necessary for duties as officers of the line. Students will be admitted into this class after having participated at least two terms in the general military exercises, and shown such proficiency and ability as may secure a utilization of the instruction thus received.

   The instruction, theoretical and practical, is to occupy not to exceed five hours each week, and is so arranged as not to interfere with any courses of study, and make it possible for the member of any other course to engage in it as an optional study.

   The members of this class will officer the companies, and act as drill sergeants and instructors for the lower classes.

As collateral studies, for such as make this course a specialty, are recommended Mathematics and Surveying, English and Modern Languages, Drawing, one term of Chemistry, History and Political Economy.

FIRST YEAR—First Term.—School of the company; bayonet fencing. Second Term.—Battalion and skirmish drill; Bayonet fencing. Third Term.—Brigade and division evolutions; target practice, and theoretical instruction on the rifle and fire arms.

SECOND YEAR—First Term.—Military administration; reports and returns; army regulations and military laws; Sword fencing. Second Term.—Outpost and picket duty (Mahon's); sword fencing. Third Term.—Military fortification, field and permanent; military bridges and roads; target practice.

THIRD YEAR—First Term.—Artillery practice; field artillery; drill at the cannon. Second Term.—Military Engineering; Cavalry tactics, theoretical. Third Term.—Art. of War (Jomini); Military History and statistics; organization and administration of armies.

There is formed now a battalion of four companies, officered by the students of the military class, and battalion drill and skirmish drill were practiced last term.
PHILOSOPHY AND LOGIC.

The studies of this Department extend through the last year of the full courses, and are taught chiefly by lectures, with readings of specified authors and written essays. The course is as follows:

**First Term.**—Mental Philosophy. Analysis and classification of mental phenomena. Theories of perception; Imagination; Memory; Judgment; Reason; Intuition. The aesthetic. Phenomena of dreaming, clairvoyance, and insanity. Doctrines of the absolute and the unconditioned. The philosophy of education.

**Second Term.**—Moral Philosophy (three lectures a week). Theory of conscience; nature of moral obligation; moral feeling; the Right; the Good. Practical ethics; Duties. Formation of character. Logic, formal and inductive, (two lectures a week, alternating with Moral Philosophy).

**Third Term.**—History of Philosophy. Ancient schools of philosophy; Scholasticism; Modern schools of philosophy; Influence of philosophy on the progress of civilization, and on modern sciences and arts. Inductive logic.

COLLEGE OF AGRICULTURE.

FACULTY.

The Regent, Professor of Political Economy.
DR. MANLY MILES, Professor of Agriculture.
T. J. BURRILL, Professor of Horticulture and Botany.
A. P. S. STUART, Professor of Chemistry.
EDWARD SNYDER, Professor of Agricultural Book-Keeping.
S. W. ROBINSON, Professor of Agricultural Machinery.
S. W. SHATTUCK, Professor of Agricultural Engineering.
D. C. TAFT, Professor, pro tempore, of Geology of Soils.
DR. H. J. DETMER, Lecturer on Veterinary Science.
HON. W. C. FLAGG, Superintendent of Agricultural Experiments.

The College of Agriculture has two Divisions, which, for convenience, are styled Schools:

1. The School of Agriculture Proper.
2. The School of Horticulture and Fruit Growing.

1.—THE SCHOOL OF AGRICULTURE.

The aim of this school is to educate scientific agriculturists. The frequency with which this aim is misunderstood by the community at large, demands that it shall be carefully explained. Many, looking up-
on agriculture as consisting merely in the manual work of plowing, planting, cultivating and harvesting, and in the care of stock, justly ridicule the idea of teaching these arts in a college. The practical farmer who has spent his life in farm labors, laughs at the notion of sending his son to learn these from a set of scientific professors. But all of this implies a gross misunderstanding of the real object of agricultural science. It is not to teach how to plow, but the reason for plowing at all,—to teach the composition and nature of soils, the philosophy of plowing, of manures, and the adaptations of the different crops and cultures. It is not to teach how to feed; but to show the composition, action and value of the several kinds of food, and the laws of feeding, fattening, and healthful growth. In short it is the aim of the true Agricultural College to enable the farmer to understand thoroughly and profoundly, all that men can know about soil and seed, plants and animals, and the influence of light, heat and moisture, on his fields, his crops, and his stock; so that he may both understand the reason of the processes he uses, and may intelligently work for the improvement of those processes. Not "book-farming," but a knowledge of the real nature of all true farming—of the great natural laws of the farm and of all its phenomena—this is the true aim of agricultural education. And when it is recollected that agriculture involves the principles of a larger number of sciences than any other human employment or profession, it will not be regarded as an unfit end of a sound collegiate training.

The instruction unites, as far as possible, Theory and Practice—Theory explaining Practice, and Practice illustrating and enforcing Theory.

Apparatus.—The College has for the illustration of Practical Agriculture, a large stock farm of 410 acres, provided with a large stock barn, fitted up with stables, pens, yards, cooking room, etc.; and fine stock of several breeds of neat cattle, sheep and swine are to be purchased at an early day. It is well supplied with farm machinery and tools.

There is also an experimental farm of about 70 acres, exclusive of orchards, etc. This is divided up into experimental plats and fields. A clinic for sick animals is held in the Fall or Winter Term, to furnish opportunity for the practical study of Veterinary Science. During the clinic, held last winter, nearly 60 diseased animals were presented for treatment, and the students took active part in prescribing for them.

Surveying and Drainage are illustrated by practice in the field. Chemistry is pursued by work in the laboratory. Collections of seeds,
soils, plants, implements, skeletons of animals, models and apparatus are provided to illustrate the several branches of Agricultural Science.

_Admission._—Candidates must pass a thorough examination in Arithmetic, English Grammar, Geography and History, and in Algebra to equations of the 2d degree.

The recommended course, which follows, occupies four years:

**First Year.** _First Term._—Geometry, Chemistry, English or Latin History, 2 lectures a week. _Second Term._—Botany, Chemistry, English or Latin History, 2 lectures a week. _Third Term._—Botany, Analytical Chemistry, English or Latin.

**Second Year.** _First Term._—Soils and Fertilizers, Vegetable Physiology, Trigonometry and Surveying, German or Chemistry. _Second Term._—Plant Culture, Chemical treatment of Soils, Manufacture of Manures, Drawing and Mapping, Zoology, German or Chemistry, Physics. _Third Term._—Mechanical treatment of Soils and Drainage, Entomology, German or Chemistry, Physics.

**Third Year.** _First Term._—Fruit growing, Orchards, etc.; Comparative Anatomy and Physiology, French or History. _Second Term._—Animal husbandry, breeding, etc.; Geology, French or History. _Third Term._—Agricultural book-keeping, Farm records, etc.; Political Economy, French or History.


2.—_SCHOOL OF HORTICULTURE._

The aim of the School of Horticulture is to educate scientific horticulturists. Its course embraces such studies as are necessary to thorough mastery of gardening, fruit growing, and forestry.

_Apparatus._—To give a practical character to the special studies of the course, the school is provided with ample horticultural grounds of about 130 acres, including 20 acres of forest plantations, 10 acres of ornamental grounds, several acres of nurseries, and large garden plats. It has an apple orchard of 3,000 trees of about 1,400 varieties, a pear orchard of nearly 400 varieties, and small fruits of many kinds. It has also two green houses well filled with rare exotics and flowering plants. It is supplied with the best garden machinery and tools. It has also many plans of ornamental grounds and parks.

_Admission._—The conditions of admission are the same as those for the School of Agriculture.

The course of recommended studies is as follows:

**First Year.** _First Term._—Geometry, Chemistry, English or Latin; History, two lectures a week. _Second Term._—Botany, Chemistry, English or Latin; History, two lectures a week. _Third Term._—Botany, Analytical Chemistry, English or Latin.

**Second Year.** _First Term._—Soils and Fertilizers, Vegetable Physiology, Trigonometry and Surveying, German or Chemistry. _Second Term._—Plant Culture, Chemical treatment of
Soils, Manufacture of Manures, Drawing and Mapping, Zoology, German or Chemistry, Physics. Third Term.—Mechanical treatment of Soils and Drainage, Entomology, German or Chemistry, Physics.

Third Year. First Term.—Fruit growing, orchards, etc.; Comparative anatomy and physiology, French or History. Second Term.—Nursery plans and records, Geology, French or History. Third Term.—Vegetable garden and small fruits, Political Economy, Book-keeping, French or History.


COLLEGE OF MECHANICS AND ENGINEERING.

FACULTY.

The Regent.
S. W. Robinson, Professor of Mechanical Science and Engineering.
S. W. Shattuck, Professor of Mathematics.
A. P. S. Stuart, Professor of Applied Chemistry.
Alex. Thompson, Teacher of Railroad Engineering.
James Bellangee, Teacher of Architectural Drawing.

This College, for the present, embraces the following Schools: 1st, the School of Mechanical Science and Engineering. 2d, the School of Civil Engineering. 3d, the School of Mining, and 4th, the School of Architecture.

1.—SCHOOL OF MECHANICAL SCIENCE.

The aim of this School is to fit students to become Mechanical Engineers, and to prepare them to invent, construct and manage all kinds of machinery. The instruction, while severely scientific, is also severely practical, and aims at a thorough understanding and mastery of all the mechanical principles and devices. Shop practice is required as a regular study in the course. The students of this department, under the direction of the Foreman, have manufactured a steam engine, several lathes, and many pieces of finely finished apparatus. They also have done a large amount of work for outside parties, including patterns for castings, models for the Patent Office, a heliotrope for the United States Coast Survey, several thermometer graduating machines, and some pieces of scientific apparatus for other institutions.
Several of the foregoing and some others were invented by the Instructors. Three patents have been allowed for the inventions made in this department during the past year.

Apparatus.—The new Mechanical Building, which is to be ready for occupancy at the opening of the Fall term, in September next, will have a large machine shop fitted up with a steam engine, with power and hand lathes for iron and brass, a planer, drilling machine, a lathe for wood turning, benches and vises for a large class of students. It will also contain a boiler and forge room, with forges and tools, and brass furnace; a carpenter's shop, with benches and sets of bench tools, lathes, buzz and jig saws, etc.; paint and printing rooms, and draughting, finishing and model rooms. The College has also good collections of apparatus for the illustration of the principles of Physics and Mechanical Science.

The following is the course of studies recommended:

FIRST YEAR—First Term.—Geometry, Drawing, English or Latin, History, two lectures a week. Second Term.—Geometry and Algebra, Descriptive Geometry, English or Latin, History. Third Term.—Algebra, Botany, English or Latin.

SECOND YEAR—First Term.—Trigonometry, Designing and Drawing; Chemistry. Second Term.—Analytical Geometry; Shades, Shadows and Perspective, Shop Practice. Third Term.—Calculus, Shop Practice, Chemical Analysis.

THIRD YEAR—First Term.—Calculus, Principles of Mechanism, French or German, History. Second Term.—Analytical Mechanics; Physics, French or German, History. Third Term.—Analytical Mechanics and Astronomy, Physics, French or German.

FOURTH YEAR—First Term.—Hydraulics, Pneumatics, Thermo-Dynamics, Strength of Materials, Geology. Second Term.—Prime movers and mill work, Complete Drawings of existing machines and tools; History of Civilization Logic. Third Term.—Mill work and machines; Complete Drawings, estimates and designs, Constitutional Law, or Political Economy, Inductive Logic.

2.—SCHOOL OF CIVIL ENGINEERING.

This school is designed to make good practical Engineers, thoroughly prepared for all branches of Engineering work, Railroad surveys, Topographic and Geodesic Surveying, Bridge building, Government Surveying, etc. Several of the students, though not yet through their course, have already been honored with positions on the Coast Survey, and on important Railroads.

Apparatus.—This school is provided with a good Engineer's transit, a compass, an English level, two leveling rods, two brazed link steel chains, Gunther's and Engineers' instruments for Stadia surveying, adopted in the Government Surveys. It has also a model truss bridge 20 feet in length, with moveable braces, and other apparatus for practical illustration.
The course of studies recommended is as follows:

First Year.—First Term.—Geometry, Drawing, English or Latin; History, two lectures a week. Second Term.—Geometry and Algebra, Descriptive Geometry, English or Latin, History. Third Term.—Botany, Algebra, English or Latin.

Second Year.—First Term.—Trigonometry, Surveying, Chemistry. Second Term.—Analytical Geometry, Analytical Chemistry or Rhetoric, Shades, Shadows, and Perspective. Third Term.—Calculus, Topographical Surveying and Drawing, Mineralogy and Lithology.

Third Year.—First Term.—Calculus, Roads, Railroads, and Mapping, French or German. Second Term.—Analytical Mechanics, Physics, French or German. Third Term.—(3 year students, Mahan's Engineering.) Mechanics and Astronomy, Physics, French or German, History.


3.—School of Mining Engineering.

The course for Mining Engineers differs from that of the Civil Engineering, only in the substitution of Mine Surveys and Constructions, Metallurgy, and Assaying, for Roads and Railroads, Topographical and Geodesic Surveying, and stone cutting.

4.—School of Architecture.

The course in Architecture corresponds nearly with the course in Civil Engineering, adding to it the course in Architectural Drawing, Styles of Architecture, and the study of public buildings.

**College of Chemistry.**

**FACULTY.**

The Regent.

A. P. S. Stuart, Professor of Analytical Chemistry.

Robert B. Warder, Assistant in Laboratory.

The object of this College is the education of professional Chemists, Pharmaceutists and Metallurgists. It furnishes, also, facilities to such as wish to pursue a course of Chemistry applied to any of the arts, as glass-making, dyeing, tanning, gas manufacture, electrotyping, photography, etc.
The College is provided with a laboratory fitted up with tables, gas pipes, chemicals and chemical apparatus for a large class to practice. It has also sand baths, stills for water, etc., scales of the highest accuracy and finish, a large binocular microscope of English manufacture, spectroscope, blow-pipes, galvanic batteries, and other important chemical apparatus. An appropriation of $5,500 has recently been made by the General Assembly to increase the apparatus and facilities for this department of study, and it is expected that this fund will be expended this summer under the direction of the Professor of Chemistry.

First Year—First Term.—Geometry, Chemistry, English Language and Literature, U. S. History, two lectures a week. Second Term.—Chemistry, Geometry and Algebra, English or Botany, U. S. History, two lectures a week. Third Term.—Analytical Chemistry, Botany, English Literature.

Second Year—First Term.—Trigonometry, Analytical Chemistry, German. Second Term.—Analytical Geometry, Physics, Analytical Chemistry, German. Third Term.—Practical Chemistry; Mineralogy and Crystallography, Physics, German.

Third Year—First Term.—Drawing, Chemistry and Mineralogy, French, Ancient History. Second Term.—Practical Chemistry, Rhetoric, French, Medieval History. Third Term.—Paleontology and Astronomy, Practical Chemistry, French, Modern History.


The above course will necessarily vary for the student of Agricultural Chemistry, and the student of Mining and Metallurgy.

COLLEGE OF NATURAL HISTORY.

FACULTY.

Thomas J. Burrill, Professor of Botany.
A. P. S. Stuart, Professor of Mineralogy.
D. C. Taft, Professor, pro tempore, of Zoology and Geology.

The aim of this College is to afford a thorough education and preparation for Practical Geologists, Collectors and Curators of cabinets and museums of Natural History, and for Superintendents of scientific explorations and surveys.

The several Departments are being rapidly provided with illustrative collections and other apparatus. The Botanical Department has a
large Herbarium of dried plants, collected by the Powell expeditions, which has been largely increased from other sources. It has Lignarium exhibiting woods in section, also papier mache flowers, and fruits of gigantic size, made by the celebrated Auzoux, of Paris, a pink, a papilionaceous flower, a cherry, a strawberry, a pea pod with peas, a vetch legume, a grain of wheat, etc. These gigantic specimens are dissected so as to exhibit clearly even the most minute organs and tissues. The Green Houses, and the Arboretum and Botanical Garden, for which preparations are already made, afford also unbounded opportunities for examining the living plants in process of growth.

The Zoological Department has a human skeleton, purchased in Paris, a manikin made by Dr. Auzoux, skeletons of a cow and other mammals and birds, stuffed preparations of a large number of birds, mammals, fishes, reptiles, etc., embracing bears, wolves, foxes, beavers, wolverines, prairie dogs, etc., birds of prey, songsters, etc.; a dissected horse's leg and hoof, a dissected eye, a trachea and vocal apparatus, in papier mache, with numerous French anatomical plates of great beauty. It has also collections of shells, fossils and insects, and a full suite of Entomological specimens is in preparation by Dr. Le Baron, the State Entomologist, who is required by the law of the State to make such collections for the University.

The Geology is illustrated by a full suite of specimens from the State Geological Survey. It has still larger collections in Mineralogy and Palaeontology, etc., received or purchased from several sources, with preparations of ores, etc.

The College has also a large double camera, or magic lantern, with apparatus for dissolving views, with a large collection of fine paintings for the illustration of Astronomy, Geology, Zoology and History. The collections and apparatus are constantly increasing by purchases, donations and manufacture.

The course of studies recommended is as follows:

First Year—First Term. — Geometry, Latin or English, Chemistry, United States History.
Second Term. — Botany, Geometry and Algebra, Latin or English Literature. Third Term. — Botany, Analytical Chemistry, Latin, or English Literature.

Second Year—First Term. — Vegetable Physiology, Zoology, Trigonometry, German.
Second Term. — Zoology, collection and preservation of specimens, Physics, German. Third Term. — Entomology, Physics, Mineralogy and Crystallography, German.


Fourth Year—First Term. — Historical Geology, Practical Astronomy, Mental Philosophy.
COLLEGE OF LITERATURE, SCIENCE AND ART.

FACULTY.

The Regent, Professor of Philosophy and History.

Wm. M. Baker, Professor of English Language and Literature.

Edward Snyder, Professor of German Language.

A. P. S. Stuart, Professor of Chemistry.

T. J. Burrill, Professor of Botany.

S. W. Shattuck, Professor of Mathematics.

S. W. Robinson, Professor of Physics.

Don Carlos Taft, Assistant Professor of Geology and Zoology.

I. D. Foulon, Instructor in French.

*Professor of Ancient Languages.

The objects of this College is to furnish a sound and liberal education to fit students for the general duties of life, and especially to prepare them for those business pursuits which require a large measure of Literary and Scientific knowledge and training. It is designed to meet the wants of those who wish to prepare themselves for the labors of the Press as Editors or Publishers, or as Teachers in the higher institutions, or for the transaction of public business. The large liberty allowed in the selection of the special studies of his course will permit the student to give such direction to his education as will fit him fully for any chosen sphere or pursuit.

The Library is well supplied with works illustrating the several periods of English and American Literature.

The several departments of science, also, are provided with a good supply of the works of the best authorities and with a constantly increasing apparatus and cabinets.

In the following recommended course, a number of optional studies are introduced, but it is understood that no student will take more than three studies at a time, without a permit. This course, though not modeled upon that of any other institution, is equal in value to the courses prescribed in our best colleges. Students wishing to take only the English studies and modern languages, may be admitted with the general preparation prescribed for candidates for other courses, but those who wish to take the Latin or Greek language, must come thoroughly prepared in the usual preparatory course in those branches.

*The work of this Professorship is, for the present, performed by other Professors.
FIRST YEAR. First Term.—Geometry, first five books, Latin, Cicero's works, English Composition, (Greek, the Anabasis, optional), History of U. S., two lectures a week. Second Term. Geometry finished, Higher Algebra, Latin, Cicero's works, English literature, (Greek optional,) History of U. S., two lectures a week. Third Term. Botany, Higher Algebra completed, Latin, Virgil, the Æneid or Georgics, English advanced Grammar, (Greek optional.)

SECOND YEAR. First Term. Trigonometry, Chemistry, German, English or Latin. Second Term. Analytical Geometry or Chemistry, Physics, German, English or Latin. Third Term. Mineralogy, Physics, German, English or Latin.


SCHOOL OF COMMERCE.

The course in this School may be completed in a single year, and is designed to fit students to become thorough accountants and business men. The special studies of this School may be taken in connection with those of any of the Colleges. For a fuller statement of these studies the reader is referred to the Department of Commercial Science, on another page.

SCHOOL OF MILITARY SCIENCE.

The studies of this school are described fully in the article on another page under the Military Department.

The apparatus of instruction includes a large Drill Hall; 150 muskets and accoutrements complete; 12 cavalry swords; 1 bass drum; 1 tenor drum; 3 fifes; 2 bugles; 18 fencing muskets for bayonet practice; swords, gauntlets and masks, for sword practice; automaton regiment for theoretical instruction; and a large Drill Hall to be erected this summer. The library also includes quite a selection of books on military science, military history and engineering.

REQUIREMENTS FOR ADMISSION.

1. Each student is required, by law, to be at least fifteen years of age, but it is believed that few will be found mature enough at this age to enter with the highest profit upon the studies of the University, and it is recommended, as a general rule, that students be at least eighteen years old before entering.

2. The law prescribes that "no student shall be admitted to instruction in any of the departments of the University, who shall not previ-
ously undergo a satisfactory examination in each of the branches ordinarily taught in the common schools of the State.” In addition to these, candidates for advanced standing must pass an examination in the studies already pursued by the class, or an equivalent therefor. Those desiring ancient languages must pass in the ordinary preparatory studies in such languages.

3. The examinations heretofore have often exhibited a most lamentable lack of true scholarship, even in the ordinary common school branches. In many cases, it is evident that the fault has been in that too common and sad blunder of teaching, which neglects all thorough drill in definitions and principles, and occupies the pupil wholly with exercises. The student often gains considerable expertness in solving the problems in the book, without being able to answer a single question concerning principles, or to explain, rationally, a single step in the process.

The following statement of topics, to be embraced in the examinations for admission, may help to guard candidates and their teachers against the blunders mentioned:

1st. In English Grammar, the candidate must give full and clear definitions and explanations; in Orthography, formation of derivative words by prefixes and suffixes, and rules for spelling; in Etymology, classification of nouns, classes and conjugations of verbs, etc., the sentence, its principle parts, classes and modifiers, connectives and their use, modifying words and phrases, adjectives and adverbs, analysis of sentences.

2d. In Geography—Form, size, motions and divisions of the Earth by circles; latitude, longitude and zones; the continents and their grand divisions; countries and capitals of Europe and America; mountain systems and chief rivers and lakes of Europe and America, boundaries, capitals, chief towns, great railroads and canals, of the States of the Union.

3d. Arithmetic. Decimal system of notation and numeration, the four grand rules or operations, with clear explanation of processes, reasons and proofs; classification of numbers, reduction, denominate numbers, fractions, terms of fractions, effects of changes in numerator, in denominator, reduction of fractions, addition, subtraction, multiplication and division of fractions, decimal fractions, operations in decimals, percentage, interest, ratio, proportions, involution and evolution.


The examinations in other studies need not be described. Candidates for the University should aim to be as thorough as possible in their preparations. If poorly prepared their progress will be slow and painful, and they will run the risk of losing standing in their classes, and failing in their aim.

Frequent and searching examinations will be held to test the progress in study, and to determine each student’s fitness to remain in the classes. The University cannot be held responsible for the lack of
thoroughness in the common school studies of its students, but will insist on thoroughness in its own proper studies.

A regular examination of all the classes is made at the middle and close of each term. A record is kept of the standing of each student at all the examinations, and from this his final certificate of graduation is made up.

UNIVERSITY UNIFORM.

Under the authority of the act of incorporation, the Trustees have prescribed that all the students, after their first term, shall wear the University uniform. The University cap is to be worn from the first. This uniform consists of a suit of cadet gray mixed cloth, of the same color and quality as that worn at West Point, and manufactured by the same establishment. Students can procure them ready made on their arrival here. The University cap is of dark blue cloth, and ornamented with the initials I. I. U., surrounded by a silver wreath in front. Students will wear their uniform always on parade, but in their rooms and at recitation may wear other clothing.

STUDENTS' DORMITORIES AND BOARD.

There are in the University building about sixty-six private rooms, which are rented to the students who first apply. Each room is designed for two students. These rooms, fourteen feet long and ten feet wide, are without furniture, it being deemed best that the students shall furnish their own rooms.

Good private boarding houses are springing up around the University, where either day board or board and rooms can be obtained with the advantage of the family circle. Boarding clubs are maintained by the students, which furnish meals at a cost of from $1.50 to $2.50 per week. Several students have provided themselves with meals in their rooms, at an expense varying from $1 to $1.50 per week. Coal is purchased at wholesale, and furnished to students at cost.

HOW TO ENTER THE UNIVERSITY.

In answer to the questions often received, the following explicit directions are given to those wishing to enter the University:

1. You must be over fifteen years of age, and of good moral habits. If unknown to the faculty, you should bring a certificate of character.

2. You must possess a thorough knowledge of the common school branches, arithmetic, grammar, geography, history of the United States, and algebra to equations of the second degree.
3. You should enter at the beginning of a term; but you may enter at any other time if prepared to go forward with any of the classes.

4. If doubtful of your ability to enter the department you have selected, write to the Regent, J. M. Gregory, Champaign, and state what branches you have studied, the progress you have made in each, and your wishes as to course and term of study.

HOW CAN I PAY MY WAY?

In answer to that question which often reaches us from earnest young men, eager for an education, but without means, we reply:

1. Your necessary expenses (except for books and clothing,) will be as stated on the next page, under the head of “Expenses.”

2. During the Spring and Fall terms, and to some extent during the Winter term you can find work either upon the University farm and garden, or in the shops, or for members of the Faculty and other gentlemen. The large increase in the number of students forbids our promising work to all, but much labor will be provided, and an active, earnest and faithful young man rarely fails to find enough to do. Working three hours a day, or eighteen hours a week, will enable you to pay your board, including fuel and lights. Some pay their entire expenses by their labor without at all hindering their studies.

If you understand some common mechanical trade, you will much more easily find work and usually at better wages.

3. You should have, to start with, money enough to pay your entrance fee and bills, to purchase books and cap, and to pay for your half of the furniture of the room. This will require about $35. It will be well also to have enough to pay board for two or three weeks till you can get settled. After starting you will easily go through, as your vacations, if well employed, will afford you enough to pay for clothing and books.

4. You will also find numbers of fellow-students who are working their way, and who will, with true brotherly feeling, advise and assist you. Come on without fear. A good education is worth all it will cost you. Remember that if education costs much, ignorance costs more. Education gives knowledge at wholesale. Ignorance buys it at retail, and often gets cheated in the quality.

TERMS.

The college year is divided into three terms, of fourteen, twelve and ten weeks. Students are expected in all cases to be present on the first day of the term. Those unavoidably delayed will be required to
make up all lessons which their classes have passed over in their absence.

**CALENDAR FOR 1871-2.**

Examination for admission ........................................... Tuesday, Sept. 12, 1871
Fall term opens .......................................................... Wednesday, Sept. 14, 1871
Fall term closes .......................................................... Wednesday, Dec. 20, 1871

Vacation of two weeks.

Examination for admission ........................................... January 2, 1872
Winter term opens ...................................................... January 3, 1872
Winter term closes ...................................................... March 27, 1872
Examination for admission ........................................... March 28, 1872
Spring term opens ...................................................... March 29, 1872
Spring term closes ...................................................... June 7, 1872
Commencement .......................................................... June 7, 1872

**EXPENSES.**

(Tuition fee in all Departments.)

Fee for incidentals, per term ........................................... $2 50
Room rent in University building for each student, per term ........... 4 00

Each student is required to pay a matriculation fee of $10 on first entering the institution. This entitles him to a membership till he completes his studies. All bills due the University must be paid, and the Treasurer's receipt be shown to the Regent, before the student can enter the classes.

The annual expense of a residence at the University, exclusive of books and clothing, will be nearly as follows:

Room rent and incidentals ........................................... $19 50@$ 19 50
Board, from .............................................................. 54 00@ 180 00
Fuel and lights, from .................................................. 10 00@ 15 00
Washing, 75 cents per dozen ........................................... 10 00@ 15 00

Total ................................................................. $244 50

Many young men reduce the expense to within $90 per year, and pay this by their labor during the year. It ought to be known that any young man can pay his way through college who is willing, for the sake of an education, to practice steadily the virtues of industry and economy.
## SCHEME OF RECITATIONS AND EXERCISES.

### FIRST YEAR.

<table>
<thead>
<tr>
<th>Term</th>
<th>7—8</th>
<th>8½—9¾</th>
<th>9½—10¾</th>
<th>10½—11¾</th>
<th>11½—12¾</th>
<th>1½—2¼</th>
<th>2½—3¾</th>
<th>3½—4¼</th>
</tr>
</thead>
<tbody>
<tr>
<td>2d Term</td>
<td>7½—8¾</td>
<td>9—10.</td>
<td>10—11.</td>
<td>11—12.</td>
<td>1—2.</td>
<td>2—3.</td>
<td>3—4.</td>
<td></td>
</tr>
</tbody>
</table>

### SECOND YEAR.

<table>
<thead>
<tr>
<th>Term</th>
<th>7½—8¾</th>
<th>9—10.</th>
<th>10—11.</th>
<th>11—12.</th>
<th>1—2.</th>
<th>2—3.</th>
<th>3—4.</th>
</tr>
</thead>
</table>
### THIRD YEAR

<table>
<thead>
<tr>
<th>1st Term</th>
<th>2nd Term</th>
<th>3rd Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong>—<strong>8</strong>.</td>
<td><strong>7</strong>—<strong>8</strong>.</td>
<td><strong>7</strong>—<strong>8</strong>.</td>
</tr>
<tr>
<td><strong>8</strong>/<strong>8</strong>—<strong>9</strong>.</td>
<td><strong>9</strong>—<strong>10</strong>.</td>
<td>Calculus and Analytical Geometry.</td>
</tr>
<tr>
<td><strong>9</strong>—<strong>10</strong>.</td>
<td><strong>10</strong>—<strong>11</strong>.</td>
<td>Constitutional History.</td>
</tr>
<tr>
<td><strong>10</strong>—<strong>11</strong>.</td>
<td><strong>11</strong>—<strong>12</strong>.</td>
<td>Military and Drill. Alternate.</td>
</tr>
</tbody>
</table>

### FOURTH YEAR

<table>
<thead>
<tr>
<th>1st Term</th>
<th>2nd Term</th>
<th>3rd Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong>—<strong>8</strong>.</td>
<td><strong>7</strong>—<strong>8</strong>.</td>
<td><strong>7</strong>—<strong>8</strong>.</td>
</tr>
<tr>
<td>Geology.</td>
<td>Mental Philosophy, Practical Chemistry. 9—3½.</td>
<td>Mill Work and Machines.</td>
</tr>
<tr>
<td><strong>8</strong>/<strong>8</strong>—<strong>9</strong>.</td>
<td><strong>9</strong>—<strong>10</strong>.</td>
<td>Practical Chemistry 9—3½.</td>
</tr>
<tr>
<td>Hydraulics, etc. Rural Economy, etc</td>
<td>Meteorology.</td>
<td>Designing, Drawing and Estimates.</td>
</tr>
<tr>
<td>Agriculture.</td>
<td>Constructive Drawing.</td>
<td>Landscape Gard'g. Stone Cutting and Geodesy.</td>
</tr>
<tr>
<td><strong>9</strong>—<strong>10</strong>.</td>
<td><strong>11</strong>—<strong>12</strong>.</td>
<td><strong>3</strong>—<strong>4</strong>.</td>
</tr>
<tr>
<td><strong>3</strong>—<strong>4</strong>.</td>
<td><strong>2</strong>—<strong>3</strong>.</td>
<td><strong>3</strong>—<strong>4</strong>.</td>
</tr>
</tbody>
</table>
DONATIONS.

The following is a list of donations received during the year:

St. Joseph Manufacturing Co., Mishawaka, Ind., by Mr. Cooper, Agent, a Challenge Mill for grinding feed.

Hovey & Co., Chicago, a "Landscape" Lawn Mower.

Robert Douglass & Sons, Waukegan, 4 lbs Seeds of Eu. Larch and Evergreens.

Geo. S. Haskell, Rockford, Ill., 54 papers Garden Seeds, 2 quarts Russell's Corn.

Department of Agriculture, Washington, Garden Seeds, Seed Wheat, etc.

A. S. Fuller, N. Y., 40 varieties Raspberries, 12 varieties Blackberries, 27 varieties Currants, 7 varieties Gooseberries.

J. Baldwin, Jacksonville, 50 Choice of Turner's Seedling Raspberries.


A. M. & E W. Bakewell, one Corn Harrow.

D. M. Osborne, one Kirby Two-Wheel Mower.

O. Albertson, Canton, Ind., two Improved Adjustable Hoes.

J. H. Pickrell, Harristown, two pure blood Berkshire Pigs.

Fenner & Call, Urbana, Ill., one Trench Plow.


S. Hutchinson, Griggsville, Ill., one patent Harrow.

King & Hamilton, Ottawa, Ill., part price of Champion Corn Cultivator, $25.


Geo. McKinley:

Herndon & Gibbon's Valley of the Amazon.

De Tocqueville's Democracy in America.

Sunday School Teacher, 1866-9.

Smith James' Christian's Defense.

Smithsonian Report, 1834.

Moliva's Geographical, Natural and Civil History of Chili.

Dirgald Stewart's Works.

Rev. A. S. Farr:

Burton's Anatomy of Melancholy.

Crabbe's Tales.

Hiland Hall, Bennington, Vt.:

Hall's History of Vermont.

The Capture of Ticonderoga.

W. Whitehead, Newark, N. J.:

Four Pamphlets.

E. D. Cope, Philadelphia:

Two Pamphlets.

Prof. Wm. M. Baker:

Silk Culture.

Iowa State Agricultural Society:

Bound Reports, 1859, '66-7-8-9.

Nine Pamphlets.

California State Agricultural Society:

Four Pamphlets.
New York Poultry Society:
Two Pamphlets.

N. W. Dairyman's Association:
One Pamphlet.

New York State Library:
Catalogue in four Volumes.
Three Pamphlets.

Department of Agriculture:

Department of the Interior:
Documents 3d Session 40th Congress, 28 Volumes.

Hon. Jesse H. Moore, Decatur:
Several Volumes of Documents.

Charles Downing, Newburgh, N. Y.:
About 400 varieties of Pear Cion.

John Deere, Urbana, Ill.:
Sub-Soil Plow.

Hovey & Co., Chicago, Ill.:
Lawn Mower.

W. C. Flagg, Mono, Ill.:
Apple Trees of 44 varieties, raised by him near Alton, Ill.

M. L. Dunlap & Sons:
Two Standard Apple Trees and one Early Richmond Cherry on its own roots.

Princeton Manufacturing Company:
One Corn-Stalk Cutter.

Dr. Humphrey, Galesburg, Ill.:
Collection of many varieties of Apples and Fruits.

R. Taylor, Urbana, Ill.:
300 Currant Cuttings.

Mrs. S. T. Chase, Urbana, Ill.:
200 Gooseberry Cuttings.

CERTIFICATES.

The following are the forms of Certificates of Scholarship adopted, in accordance with the charter of the University, which prohibits the conferring of diplomas, but authorizes the issuing of "Certificates of Scholarship," which certificates shall, as far as is practicable, set forth the precise attainments as ascertained by special examination of the parties applying for the same, respectively, in the various branches of learning they may have respectively studied during the attendance in the University:
CERTIFICATE OF FULL COURSE.

The Illinois Industrial University.

Chartered, 1867. Opened, 1868.

The Regent and Trustees of the Illinois Industrial University, on the recommendation of the Faculty, confer upon ............ This Certificate, in testimony of his having pursued a Full Course of Studies in the College of ........, in this University, in which he has successfully studied and passed examinations in the following branches of learning (the number of terms of study, and the per centum of scholarship attained, being marked opposite each branch:)

<table>
<thead>
<tr>
<th>STUDIES</th>
<th>NO. OF TERMS</th>
<th>PER CENTUM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

And having exhibited, during his course, due fidelity and good conduct, he is, by these presents, duly honored with the commendations of the authorities of the University.

Given at Urbana, this .. day of ...., 187.

(Signed) ........................., Regent.

[Members of Faculty.]

[Members Board of Trustees.]

CERTIFICATE OF PARTIAL COURSE.

The Illinois Industrial University.

Chartered, 1867. Opened, 1868.

The Regent and Trustees of the Illinois Industrial University, on the recommendation of the Faculty, confer upon ............ This Certificate, in testimony of his having pursued a Partial Course of Studies during .... years, in the College of ........, in this University, during which he has successfully studied and passed examinations in the following branches of learning (the number of terms of study and the per centum of scholarship being marked opposite each branch:)

<table>
<thead>
<tr>
<th>STUDIES</th>
<th>NO. OF TERMS</th>
<th>PER CENTUM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

And having exhibited, during his course, due fidelity and good conduct, he is, by these presents, duly honored with the commendations of the authorities of the University.

Given at Urbana, this .. day of ...., 187.

(Signed) ........................., Regent.

[Members of Faculty.]

[Members Board of Trustees.]
AN ACT making appropriations for the Illinois Industrial University.

SECTION 1. Be it enacted by the People of the State of Illinois, represented in the General Assembly, That the sums hereinafter mentioned be and the same are hereby appropriated to the Board of Trustees of the Illinois Industrial University.

For the erection of a main building at a cost not exceeding one hundred and fifty thousand dollars when completed, to contain a hall for public exercises, the library, geological, zoological and botanical rooms, and rooms for lectures and class exercises and offices, the sum of seventy-five thousand dollars.

For the erection of a building for the Mechanical department, at a cost not exceeding the amount hereby appropriated, when completed, to contain the rooms necessary for instruction in mechanical science and military tactics, for collections of models, work shops and other necessary rooms, and for furniture and apparatus for the same, the sum of twenty-five thousand dollars.

For Chemical and Mining apparatus and furniture, and furniture and books for Chemical department, the sum of five thousand five hundred dollars for two years.

For the Horticultural department, for the additional seeds, trees, and labor for the forest plantations, the sum of seventeen hundred and fifty dollars per annum for two years.

For the Agricultural department, for the expenses of field and other experiments, and for expenses of the annual courses of Agricultural lectures held in various parts of the State, the sum of three thousand dollars per annum for two years.

For apparatus and books for instruction in Agriculture and the mechanic arts, and the various branches of learning relating to the same, the sum of five thousand dollars per annum for two years.

SEC. 2. The Auditor of State is hereby authorized and directed to draw his warrant upon the Treasurer of the State for the appropriations for building, in favor of the parties to whom the same may be due, upon proper vouchers certified as correct by the Trustees or a majority of them, and approved by the Governor, and for the other appropriations herein, upon the order of the Board of Trustees or a majority of them, and the approval of the Governor: Provided, that no sum greater than $5,000 shall be drawn at one time for other than building purposes: And provided, further, that a second warrant shall not be drawn until satisfactory vouchers shall have been approved by the Governor, and filed with the Auditor, showing that all sums previously drawn have been properly expended for the purpose for which the same was appropriated.

SEC. 3. For the construction of said building the Trustees shall not obligate the State for the payment of any sum of money in excess of appropriations made for that purpose; and the said Trustees shall, before either or any portion of said appropriations for building purposes shall be expended, cause to be prepared a full and complete set of plans and specifications of the entire proposed buildings, which shall be accompanied by estimates carefully made of the cost thereof, which shall be considered at a regular meeting of the Board, and by them approved, when it shall be submitted to the Governor for his approval. In case he approves the same, a copy of said estimates shall be filed in the Auditor's office when such appropriations may be expended.

APPROVED April 15, 1871.
CERTIFICATES OF SCHOLARSHIP,
Granted June 7, 1871.

<table>
<thead>
<tr>
<th>Name</th>
<th>Residence</th>
<th>Year</th>
<th>Scholarship per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jared Teeple, (Elective)</td>
<td>Elgin</td>
<td>3</td>
<td>97—</td>
</tr>
<tr>
<td>Isaac S. Raymond, (Civil Engineering)</td>
<td>Champaign</td>
<td>3</td>
<td>89*</td>
</tr>
<tr>
<td>Henry L. Town</td>
<td>Batavia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>James A. Williams</td>
<td>Urbana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elvan F. Moore</td>
<td>Tolono</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samuel W. White</td>
<td>Paxton</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edwin B. Hazard</td>
<td>Lyndon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edgar Sawyer</td>
<td>Tiskilwa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert H. Hazlett</td>
<td>Springfield</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NAMES AND STANDING OF STUDENTS
Receiving Certificates of Scholarship June 7, 1871.

<table>
<thead>
<tr>
<th>Names</th>
<th>Residence</th>
<th>Course</th>
<th>No. Terms</th>
<th>Scholarship per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edward B. Hazard</td>
<td>Lyndon</td>
<td>Agriculture</td>
<td>7</td>
<td>91</td>
</tr>
<tr>
<td>Robert H. Hazlett</td>
<td>Springfield</td>
<td>Elective</td>
<td>4</td>
<td>88</td>
</tr>
<tr>
<td>Elvan F. Moore</td>
<td>Tolono</td>
<td>Agriculture</td>
<td>6</td>
<td>87</td>
</tr>
<tr>
<td>Adolphus L. Rader</td>
<td>Champaign</td>
<td>Elective, Civil Engineering</td>
<td>6</td>
<td>85</td>
</tr>
<tr>
<td>Isaac S. Raymond</td>
<td>Tiskilwa</td>
<td>Commercial</td>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>Edgar Sawyer</td>
<td>Elgin</td>
<td>Elective</td>
<td>9</td>
<td>97</td>
</tr>
<tr>
<td>Jared Teeple</td>
<td>Batavia</td>
<td>Agriculture</td>
<td>5</td>
<td>90</td>
</tr>
<tr>
<td>Henry L. Town</td>
<td>Paxton</td>
<td>Elective</td>
<td>4</td>
<td>94</td>
</tr>
<tr>
<td>Samuel W. White</td>
<td>Urbana</td>
<td>Elective</td>
<td>7</td>
<td>82</td>
</tr>
</tbody>
</table>

PROGRAMME OF THE CLOSING EXERCISES
For the Academic Year 1871.

Sunday, June 4, 1871.
Baccalaureate Address, by the Regent, Dr. J. M. Gregory, University Chapel, at 4 P. M.

Monday, June 5, 1871.
Examinations from 8 to 12 A. M. and 2 to 4 P. M. Address before the Industrial Society, by Ex-Governor Richard J. Oglesby, at 7 P. M.

Tuesday, June 6, 1871.
Examinations as on Monday. Address before the Literary Societies, by J. Mahoney, Esq., of Chicago, at 7 P. M.

Wednesday, June 7, 1871.
Exercises of the third year students, commencing at 9 A. M.
1. Music.
2. Prayer.
23. Presentation of Certificates and Address to the Class. The Regent.
†Address before the University, by President Erastus O. Haven, D. D., at 2 p. M. Exhibition Drill of the University Battalion at 3:30 p. M.

*Excused
†Not delivered.