

The short course in agriculture: 1910-1911.

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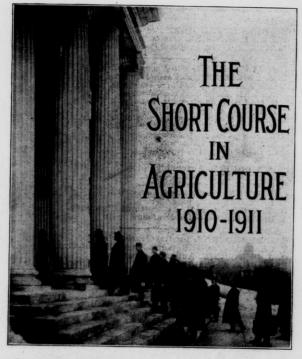
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BULLETIN OF THE UNIVERSITY OF WISCONSIN No. 65: General Series, No. 216.

THE UNIVERSITY OF WISCONSIN COLLEGE OF AGRICULTURE



Over 3,000 Wisconsin farm boys have found the door of the College of Agriculture a portal to greater success in farming.

MADISON
Published by the University
June, 1910

CALENDAR

- 1910. Registration begins, Saturday, December 3. Recitations begin, Monday, December 5. Christmas, holidays, December 24 to 26. Recitations resumed, December 27.
- 1911. New Year's, legal holiday, January 1. Washington's birthday, legal holiday, February 22. Term ends March 9.

SHORT COURSE FACULTY

CHARLES R. VAN HISE, President of the University. HARRY L. RUSSELL, Dean of the College of Agriculture. DANIEL H. OTIS, in charge of Short Course.

- A. S. ALEXANDER, Veterinary Science. G. H. BENKENDORF, Farm Dairying. E. H. FARRINGTON, Farm Dairying.
- E. H. FARRINGTON, Farm Dairying.
 J. G. FULLER, Animal Husbandry.
 J. G. HALPIN, Poultry Husbandry.
 E. B. HART, Agricultural Chemistry.
 E. G. HASTINGS, Agricultural Bacteriology.
 G. C. HUMPHRET, Animal Husbandry.
 E. R. JONES, Soils, Drainage.
 C. E. LEE, Farm Dalrying.
 J. G. MOORE, Horticulture.
 R. A. MOORE, Agronomy.
 C. P. NORGORD, Agronomy.
 C. A. OCOCK. Agricultural Engineering.

- A. OCOCK, Agricultural Engineering.
- D. H. OTIS, Farm Management.
- J. C. STEEN, Forging and Carpentry.
- A. L. STONE, Agronomy. W. E. TOTTINGHAM, Agricultural Chemistry. A. R. WHITSON, Soils, Drainage.

- C. J. BURROUGHS. Poultry Husbandry.
 T. CLAVADATSCHER, Agricultural Engineering.
 O. J. DELWICHE, Animal Husbandry.
 E. W. FOX, Animal Husbandry.
 C. S. HEAN, Library Practice.
 GEO. HUTTON, Animal Husbandry.
 A. H. JENKS, Farm Dairying.
 JAMES JOHNSON, Horticulture.
 EDANK MERINHEINZ, Animal Husbandry.

- JAMES JOHNSON, HOTLICUITURE.
 FRANK KLEINHEINZ, Animal Husbandry.
 W. E. MARKEY, Animal Husbandry.
 J. G. MILWARD, Horticulture.
 V. E. MORRIS, Agricultural Engineering.
 HERMAN MOEN, Animal Husbandry.
 R. V. MORGAN, Carpentry.
 A. J. ROGERS, Horticulture.
 A. C. OOSTERHUIS, Animal Husbandry.
 H. SANDELL, Soile.

- H. SANDELL, Soils,
 F. J. SIEVERS, Soils,
 J. L. TORMEY, Animal Husbandry,
 T. B. TOWLE, Farm Dairying,
 J. A. VALENTINE, Farm Accounting,
 W. W. WELD, Soils
- W. W. WEIR, Soils. F. W. WHITE, Agricultural Engineering.



The Short Course in Agriculture is designed to meet the needs of young men who desire to increase their skill and knowledge of agricultural science and practice by studying during the winter months.

This College of Agriculture has had 25 years experience in planning a course of study, selecting apparatus, equipping buildings and securing instructors and has succeeded in adapting this course perfectly to the needs of the ambitious young farmers of Wisconsin.

The six principal objects of the Short Course may be summed up as follows:

- 1. To give the largest amount of information and training in practical agriculture in the shortest possible time without undue crowding, and thus enable young farmers, unable to take a longer course, to reap many of the benefits to be secured at the State's College of Agriculture.
- 2. To give this information at the season of the year when the work on the farm is least pressing.
- 3. To enable young men from various portions of the state to associate with each other and meet prominent men from this and other states, and even from foreign countries.
- 4. To awaken the young farmer to the many interesting facts and opportunities on the farm; to remove the drudgery from farm work; and to give him an inspiration along agricultural lines that will remain with him for life.
- 5. To help young men with little or no capital to secure positions where they can save money and gain valuable experience.
- To uplift the farming interests of the state, to make better farmers, and more intelligent, useful citizens.

PLAN OF THE COURSE

The Short Course in Agriculture includes two winter terms of fourteen weeks each. Instruction is given by means of lectures, recitations, laboratory practice, demonstrations and conferences. The greatest opportunity is given for the students to secure answers to individual questions and to make the studies as practical and helpful to each student as possible. The course of study is so arranged that students are given an idea of the fundamental sciences underlying successful agriculture in so far as time will permit. Based upon these fundamental sciences, the principles and approved practices of profitable farming are explained.

Text-books are used as an aid to understanding the lectures and laboratory exercises. In the laboratories, students are given practice in such subjects as stock and grain judging, grafting, budding and pruning fruit trees, testing seeds, laying tile drains, operating farm engines and machines, mixing rations for animals and examination of horses for soundness. Classes begin at 8 A. M. and continue throughout the day until 3:30 P. M., with a 1½ hour noon intermission from 12 to 1:30 P. M. No classes are held on Saturday afternoons.

REQUIREMENTS FOR ADMISSION

Students should be at least 16 years of age and have a common school education to pursue the studies of the Short Course to the best advantage. No entrance examination is required. Experience has shown that young men at least 20 years of age who have a general knowledge of farming, preferably with a year's experience on the farm, can get the greatest benefit from the course. The Short Course is open to both sexes alike.

SHORT COURSE CERTIFICATE

Students who complete the studies of the Short Course in a satisfactory manner will be granted Short Course certificates duly signed by the Dean of the College of Agriculture. Certificates were first granted in 1895, 16 in number. The graduating classes have increased each year until in 1910, 149 students received certificates. The total number of certificates granted to date including 1910 is 1,394.



Hiram Smith Hall (top); Agricultural Engineering and Soils; Dairy Barn (center); Horse Barn and Agronomy; Agricultural Hall (bottom).

FIRST YEAR SCHEDULE

Hour	Mon. and Tues.	Ion. and Tues. Wed. and Thurs.			
8-9	Agronomy A. First 7 weeks. Agr'l Engineering A. Second 7 weeks.	Horticulture A.	Soils A.		
9-10 10-11	Section I. Agr'l. Engineering B. Library Practice. Section II. Agr'l Engineering B. Library Practice.		Section III. Agr'l. Engineering B. Library Practice.		
9-10 10-11	Section II. Horticulture B. Soils B. Soils B.		Section I. Horticulture B. Soils B.		
9-11	Section III. Mon. Tues.	Section I. Wed. Thurs.	Section II. Fri. Sat.		
	Agron- omy B. Farm ac- counting.	Agron- omy B. Farm ac- counting.	Agron- omy B. Farm ac- counting		
11-12	Agricultural Chemistry.				
12-1:30	Intermission.				
	Dec. 6—Jan. 8.	Jan. 9—Feb. 5.	Feb. 6-Mar. 9.		
1:30- 3:30	Sec. I.—Farm Dairying B. Sec. II.—An. Husb. B. Sec. III.—Shop A or C.	Sec. II.—Farm Dairying B. Sec. III.—An. Husb. B. Sec. I.—Shop A. or C.	Sec. III.—Farm Dairying B. Sec. I.—An. Husb. B. Sec. II.—Shop A. or C		

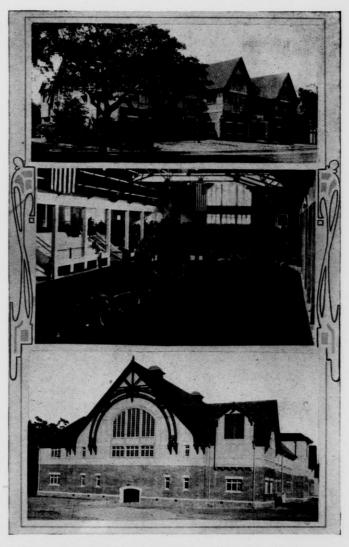
TUITION AND FEES

For residents of Wisconsin: tuition, free; incidental fee, \$6.50; laboratory fee, \$5; breakage and key deposit, \$2, (unused portion returnable); total, \$13.50.

Residents of other states: tuition, \$15; laboratory, \$15; incidental, \$6.50; lecture, \$10; breakage and key deposit, \$2, (unused portion returnable); total, \$48.50.

EXPENSES

Actual Expenses of Students. Students have reported actual expenses during the short course as follows: room and board, \$45 to \$60; books, suits and supplies, \$8 to \$21; fees, \$13.50;



Three views of the live stock pavilion, the front, at the top, the interior with short course class judging horses, and the end and rear of the building, at the bottom.

SECOND YEAR SCHEDULE

Hour		Dec. 6-Jan. 8. Jan. 9-Feb. 5.		Feb. 6-Mar. 9.		
8-9		Animal Husb. D.	Bacteriology	. Farm Management.		
9-10	Mon. Tues. Wed.	Veterinary Science.				
	Thurs. Fri. Sat.	Poultry A. Anima		nimal Husbandry E.		
10-11	Sec. I.	Animal Husbandry F, Agr. Eng. C, or Shop A. B. C. or D.		Agr. Eng. C., Shop A. B. C. or D. or Poultry B.		
	Sec. II.	Animal Husb. F or Shop A. B. C. or D.	Agrl. Eng. C Poultry B, or Shop A. B. C. or	Agr. Eng. C. or		
	Sec. III.	Agrl. Eng. C. Shop A. B. C or D. or Poultry B.	Agr. Eng. C, Shop A. B. C. or D. or Animal Husbandry F.			
12-1:30		Intermission.				
1:30-2:30		Agronomy C.	An. Husb. G.	An Husb. H.		
2:30-3:30		Horticulture C.	Soils C.	Soils D.		
3:30-4:30		Barn Work or Gymnastics.				

miscellaneous expenses, \$5 to \$17; totals, \$89 to \$96. It is possible for any thrifty student to take the short course for the expenses above mentioned, although many voluntarily spend considerable more than this amount.

Students should not bring large sums of money in currency or checks but should place their surplus money in a bank and draw upon it from time to time by check or certificate. Bring Post Office money orders instead of checks or drafts to avoid the necessary identification at the bank. Large sums of money should not be carried in the pockets or left in rooms.

Lists of rooms and boarding places will be prepared to aid students in securing desirable accommodations. All students live in private homes, as the University has no dormitories or dining rooms for men.

Have mail addressed care of College of Agriculture, marked "Short Course."

DEPARTMENTS OF INSTRUCTION

ANIMAL HUSBANDRY

PROFESSORS A. S. ALEXANDES, G. C. HUMPHREY, ASSISTANT PROFESSOR J. G. FULLER; INSTRUCTOR FRANK KLEINHEINZ; ASSISTANTS O. J. DELWICHE, E. W. FOX, GEORGE HUTTON, W. E. MARKEY, HERMAN MOEN, A. C. OOSTERHUIS, J. L. TORMEY.



EVERAL courses in animal husbandry are given in the Short Course including live stock breeding, judging, feeding, care and management. The extensive herds and flocks of the University farm are supplemented by loans of prize winning animals of prominent breeders of the state. Facilities for instruction with live stock are especially favor-

able. A trip of inspection to leading stock farms is made some time during the Short Course to supplement the instruction work at Madison.

A. Breeds of Live Stock. By means of text books, lectures and lantern slide illustrations first year students are taught the origin, history, characteristics and present utility of the various classes and breeds of live stock. Special attention is given to the breeds which are peculiarly adapted to Wisconsin conditions.

B. Elementary Stock Judging. A laboratory course in which first year students are taught to distinguish between different types and breeds and to recognize the points and characteristics which combine to make the most useful animal. The work is done with live animals in the stock judging rooms where the



student uses the score card in a manner to enable him to acquire the art of making comparisons and wise selections both for breeding and market purposes.

C. Feeds and Feeding. The work consists of lectures. The aim the first year is to give the student an introduction to the



field, a few hints upon the fundamental principles of feeding, balancing rations, and a discussion of the common and important feeding stuffs.

- D. Advanced Stock Judging. The aim, the second year, is to familiarize the student with the application of the various feeding principles to farm animals in feeding practice.
- E. Breeding and Management. Second year students are taught by lectures the principles, methods and practices underlying the breeding and rearing of farm animals. Emphasis is laid upon the fundamental principles and laws, which govern the reproduction and improvement of all living animals. The lecture work is supplemented by practical barn work in which the class is divided into small squads which in turn are given an opportunity to study the methods employed in the management of the herds and flocks of the University farm.
- F. Advanced Stock Judging. This work is a continuation of the stock judging course given to first year students. It goes

farther in studying the scientific classification of animals and doing competitive judging, which involves the rating of a class of animals according to their order of merit as specified by a standard of excellence for that particular class. Careful consideration is given to breed type and to developing the judgment of the student so that he may wisely select breeding and market classes.



select breeding and market classes of animals, as well as judge live stock at county fairs.

- G. Herd Management. A continuation of course E elective for second year students.
- H. Livestock Practice. Laboratory work consisting of judging, feeding and handling the animals.

VETERINARY SCIENCE

PROFESSOR A. S. ALEXANDER

In this course second-year students are instructed regarding the rudimentary anatomy and physiology of animals; also the nature, cause, and symptoms of the more common diseases and

means by which they may, in many instances, be prevented. It is the aim and object of the instruction to qualify each student to act as an intelligent, capable nurse of ailing animals, and to be able to recognize diseases, to give the first aid where necessary, and to properly carry out the orders of the attending veterinarian. Practical demonstrations are given, simple operations indicated,



Animals of perfect health and sound bodies are used for class demonstrations.

and methods employed in recognizing diseases and administering medicines are taught. Full instructions are given in the examination of horses for soundness, and students are required to pass upon soundness of subjects selected for the purpose.

The information acquired in this course will prove of great value in the breeding, judging, feeding, and general management of farm animals, and an excellent preparation for those who intend later to enter a veterinary college. As aids to the work, the department has skeletons of the horse and the cow; an Azoux life-size dissectible model of a horse, containing 3,000 named parts; Azoux models of separate and diseased parts; numerous veterinary specimens and a collection of modern veterinary instruments, casting apparatus, drugs, etc.

FARM DAIRYING

PROFESSOR E. H. FARRINGTON; ASSISTANT PROFESSORS G. H. BENKEN-DORF, C. E. LEE, INSTRUCTOR ALBERT H. JENKS, AND ASSISTANT T. B. TOWLE



ARM Dairying is treated in the Short Course with particular reference to the handling of milk on the farm as dairy manufacturing is taken up in The Winter Dairy Course.

A. Farm Dairying. Lectures will be given on the following subjects: the conditions which affect the yield, composition and value of milk; the production of milk for the making of butter and cheese; the principles involved in the separation of cream by the

gravity and centrifugal systems; the handling of cream for direct consumption and for the manufacture of butter, etc.

B. Farm Dairy Practice. The new Dairy Laboratory is equipped with the most approved apparatus for the testing of milk, the separation of cream and the manufacture of butter. In this laboratory students are given practical instruction in all branches of farm dairying, including the testing of milk and cream, the detection of the more common adulterants of these products and the operation of hand separators, churns, butter workers, and other appliances of the dairy.



Practical training in the testing of milk and its products in the laboratory and creamery is given in the Courses in Farm Dairying.

POULTRY HUSBANDRY

ASSISTANT PROFESSOR J. G. HALPIN, ASSISTANT C. J. BURROUGHS



OULTRY Instruction, begun last year, will be improved by the aid of the new equipment including modern buildings, colony houses, and representatives of the principal breeds of poultry kept in Wisconsin. Every opportunity will be offered students to become thoroughly familiar with modern methods of poultry raising.

An extensive file of poultry journals and books is to be found in the agricultural library.

A. Poultry Raising. Lectures on the breeding, feeding and management of poultry under farm conditions with special reference to the keeping of fowls for meat and eggs. Subjects of breeding and feeding for winter egg production, poultry house construction, incubating and brooding, both natural and artificial, killing and marketing dressed poultry, etc., will be included. A brief discussion of the common poultry diseases is given.

B. Poultry Demonstration. This work will include practice and demonstration of killing and marketing different classes of poultry. Treatment for poultry diseases, caponizing, and planning of the flock will be shown. The operation of incubator and brooder, construction of simple poultry appliances, practice work in caring for a flock of laying hens and a detailed study of poultry houses will be a part of the work. Each student will be given a chance to become closely acquainted with the various operations in farm poultry management.



Poultry raising is taught on a practical scale which may be followed on any farm in Wisconsin with profitable returns.

AGRICULTURAL CHEMISTRY

PROFESSOR E. B. HART AND ASSISTANT PROFESSOR W. E. TOTTINGHAM

This course treats by lectures and demonstrations of the application of chemistry to the farm. Such topics as the chemical elements contained in the air and soil and their relation to crops are discussed. Consideration is given to how the plant grows and feeds and the animal food products it yields.

Especial attention is devoted to the chemistry and conservation of manures, the relation of feeding stuffs to their composition, and to the origin, composition and purchase of commercial fertilizers. Students receive instruction concerning the composition of domestic animals at various stages of growth and the processes involved in their use of the several nutrients of feeding materials. The commercially important constituents of milk and their relation to other dairy by-products are also studied.

The aim of this course is to interpret Agricultural Chemistry to the terms of farm practice. A demonstration of the casein test is given with its application to the cheese making industry. Other demonstrations show the properties of some of the more common elements concerned in plant and animal growth. The chemical composition of common insecticides and fungicides is also discussed.



The intelligent use of stable manure and the advantages of the best methods of application are fully covered in the Short Course.

AGRICULTURAL BACTERIOLOGY

ASSOCIATE PROFESSOR E. G. HASTINGS, INSTRUCTOR C. HOFFMANN



HE course of lectures on the relation of bacteria to agriculture is given to the students in the second year of the Short Course. The lectures are supplemented by reading and demonstrations in the lecture room and laboratory. Attention is especially given to those phases of bacteriology which are of greatest importance from the standpoint of the farmer. The relation of the bacteria to the decomposition of organic matter, and

the effect upon the fertility of the soil are studied, as are the relations of bacteria to the leguminous plants and to the rotting of manures.

Those transmissible diseases of animals which the stock man and breeder is certain to meet in his work, are considered especially from the standpoint of prevention. The students are taught the use of the tuberculin test in order that they may

apply it to their herds. The efficiency of the test as a means of diagnosis and the changes to be found in the body of the diseased animal are shown by slaughtering tuberculous cattle.

In dairy bacteriology especial attention is paid to the contamination of milk on the farm and its relation to the value of milk for the city market and for butter and cheese making. The distribution The use of the tuberculin test is of disease by milk is also considered.



illustrated in the lectures and with animals.

The relation of bacteria to health in the farm home is considered in a discussion of the protection of the farm water supply and sewage disposal. The principles concerned in the preservation of food materials such as corn as silage, fruits and vegetables by canning, are considered.

SOILS

PROFESSOR A. B. WHITSON; ASSISTANT PROFESSOR E. R. JONES, IN-STRUCTOR F. J. SIEVERS, ASSISTANTS W. W. WIER, AND HARVEY SANDELL



HE following courses in soils include lectures supplemented by laboratory exercises which demonstrate the principles taught in the lectures.

A. Soil Fertility. Students receive instruction in the principles of soil management, including the conditions affecting and means of maintaining fertility and good tilth. The chief subjects studied are the

following: chemical composition of soils and the forms of material available to the plant as food; the water requirements of plants; the water holding capacity of soils, and cultivation to conserve moisture; tillage to improve tilth; the soil conditions required by the different crops and the influence of rotation on the soil.

B. Laboratory Practice and demonstrational exercises planned to aid the student to apply the principles discussed in Course A.



Land drainage is of paramount importance in Wisconsin and students in the Short Course are given practical work in laying tile.

- C. Soil Management and Drainage. Eight lectures on soil management and the same number on the theory and practice of land drainage. Methods of cultivation are formulated and the economic and engineering aspects of land drainage are discussed.
- D. Soils Laboratory and Field Work. Thirty hours of practice in field, laboratory, and drafting room work. The field work consists of the use of the level, the plane-table, and the tiling tools in the plant house. In the laboratory studies are made upon the mechanical composition of soil, its water-holding capacity, and the rate of capillary and gravitational movements of water. In the drafting room plans are made for the drainage systems.

FARM ACCOUNTING

INSTRUCTOR J. A. VALENTINE

The course in farm accounting includes lectures and laboratory drills in the everyday transactions of the farm. Simple forms will be used that will give a clear record of the farm business. The handling of cash book, journal and ledger will be thoroughly taught, special attention also being paid to the making of inventories and annual statements.

As accurate knowledge of business results is a growing necessity on every farm, hence, practical information will be the aim of the course. Every student will be taught to handle a simple set of books and records that will show the actual outcome of the farm work.

FARM MANAGEMENT

PROFESSOR D. H. OTIS

This course teaches how to plan the various operations of the farm so as to enable the individual farmer to conduct his entire farm successfully and economically. This includes the size and location of the farm, its adaptability, crops, livestock, the laying out of the farm plan, the equipment necessary for the various types of farming, the capital necessary to get a start, and the farm help. It is expected that trips will be taken to various farms to study their methods and equipment.

AGRONOMY

PROFESSOR R. A. MOORE; ASSISTANT PROFESSORS C. P. NORGORB AND A. L. STONE



Grain Growing. General lectures on the growing of cereals. The plan of the work of the Agricultural Experiment Association is taken up and discussed in detail.

B. Grain Judging. The aim of the firstyear course is to give the student an intelligent understanding of grain judging in the laboratories by practice work in judging, testing and grading of corn, barley, oats, wheat, rye and buckwheat.

C. Forage, Fibre and Root Crops. Lec-

tures and laboratory exercises on forage, fiber and root crops are given to second year students. It is necessary for students to finish the work in Courses A and B before taking up the work with forage, fiber and root crops. The aim of the instruction throughout the courses is to fit the students to judge samples of grain in a systematic manner. Best methods of testing the seed, planting, cultivating, harvesting, and curing crops are discussed.



A fundamental in crop improvement is grain judging which is fairly taught by laboratory exercises in the Short Course.

HORTICULTURE

ASSOCIATE PROFESSOR J. G. MOORE; INSTRUCTORS J. G. MILWARD, A. J. ROGERS, AND ASSISTANT J. JOHNSON



ORTICULTURAL work in the short course is designed to meet the demands of the ordinary farm. The required work of the first year gives the student a general idea of the subject. The second year enables those particularly interested to study more in detail horticultural methods and practices.

A. General Horticulture. The aim of this course is to give the student an under-

standing of the horticultural practices essential to the successful management of the home orchard, small fruit plantation, and garden. Two lectures a week will be given in which will be discussed problems of location, cultivation, fertilization, varieties, and care of the home fruit plantation.

B. Laboratory Practice. This course is designed as supplementary to Course A. It consists of laboratory work and demonstration lectures on such subjects as seed and plant structures, compounding insecticides and fungicides, control of orchard and garden pests, and construction and manipulation of hot beds and cold frames. Practical work will be given in the garden house.

C. Commercial Horticulture. This course is designed for those students particularly interested in commercial horticul-



During the winter months the greenhouses offer ample opportunity for practical work in horticulture.

ture. The work will be largely laboratory practice in handling orchard equipment, pruning, spraying, and propagation. Special problems of management and marketing will be discussed in order that the student may become fully acquainted with the details of operation of a commercial plantation.

AGRICULTURAL ENGINEERING

ASSISTANT PROFESSOR C. A. OCOCK; ASSISTANTS F. M. WHITE, V. E. MORRIS, AND T. CLAVADATSCHER

- A. Farm Buildings and Machinery. These lectures include discussions of the designing of machine sheds, piggeries, small poultry houses, silos, ventilating systems, etc. The instruction in farm machinery includes lectures on the use of ordinary farm implements, gas engines, plows, harrows, cultivators, planters, grain binders, etc.
- B. Building and Farm Machinery Practice. Laboratory work in designing and lettering plans of barns, silos, machine sheds, piggeries and poultry houses. Farm machinery practice includes work with gas engines, plows, harrows, grain binders, cultivators, etc.
- C. Advanced Farm Engineering. This is an elective course for second year students which may be taken with courses in shop work and stock judging. It embraces the following subjects continuing the work begun in the first year in planning corn cribs, granaries, silos, barns and houses with the preparation of bills of materials and cost of construction. The practice with farm machinery is continued on the subjects given the previous year.



The gasoline engine is so generally used that students in Short Course are given practical training with many types and designs.

SHOPWORK IN BLACKSMITHING AND CARPENTRY

SUPERINTENDENT J. C. STEEN; ASSISTANTS W. G. LOTTES, BLACK-SMITHING; R. V. MORGAN, FARM CARPENTRY AND BUILDING CONSTBUCTION

- A. Elementary Carpentry. This work consists of instruction in the use of wood tools, how to sharpen and keep them in order, how to make and use such articles as the bench hook and miter box, making trestle and tool box or other articles that may be selected. Instruction is also given in the use of the steel square and its application in solving various problems occurring in rafter work, and other building operations. Elementary wood turning may also be taken with this course.
- B. Elementary Forging. This course is arranged for first year students and includes instruction in the essential operations of forging, such as drawing out, upsetting, pointing, bending and welding wrought iron and mild steel, leading to the application of these operations in making useful articles such as bolts, chain links, rings, clevises of various forms, cold chisels, metal and stone drills, hammers, knives, etc. Instruction in hardening, tempering, drilling, riveting and soldering is included.
- C. Advanced Carpentry. This course includes more advanced work to suit the needs of the individual student. Various types of framing, joint splicing, stair building, window casing and door framing, making of models of houses, barns, tobacco sheds or portable pens are among the subjects that may be selected. Lectures are given on the growth and development of timber and its preparation for use in building construction. Wood turning may be added when time permits.
- D. Advanced Forge Work. A continuation of first year work including more advanced practice. Welding steel of various grades, forming and welding horse shoes, dressing and sharpening axes, plow shares, etc., brazing, welding, forging and tempering springs is included in the practice work as time permits.

LIBRARY WORK

LIBRARIAN C. S. HEAN

The aim of this course is to teach the student to use books, papers, and bulletins as tools. Lectures will be given on classification and other library methods, and on the literature of agriculture, including books and serial publications. These lectures will be supplemented by practical work in the use of books. Special attention will be given to the best ways in which to read and study newspapers, farm papers, bulletins, etc., methods of keeping files and records of valuable articles read, how to get government as well as state bulletins and reports, how these may be filed and indexed so as to be a ready and valuable reference for the busy farmer. Papers will be written by all the members of the class which will call for a study of all the references listed in one of these bibliographies.

GYMNASTIC EXERCISES

J. C. ELSOM, MEDICAL EXAMINER, AND ASSISTANTS

Each short course student will be given a physical examination by the University medical examiner and will be required to take two half-hour periods per week of gymnastic drill and recreational games under capable direction. Special facilities in the form of shower baths, etc., are provided for short course students. The first and second year classes organize basketball and tug-of-war teams and hold inter-class contests.



The Short Course Glee Club participates regularly in the meetings of the Literary Society and has proved an important feature of the Short Course.

SHORT COURSE ORGANIZATIONS

The Short Course Literary Society is conducted by the students in the short course for the purpose of holding weekly meetings at which members of the Society participate in parliamentary drill, debating and public speaking. These meetings are frequently addressed by prominent agriculturists and members of the faculty. Social features are often included and every Friday night during the short course is devoted to the Literary Society meeting. The organization is under the direction of Messrs. Otis, Hatch and Marquis.

The Short Course Band. In connection with the Society, short course students maintain a band which participates in its programs. A number of instruments are provided by the Society and the organization is under the direction of Mr. Marquis.

The Short Course Glee Club has proved an interesting and helpful organization during recent years and participates largely in the meetings of the Literary Society. It is under the direction of Prof. J. L. Sammis.

The Agricultural Experiment Association is an organization of former short course students for the purpose of conducting field tests in cooperation with the Experiment Station. The annual meeting of this Association occurs in February and students of the short course are given an opportunity to attend its sessions and become members. Prof. R. A. Moore is the secretary.



The Short Course Band composed entirely of Short Course students is an organization of more than ordinary ability.

DISTRIBUTION OF GRADUATES AND FORMER STUDENTS OF THE SHORT COURSE

A total of 3,072 students have attended the short course in agriculture since it was established in 1885. Nearly every section of the state has been represented and the total number who



Every important agricultural county in the state has sent a delegation of students to the Short Course. This map shows the total number that have come from each county since 1885.

have come from each county is shown in the accompanying map. Some 377 of these students have come from other states and countries, many foreign lands being represented.

Graduates of the short course are now successful farmers in many parts of the United States and in several foreign countries.

An investigation has shown that over 90 per cent of those who have taken this course are actually engaged in some work connected with agriculture. Many former short course students



The growth of the Short Course since it was begun in 1885 has been regular with few exceptions. The most notable growth occurred two years ago.

have pursued advanced studies and are now holding prominent positions in agricultural colleges and experiment stations.

SECOND YEAR SHORT COURSE STUDENTS, 1909-1910

Name. Residence. Adams, Lester B., Lowell Adams, Richard, Campbellsport Allen, Eugene S., Orfordville Anderson, O. Theo., Waterville, Ia. Arms, Edward, Fountain City Arnold, Arthur A., Kiel

Bailey, Alfred B., Jim Falls Bartleson, Harvey, Pine River Barton, Curtiss R., Mt. Horeb Becker, Harry J., Ft. Atkinson Behm, Walter, Manitowoc Name Residence
Berg, Carl J., Tigerton
Beyreis, Chas. E. M., Jr., Dorchester
Blackwell, Leslie C., Waukesha
Block, Albert F., Brandon
Booth, Lester G., Cuba City
Borck, Sam, North Freedom
Britzke, Paul K., London
Bromley, Fred G., Whitewater
Brooks, Homer H., Hopkinton, Ia.
Brown, William, Spring Valley
Bryant, Clinton A., Hazel Green
Bussewitz, Raymond H., Reeseville

Residence Name

Davison, Robert W., Sun Prairie Delcorps, Louis J., Sturgeon Bay Dibble, Roy A., Menomonee Falls Donovan, Frank, Van Dyne Drummond, Wm. R., Anchorage, Ky.

Eagan, John J., Wautoma Ellis, Ed. J., Evansville Engel, Geo. H., Fountain City

Ferris, Sherman, St. Croix Falls Foll, Walter, Deerfield Fuller, Horace, North Lake

Gay, John, Madison Gehrand, Arthur A., Rochester George, W. Russell, Sterling, Ill. Geraldson, Mervin E., Manitowoc Germanson, Herbert, Luck Gigstad, Bennett S., Valders Grandine, Morton D., N. Crandon Grove, Albert, Columbus Gullikson, Gustave H., Nelsonyille Gunderson, Clifford, Manitowoc

Gulliason Gunderson, Chia.

Hamsersley, Geo. M., Madison Hansen, Jens A., Detroit Harbor Hanson, Henry O., Spring Valley Hansen, Warner L., Manitowoc Harker, Irving G., Dodgeville Harris, Abel M., Plainfield Hart, Wm. C., Brookfield Harvey, Caleb B., Wonewoc Hegge, Julius, Galesville Hintz, George E., Oakfield Holloway, Ed. M., Union Grove Hood, Donald L., Spring Green Horswill, Will K., Black River Falls Hoxsey, Elmer, Serena, Ill.

Hoxsey, Elmer, Serena, Ill.

Hoxsey, Elmer, Serena, Ill.

M., Browntown M., Browntown Piper, Harry B., Sharon Pope, Roy W., Sun Prairie Popp, Arthur O., Jefferson Syale, John H., Mondovi Grand Ra

Jones, Seneca T., Watertown Jorenby, Carl O., Blanchardville Judd, Jesse, Endeavor

Kaiser, Wm. G., Louisburg Kalouner, Edw., Antigo Kaste, Alfred H., Cream Kaul, Erwin H., Waukesha Kersten, Leo C. M., De Pere

Residence Name Cade, Joseph M., Viroqua
Carlson, Axel, Augusta
Chase, Albert L., Milton
Christianson, Irwin, Deerfield
Christianson, J. A., Pleasant Prairie
Coates, Clinton J., Elkhorn

Dahl, Albert, Viroqua
Daly, Richard, Washburn
Daly, Richard, Washburn
Markesan

Kirst, Ernest J., Welcome
Klumb, Albert J., Rockfield
Knapton, Wm. E., Downing
Knutson, Edwin A., Manitowoc
Koenigs, Phillip, Fond du Lac
Koss, Otto W., Medina
Krofta, Rudolph, Kewaunee
Kuhtz, Harvey, Waukesha King, Wm. T., Jim Falls Kirst, Ernest J., Tomah Klemm, Lewis J., Welcome

Lamson, Robert J., Toledo, O. Larson, Eli, Sawyer Larson, Ell, Sawyer
Latta, Fay 'L., Clinton Jct.
Lee, Royal D., Arkdale
Lee, Oliver, Klevenville
Lefeber, Wilbur F., Evansville
Leir, Selmer, Coon Valley
Linton, Gilbert A., Ft. Atkinson
Lukken, Amil C., Cambridge

Machimura, Kaki, West Allis Martin, Arthur, River Falls McAdam, Cecil, Schofield McCready, Bruce S., Spring Green McLeod, H. Stanley, Sturgeon Bay McLieou, H. Staniey, Sturgeon Bay McMillen, Carl A., Endeavor Meier, Edward F., Eden Messerschmidt, S. H., Flat Rock, O. Milkee, George E., Newburg Mills, Roscoe, Appleton Mitchell, George, Cottage Grove Mitchell, Dean S., Brookfield

Nelson, Carl A., Greenwood Neystrom, Archie, Maiden Rock Nichols, Lowell M., Madison Northrup, Howard R., East Hamp-ton, L. I., N. Y.

Rector, Carroll V., Grand Rapids Rector, Carroll V., Grand Rapids Renak, Edward, Racine Richardson, G. J., Spring Grove, Ill. Rieman, Elmer W., Ripon Roberts, Walter W., Burnside Runde, Aloysius, Cuba City Rusch, Edward W., Reedsburg Ruskell, F. Ernest, South Madison Pages Grand T. Sun Prairie Ryan, Gerald T., Sun Prairie



Graduating class of the Short Course, 1910.

Name Residence Schmit, William F., Appleton Schmitz, Edward H., Lone Rock Schmitz, Hubert, Lone Rock Schuette, Herman W., Reedsburg Schulte, Peter J., Cleveland Schulte, Peter J., Cleveland Schumann, Hugo W., Beaver Dam Sette, Everett A., Juneau Sheen, Wray J., Trevor Siepert, Fred, Chippewa Falls Silver, C. R., Belleville Simmons, Wm. H., Cuba Smith, Ray K., El Paso, Texas Solem, Edw. Wonewoc Sorenson, Camillo, Sturgeon Bay Stuesser, Eugene, Richfield Schmitz, Hubert, Lone Rock

Tanner, Archie V., Omro Tempero, Roy J., Menomonee Falls Thacher, Louis, Zenda Thielke, Emil, Madison Thom, Jacob A., Bristol

Name Residence Thompson, G. G., Blanchardville Trewartha, Edw. J., Hazel Green Tubbs, J. Herbert, Seymour

Uhrenholdt, Jens, Leonard Upton, Harold F., Jim Falls Utgaard, Peter W., Cylon

Vine, Callice H., Markesan Vollrath, A. C., Jr., Excelsior, Minn.

Ward, Harold L., Ft. Atkinson Ward, Chas. E., Ft. Atkinson Ward, Harold D., Brodhead Ward, Robert W., Ft. Atkinson Weirich, Martin J., Baraboo Wigen, Andrew O., Manitowoc Wigen, Walter E., Quarry Williams, Orson P., Waukesha Wischoff, Edwin, Reedsburg Wrolstad, Alfred M., Amherst Jct.

SHORT COURSE STUDENTS - FIRST YEAR. 1909-1910

Anderson, Louis H., Highland Anderson, Ubbe, North Bend Annear, Rolland F., Richland Center Arnold, Philip, Milwaukee Arnold, Walter C., Lake Geneva Arntzen, Richard H., Serena, Il. Arnquist, James, New Richmond Austin, Elmer E., Brodhead

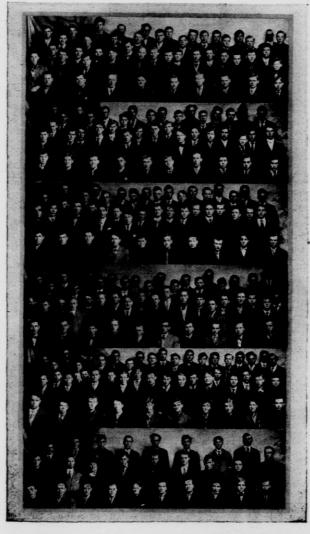
Baertlein, Wm. A., So. Germantown Baertlein, Val. A., So. Germantown Baertlein, Val. J., So. Germantown Bancroft, Benjamin, Rio Barker, Wm. H., So. New Lyme, O. Beimer, George, Salem Beitel, Perry A., Rochelle, Ill. Belshaw, Reuben L., Rockford, Ill. Bender, Fred, Jr., Cleveland Berge, Oscar E., Valders Beyer, Wm. C., Grundy Center, Ia. Bingham, Howard L., Milton Blankensee, Clarence, Madison
Blankensee, Clarence, Madison
Bliss, Geo. M. S., Warrensburg, Mo.
Boardman, Benj. H., New Richmond
Bockke, Anton, Rosholt
Bohonek, John F., Prairie du Chien
Dieckhoff, John F., Rand
Dieckhoff, John F., Rand Boothby, Earl L., Savanna, Ill. Brandt, Elmer H., Garnavillo, Ia. Bremer, Felix E., Hustisford Breneton, Hugh H., Madison Brotherton, Alvin, Colby Brooks, Lloyd G., Reedsburg Brown, Monro, Bay City Brunner, Fred F., Hudson Bruning, Jacob, Shermerville, Ill. Buddenhagen, Elmer E., Neillsville Bullock, James P., Melrose Busch, Andrew F., Spooner

Burt, Charley C., Brodhead Buss, Arch, Mineral Point

Campbell, Ira N., Arlington Heights, Ill. Chambers, Oliver, Union Grove Christensen, Emil C., Chicago, Ill. Clayton, George H., Madison Clore, Stewart W., Avoca Coit, Henry W., Darien Connell, Clarence J., Colgate Cook, Joe C., Burlington Cook, Joe C., Burlington
Cook, Quincy W., Deer Park
Cook, Oscar M., Apple River, Ill.
Cooper, Joe, Pewaukee
Corley, Fay H., Tower Hill, Ill.
Coulter, Harry S., Randolph
Coulter, L. Dean, Ohio, Ill.
Cramer, Joe, Menomonie

Damler, Walter F., Manitowoc Darlington, H. C., La Grange, Ill. Davies, Evan W., Waukesha Dewire Montie E., Hamilton, Ind. Dieckhoff, John F., Randolph Dienst, Arthur H., Hinckley, Ill. Dillon, James, De Pere Dillon, J. Austin, De Pere Douglas, Robert J., Juda Dow, Everett, J., Whitewater Doyle, Wm. E., Cobb Dyer, Little Pat., Blackton, Ark.

Eisenmann, Harvey, Mishicot Elkins, Arthur O., Amery Ells, Ross H., Darien Emerson, Oscar R., Chippewa Falls



Members of the Short Course class of 1911, most of whom will return to take the second year's work and receive the Short Course certificate.

Name Residence Enge, Eugene, Prairie du Sac

Fetting, Elmer T., Cochrane Finder, Fred C., Van Dyne Fisher, William C., Middleton Flack, Harry W., Stockton, Ill. Flynn, John W., Hartford Foerster Max F., Whitewater Fox, Phil, Jr., Durand Froeming, Ernest C., Lake Mills Fuller, Robert N., Mishawaka, Ind. Fuller, Roland, North Lake

Gapen, Frank W., Monroe Gardner, Harry I., Monroe Gerner, Edwin W., Farmington Gervers, J., Independence Getschmann, Will., North Freedom Gile, Fred J., Sharon Gilmore, Everett H., Randolph Gloeckler, Louis P., Portage Gloeckler, Louis P., Portage Grandine, Lester D., No. Crandon Graper, Arthur F., Helenville Greeley, Miss Helen R., Chicago, Ill. Grimes, Jack, Deer Park, Md.

Haag, Frank, North Bend Hageseth, Frank, Menomonie Hahn, Hugo E., Reedsburg Hall, John M., Hartland Hamann, Arthur, St. Olaf, Ia. Hansen, Henry T., Sparta Hoard, Harry H., Waupun Harrington, Forest F., Waupaca Hatz, Jacob, Prairie du Sac Hartz, Jacob, France du Sac Hayden, Thomas H., Grimes Hendry, Robert D., Chippewa Falls Henry, Ernest E., Viroqua Herr, John G., Mattoon Hetts, Merle B., Ft. Atkinson Hill, Charley, Brookfield Hodan, Albert B., Friendship Hoffmann, Harry, Brookfield Hollien, David, Westby Holt, Lester H., Oconomowoc Holt, Edw. L., Pleasant Prairie Hoover, Kenneth M., New Lisbon Horton, James E., Waukegan, Ill. Hudson, Albert, Cambria

Indermuehle, Felix A., Beaver Dam Ingwell, Albert, Blanchardville

Jacobson, Charles O.. Spring Valley Jacobson, Clarence, Waterford Jennings, Roy R., Pigeon Falls Jewett, Donald C., Sparta Johnson, Frank L., Osseo Johnson, Glenn, Baraboo

Name Residence Johnson, Hanford, Gillett Johnson, Morris, Madison Jones, Thomas A., Randolph Jones, Carl E., Cambria Jones, John G., Beaver Dam Jones, Ira P., Hinckley, Ill. Jorstad, Thomas E., Cameron

Kaltenberg, Peter, Waunakee Kennedy, Larry J., Nelson Kennedy, Robert C., Stanford, Mont. Keys, Chas. G., Richland Center Kielsmeier, Hugo C., Cleveland Kings, Benj. J., Reedsville Kindschi, Edwin A., Prairie du Sac Kinney, Clinton J., Wauwatosa Kirby, James J., Grimms Kiteley, Leonard, Sharon Klaus, Clifton S., Colesburg, Ia. Klessig, Edwin, Cleveland Klofanda, Royal, Racine Koehler, John P., Hayton Koenecke, Albert E., Reedsburg Koller, William, Kewaunee Kopplin, Carl J., Fall Creek Korth, Leo R., Neillsville Grimes, Jack, Deer Park, Ma.
Grimstad, William, Blue Mounds
Groom, Harvey L., Cassville
Groth, Louis, Cedarburg
Gutermuth, Fred, Milwaukee
Gutschenritter, Frank J., West Bend
Gutschenritter, Frank J., West Bend
Gutschenritter, Frank J., West Bend
Gutschen Fider S., Grand Rapids
Kruschke, Alvin, New Richmond
Kruschke, Alvin, New Richmond
Kruschke, Edmund H., Lake Beulah

> Lauderdale, Roy, Elkhorn Lee, Oliver, Amery Legrid, Henry E., Deer Park Leith, Raymond H., Van Dyne Lehman, Edwin, Ripon Le Jeune, Ernest, Rice Lake Lewis, Owen H., Genesee Depot Leykom, J. Wallace, Antigo Lindenman, J. H., Mishawaka, Ind. Loberg, Almer J., Nelsonville Loether, Ernie J., Eau Claire Love, Louis E., Chicago. Ill. Lovell, Ralph H., Muscoda Lukken, Peter A., Mt. Horeb

McCarthy, Morris, Fredonia McClanahan, Geo. P., Waukegan, Ill. Madoche, Leo J., Sawyer Magee, Ellis, Coleman Martin, Walter I., Chicago, Ill. Martin, Mrs. W. I., Chicago, Ill. Mayer, Sidney L., La Crosse Merchant, C. L., Hendersonville, N. C. Merrill, George O., Glendale Mikkelson, William J., Arkdale Moldenhauer, Wm. C., Manitowoc Morse, J. Albert, Kilbourn Mueller, Rudolph, Forestville Mulloy, John H., Wayside

Nace, Franklin, Iola Nate, George B., Grimms Name Residence Nedvidek, Paul, La Crosse Nelson, Fred, River Falls Nelson, John A., Port Wing Niemer, Frank J., Cassville Niere, Stuart P., Watertown Niffenegger, John T., Monroe Niles, Milo E., Mauston

Odell, Wm. G., Lake Beulah Oliver, Fergus, Somers Omann, Holger, Huntley, Ill. Orr, Lester B., Mt. Hope Owen, Roger A., Portage

Palmer, Frank E., Lake Geneva Patterson, Harvey J., North Bend Pattison, H. A., Durand Patourel, Frank L., Rosendale Peace, James Wm., Duluth, Minn. Peebles, Percy A., Oconomowoc Peege, Herbert R., Milwaukee Peters, Hubert, Calvary Peterson, Einar A., Milladore Plenty, Robert, Rice Lake Polsfuss, Edward H., Waukesha Pratt, Vernon L., Cataract Preston, George M., Montfort Price, W. Howard, Waukesha

Ralph, William H., Cuba City Rappel, Gilbert, Reedsville Ray, Victor, Madison Reinhardt, Chas. F., Nelson Reineking, R. H., Sheboygan Falls Reyer, Walter R., Templeton Rieser, Alfred E., Spring Green Ristow, Harry F., Onalaska Rued, Axel, Curtiss Runde, Albert J., Hazel Green Russell, E. A., Jr., Lake Forest, Ill.

Salter, Milo P., West Bend
Sampson, August, Menomonie
Sargent, Lester, Warren, III.
Schell, Gustay, Milwaukee
Scherer, Leslie L., Indianapolis, Ind.
Schermerhorn, Giles B., Hartland
Schield, John, Fall Creek
Schilling, Harry W., Onalaska
Schlotthauer, Geo. P., Madison
Schultz, Rudolph, Lake Mills
Seeber, Warren L., Antigo
Sevenich, Tony, Hilbert
Severson, Morten, Deerfield

Name Residence
Sharpee, Alfred A., Rio
Shuman, Chas. F., Koshkonong
Sherry, Selmer A., Viroqua
Simpson. Lloyd L., Edgerton
Skolas, Herman, Deerfield
Smith, Carroll H., Delavan
Smith, Harry C., Reinbeck, Ia.
Soholt, Gustav L., Madge
Somerville John, North Bend
Spence, J. R., Chicago, Ill.
Spink, Leslie C., Platteville
Stangel, Richard, Kewaunee
Stegne, Chris., Viroqua
Steuerwald, Walter, Loyal
Svacina, Jacob, Jr., Rice Lake
Stevenson, Rolland H., Arbor Vitae
Swan, Robert G., Wauwatosa
Swanton, Ray T., Madison
Swenson, Earl E., Kenosha
Swiggum, Neil M., Viroqua
Swiggum, Oscar M., Viroqua

Tagge, Herman F., New Holstein Thibodeau, Elmer F., Kewaunee Thomas, Edward J., Ridgeway Thompson, Carl B., Neenah Thorstad, Clarence I., Wautoma Tifft, Joseph R., Wauwatosa Troller, George C., Hartford

Unger, Ernst F., Jr., N. Milwaukee Utter, Delwin H., Lake Beulah

Veium, Even, Stoughton Vonder Ohe, August H., Reedsburg Vroman, Hiram E., Verona Vullmahn, Ernest F., Edgebrook, Chicago, Ill.

Wallen, Sigur B., Taylor
Walker, Geo. B., Kalamazoo, Mich.
Webbe, Wm. E., Barrington, Ill.
Weinhagen, Berthold, Milwaukee
Weisner, Leonard H., Merrill
Wesener, William, Cleveland
Wilcox, Harry L., Roscoe, Ill.
Williams, Ernest, Cambria
Williamson, Boyd N., Amherst Jct.
Willis, Arthur W., Milwaukee
Wollin, Albert C., Johnson Creek
Wunsch, Alfred J. C., Haven

Young, Rudolph T., Beaver Dam Zimmermann, Leo V., Milwaukee

OPPORTUNITIES FOR SHORT COURSE GRADUATES

The demand for well trained young men to take up responsible farm positions is much greater than the supply. The employment office of the College of Agriculture is constantly receiving requests for reliable young men. During three months, January, February and March, 1910, almost 300 applications for help were received at this College and only 149 students completed the Short Course.

The kind of positions which are open to Short Course graduates is indicated by the nature of the application, some of which are as follows: assistants on dairy farms at \$25 to \$30 per month; herdsmen and feeders, \$30 to \$50; gardeners and fruit raisers, \$25 to \$30; farm managers, \$40 to \$75; ranch foremen, \$60 to \$100; superintendents of farms, \$40 to \$100; teamsters, \$30 to \$40, tenants to operate farms on shares, poultrymen, etc.

Such positions do not attract all Short Course students as many realize that there is a much larger field with greater financial income in returning to their home farms and beginning operations in cooperation with their fathers or brothers.

THE SHORT COURSE IN AGRICULTURE

Application for Admission

I hereby apply for admission to the Short Course in Agriculture for the term beginning December 3, 1910, and closing March 9, 1911.

Should I change my address before December 3, or should anything occur which will prevent my attendance, I will at once notify you, that my place can be filled by some other applicant.

Name	Age
Postoffice	
State	County
Dated	1010

Persons desiring to take the Short Course in Agriculture the coming term are requested to fill in the above blank, tear off, and send to Professor D. H. Otis, Madison, Wis.