1915

Old School Catalog 1915-16, The Department of Agriculture

Valparaiso University

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The
Department of Agriculture
1915-1916
HOW TO REACH VALPARAISO

Valparaiso is 44 miles east of Chicago on the Grand Trunk, the Pittsburg, Ft. Wayne and Chicago, and the New York, Chicago and St. Louis (Nickel Plate) Railroads. It is easily reached from all points. Going westward, these roads make connections at Chicago with all lines leading into the city. Going eastward, the Pittsburg, Ft. Wayne & Chicago Railway makes connections at Plymouth with the Lake Erie & Western Railway (natural gas route), and the Vandalia Lines. These make connections with all roads leading into Indianapolis. Further eastward the Pittsburg, Ft. Wayne & Chicago Railway makes connections with all north and south lines. Going eastward the Grand Trunk Railway makes connections at Wellsboro with the Baltimore & Ohio and the Chicago & West Michigan Railways, at South Bend with the Lake Shore & Michigan Southern, and with all north and south lines in Michigan. Going eastward the New York, Chicago & St. Louis Railway makes connections with all north and south lines. The Chicago, Indianapolis & Louisville Railway (Monon Route), running the entire length of the State from north to south, also from Indianapolis, make connection at Hammond with the New York, Chicago & St. Louis Railway.
CALENDAR FOR THE YEAR 1915-1916

FALL QUARTER.

September 21, 1915, to December 9, 1915.

September 21. Tuesday. Fall Quarter opens 8:30 a.m.
Organization of classes and assignments made.

October 5. Tuesday. Department of Dentistry opens.

November 25. Thursday. Thanksgiving Holiday.

December 4. Saturday. Quarterly examinations.

December 9. Thursday. Fall Quarter closes.

WINTER QUARTER.


December 14. Tuesday. Winter Quarter opens 8:30 a.m.
Organization of classes and assignments made.


March 2. Thursday. Winter Quarter closes.

SPRING QUARTER.


March 7. Tuesday. Spring Quarter opens 8:30 a.m.
Organization of classes and assignments made.


May 22. Monday. Department of Medicine Commencement.

May 25. Thursday. Department of Pharmacy Commencement.

Spring Quarter closes.

SUMMER QUARTER.


May 30. Tuesday. Summer Quarter opens 8:30 a.m.
Organization of classes and assignments made.

May 30. Tuesday. Department of Dentistry Commencement.


Valparaiso University was founded September 16, 1873. The founders, realizing that the great majority of young people are prevented from attending higher Institutions of learning on account of the enormous expense, and in many cases on account of the impractical courses of study and the unreasonable length of time required to secure even an ordinary education, resolved to establish an Institution where rich and poor would have an equal chance; where work, not wealth, would be the standard; in fact, where all would have the opportunity of obtaining a thorough practical education at an expense within the reach of those having the most modest means.

Since its inception the University has grown steadily. From an enrollment of thirty-five students the attendance has increased until the school year 1914-15 found more than five thousand different students regularly enrolled. From three instructors the Faculty has grown until it now numbers two hundred eighteen members. From a part of the Old College Building, the equipment has been developed to eleven large school buildings, including laboratories that permit six hundred different students to work at one time.

These facts are conclusive evidence of the high merit of the Institution. Steady growth and unparalleled prosperity could not continue for nearly half a century unless the work offered and the equipment furnished were such as to satisfy the real needs of the average student.

The University is located at Valparaiso, a prosperous city in Northern Indiana, about fourteen miles from the southern shore of Lake Michigan. The city has a population of nearly ten thousand people. It has well paved streets, cement walks, a complete sewage system, both gas and electric lighting plants, interurban street car service, and a water supply doubly safeguarded by an expensive filter plant. Three beautiful city school buildings are supported, in addition to two parochial schools. Eight churches are located within the city limits.

Valparaiso is reached by three railways, the Pennsylvania, the Grand Trunk and the Nickel Plate.
DEPARTMENT OF AGRICULTURE

The Department of Agriculture began work at the opening of the Summer Term, 1914, when three lines of elementary work were given for teachers. Beginning with the Fall Quarter following, the outlined plan of study leading to the degree of Bachelor of Science in Agriculture was instituted and followed for the Fall, Winter, and Spring Terms. This first year has shown a marked interest and a most encouraging growth in attendance, and the present outlook is very satisfactory.

During the year the equipment of the Department has been increased very materially. The new building for Domestic Science and Agriculture has been completed, a thoroughly modern structure affording ample class rooms and laboratories. A tract of twelve acres conveniently situated near the University has been added to the farm, making a total of about twenty acres of tillable land for demonstration purposes. The many kinds and conditions of soil found on this area make it an almost ideal laboratory for Agricultural studies. As they are needed for more extensive farming operations fields on neighboring farms are rented. A practical farm barn is being planned for the University Farm, and this will be stocked and equipped for instructional purposes. A combined milk house and Farm Dairy Laboratory will be located near the barn.

The library and laboratory facilities have been greatly improved. The library has for a long time been a depository for the publications of the United States government, and therefore receives the publications of the United States Department of Agriculture regularly. Recently as complete files as it is possible to obtain of the publications of the various experiment stations have been placed on the shelves. New books on general science and technical Agriculture have been added. The Card Index of Experiment Station Literature published by the Office of Experiment Stations, Washington, has been purchased as a supplement to the regular card index of the library. The leading Agricultural publications of the United States are now on the reading table and are kept on file with their respective indices. All of these various facilities make the library most valuable to the student of Agriculture for general and specific studies.
The work of the Department is divided into three phases,—the Full or Regular Course in Agriculture, the Special Preparatory Work for teachers, and the Short Course. In their execution these three are more or less combined. Each will be described separately here.

This phase of the work in Agriculture comprises a general course in the subject, presented in such manner that the student may not lose sight of the practical side while learning the scientific ground-work for the most approved and up-to-date farm practice. Besides technical Agriculture, cultural courses,—including English and Mathematics,—and general scientific subjects, such as Chemistry and Botany, are required.

The Full Course leads to the degree of Bachelor of Science in Agriculture and may be completed in twelve terms of twelve weeks each. These may be taken consecutively, i. e., four terms per year for three years; or with an intermission over the Summer Term, three terms per year for four years.

In order to obtain the degree the student must be a graduate from an accredited high school or have equivalent attainment, and then successfully pursue the work outlined.

For those who are deficient in their preparatory work, the University maintains a complete Preparatory Department, an outline of which may be found on page 28 of the regular catalog.

THE PLAN OF STUDY.

It has been assumed that regular students in Agriculture will prefer to spend the summer months in employment on the farm rather than in the class room. Therefore the course is planned so that it may be completed most conveniently by studying during the Fall, Winter, and Spring Terms for four consecutive years.

In the Department of Agriculture one credit is equal either to one recitation or lecture of fifty-two minutes, or to two laboratory hours per week for a term of twelve weeks. 246 credits are required for graduation, and approximately 20 credits must be made each term.

If for any reason a student desires to classify for more than 24 or less than 16 credits he must obtain permission from the Dean of the Department.
<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>HOURS PER WEEK</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Term.</strong></td>
<td>Rec. or Lec. Lab.</td>
<td></td>
</tr>
<tr>
<td>Given in Fall Term.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Botany I</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Farm Mechanics</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cereal Crops</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td><strong>Second Term.</strong></td>
<td></td>
<td></td>
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<tr>
<td>Given in Winter Term.</td>
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<td></td>
</tr>
<tr>
<td>Chemistry continued</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Botany II</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Forage Crops</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Types and Breeds of Farm Animals</td>
<td>3</td>
<td>...</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td><strong>Third Term.</strong></td>
<td></td>
<td></td>
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<tr>
<td>Given in Spring Term.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics or elective science (See note)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>English Composition</td>
<td>3</td>
<td>...</td>
</tr>
<tr>
<td>Botany III</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fiber and Root Crops</td>
<td>2</td>
<td>...</td>
</tr>
<tr>
<td>Soil Physics I</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td><strong>Fourth Term.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(This work will be given for the first time in the Fall Term, 1915.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics continued or elective science</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>English Composition, continued</td>
<td>3</td>
<td>...</td>
</tr>
<tr>
<td>Trigonometry</td>
<td>5</td>
<td>...</td>
</tr>
<tr>
<td>Mechanical Drawing</td>
<td>...</td>
<td>5</td>
</tr>
<tr>
<td>Entomology</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Stock Judging</td>
<td>...</td>
<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

**Note:**

Physics will be required of all students who have not had the subject in high school.
### Department of Agriculture

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>HOURS PER WEEK</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fifth Term.</strong></td>
<td>Rec. or Lec.</td>
<td>Lab.</td>
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<tr>
<td>(This work will be given for the first time in the Winter Term, 1915-16.)</td>
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<td></td>
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<tr>
<td>English XIV</td>
<td>5</td>
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<tr>
<td>University Algebra</td>
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<td>5</td>
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<tr>
<td>Mechanical Drawing</td>
<td>5</td>
<td>2½</td>
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<tr>
<td>Farm Dairying</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Soil Physics II</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>14</td>
<td>13</td>
</tr>
</tbody>
</table>

| **Sixth Term.**     |               |         |
| (This work will first be given in the Spring Term, 1916.) |
| English XI          | 5              | 5       |
| Plane Surveying (Special Course) | 3 | 6 | 6 |
| Orcharding          | 2              | 4       |
| Elementary Bench Work | 5          | 2½    |
| Creamery Butter Making | 4 | 2   |
| **Totals**          | 10             | 19      | 19½    |

| **Seventh Term.**   |               |         |
| (This work will first be given in the Fall Term, 1916.) |
| Bacteriology       | 5              | 5       | 7½     |
| Gardening          | 2              | 3       | 3½     |
| Agricultural Chemistry | 3           | 4       | 5      |
| Live Stock Management | 3            | 3       |
| Advanced Live Stock Judging | 4 | 2 |
| **Totals**          | 13             | 16      | 21     |

| **Eighth Term.**    |               |         |
| (This work will first be given in the Winter Term, 1916-17.) |
| History X          | 5              | 5       |
| Agricultural Analysis | 1           | 4       | 3      |
| Poultry, Breeds and Management | 4 | 2 | 5 |
| Principles of Breeding | 5          | 5       |
| Farm Construction  | 1              | 4       | 3      |
| **Totals**          | 16             | 10      | 21     |
### Ninth Term.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Per Week</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>History XI</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Feeds and Feeding</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Soil Fertility</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Farm Machinery</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Veterinary Anatomy</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>16</strong></td>
<td><strong>8</strong></td>
</tr>
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</table>

**Tenth Term.**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Per Week</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Economics</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Farm Management</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Meat Production</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Live Stock Marketing</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Farm Practice</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>17</strong></td>
<td><strong>6</strong></td>
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**Eleventh Term.**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Per Week</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Ethics</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Farm Management</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Veterinary Physiology</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Thesis</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Farm Practice</td>
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<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>17</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

**Twelfth Term.**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Per Week</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookkeeping</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Commercial Law</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Thesis</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Farm Practice</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>13</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Total credits required: 246
Inspection trips not mentioned in the outline are a part of several of the courses. These will include visits to various manufacturing plants, stock and dairy farms, the National Dairy Show, and the International Live Stock Exposition.

Students pursuing the full course and desiring to teach may substitute appropriate subjects from the Department of Education.

DESCRIPTION OF THE COURSES TO BE GIVEN IN THE FALL, WINTER, AND SPRING TERMS, 1915-16.

First Term.

CHEMISTRY.

Inorganic I or III. (If the student presents credit in high school chemistry Course III may be taken. In all other cases Course I must be taken at this time and Course III later. Course I does not count towards the degree in Agriculture.)

Inorganic Chemistry I. This is essentially a High School course intended to give the student preliminary work in chemistry. It introduces certain appropriate principles with their practical application. The main object is to awaken interest in the interpretation of new phenomena.

An appropriate laboratory course accompanies the class work.

Text: Smith's Elementary Chemistry.

A laboratory fee of $2.50 is charged.

Inorganic Chemistry III. This is a college course in chemistry, consisting of a study of the fundamental theories and laws underlying this science. The non-metals are studied in detail. Since this course is introductory to a careful study of chemistry, it should be elected only by mature students or by those who have completed High School Chemistry. Laboratory experiments adapted to the class work are required.

Texts: Lecture: Smith's General College Chemistry. Laboratory, Timmons' Experiments in General Chemistry.

A laboratory fee of $3.00 is charged.

BOTANY I.

This course includes a study of the morphology, evolution, and classification of the groups of plants, beginning with the lowest forms.

A laboratory fee of $1.50 is charged.
FARM MECHANICS.

Rope work—knots, splices, rope halter; wire splicing; belt lacing; harness mending; soldering; principle and operation of pumps; elementary concrete work.
Laboratory fee $1.00.

CEREAL CROPS.

Study of the various grain crops as follows: origin, description, importance, soil and climatic adaptation, seed selection, culture, diseases and insect enemies, use and value as a farm crop. Study of weeds.
Laboratory fee $1.00.

Second Term.

CHEMISTRY.

(Line elected during Fall Term continued.)
Inorganic Chemistry II. Continuation of Inorganic Chemistry I. This course includes a study of the common metals and carries with it, laboratory experiments as in the preceding course.
Text: Smith's Elementary Chemistry completed.
A laboratory fee of $2.50 is charged.
Inorganic Chemistry IV. Continuation of Inorganic Chemistry III. This course consists in discussion of the metals, together with a brief survey of spectrum analysis, the periodic classification, and common organic compounds. Laboratory work required as in Inorganic Chemistry III.
Texts: Lecture, Smith's General College Chemistry. Laboratory, Timmons' Experiments in General Chemistry.
A laboratory fee of $3.00 is charged.

BOTANY II.

This course includes a study of the morphology, physiology, and ecology of the roots, stems, and leaves of the seed plants.
A laboratory fee of $1.50 is charged.

FORAGE CROPS.

Clovers, grasses, and other forage plants—their origin, description, adaptations, practical value, etc. Seed adulteration.
Laboratory fee $1.00.

TYPES AND BREEDS OF FARM ANIMALS.

Study of the most important breeds of live stock—their origin and development, characteristics, tendencies in modern breeding, use, and value on the farm.
Third Term.

PHYSICS.

Elementary course consisting of lectures and laboratory work which introduce the fundamentals of the subject.

ENGLISH COMPOSITION.

Pre-requisites: a good knowledge of English grammar and rhetoric. This course will include a review of the formal elements of composition such as punctuation, capitalization, sentence-structure and paragraph-structure. Daily short themes and longer weekly themes on subjects taken from the student’s own observation and experience will be required.

BOTANY III.

This course includes a study of symbiosis, saprophytic and carnivorous plants, flowers, seeds, germination, fruits and plant associations.

A laboratory fee of $1.50 is charged.

FIBER AND ROOT CROPS.

A study of the crops not considered under Cereal and Forage Crops. Cotton, hemp, sisal, Manila hemp, potatoes, sugar beets, sugar cane, etc.

SOIL PHYSICS I.

Various types and conditions of soils; their origin, physical properties as related to crop production, principles of drainage and fertilization, care and use of farm manure, life in the soil, and management of soils in crop production.

Laboratory fee $1.00.

Fourth Term.

PHYSICS.

The work of the preceding term is continued during this term.

ENGLISH COMPOSITION.

Pre-requisite: The work of the preceding term or its equivalent. The various types of composition—exposition, description, narration, argumentation—will be discussed, and theme practice in the different types will be required. Especial attention will be given to short story writing.
TRIGONOMETRY.

Trigonometry is taught as a branch of Geometry. The various methods of solving plane and spherical triangles are investigated and applied in original exercises, as the measuring of heights and distances and the simpler problems in Astronomy. The student derives, memorizes, and applies the various formulae for the sum and the difference of angles and functions of angles, multiples and sub-multiples of angles, without which any general application of Trigonometry would be impossible.

Texts: Wentworth’s revised Plane and Spherical Trigonometry, Longman’s School Trigonometry.

MECHANICAL DRAWING.

Lettering, drawing from models, copying from plates, projections, etc.

ENTOMOLOGY.

Lecture and laboratory work. Insect anatomy, classification, economic relation of insects with special consideration of those beneficial or harmful in the production of farm crops.

STOCK JUDGING.

Chiefly laboratory work with beef and dairy cattle, draft horses, and swine. Characteristics of form and breed, unsoundnesses, age, scoring and comparison. Inspection trips.

Fifth Term.

ENGLISH.

History of American Literature. A philosophical and historical study of the development and significance of American Literature.

Text: Richardson’s History of American Literature.

UNIVERSITY ALGEBRA.

This course in higher algebra is open to all students who have finished Geometry and Trigonometry. The work covers permutations and combinations; probability (chance); binomial theorem,—proof by mathematical induction and by deduction; logarithms; interest and annuities; limiting values and vanishing fractions; convergency and divergency of series; undetermined coefficients; decomposition of fractions; continued fractions; summation of series; the binominal theorem; exponential and logarithmic formulae; determinants; theory of equations.

Texts: Hall & Knight’s Algebra for College and Schools, Todhunter’s Treatise on Algebra, Burnside and Pantom.
MECHANICAL DRAWING.

A continuation of the preceding term's work followed by special work in designing poultry and hog houses, dairy barns, and buildings for general farm use.

FARM DAIRying.

Composition of milk, particularly its food value; methods of milking, separating, and butter production on the farm; study of farm dairy machinery; dairy management.

Laboratory fee $1.00.

SOIL PHYSICS II.

Soil Physics I or its equivalent is required, since this course is a continuation, in more detail, of the third term's work. Nature and physical properties of soils; soil surveys; principles of scientific management of the soil for maximum crop production.

Sixth Term.

ENGLISH XI.

Eighteenth Century Prose. This is a study of the rise of prose, the essay, magazine, novel, and the beginning of Romanticism. Addition, Pope, Steele, Swift, Defoe, Gray, Johnson, Goldsmith, Fielding, and Burke receive especial attention.

PLANE SURVEYING.

Recitations, lectures, field and office work in the theory and practice of plane surveying. The highest standards of form and style of field notes and office calculations are required.

An instrument fee of $1.00 is charged.


ORCHARDING.

Planting and care of the orchard; propagation of fruit plants; pruning, spraying, insect injury, diseases; renovation of old orchards; harvesting, packing, and marketing of fruit.

ELEMENTARY BENCH WORK.

Care and use of the common bench tools; planing, drawing, and all hand tool processes; making of doubletrees and other simple farm appliances.
CREAMERY BUTTER MAKING.

Farm Dairying is a pre-requisite. This course treats in theory and practice the creamery methods of separating, pasteurizing, and ripening cream; the churning, washing, salting, packing, and marketing of butter; creamery management.

It is advisable that all students conform in their classification to the regular work as outlined in the Plan of Study, and this will generally be required. However, by arrangement special students may enroll as "specials" and carry such subjects in technical Agriculture as may seem best. This provision is made for the accommodation of those whose circumstances necessarily limit the time that it is possible for them to be in school. There is a tendency for students enrolled as "specials" to attempt to do too much, either by taking too much work or subjects in advance of their preparation. While care is taken to avoid these difficulties at the time of enrollment, they frequently cause disappointment; and it is usually best for the student to classify regularly.

Special students in Agriculture are charged the regular tuition, $20 per term, and regular laboratory fees.

The Special Preparatory Work for Teachers comes during the Summer Term and is designed particularly to fill the requirements of the State Board of Education of Indiana. During the Summer Term of 1916 three lines of work will be given—Soils, Crops, and Vegetable Gardening. More will be added as there is demand for them.

DESCRIPTION OF THE COURSES TO BE GIVEN DURING THE SUMMER TERM, 1916.

SOILS.

This course covers the elements of the subject—classification and origin of soils; their physical properties; relation to water and air; tillage; drainage; fertility; soil management for maximum crop production. Attention is given to methods and plans for presenting the subject.

Laboratory fee $1.00.

CROPS.

This course may be divided into four divisions: Cereal Crops, Forage Crops, Miscellaneous Crop Studies, and Weeds. The follow-
ing points are considered in the study of each crop: history, characteristics, importance, uses, culture, insect enemies, diseases, and practical value on the farm. Crop rotation, a study of weeds, and weed seeds as adulterants are included in the course. Much outdoor laboratory work is required. Each student has a demonstration plot and makes a collection of weed seeds.

Laboratory fee $1.00.

VEGETABLE GARDENING.

This course covers the characteristics, adaptations, culture, value, harvesting, and marketing of vegetable crops. Each student is required to use a plot of ground for demonstration, and the subject of the "School Garden" is handled extensively both in theory and practice.

Laboratory fee $1.00.

In addition to the actual instruction given care is taken to develop in the teacher a proper viewpoint in regard to the teaching of Agriculture in the public schools. In very few states has this sort of work gone beyond the experimental stage, and teachers must be impressed with the significance of the new line of work. Furthermore, the teacher must realize that Agriculture is a science of the farm yard and the field, not of books, and that her great opportunity lies in the appeal her teaching makes to the home surroundings. In this Summer Term work every effort is made to make the teacher efficient for teaching Agriculture in the public schools.

Arrangement is provided whereby credits made in the Special Preparatory Work for Teachers may count toward the degree in Agriculture.

The Short Course given during the first Winter Term, 1914-15, was particularly successful, both in number in attendance and in the results obtained. From all indications THE SHORT COURSE this will soon become one of the most important phases in the work of the Department.

The Short Course is designed for those who may be so situated that a longer course in Agriculture is impossible for them. The instruction is of standard character, and yet such that it may help directly in solving the complex problems that are presented daily to the farmer.

During the Winter Term,—December 14, 1915, to March 2, 1916, special one-term courses will be given in Soils, Feeding, Breeds of Live Stock, Dairying, and Crops.
EXPENSES

The tuition is $20 per quarter of twelve weeks or $65 if paid in advance for the entire year of forty-eight weeks. This tuition includes the work in all of the departments excepting Law, Medicine, Dentistry, Music and Art, and private lessons in Penmanship and Elocution.

When, however, the full tuition ($80) is paid for the year in advance, Art and private lessons in Penmanship are included, so that in fact, the one tuition pays for everything excepting Law, Dentistry, Medicine and Music.

Private lessons in Penmanship cost $2.50 per quarter of twelve weeks and private lessons in Elocution cost $1.00 per lesson.

When tuition for the year has been paid and the student is obliged to leave, all tuition excepting for his term then in progress is refunded. Tuition for a broken term is not refunded.

The University maintains three grades of board: $20.00 per quarter of twelve weeks, $23.00 per quarter and $26.00 per quarter.

The first named is payable only by the quarter, but boarding the last two may be paid by the week. When paid by the week the price is $2.50 per week, payable in advance. Rooms may be had for $6.00 to $15.00 per quarter. Excepting in the University Dormitories room rent is payable only by the quarter. The University makes an additional charge of 25 cents per week when its rooms are rented by the week.

From the above it will thus be seen that the following rates prevail:

Board, tuition, and furnished room for one quarter, (12 weeks) $46.00 to $61.00.

Board, tuition, and furnished room for three quarters, (36 weeks) the usual school year, if paid in advance, $133.00 to $184.00.

Board, tuition and furnished room for four quarters, (48 weeks) if paid in advance, $169.00 to $229.00.

These amounts include, board, tuition, and a well furnished room. The difference in the rates is somewhat in the board as well as in the room. At the lowest rate two students have a single room and wardrobe. This room is furnished the same as the other rooms, and the student has an abundance of well prepared food.

At the higher rates there is a greater variety in the food. Two students have a suite of rooms; that is, a study room, bed room and wardrobe. They have hot and cold water in their room and the privilege of the bath.
The student pays for his heat, light, laundry and books. The laundry work for the rooms is done by the University. Should he take care of his own fire, heat per year will cost about $9. If he has steam heat the expense per year will be $15. Light need not exceed $3 per year. Laundry can be done at from 30c to 50c per dozen articles. In all of the dormitories there are laundry facilities where students may do their own laundering at practically no expense.

Students are advised to bring enough money to pay their expenses for at least one quarter of twelve weeks.

All books that are used more than one term in the year may be rented at a small per cent. of retail price, thus saving what is usually a great expense.

On reaching the city, come directly to the President's office which will be found in the University building. Here all necessary information will be given with reference to studies, classes, rooms, boarding, etc.

Students are advised to make no contracts for rooms until the University office has been consulted.

The fare from any of the railroads to the University office is twenty-five cents. Trunk checks should be retained until rooms are selected. Trunks are delivered from any station at the rate of twenty-five cents per trunk.

By adhering to these suggestions much time and annoyance may be saved the student.

For further information address

DEPARTMENT OF AGRICULTURE
Valparaiso University,
Valparaiso, Indiana.
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This is one of the largest educational institutions in this country. The annual enrollment is more than five thousand different students. The advantages are unsurpassed.

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