

then takes up Systematic Botany; his studies are illustrated by living and dried specimens, Diagrams and the Microscope. Three excellent instruments are used in the examination of minute structure. The indigenous plants as well as those of the grounds, afford ample material for the study of Systematic Botany. In this part of the course the student dissects and examines a sufficient number of plants to make him acquainted with the more important natural families. The botanical relations of cultivated plants and troublesome weeds receive special attention.

#### Lectures on Horticulture.

In the course on Botany, the relations of that Science to the operations of Horticulture are pointed out, and the student is well prepared to understand the principles concerned in Horticultural operations. The Class in Botany and Horticulture is employed in the garden and College grounds, and opportunities occur daily for the application of the instruction received in the class-room. It is intended that every student in this class shall have practice in all the methods of propagating plants from the seeds, or by budding, grafting, layering, &c., as well as in all the other operations of Horticulture.

#### Lectures on Zoology and Animal Physiology.

The instruction in this department consists of daily recitations and lectures extending through a year and a half of the College course. The course is fully illustrated by a collection of native and foreign animals, anatomical preparations, diagrams, and models representing the peculiarities and comparative structure of each branch of the animal kingdom. Dissections of animals are made, to render the student familiar with the appearance, situation, and relations of the organs of the animal system in a state of health, and the changes produced by the action of diseases. Opportunities will be given for the study of the minute structure of the various tissues by means of the microscope. Anatomy and Physiology of the organs of locomotion, digestion, circulation, respiration, and reproduction. Principles of the classification of animals as founded on their structure and embryonic development. Descriptive Zoology, comprising the systematic arrangement of animals in accordance with their natural affinities, in classes, orders, families, &c.; habits and geographical distribution of animals. Natural History of domestic animals, including the characteristics and peculiarities of different breeds and their value for particular purposes. Insects injurious to vegetation. Economy of domestic animals, including the principles of breeding, rearing, management, and hygiene. Diseases of animals, their nature and treatment. Medicines in use, their action and mode of administration.

#### Lectures on Mathematics and Civil Engineering.

The Preparatory Class spend some time in a review of Arithmetic. The following branches of the Mathematics and their applications follow: Algebra, Geometry, Trigonometry, Conic Sections, Surveying, Leveling, Topographical Surveying, Plotting, Mechanics, Strength of Materials, Arches, Framing, Bridge

and Road Building, Industrial Drawing. Students have the use of Chain, Compass, Level, and other instruments for practice: and receive instruction in the field as well as in the lecture-room.

#### Lectures on Geology and Mineralogy.

A course of daily recitations in Geology and Mineralogy, during the second half of the freshman year, is fully illustrated by maps, diagrams, specimens, &c., and accompanied by familiar lectures on the relations of the science to Agriculture.

#### Lectures on English Literature.

Instruction in this department is given by means of Text Books and Lectures. Rhetoric—Style. History of English Literature. Rhetoric—Arguments, Conviction, Persuasion, Fallacies in reasoning. Declamations and compositions throughout the course. Select portions of English Classics receive critical examination in a course of reading prescribed for each class. This course may vary somewhat from year to year. With a late class it was as follows: Freshman Class—Selections in prose and verse. Sophomore Class—Portions of Chaucer committed to memory; Milton's Lycidas in a course of six lectures; two books of Paradise Lost. Junior Class—Shakespeare's Julius Cæsar; Shakespeare's Merchant of Venice. Senior Class—Webster's reply to Hayne.

#### FACILITIES FOR INSTRUCTION.

##### The Farm.

The College Farm contains 676 acres, about 250 of which are now under cultivation, and can soon be made available for the legitimate purposes of the Institution. The Farm is not only an important, but an indispensable element in the educational facilities of an Agricultural College. It is a means of illustrating, in the most satisfactory manner, the principles of science taught in the lecture-room; and of giving the student a practical knowledge of their applications. By the union of science and experiment, the practical results will distinctly determine the economical value of these principles, and aid him in arriving at a knowledge of the best and most profitable methods of cultivation and farm management.

By the system of manual labor here adopted, the student becomes practically familiar with the use of the various agricultural implements, the different modes of cultivation, and the general principles of farm economy. The science and the operations of agriculture must be united, and in their common results many of the difficulties of the practical farmer will find a ready solution. In addition to the practical farm, where the largest profits consistent with the continued productiveness of the soil are the test of the correctness of the practice, special experiments will be instituted for the purpose of adding to our stock of positive knowledge, by testing disputed methods of culture, determining the value of farm and garden products, the adaptation of our climate and of certain soils to desirable plants, the fertilizing properties of various manures, and other questions of practical importance, requiring for their determination accurate and methodical investigation.