

## Short course in agriculture: 1917-1918. 1917

University of Wisconsin. College of Agriculture Madison, Wisconsin: University of Wisconsin, 1917

https://digital.library.wisc.edu/1711.dl/HZDNU57ASUDI29A

Based on date of publication, this material is presumed to be in the public domain.

For information on re-use, see http://digital.library.wisc.edu/1711.dl/Copyright

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

IWGII A3 S

#### BULLETIN OF THE UNIVERSITY OF WISCONSIN Serial No. 865, General Series No. 659

#### SHORT COURSE IN AGRICULTURE



"FIELDS GOLDEN UNTO THE HARVEST"
The Nation's need; the husbandmen's reward.

# COLLEGE OF AGRICULTURE OF THE

UNIVERSITY OF WISCONSIN

1917-1918

MADISON Published by the University June, 1917

#### SHORT COURSE FACULTY

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

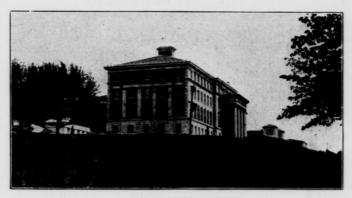
A. S. ALEXANDER, Veterinary Science. B. A. BEACH, Veterinary Science. J. C. ELSOM, Gymnastics. J. G. FULLER, Animal Husbandry. G. H. BENKENDORF, Dairy Husbandry. C. J. GALPIN, Rural Institutions. A. L. GODDARD, Shop Work. J. G. HALPIN, Poultry Husbandry. B. H. HUMPHREY, Animal Husbandry. E. R. Jones, Drainage. L. R. Jones, Plant Diseases. F. KLEINHEINZ, Animal Husbandry. B. D. LEITH, Agronomy. \* C. D. LIVINGSTON, Agricultural Engineering. F. B. Moody, Lecturer in Farm Forestry. J. G. MOORE, Horticulture. R. A. MOORE, Agronomy.
A. C. Oosterhuis, Animal Husbandry.
D. H. Otis, Farm Management. A. L. STONE, Agronomy. J. L. TORMEY, Animal Husbandry.
W. E. TOTTINGHAM, Agricultural Chemistry.
W. W. WEIR, Soils.
F. M. WHITE, Agricultural Engineering. H. F. WILSON, Economic Entomology W. H. WRIGHT, Agricultural Bacteriology.
A. R. ALBERT, Soils.
S. BASHEROV, Dairy Husbandry.
J. W. Brann, Plant Diseases and Plant Life. H. A. BRUNSELL Carpentry. A. C. DAHLBERG, Dairying.
O. J. DELWICHE, Animal Husbandry.
E. W. Fox, Animal Husbandry. F. H. GENTNER, Economic Entomology. Carl GMUR, Dairying. C. I. GRIFFITH, Agricultural Engineering. V. GUNN, Farm Management. J. I. HAMBLETON, Economic Entomology. J. B. HAYES, Poultry Husbandry. C. S. HEAN, Library Practice. J. R. HEPLER, Horticulture. O. JUVE, Farm Bookkeeping. L. KERSTEN, Animal Husbandry. E. KIRST, Animal Husbandry. E. KRSI, Animal Husbandry.
A. H. KUHLMAN, Animal Husbandry.
W. E. MARKEY, Animal Husbandry.
G. B. MORTIMER, Agronomy.
F. E. MUSSEHL. Poultry Husbandry.
C. F. PETERS, Forge Work.
H. SANDELL, Soils.

R. N. SCHUMANN, Forge Work. A. H. WRIGHT, Agronomy. O. ZEASMAN, Drainage.

<sup>\*</sup> Deceased May 24, 1917.

Entered as second class matter June 10, 1898, at the Post Office at Madison, Wisconsin, under the Act of July 16, 1894.

Issued monthly by the University of Wisconsin, Madison, Wis.



AGRICULTURAL HALL
Headquarters for Short Course Activities.

#### CONTENTS

Short Course Faculty	2
Calendar	
New Plan of the Course	
Books Required	5
Purpose of the Course	5
Requirements for Admission	6
Students from Other Schools	7
Opportunities for Students	7
Does Education Pay?	9
Student Activities	9
Expenses	10
General Information	10
Short Course Schedules	12
Student Health	14
Departmental Announcements	14
Closing Day	
Distribution of Former Students	28
First Year Students	
Second Vear Students	

greens also have the many

#### CALENDAR

#### 1917

Registration Days Recitations begin Make-up Examinations Thanksgiving Day, Legal holiday First term closes Christmas recess begins	TuesWed., Thursday Th., Fri., Sat. Thursday Thurs. (noon) Thurs. (noon)	Nov. 12-13 Nov. 15 Dec. 13. 14, 15 Nov. 29 Dec. 20. Dec. 20.
1918		
Second term begins Second term closes	Tues. (8 a. m.) Saturday	Jan. 8 Feb. 9
Third term begins	Monday	Feb. 11
Live Stock Judging Trip (Required		

of all Second Year Students)
Washington's Birthday, Legal holiday
Third term closes
Closing Day Exercises
Thursday
Thursday

Friday Feb. 22 Thursday March 15 Thursday March 15

Feb. 21-22

#### THE NEW PLAN OF THE SHORT COURSE

Important and helpful changes have been made in the Short Course for the coming year. The time has been increased from 14 to 15 weeks. The course will start the middle of November and the studies for the first term (5 weeks) will be completed at the time of the Christmas holidays. The second term will start after the vacation and the work of this term will close at the end of the first week in February, when the studies for the term will be over. The third term will begin the second week in February and close the middle of March. The students will be out in good time to begin the spring work.

Under this new plan Short Course students will concentrate upon a few subjects for each term and then complete them before taking up other subjects. Instruction is given by means of lectures, recitations, laboratory practice, demonstrations and conferences. Opportunity is given for students to secure answers to individual questions which makes the work practical and helpful to them.

The course of study is so arranged as to give the students an idea of the fundamental sciences which underlie success-

ful agriculture. Based upon these fundamental sciences the principles and approved practices of profitable farming are explained.

The lectures, proper, occupy about 2 to 3 hours a day and the remainder is devoted to laboratory practice and demonstration work.

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, examining of horses for soundness. Classes begin at 8 A. M. continuing until 4:30 or 5:30 P. M. with a 1½ hour noon intermission from 12 to 1:30 P. M. No classes are held on Saturday afternoon.

#### BOOKS REQUIRED FOR SHORT COURSE

A number of books will be needed by Short Course students. It is impossible to state in advance what books will be required and we would, therefore, advise prospective students not to attempt to buy any text books until they are instructed to do so in the various classes.

#### PURPOSE OF THE SHORT COURSE

The purpose 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. This enables young farmers, unable to take a longer course, to reap many of the benefits to be secured at the College of Agriculture such as lectures by prominent men, Experiment Association Meetings, Farmers' Course, and live stock demonstrations.
- 2. To give this information at the season of the year when the work on the farm is least pressing.
- 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 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.
- 6. To uplift the farming interests of the state, to make better farmers, and more intelligent, useful citizens.



"LEST WE FORGET"

The students' spiritual and material welfare are cared for here.

#### REQUIREMENTS FOR ADMISSION

Students should be at least sixteen years old 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 twenty years of age who have a general knowledge of farming, preferably with a year or more of experience on the farm, can get the greatest benefit from the course. The course is open to both sexes.

#### STUDENTS WHO ENTER FROM OTHER SCHOOLS

County Short Course. The County Agricultural Representatives give courses to boys in their counties. Graduates of these county short courses are admitted to the second year of the Short Course upon their diploma and evidence of having done sufficient supplementary work on their own farm problems, but all are required to take in class, at least Chemistry and Library Practice of the first year schedule, omitting elective work of the second year conflicting therewith. Those not having completed sufficient supplementary work, are required by the Short Course Committee to take several of the first year studies in class. This may prevent the completion of their Second Year studies in one year.

Colleges, Normals, High Schools, County Agricultural Schools, etc. Students will be given credit for work which corresponds with required work of the Short Course.

Persons intending to enter the Second Year of the Short Course should make application and present qualifications to the Chairman of the Short Course Committee not later than September first, so that there will be time to investigate each application.

#### OPPORTUNITIES FOR SHORT COURSE STUDENTS

During the past year the employment bureau of the College of Agriculture has been unable to meet the rapidly increasing demand for students to work on farms in this and other states. Many of the students have returned to the home farms.

The nature of the positions which are open to Short Course students is shown by the following:

General Farm Laborer. The opportunity for farm positions on general farms, other than the home farm, is exceptionally good. These positions pay experienced men from \$35 to \$45 a month with board.

Cow Testing Work. This type of work offers good opportunities for students, in this and other states. The work

pays from \$40 to \$60 per month and includes living expenses.

Herdsman, Foreman, etc. Many enterprising and successful farmers need trained men to assume the responsibility of the management of the herds. This is a responsible position that pays from \$40 to \$75 and sometimes \$100 or more a month with board. This type of position serves as a stepping stone for something better; it frequently leads to a managerial job.

Some farms with a large amount of business to look after require the services of a foreman who looks after certain parts of the work of the farm under the direction of a manager. These positions are not as common as those of herdsman but the pay is about the same or perhaps a little better.

Farm Managers. The demand for men to manage farms is on the increase. The compensation offered for such positions ranges from \$50 to \$75 and above.

Share Renters. Young men with some capital in addition to their training and experience may find opportunities for renting farms on a share basis. This may serve as a stepping stone to farm ownership.

Return to the Home Farm. The majority of the students who take the Short Course find it to their advantage to return to the home farm. Many of them enter into partnerships with their parents or brothers and soon become real farm managers.

The real value of the Short Course is well demonstrated in the results that the boys have been able to secure after leaving the College. Results obtained through the Agricultural Experiment Association (composed of former agricultural students) the yield, for a 5-year period, of 1550 former students, averaged 62 bushels per acre while the best corn in the same community for the same period of time, averaged 49 bushels per acre. This is a difference of 13 bushels per acre, per year, in favor of the improved varieties of corn and the improved methods introduced and practiced by these former students. The following table based on records secured from farmers in the Farm Contest presents illuminating figures on the Short Course.

#### DOES EDUCATION PAY ON THE FARM?

(825 Wisconsin Records)

	Common School (478 Records)	
Labor Income*	\$632	\$739
Value of residence	1,764	1,837
OTHER FA	CTORS	
Bath Equipment	22%	24%
Lighting System	17%	24%
Furnace Heat	22%	24%
Auto	20 %	24%

<sup>\*</sup> Labor Income—the amount which the farmer has for his services after paying all expenses and deducting 5% interest on his total investment.

#### STUDENT ACTIVITIES

The Literary Society. 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 course is devoted to the Literary Society meeting.

A special feature in the nature of an oratorical contest or class debate is introduced each year. Contestants from both classes enter this contest. The organization is under the direction of Professor Otis and assistants.

The Short Course students also have a Glee Club and Orchestra under faculty direction, and furnish music for Farmers' Course meetings and other meetings during the Winter as well as for the Literary Society. All students in the Short Course are eligible to compete for places in these organizations.

The Agricultural Experiment Association. The Association is an organization of former students of the College of Agriculture for the purpose of introducing improved methods and practices upon the farms of the members over the state. The work includes Field Tests in the study of Soils, Crops, Live Stock and the Business Management of the Farm.

This association has been especially helpful in conducting field tests with grains and forage crops and the growing and disseminating of pure-bred seeds.

The annual meeting of this association occurs during the second term of the Short Course and the students are given an opportunity to attend the meetings and to become members. The membership now numbers 1550. Prof. R. A. Moore is the Secretary of the Association.

#### **EXPENSES**

For residents Students not

residents of

of Wisconsin

Tuition-			W	isconsin
Tuition	F	ree		\$51.67
Incidental fee for all students	\$6.	50		6.50
Laboratory fee	7.	.00		7.00
portion returnable)	2.	00		2.00
Total	\$15.	50		\$67.17
OTHER EXPENS	SES			
Other Expenses—				
Room		\$30.00	to	\$40.00
Board		75.00	to	90.00
Books, supplies, etc		15.00	to	25.00
Miscellaneous		10.00	to	20.00
Total		\$130.00	to	\$175.00

#### GENERAL INFORMATION

The Y. M. C. A. secretary secures a list of rooms and boarding places which will be available for Short Course students and a representative of the organization will be in attendance during registration days to aid the students in getting located. This person will maintain office hours during the Short Course

for the purpose of being of service to the students while in the course. A series of Sunday morning meetings for the Short Course students was held during the past winter and a number of interesting excursions were made to various points of interest in and about the city, under the charge of the Y. M. C. A. representative.



A SURE WAY TO INCREASE FOOD SUPPLIES
Sowing pure bred, high yielding corn and seed grain is true
patriotism.

Students should not carry 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.

All mail should be addressed care of the College of Agriculture plainly marked "Short Course."

Someone will be in attendance at the registration counter to answer inquiries at any time.

#### SHORT COURSE SCHEDULE—FIRST YEAR

Hour	Nov. 15 — Dec. 20 1st Term	Jan. 8 — Feb. 9 2d Term	Feb. 11 — Mar. 15 3rd Term
8-10 Lab.	Sec. 1 Agr. Eug. A Sec. 2 Agronomy A Sec. 3 Soils B	Sec. 2 Agr. Eng. A Sec. 3 Agronomy A Sec. 1 Soils B	Sec. 3 Agr. Eng. A Sec. 1 Agronomy A Sec. 2 Soils B
10-11	Soils A	Plant Life First half Feeds & Feeding C Last half	Dairy A First half Vet. Science A Last half
11-12	Chemistry	Breeds A	Horticulture A
1:30-3:30 Lab.	Sec. 1 Stock Judging B Sec. 2 Dairying B Sec. 3 Shop A or B	Sec. 2 Stock Judging B Sec. 3 Dairying B Sec. 1 Shop A or B	Sec. 3 Stock Judging B Sec. 1 Dairying B Sec. 2 Shop A or B
3:30-4:30 T. & Th.	Sec. 2 Library Practice	Sec. 3 Library Practice	Sec. 1 Library Practice
3:30-5:30 M. W. & F.	Sec. 1 Bookkeeping	Sec. 2 Bookkeeping	Sec. 3 Bookkeeping

One hour gymnasium work per week required, 3:30 or 4:30 depending on term and section.

#### SHORT COURSE SCHEDULE—SECOND YEAR

Hour	Nov. 15 — Dec. 20 1st Term	Jan. 8 — Feb. 9 2nd Term	Feb. 11 — March 15 3rd Term
8-9	Stock Feeding D	Bacteriology	Farm Management
9–10	Vet. Science B	Poultry A. First half Marketing } Rural Inst. } Last half	Breeding & Mgt. E.
10-12 Elect one each term Lab.	Stock Judging F Agricultural Engineering B Shop A, B, C or D	Stock Judging F Agricultural Engineering B Shop A, B, C or D	Stock Judging F. Agricultural Engineering B Plant Diseases Shop A, B, C or D
1:30-3:30 Elect one each term Lab.	Land Drainage C Entomology & Beekeeping A & B Poultry 1B	Agronomy B Horticulture B Soil Management D Poultry 2B	Markets and Country Life Adv. Farm Dairying C Soil Management D Poultry 3B
3:30-4:30	Agronomy B	Livestock Mgt. G	Road Construction C Farm Forestry

One hour gymnasium work per week, required, at 4:30, day to be arranged.

If a subject is elected by a student it cannot be dropped unless permission is secured from the Short Course Committee.

A standing of 60 or above in every subject is required for a Short Course Certificate. Students who have any deficiencies in first year work, must take a make-up examination in the failed studies during the week preceding the Christmas recess, December 13, 14 and 15, 1917. Students having more than three failures in first year work are required to repeat the work in these studies, in class and to take in addition any such second year studies as the schedule permits, without conflict of hours. The last three days of each term are the days for make up examinations for failures incurred in the preceding term.

#### STUDENT HEALTH

Especial attention is given to the health of the student body. The Department of Clinical Medicine has general supervision of the health of the students. It aims to determine the medical fitness of each student entering the University by a careful examination at the time of entrance. The Medical Adviser's Office is established for the general supervision of students needing medical attention. It is earnestly desired that all cases of student illness be promptly reported to this office whether or not professional service is desired. At the same time it is hoped that students will feel free to seek advice concerning the care of their health.

#### DEPARTMENTS OF INSTRUCTION

#### AGRICULTURAL BACTERIOLOGY

ASSISTANT PROFESSOR W. H. WRIGHT.

The relation of bacteria to agriculture. The main purpose is to acquaint the student with those phases of bacteriology which he should take into account in his daily life. Especial attention is devoted to such subjects as nitrification, nitrogenfixation, and the inoculation of legumes; the contamination of milk and the influence of its bacterial content on its value as food and for butter and cheese making; the preservation of foods and fodders. In the case of the transmissible diseases of animals, those that are of greatest importance to the live stock industry of the state are studied, especially as to their prevention. The relation of bacteria to the health of the farm home is considered in a discussion of farm water supply and sewage disposal. Mr. Wright.

#### AGRICULTURAL CHEMISTRY

ASSISTANT PROFESSOR W. E. TOTTINGHAM.

The application of chemistry to the farm. The chemical elements contained in the air and soil and their relation to

crops. How the plant grows and feeds and the animal food products it yields.

The chemistry and conservation of manures, the relation of feeding stuffs to their composition, and to the origin, composition and purchase of commercial fertilizers. The composition of domestic animals at various stages of growth and the process 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 in the terms of farm practice. Demonstrations are given to show the properties of some of the more common elements concerned in plant and animal growth and farm products. The chemical composition of common insecticides and fungicides is also discussed. Mr. Tottingham.

#### AGRICULTURAL ECONOMICS

Professoors B. H. Hibbard and D. H. Otis; Assistant Professor C. J. Galpin; Instructor Mr. Gunn, O. Juve.

The work given by this department is designed to improve the business ability of the farmer by teaching methods of keeping accounts, methods of managing farms, and methods of selling the produce; and to point out means of improving the conditions of living in the country.

A. Methods of Farm Bookkeeping. The elements of book-keeping applied to the farm. Methods of taking farm inventories and the keeping of cash accounts, and accounts with live stock, farm crops, etc. Mr. Juve.

B. Methods of Farm Management. The aim is to show the student how the various farm operations may be organized and correlated so that the entire farm may be handled successfully and economically. The location and size of the farm and its adaptability to the raising of crops and livestock, and the lay-out of the farm, the capital and equipment necessary for the various types of farming, and to the question of farm help. Trips will be taken to various farms to study their lay-out, equipment, and methods of management. Mr. Otis, Mr. Gunn.

- C. Prices, Markets, Credits and Farm Contracts. The conditions and forces which determine the prices of farm products, methods of marketing, co-operative and independent, and methods of renting farms and securing farm loans. Mr. Hibbard.
- D. Rural Institutions. The peculiar problems of country life and outline methods of improving the conditions of life in the farm home and in the farmer's community. Mr. Galpin.

#### AGRONOMY

PROFESSOR R. A. MOORE; ASSISTANT PROFESSORS STONE AND LEITH; INSTRUCTORS G. B. MORTIMER, A. H. WRIGHT; ASSISTANT L. R. ZERBEL.

The work in Agronomy will include a study of the culture and management, methods of improvement, and systems of rotation for farm crops suitable for Wisconsin conditions.

- A. Small Grains. The cultivation, harvesting, marketing, testing, uses, habits of growth, manufactured products, rotations, and fertilizers for the small grains. The laboratory work of this course aims to give the student a knowledge of the structure of the small grains, the points of distinction between the different varieties, and an intelligent understanding of the principles and practices of judging. Mr. Mortimer.
- B. Forage Crops, Weeds and Seeds. Lectures and laboratory work on corn, alfalfa, clovers and other forage crops. The lectures include a discussion of the best methods and practices in sowing, handling, testing, selection and improvement of the ferage crops. The laboratory work will consist in type study and judging of corn.

Weeds in reference to their introduction, classification, dissemination, identification and eradication will be given to second year students. The purity and germination of farm seeds as related to weed introduction and the farm profit will also be discussed. Field and weed seeds will be studied under the microscope and their characteristic shapes and markings noted. The student will also be taught to identify the weeds from which the seeds come and to associate the weed and its seed. Mr. Moore, Mr. Mortimer, Mr. Stone.

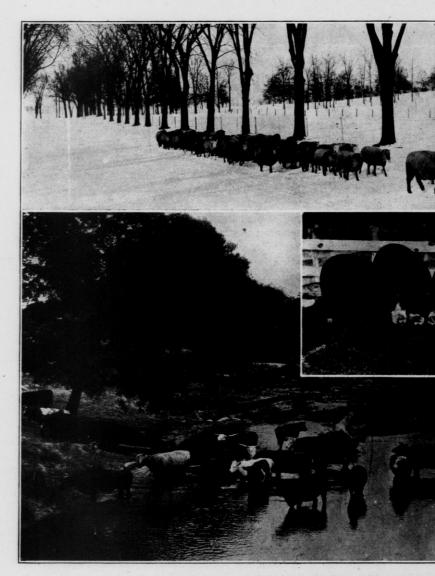
#### AGRICULTURAL ENGINEERING

- Assistant Professor F. M. White; Assistant Professor C. D. Livingston; Instructors C. I. Griffith, L. M. Schindler; Assistant H. E. Roethe.
- A. Farm Buildings and Machinery. Lectures and laboratory work in the planning and arrangement of farm buildings. The lectures include a discussion on silos, concrete construction, ventilating systems, heating and lighting, farm water supply and sewage disposal systems, gasoline engines, and general farm machinery. The laboratory work will be practical instruction in useful farm practices, such as soldering, tinning, pipe cutting and fitting, rope tying and splicing, and belt lacing. Mr. White and assistants.
- B. Advanced Agricultural Engineering. Farm machinery. A continuation of work begun in the first year. Practical exercises in the laboratory, supplemented with lectures. Laboratory work is given on steam and gasoline engines and farm tractors, farm implements, such as plows, binders, corn planters, cultivators, etc. Mr. White and assistants.
- C. Country Roads. The location, construction and maintenance of country roads. Mr. White assisted by State Highway Department.

#### ANIMAL HUSBANDRY

PROFESSOR G. C. HUMPHREY; ASSOCIATE PROFESSOR J. G. FULLER; ASSISTANT PROFESSORS J. L. TORMEY, A. C. OOSTERHUIS, FRANK KLEINHEINZ; INSTRUCTOR A. H. KUHLMAN; ASSISTANTS O. J. DELWICHE, E. W. FOX, Mr. KERSTEN, E. KIRST AND W. E. MARKEY.

The courses in animal husbandry given in the Short Course include live stock breeding, judging, feeding, care and management. The extensive herds and flocks of the University farm



UTILITY AND BEAUT

Wisconsin affords an ideal environment and the most pict



LEASINGLY COMBINED que setting for her unsurpassed herds, flocks, and studs.

are supplemented by prize winning animals loaned by breeders of the state.

- A. Breeds of Live Stock. The history, characteristics and utility of the leading breeds of live stock. Mr. Oosterhuis.
- B. Elementary Stock Judging. Score card practice in the study of market classes and breeds of live stock. Mr. Kuhlman.
- C. Feeds and Feeding. The study of feeding stuffs, principles of feeding, and rations. Mr. Tormey.
- D. Advanced Feeds and Feeding. A continuation of the study of Feeds and Feeding begun the first year with special application to practical problems. Mr. Tormey.
- E. Breeding and Management. Lectures on the general principles of breeding and the care and management of dairy cattle and horses. Mr. Humphrey, Mr. Oosterhuis, Mr. Tormey.
- F. Advanced Stock Judging. This course continues the study of market classes and breeds begun in the first year incluiding competitive judging and practice work in management. Mr. Fuller, Mr. Kleinheinz, Mr. Kuhlman, Mr. Oosterhuis, Mr. Tormey.
- G. Live Stock Management. Lectures on the breeding and production of swine, sheep and beef cattle. Mr. Fuller, Mr. Kleinheinz, Mr. Tormey.

#### FARM DAIRYING

ASSISTANT PROFESSOR G. H. BENKENDORF; INSTRUCTOR MR. DAHL-BERG; ASSISTANTS MR. BASHEROV AND MR. GUUIR. GMUR.

In Farm Dairying, students receive instruction in the general principles which are involved in the production testing and handling of milk and cream for city markets, creameries and cheese factories and the making of butter on the farm.

A. Farm Dairying. Lectures on the composition of milk and other dairy products; the production of market milk and the handling of milk and cream for factory purposes; care and ripening of cream for farm butter-making; and marketing of dairy products. Mr. Dahlberg.

- 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. 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. Mr. Basherov and assistant.
- C. Advanced Farm Dairying. A supplementary course to Dairy A and B. Designed for training men in Cow Testing Association work, the operation of milking machines, the commercial handling of milk and other advanced Farm Dairy operations. Mr. Benkendorf.

#### FORESTRY

#### LECTURER MR. F. B. MOODY.

The work given in Forestry is designed to show the relation of forestry to agriculture. The care of the wood lot, windbreaks, shelter belts, tree planting, selections of species for planting, and methods of propagation, planting, and protection. Mr. Moody.

#### ECONOMIC ENTOMOLOGY

PROFESSOR WILSON; INSTRUCTORS MR. GENTNER AND MR. HAMBLE TON.

The importance of insect control on the farm is always recognized by the farmer but his opportunities for study are limited, and the occasional information which he picks up is usually gone from his mind before he has an opportunity to apply it.

A. Injurious Insects and Methods of Control. This course is planned to meet that need and the more important insects pests of farm, garden and orchard crops will be considered in sufficient detail to admit of ready recognition and treatment where known. The principles of insect control will be studied

and applied to individual insects according to the best known methods. Mr. Wilson, Mr. Gentner.

B. Beekeeping. The Insect Pest Course is so planned that students who desire to study the elementary principles of beekeeping may do so during the last two weeks of the course. Lectures and demonstrations in modern beekeeping will be given and each student will have an opportunity to familiarize himself with up-to-date methods and equipment for the handling of bees, and the production of comb and extracted honey. Bee diseases, their recognition, and treatment will also be studied. Six two-hour periods each week during the first term of the second year. Mr. Hambleton.

#### PLANT LIFE

#### J. W. BRANN.

The principles of plant reproduction and growth underlie the culture of all plants. One cannot grow plants most successfully and intelligently without knowing how they secure their food and the factors influencing its conversion into plant tissue. Lectures will be given on life processes of the structure of plants, plant processes, how plants reproduce, effects of external influences, methods of propagation, and ways of improving plants. Mr. Brann.

#### HORTICULTURE

Professor J. G. Moore; Instructors J. W. Brann, J. R. Hepler and Assistants.

The Horticultural work in the Short Course is designed to give the student a knowledge of the principles and practices underlying successful fruit and vegetable production.

A. Farm Orcharding and Gardening. Lectures on the selection of site, planting, soil management, pruning, spraying, varieties, and other orchard problems with special reference to the farm orchard. The farm garden, and methods of making it of greatest service on the farm. Mr. Moore.

B. Horticultural Practice. An elective course designed for those desiring more detailed work in Horticulture than is given in Horticulture A. Demonstration lectures and laboratory exercises on spraying, preparation of spray materials, grafting, pruning, fruit identification and judging, tree planting, hotbed construction, potato identification, judging and culture; propagation of plants by sexual and asexual means; tobacco culture; truck crops. Mr. Brann, Mr. Hepler, Mr. Johnson.

Students taking this course will have an opportunity to elect the special lines in which they are most interested.

#### LIBRARY WORK

#### LIBRARIAN C. S. HEAN.

The aim of this couse is to teach students 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 library. 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. Mr. Hean.

#### PHYSICAL EDUCATION

#### Dr. J. C. Elsom, Examiner, and Assistants.

Every Short Course student will be given a thorough physical and medical examination, and will be required to take one one-hour period a week of developmental exercises, athletics and recreational games under capable direction. An opportunity for voluntary exercise and for the organization of basketball and other teams and the holding of athletic contests between classes, etc., will be given. These activities are carried on in the Stock Pavilion which has been equipped with facili-

ties for this purpose, including gymnastic and athletic apparatus, lockers and shower baths. Lectures on hygiene and the laws of efficient living will be given by members of the Department of Physical Education. Dr. Elsom.

#### PLANT PATHOLOGY

PROFESSOR L. R. JONES AND INSTRUCTOR J. W. BRANN.

Owing to the demand for instructional work in the control of diseases of farm crops, the following course is offered.

Plant Diseases and Their Control. A general introduction to the subject. This will include such an acquaintance with the symptoms of the commoner and more important plant diseases of Wisconsin crops that one may recognize them on sight. Special attention will be given to the diseases of field crops, grains, etc., and also those of fruits, potatoes, and other horticultural crops. Control measures and their application will be emphasized, and such use made of experiment bulletins and other timely publications as will enable the student to read them understandingly thereafter.

Lectures, demonstrations, and individual laboratory work aiming to give first hand acquaintance with the symptoms of the diseased plants and the characters of the parasitic fungi and bacteria causing the diseases, including methods of overwintering, spread, and control. Six two-hour periods each week during the last third of the second year. Mr. Jones, Mr. Brann.

#### POULTRY HUSBANDRY

Associate Professors J. G. Halpin; Instructors J. B. Hayes, F. E. Mussehl.

The Poultry department is equipped with modern poultry buildings, colony houses, a very complete line of incubators, brooders, and other poultry apparatus, such as cramming machines, bone cutters, etc. In addition, some twenty-six varieties of chickens, five of geese, and six of ducks, furnish ample material for poultry judging. These will be used to

help the student to become familiar with general poultry raising. An extensive file of poultry journals and books is to be found in the Agricultural Library.

- A. Poultry Raising. The breeding, feeding and management of poultry under farm conditions with special reference to the keeping of fowls for meat and eggs. Breeding and feeding for winter egg production, poultry house construction, incubating and brooding, both natural and artificial, killing and marketing dressed poultry, etc. The common poultry diseases. Mr. Hayes.
- 1B. Poultry Judging. The judging of poultry for fancy and utility values. A brief history of some of the more important varieties.
- 2B. Demonstrations and laboratory work in feeding for egg production, packing and marketing eggs, killing and dressing market poultry, caponizing and house construction.
- 3B. Incubation and Brooding and a study of some of the common diseases of poultry. Mr. Hayes. Mr. Mussehl.

#### SHOP WORK DEPARTMENTS

- SUPERINTENDENT A. L. GODDARD; INSTRUCTORS R. N. SCHUMANN, BLACKSMITHING; H. A. BRUNSELL, FARM CARPENTRY AND BUILD-ING CONSTRUCTION; ASSISTANT, MR. PETERS.
- A. Elementary Carpentry. Instruction in the use of wood tools, how to sharpen and keep them in order, how to make and use such fixtures as the bench hook and miter box, making tool box, knife box, book rack, model hay rack, or other articles that may be selected to illustrate various types of joints. Instruction is also given in reading the steel square and its use in building operations. Mr. Brunsell.
- B. Elementary Forging. For first year students. Instruction in the essential operations of forging, such as drawing out, upsetting, pointing, bending and welding mild steel, leading to the application of these operations in making useful articles such as bolts, chain links, rings, clevices of various forms, cold chisels, metal and stone drills, hammers, knives, etc. Instruction in hardening, tempering, drilling, riveting and soldering. Mr. Schumann and Mr. Peters.

- C. Advanced Carpentry. More advanced work to suit the needs of the individual student. The construction of stairs, window and door frames, cupboards, the making of models of houses, barns, and portable pens, and framing for concrete construction are among the subjects that may be selected. Advanced instruction in the use of the steel square as applied to the cutting of rafters and other complex framing. Mr. Brunsell.
- D. Advanced Forge Work. A continuation of first year work including more advanced practice. Welding steel of various grades, pointing and sharpening picks, plow shares, etc., brazing, welding, forging and tempering springs is included in practice work as time permits. Mr. Schumann and Mr. Peters.

#### SOILS

ASSOCIATE PROFESSOR E. R. JONES; ASSISTANT PROFESSOR W. W. WEIR; INSTRUCTOR O. ZEASMAN; ASSISTANTS A. R. ALBERT, AND HARVEY SANDELL.

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

- A. Soil Fertility. Twenty-eight lectures on the soil and its relation to crop production. The principal subjects studied are: the soil, its origin and relation to plants and animals; conditions affecting plant growth; plant-food elements and crop needs; importance of water and tilth in agriculture; land drainage; liming; relation of manure, and commercial fertilizers to crop yields and soil improvement. Mr. Weir.
- B. Laboratory Practice and demonstrational exercises planned to aid the student to apply the principles discussed in Course A. Mr. Albert.
- C. Land Drainage. Exercises in the plant house or outof-doors with the surveyor's level, plane-table, drain tile and tiling tools. Planning drainage systems from topographic maps of typical areas and from sketches of particular areas furnished by students. Superintending the installation of farm drainage systems. Mr. Jones.

D. Soil Fertility. Laboratory studies upon the texture, tilth, water-holding capacity, lime and fertilizer requirements of soils, and the movements of capillary and gravitational water in them. Conferences on the special requirements of the typical soils as well as those of particular soils reported by students. Mr. Weir, Mr. Albert.

The fact that the State soils laboratory is operated in the same building with the classes in soils and drainage makes the class work of greater interest and value to students.

#### VETERINARY SCIENCE

PROFESSOR A. S. ALEXANDER; ASSISTANT PROFESSOR B. A. BEACH. The information given in this course will prove of great value in the breeding, judging, feeding, and general management of farm animals, and will be excellent preparation for those who intend later to enter a veterinary college. As aids to the work, the department has skoletons of the horse, cow, and pig; an Azoux life size dissectible model of a horse, containing 3,000 named parts; separate models of normal and diseased organs; numerous museum specimens and a collection of modern veterinary instruments, casting apparatus, drugs, etc.

It is the aim and object of the instruction to qualify each student to act as an intelligent, capable nurse for ailing animals, and to be able to recognize diseases, to give the first aid treatment where necessary, and to carry out the orders of the attending veterinarian.

The work is required of all short course students and consists of:

- A. The study of the structure of the animal body.
- B. The animal in health and disease.

The structure and functions of the various organs of the body are considered first to acquaint the students with normal conditions. This is followed by a discussion of the causes, symptoms, prevention and treatment of the more common diseases of animals. When there is an opportunity, practical demonstrations are given the better to enable the students to recognize diseases and administer medicines. Careful instruc-

tions are given in the examination of horses for soundness, and students are required to pass upon the soundness of subjects selected for the purpose. Mr. Alexander, Mr. Beach.

#### CLOSING DAY EXERCISES

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.

For the past 7 years the certificates have been presented at the Closing Day Exercises held on the last day of the course. Some prominent speaker is procured to give the address and special music is furnished for this occasion.

The Second Year class holds Class Day Exercises on the afternoon preceding Closing Day.

#### DISTRIBUTION OF GRADUATES AND FORMER STUDENTS

4,890 students have attended the Short Course in Agriculture since it was established in 1885. Every county in the state has been represented in the course at some time. In 1916-17 the students in this course numbered 323 of which 76.47 per cent were farm boys, and there were students from 58 counties in Wisconsin and from 14 other states in the course.

Graduates of the Short Course are now successful farmers in many parts of the United States and several foreign countries. Many of these students have returned to pursue advanced studies and are now holding prominent positions in agricultural colleges and experiment stations.

#### FIRST YEAR STUDENTS, 1916-1917.

Amundson, N. T....Rice Lake, Wis. | Endres, F. X......Dane, Wis.

Anderson, H. A Chippewa Falls Andrews, E. R Austin, Ill. Andrew, G	Eyers, F. L. Steuben Ewen, E. C. Manitowoc
Apple, G. E La Valle, Wis. Araujo, Alvard. Montevideo, S. Am. Arentson, John Sheboygan, Wis. Arneman, H. H Two Rivers Arneson, M. L Barneveld Austin, A. W Waterloo	Felten, G. H. Jefferson Jct. Fiege, H. J. Bayfield Fleming, G. W. Jefferson Foote, C. L. Rush Lake Friday, H. Hermansvill Fried, Roy Fountain City
Ballmann, TheodoreSullivan Barber, B. H Woodstock, Ill. Barber, G. H Woodstock, Ill. Bartlett, H. B Pewaukee, Wis. Behm, G. D Rockford, Ill. Berg, Jos Mondovi, Wis.	Ganzeveld, Peter Elkhorn Geister, R. G. Juneau Goodman, G. Cadott Graves, L. A. Mt. Hope Gray, H. D. Memphis, Ind.
Berg, R. V. Stoughton Berge, W. F. Valders Berger, M. C. Chetek Berlowitz, H. R. Milwaukee Bjerkeng, P. B. Beldenville Blaine, Emmons. Lake Mills Brandenburg, R. P. Serena, Ill.	Hackney, J. S Uniontown, Pa. Hahn, H. HRichland Center, Wis. Hahn, R. E
Brehm, Elmer Sheboygan, Wis. Brockmeyer, Arthur Madison Brown, Melvin Blaft Bryant, J. D Earlville, Ill. Burr, W. G. Santiago, Chile, S. Am.	Christiania, Norway Hasse, H. J Oshkosh, Wis Hetzel, Herbert Spring Green Hinz, H. C Shebovgan Hinz, R. H Riron Hocking, Lewis Grantsburg Hollender, F. W Oxford
Callander, J. W., Rokeby, Sask. Can. Carpenter, C. W Stockton, I'l.	Hull, H. H
Carr, C. GStrong's Prairie, Wis. Christopherson, A. DOconomowoc Clinite, ChasMadison	Jackson, E. R
Coldren, Ashley Juda Concannon. Emmett Chicago, Ill Conover, Burrell Plainfield, Wis	Jensen, Arthur
Crossman, W. R Lake Mills Culbertson, M. M Medina	Johnson, F. M. Evansvi'le
Cummings, Raymond MDelton Czarnetzky, O. CPortage	Johnson, T. H
Degner, H. C. Milwauke Delsman, E. J. Manitowoc Dickinson, A. B. Lake Geneva	Joustra, Bert Friendship Jurss, Bruno Plymouth
Dixon, C. A. Nekocsa Dobson, J. W. Moweaqua, Il Dodge, R. R. Rice Lake, Wis. Dodge, E. B. Rice Lake	Kaiser, H. M. Fond du Lae Kargl, R. L. Ft. Atkinson Kasten, H. L. Mishicot Kempff, Theodore Bonduel Kieffer, A. L. Lena Knight, B. M. Colfax, Ill.
Edwards, J. R	Koch, Carl Sylvan, Wis. Kohlman, H. H. Dane Kolb, E. W. Berlin Kruschke, H. A. New Richmond Kundert, Rudolph. New Glarus

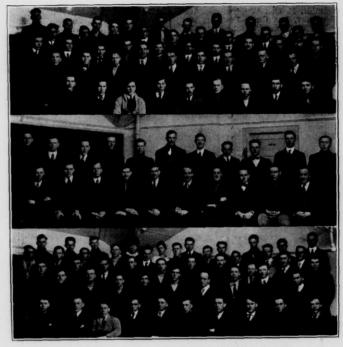


FIRST YEAR SHORT COURSE CLASS
Farm boys preparing for greater usefulness.

Lamb, R. H. Janesville Larson, H. S. Osseo Lashua, L. V. Northland Lehnerts, E. J. Arcadia Leiteritz, Carl Caeveland	Rowe, R. M
Loomer, Howard Elkhorn Luebke, E. R. Hustisford Luetscher, A. H. Plain Lupton, H. S. Clearbrook, Va	Salm, Leo Cleveland Sawyer, W. S. East Troy Schafer, R. Fremont Schambeau, W. L. Two Rivers Schellinger, T. Park Falls Schlenvogt, C. Chilton
Macy, H. G	Schoeneich, L. E. Dousman Schroeder, G. A. Princeton Schuyler, H. M. Fish Creek Semrad, John Boscobel Sime, Elmer Cottage Grove
Mayer, C. A. Richfield McCutcheon, J. R. Arena McKune, J. E. Spring Green McShooler, Glen Omro Meiselwitz, W. E. Elkhart Lake	Shaulis, G. W
Miles, S. F.         Eagle           Miller, J. T.         Grand Marsh           Moen, O. J.         Cambridge           Mohr, L. A.         Bloomer           Myers, W. L.         New York City	Steele, Orrie Evansville Stockland, Carl H. Whitewater Stubblefield, A. F. McLean, Ill. Swancutt, L. G. Evansville Swancutt, C. J. Evansville Swanson, Algodt South Range
Nelson, C. E. Barrington, I.l. Nelson, O. G. Baldwin, Wis. Nelson, S. B. Baldwin Nelson, W. Barrington, Ill.	Swift, H. M
Ohlrogge, RobertChilton, Wis.	Thielke, W. J.         Madison, Wis.           Tobison, A. J.         Coleman           Tullis, W. C.         Brooklyn           Tyler, R. I.         Jefferson
Parrish, G. D	Uecker, K. J. Forestville Ullrich, A. G. Horicon
Peterson, E. L. Nelsonville Peterson, W. Osseo Pierce, Ralph Stockton, Ill. Platte, H. H. New London, Wis. Portz, H. L. Chile, Wis. Price, Claude Oakfield	Veum, N. B
Rake, EddColumbus Reddell, L. EEdmund	Willard, C. HNew London, Wis. Willegal, AndrewMontello
Reppen, Melvin Dane Rosenkranz, D. D Paw Paw, Ill. Rothe, D. A. C Elkhart Lake, Wis.	Young, A. WGalesville  Zittlow, CW. Depere

#### SECOND YEAR STUDENTS

Abendroth, W. R Waterloo, Wis. Amodt, Clarence Viroqua, Wis. Arends, A. H Cleveland, Wis	Ingold, FredMonroe, Wis.
Baker, R. O Maiden Kock, Wis. Bartell, R. G Thiensville, Wis. Bartleson, L Pine River, Wis. Berglund, W. A Pecatonica, Ill. Bille, J. W.	Jacklin, Leon P Waupaca, Wis. Janz, Jacob West Bend, Wis. Jarr, T. A Manitowoc, Wis. Johnson, W. N Cushing, Wis. Jones, Glen Merrimac, Wts.
Bilie, J. W. Luck, Wis. Bingham, M. A. Milton, Wis. Borders, M. A. Baraboo, Wis. Bosher, R. Strum, Wis. Boyden, P. W. Madison, Wis. Brehm, V. F. Sheboygan, Wis. Briggs, R. Evanston, Ill. Brown, L. H. Edgemont, S. D. Bussey, F. W. Tabor, S. D. Buzzell, H. L. Markesan, Wis.	Karsk, A. FPecatonica, Ill. Kauth, J. A. SGermantown, Wis. Kelly, M. T Chippewa Falls, Wis. Kelsey, F. BDelavan, Wis. Klement, LeslieFt. Atkinson, Wis. Kleppe, L. OBelleville, Wis. Kollock, H. OBancroft, Wis. Korfmacher, C. Cottage Grove, Wis.
Cairns, F. E	Lawrenz, H. L Reedsburg, Wis. Leach, L. L Wautoma, Wis. Lester, C. T Trevor, Wis. Lichtenwalner, A. H Monroe, Wis. Ludlam, J. E Hewlitt, L. I. N. Y. Lurvey, C. P Dousman, Wis.
Clingan, C. W. Olney, Ill. Cole, D. E. Waterloo, Wis. Collipp, G. W. Kenosha, Wis.	Mantz, M. M. Richfield, Wis. McIlraith, H. R. Medford, Wis. McKay, J. A. Franklin, Tenn. McManus, W. B. Oregon, Wis.
Eager, R. D	McWethy, F. O. Dixon, Ill. Meagher, G. D. Chippewa F'lls, Wis. Melster, Arthur. Cambridge, Wis. Mertes, J. F. South Range, Wis. Miller, H. E. Janesville, Wis. Molter, Herbert. Marshfield, Wis. Moths, A. C. Fredonia, Wis.
Foster, H. B El Paso, Texas Fulier, Stanley Hartland, Wis. Fuller, J. G Madison, Wis.	Nelson, Newell Whitehall, Wis. Northey, Royal Palmyra, Wis.
Gates, R. D. Fontana, Wis. Glaeser, F. W. Richton, Ill. Gordon, L. W. Nelsonville, Wis. Green, C. E. Olney, Ill.	Ohnstad, O. C Menomonie, Wis. O'Neil, T. H Kilourn, Wis. Orth, Walter R Eau Claire, Wis. Otto, A. H Oconomowoc, Wis.
Hanson, H. L	Palmbach, G. AAppleton, Wis. Paulson, Blaine GTaylor, Wis. Peik, C. JChilton, Wis. Petersen, C. TNorth Lake, Wis.
Hoelz, C. P. Rockfield, Wis. Holzschuh, A. C. So. Kaukauna Hume, R. Endeavor, Wis.	Ramsey, John S Peshtigo, Wis. Reager, H. B Primghar, Iowa Reid, G. R Independence, Wis. Reinertson, R. M Valders, Wis.



SECOND YEAR SHORT COURSE CLASS Some of Wisconsin's future leaders in agriculture.

Ross, R. WMineral Point, Wis. Rudh, R. AMadison, Wis.	
Schea, M. TCampbellsport, Wis. Schilstra, J. R Pleasant P'rie, Wis. Schlawin, W. WCochrane, Wis.	Voltz, FredClear Lake, Wis.
Schmidt, E. CWrightstown. Wis. Schroeder, LCamp Douglas, Wis.	Watt, H. CPittsburg, Pa.
Schuster, WmOconomowoc, Wis. Sether, C. MIola, Wis	
Smith, B. OBloomer, Wis. Stearns, A. CWeyauwega, Wis.	
Stichtman, H. C. New London, Wis. Stury, AntonElkhorn, Wis.	

#### SHORT COURSE IN AGRICULTURE

#### Application for Admission

To the Manager of the Short Course,

University of Wisconsin, Madison.

I hereby apply for admission to the Short Course in Agriculture, for the term beginning Nov. 15, 1917. I have had......years experience on a farm.

If this application is accepted, I promise to conform to all the rules and regulations of the school as to payment of fees, attendance, etc.

Should I change my address before Nov. 13 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
Post Office	
County	State
Dated	
Fol	d here
(kindly indicate by a X what infl	he Short Course byluenced you to take the Short Course)
His name	
(Give name of the former S fluenced you to take this	Short Course student who in-
Address	
The Short Course Circular	Influence of School Teacher
Announcements of Farm Papers	Influence of County Super- intendent
Announcements in Local Papers	Influence of College Instructor
Exhibits at County or State Fair	Influence of some Friend.
Other influences, and remarks.	

### POST CARD

PLACE TWO CENT STAMP HERE

THIS SPACE IS FOR THE ADDRESS ONLY

# MANAGER OF SHORT COURSE College of Agriculture

Madison

Wis.

