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Announcement of
Winter Courses

New York State
College of Agriculture

1921-1922

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CALENDAR 1921-1922

Nov. 9,	Wednesday,		Registration in winter courses, beginning at 9 a.m. at the office of the Secretary, Roberts Hall, room 192.
Nov. 10,	Thursday,		Instruction begins in winter courses
Nov. 21,	Monday,		Fee cards issued at office of the Secretary.
Nov. 26,	Saturday,		Last day for payment of fees at office of the University Treasurer, Morrill Hall.
Nov. —,	Thursday,		Thanksgiving Day. Holiday
Dec. 22,	Thursday,	1 p.m.,	Instruction ends. } Christmas recess.
Jan. 5,	Thursday,	1 p.m.,	Instruction resumed. }
Feb. 13–18,			Fifteenth Annual Farmers' Week.
Feb. 17,	Friday,		Instruction ends in winter courses.

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THE WINTER COURSES

The winter courses have been part of the regular work of the College of Agriculture since 1893, when the course in general agriculture was established. The courses are now eight in number.

1. Agriculture
2. Dairy Industry
3. Poultry Husbandry
4. Fruit Growing

[5. Home Economics.] Not given in 1921-22.

6. Flower Growing
7. Vegetable Gardening

[8. Game Farming.] Not given in 1921-22.

The course in agriculture is entirely elective, the student choosing his own schedule of subjects under the guidance of a faculty supervisor. The course is intended primarily for persons who are engaged in general farming or who expect to take up farming. The other seven courses, or groups, are more or less fixed professional courses, intended for persons who desire to specialize in the respective fields.

All the winter courses will begin on November 9, 1921, and will close on February 17, 1922. Instruction will begin at 8 a. m. on November 10. No work will be given on Thanksgiving Day; and none will be given from December 22, at 1 p. m., to January 5, at 1 p. m., these days being allowed for Christmas recess.

Correspondence concerning these courses and other instruction in the College of Agriculture may be addressed to The Secretary, College of Agriculture, Cornell University, Ithaca, New York.

Two-Year Courses

It is advised that students plan to spend at least two winters at the College, in the first winter taking general courses in agriculture, and in the second winter specializing in the subjects in which they are particularly interested. The large number of elective subjects in the course in agriculture makes it possible for students to register in that course for a second year without duplication of specified subjects of study.

Expenses

Tuition is free to those who are and have been residents of New York State for one year previous to registration. Non-residents pay a tuition fee of $25. This fee is refunded if the student withdraws within five days for reasons satisfactory to the Comptroller and Registrar of the University. One-half of the fee is returned if the student withdraws within two weeks from registration day.

There are a few small fees and incidental expenses, which are detailed under the description of each course, but practically the only expense is the cost of living in Ithaca and the railroad fare to and from Ithaca. Satisfactory table board can be procured in Ithaca, within five to fifteen minutes walk of the campus, for about $7 or $8 a week. Comfortable rooms near the place of boarding may be engaged at about $3.50 a week for each person when two persons occupy the room, and from $4 to $5 when one person occupies the room. The cost of books need not be more than $10, but it has been the experience of winter-course students in the past that they wish to buy a number of books to take home, and it would be well, if possible, to allow at least $15 for this item. The expenses of students in the winter courses of past years, as stated by them, have been from $175 to $250. By careful management this may be reduced somewhat; but it is best not to stint too much, since too great economy is likely to lessen the value of the course.

The laboratory fees are mentioned in the descriptions of the courses in the announcement; students are also liable for breakage due to carelessness on their part.

Infirmary fee. Students in the winter courses are required to pay an infirmary fee of $3. In return for the infirmary fee, any sick student is, on his physician's certificate, admitted to the infirmary, and is given, without further charge, a bed in a ward, board, and ordinary nursing, for a period not exceeding two weeks. Extra charges are made for private rooms, special food, and special nurses. If a sick student who has not received two weeks' service during the course is unable to gain admittance to the infirmary, by reason of lack of accommodation, he is entitled to a refund of the fee. The infirmary has no medical staff; students employ their own physicians among practitioners in Ithaca or elsewhere.

Fee cards. All the winter-course students must call at the office of the Secretary of the College of Agriculture on November 21, at which

time fee cards will be issued with tuition, infirmary fee, and laboratory fees charged. The cards must be presented at the Treasurer's office in Morrill Hall and payment made not later than 1 p. m., Saturday, November 26.

Self-support. In the past, a few students have been obliged to earn money during the course and have worked at odd jobs about the University or on neighboring farms. This is never advisable unless absolutely necessary. It is much better to borrow the necessary money or to postpone the course of study until another year, than to be thus handicapped during the limited time spent at the University. All energy should be concentrated on the work of the course.

Scholarships and Prizes

Grange Scholarships. At its thirty-first annual meeting, held in Cortland, February 4, 1904, the New York State Grange resolved to appropriate funds annually, to be given to members of the order in the form of scholarships in any of the winter courses in agriculture at Cornell University. The scholarships, now twelve in number, are each $50 in cash, to be awarded to men and women who attain the highest standing on competitive examination. Awards are made each summer. These scholarships apply to the winter courses only and not more than one is given in a county. Candidates should apply before June 1 to the Master of the Pomona Grange in their home counties, or to the Deputy in counties that have no Pomona Grange.

State Bankers' Association Scholarships. For 1921-22 the State Bankers' Association offers five scholarships of $250 each, to be awarded to competitors among junior extension project workers of Class C. Project workers of Class C who wish to compete for these scholarships may address correspondence to Professor W. J. Wright, State Leader of Junior Extension, Ithaca, New York.

Beatty Agricultural Scholarships. By the will of the late Harrison L. Beatty of Bainbridge, New York, the income of $5000 is devoted to three equal scholarships in the winter courses, to be known as the Beatty Agricultural Scholarships. These scholarships are to be awarded to residents of Chenango County, one of whom shall be a resident of the town of Bainbridge. In making the award, equal consideration will be given to education and practical experience. Competitive examinations are held annually in Norwich and Bain-

bridge, New York, in the last week of September; the exact dates are to be announced to those applying for the examinations. The applications must be sent to the Secretary of the College of Agriculture, Ithaca, New York, by September 1.

The Jewish Agricultural and Industrial Aid Society of New York instituted in 1908 a system of free scholarships to enable the children of Jewish farmers to attend the short winter courses offered by the agricultural colleges in the States in which they reside. The scholarships are awarded by competition, which consists in the writing of a brief essay on an agricultural topic. Children of Jewish farmers living and working on the farms of their parents are eligible to compete for these scholarships. The number of scholarships is not limited. For the New York State College of Agriculture at Cornell University, a number of these schclarships have been awarded each year since their establishment. Application should be made to the Jewish Agricultural and Industrial Aid Society, 174 Second Avenue, New York City.

Indian Scholarships. A limited number of scholarships are offered to Iroquois Indians. For particulars apply to the Indian agricultural society of your reservation, or to the Indian Extension Staff, College of Agriculture, Ithaca, N. Y.

Prizes. The various winter-course clubs compete every year for the Morrison Trophy Cup, the contest ordinarily being a series of debates. There is also a silver cup offered by Mrs. Florence M. Nevin as a prize for proficiency in public speaking.

Admission

The winter courses are business and occupational courses, not academic; hence there are no examinations for admission. However, in order that the student may be able to make the best use of the instruction it is necessary that he should have had a good common school education. Winter-course students are sometimes seriously handicapped in their work by being deficient in arithmetic and in English. Persons who are planning to take a winter course are advised to review these subjects before coming to Ithaca.

Applicants for admission to the winter courses should, by way of preparation, read carefully some of the best books, bulletins, and other literature on the subject to which their attention will be chiefly directed while at Cornell University.

Women who desire to pursue one of the winter courses should correspond with Professor Martha Van Rensselaer, Ithaca, New York, in regard to rooms and accommodations. All women students registered in any of the winter courses are under the supervision of Professor Van Rensselaer during the period of the courses.

Age. All the courses are open to both men and women of at least eighteen years of age. There is no limit to the age above eighteen; some of the best winter-course students have been mature men and women, owners of farms or managers of dairy or poultry plants.

Application. This circular contains an application blank for admission to the winter courses and a schedule sheet for courses to be taken. Both of these should be made out in full and forwarded to the Secretary at once by any person who is planning, as yet even indefinitely, to attend any one of the winter courses. The filing of an application for admission does not constitute an obligation to attend, and applications may be withdrawn at any time.

Any one who has graduated from the common schools of the State, or who has an eighth-grade certificate, should be able to do the winter-course work satisfactorily. When making application, candidates for admission should give a description of their school training and if possible should send a certificate or a statement from the teacher of the school last attended.

Applicants for the professional course in poultry husbandry must have had at least six months active and consecutive work on an approved farm or poultry plant. A statement signed by the employer stating the kind, amount, and quality of work done, must accompany the application for admission.

Arrival at Ithaca. Students who desire advice concerning lodgings and boarding places are invited to come directly to the College of Agriculture on their arrival in Ithaca. It is desirable that all housing arrangements should be completed before registration day.

Registration

On Wednesday, November 9, beginning at 9 a.m., all students must report for registration at the office of the Secretary of the College of Agriculture, Roberts Hall, room 192. After registering here, students will go at once to the headquarters of their particular winter course or to their faculty supervisor, as assigned. The headquarters of the several professional winter courses are as follows:

Course in dairy industry, Dairy Building, room 132 (first floor); course in poultry husbandry, Poultry Building, room 325 (third floor); course in fruit growing, Roberts Hall room 202 (second floor); course in flower growing, Roberts Hall, room 212 (second floor); course in vegetable gardening, Poultry Building, room 253 (second floor); course in game farming, Poultry Building 325 (third floor). Students in the course in agriculture will be assigned to their faculty supervisors at the time of their registration.

Study cards. After the student has registered he may not change his schedule of courses in any respect except on the recommendation of the head of the winter course concerned, or of his faculty supervisor, and with the approval of the Secretary. The schedule sheet, which the applicant fills out in advance, may subsequently be changed at the request of the applicant, and is not to be confused with the study card, which is made out when the student registers.

Methods of Instruction

Instruction in the winter courses is given by lectures, by such practical work (laboratory practice) in the various agricultural operations as can be conducted at the time of the year, and sometimes by trips or excursions to points of special interest.

The lectures are given in large part by the regular staff of the College of Agriculture. The lectures are plain and practical, in the style of farmers' institute talks. So far as possible, collected material is used for illustrating the subjects; when this is impossible, lantern views are often used. Free discussion by the students of the subject under consideration is encouraged. Further opportunity for general discussions is afforded in the meetings of the winter-course clubs.

Special lectures for the winter-course students are given in Roberts Hall 131 at 9 a. m. on Friday of each week, and all students are required to attend. The lectures will be given by members of the university faculty and by men of successful experience in agriculture.

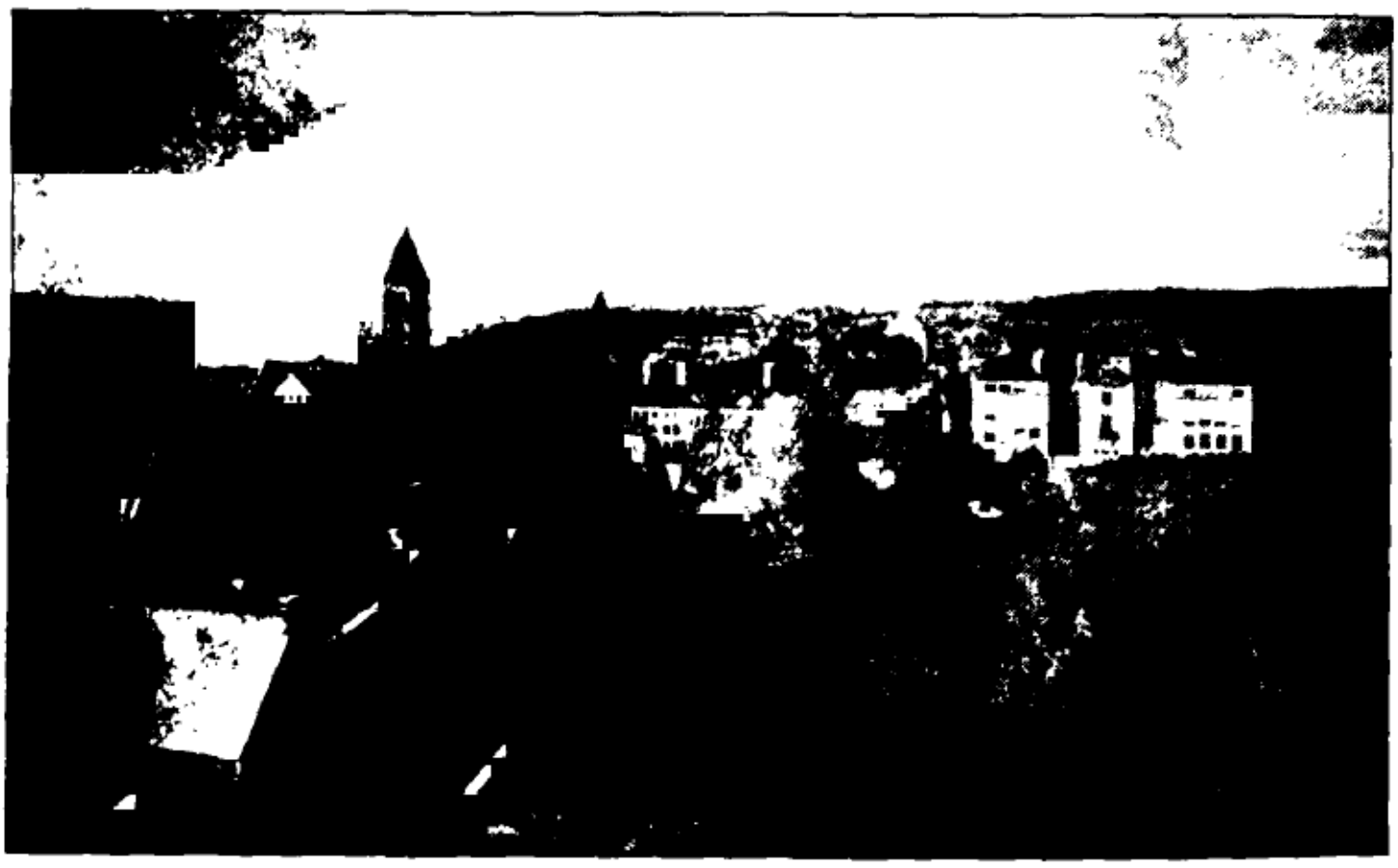
The winter-course students are welcomed at the various addresses given by eminent men before the University in general.

Practical work is made a special feature in the winter courses. The student is expected to perform all the various operations as carefully as if he were working at home as a practical farmer. In the courses in dairy industry, poultry husbandry, game breeding, and home economics, the instruction is in large part practical, and the

students have an opportunity of becoming familiar with all the essential operations in these enterprises. In the courses in agriculture, fruit growing, flower growing, and vegetable gardening, there is necessarily a smaller amount of practical work; advantage is taken, however, of the greenhouses, barns, and laboratories, in demonstrating to the students some of the operations that would naturally be conducted in the summer season. Whenever possible, the aim is to make the practical work take up as large a part of the student's time as do the lectures.

Excursions to points of special interest have been made a feature of the course in poultry husbandry. Such excursions are conducted in other courses also whenever practicable.

The word *hour* in the following schedules means one lecture of one hour each week, or one period of two and one-half hours of laboratory



THE UNIVERSITY IS ON A PLATEAU ABOUT 400 FEET ABOVE CAYUGA LAKE

or practice each week during the term; in the case of the professional dairy course, during one-half of the term.

The City and the University

Ithaca is situated in Tompkins County at the head of Cayuga Lake. It is a city of about seventeen thousand inhabitants. It is reached by the Lehigh Valley, the Delaware, Lackawanna and

Western, and the Auburn Short Line, Railroads. The University stands on a plateau about four hundred feet above the lake. The officers of instruction and administration at Cornell University number nearly eight hundred. The campus and farms cover 1430 acres. The New York State Game Farm, recently established under control of the University, lies adjacent to the university farm and comprises 166 acres.

The buildings of the University are more than thirty-five in number, providing quarters for the several colleges of the University. These are Agriculture, Architecture, Arts and Sciences, Engineering, Graduate School, Law, Medicine, and Veterinary Medicine.

The New York State College of Agriculture at Cornell University occupies buildings erected by the State subsequent to 1904. These buildings are large and well equipped, and afford an attractive home for the College.

Social and Religious Advantages

Every year the students in each of the several winter courses have formed clubs. The societies meet once a week and debate subjects of special interest, discuss various problems, sing college songs, and indulge in other forms of social enjoyment. Every winter-course student is urged to attend these meetings.

The winter-course students are welcomed at the meetings of the Agricultural Association, the Dairy Club, the Lazy Club, the Poultry Association, the Round-up Club, and the other organizations of students in the College. The meetings of these societies are devoted to discussions of live agricultural subjects and to the promotion of friendship among the students.

Religious services, provided for by the Dean Sage Preachership Endowment, are conducted in Sage Chapel throughout the college year, by eminent clergymen selected from the various religious denominations. These services are supplemented by the Cornell University Christian Association, a voluntary organization of students and professors formed for their own religious culture and the promotion of Christian living in the University. The Christian Association has its home in Barnes Hall. It has a permanent secretary, and several church denominations are represented at Cornell by special pastors who also serve as secretaries of the Christian Association and have offices at Barnes Hall. These with the executive secretary and the hostess constitute the staff of the Christian Associ-

ation. It has also a carefully-selected Biblical library and comfortable reading and recreation rooms, with a Coffee House which is open daily from 9 in the morning until 11 at night. Courses in Bible study are conducted throughout the year, and special courses are provided for students in the winter courses.

In addition to the Young Men's Christian Association there is a flourishing Young Women's Christian Association, with quarters in Barnes Hall.

The students of the University are welcomed by the numerous churches in the city of Ithaca at all their services.

Positions

The College does not promise to find positions for students registered in any of its courses, but it has opportunity to recommend students for a large number of positions. Thus far it has been difficult to find students for all the places which the College has been asked to fill. Some students who have completed a winter course have obtained an increase in salary in the following season sufficient to pay the entire cost of the course. Such results, while of course not guaranteed, show that there are excellent opportunities for trained men.

A student desiring a recommendation from the College must fulfill the following conditions: (1) He must be of good character; (2) his previous record must be good; (3) his work in the winter course must be satisfactory.

In the case of the course in dairy industry, previous experience in a well-conducted dairy plant is strongly advised for those who expect the College to recommend them for positions.

In the case of the course in poultry husbandry, it is recommended that persons inexperienced in the handling of poultry spend at least a year in acquiring practical knowledge of the business before entering this course. Students who have not previously had a considerable amount of farm or poultry experience cannot, as a rule, be recommended to positions of responsibility until they have spent a season on an approved poultry farm. This is particularly true for the better positions, in which managers or superintendents are wanted to take charge of poultry farms.

DESCRIPTION OF THE WINTER COURSES

1. COURSES IN AGRICULTURE

Most of the young men who come for a winter course expect to engage in general farming or hope to obtain positions as superintendents of farms on which diversified agriculture is practised. It is for these that the general course in agriculture is especially designed. Persons who plan to specialize will register in one of the professional courses or groups.

On the other hand, the course in agriculture can be taken with advantage also by those who plan to do special work in agriculture later. It gives an opportunity for laying a broad foundation of general knowledge as a basis for subsequent specialization. This course gives a general survey of agriculture in practically all its phases. It is strongly advised that persons desiring to pursue one of the special winter courses should first take the course in agriculture and postpone their special work to the following winter.

Choice of subjects. Students may choose from the following courses such subjects as they desire to take and are able to schedule without conflict. No student may take less than twelve or more than a total of eighteen hours without special permission, and sixteen hours is as much as the average student can carry satisfactorily. [For definition of hour, see page 14.]

So far as students in general agriculture are concerned, the courses in agricultural chemistry, farm crops, and soils form a unit, and these courses cannot be selected separately unless one or more of them have been passed in a previous winter course.

Agricultural Chemistry

100. Agricultural Chemistry. Two hours a week. Lectures, Section A, T Th, 8; Section B, T Th, 9. Caldwell Hall 100. Professor Cross and Mr. ————.

An elementary course dealing with some fundamental chemistry and its relations to agriculture. Attention is given to the composition and chemical properties of plants, soils, fertilizers, feeding stuffs, insecticides, and fungicides.

Agricultural Economics and Farm Management

1. Farm Records and Accounts. Two hours a week. Lecture, W, 3. Dairy Building 222. Laboratory, M W F, 10–12.30. Farm Management Building 102. Assistant Professor Nobles.

Farm inventories; cash accounts; income tax reports; single-enterprise cost accounts; complete farm cost accounts; other farm records. Special emphasis is given to the interpretation of results and their application in the organization and management of farms. Laboratory fee, $2.

2. **Farm Management.** Three hours a week. Lectures, M F, 3. Dairy Building 222. Laboratory, T Th or S, 10–12.30. Farm Management Building 102. Mr. NORTON.

Lectures, recitations, and laboratory practice. Farming as a business; types of farming; balance of business; size of business; rates of production; farm layout; building arrangement; marketing; ways of starting farming; forms of tenure and leases; choosing and buying a farm; use of capital and credit; planning, organization, and management of specific farms. Laboratory fee, $1.

3. **Cooperative Marketing.** Two hours a week. Lectures, T Th, 3. Caldwell Hall 143. Professor BABCOCK.

In this course are studied some of the fundamental principles underlying cooperative marketing, the laws of New York State governing cooperative enterprises, and the workings of the principal cooperative marketing associations.

Agronomy

200 **Soils.** Two hours a week. Must be preceded or accompanied by Agricultural Chemistry 100, Section A, Lectures, T Th, 2. One demonstration period a week, T or F, 11–1. Caldwell Hall 100. Professor BUCKMAN. Section B, Lectures, T Th, 4. One demonstration period a week, M or W, 11–1. Caldwell Hall 100. Professor WORTHEN.

An elementary course dealing with those physical, chemical, and biological properties of the soil that have special practical applications. The use of lime, manures, and fertilizers will be an important phase of the work.

201. **Farm Crops.** Four hours a week. Lectures, M W F, 8. Roberts Hall 131. Laboratory, Section A, W, 11–1; Section B, Th, 11–1; Section C, F, 11–1. Poultry Building 350. Assistant Professor HARDENBURG and Mr. COOPER.

A study of field-crop production with special emphasis on the culture, uses, and distribution of the principal farm crops.

Students taking this course must take also Agricultural Chemistry 100 and Soils 200 It is recommended that they take also Animal Husbandry 1 and 2, Farm Management 1, and electives to total sixteen or eighteen hours. Laboratory fee, $1.

Animal Husbandry

1. **Feeds and Feeding.** Two hours a week. Lecture, M, 2. Animal Husbandry Building A. Practice, Section A, F, 10–12.30, Section B, S, 10–12.30. Professor SAVAGE and assistants.

The principles and practice of compounding rations and of feeding farm animals.

2. **Breeds and Breeding.** Three hours a week. Lectures, M F, 8. Animal Husbandry Building A. Practice, Section A, W, 11–12.30; Section B, S, 8.30–10. Animal Husbandry Pavilion. Professor WING and assistants.

The principles of breeding farm animals; the history of breeds; the adaptation of different breeds for certain purposes; the care of farm animals.

STUDENTS MANUFACTURE CHEESE

In the Dairy Department stress is placed upon the manufacture of various types of dairy products under practical working conditions

Dairy Industry

8. **General Farm Dairying.** For students in general agriculture only. Three hours a week. Must be preceded or accompanied by course 10. Lecture, W, 2. Dairy Building 222. Laboratory practice, Section A, T, 1–5; Section B, W, 9–1. Limited to fifteen students in a section. Dairy Building. Professor Ross and Mr. CURRAN.

This course will deal with the manufacture and handling of farm dairy products, including the care and handling of milk; operation of hand separators, making butter, starter making; manufacture of some of the farm cheeses; ice cream: storing ice; judging dairy products; use of the score card for judging dairy barns. Laboratory deposit $3 (part returnable), to cover breakage and for laundering of white suits.

10. **Milk Composition and Tests.** For students in general agriculture only. Two hours a week. Lecture, Th, 2. Dairy Building 222. Laboratory, M, 10–12.30. Dairy Building 232. Professor TROY, Assistant Professor MCINERNEY, and Messrs. BELL and HOLLIS.

The course includes the composition and secretion of milk; the Babcock test for fat in milk and its products; acid tests, salt tests, moisture tests; use of the lactometer; some of the simple tests for preservatives and adulterations. Laboratory deposit, $2 (part returnable), to cover breakage and for rental of laboratory apron.

Entomology

1. **Injurious Insects.** Two hours a week. Lectures, T Th, 3. Roberts Hall 292. Professor HERRICK.

The common insect pests of farm, garden, and orchard will be discussed, and measures of control will be carefully considered. Specimens of the insects discussed, together with examples of their work, will be shown to members of the class whenever possible. Opportunity will be given for questions and discussions, with the hope of bringing out obscure points and clearing up all phases of the problems. The lectures and discussions will be illustrated by lantern slides and by charts.

Extension Teaching

1. **Extension Work.** One hour a week. Lecture and discussion, W, 4. Roberts Hall 131. Criticism by appointment, daily, 8–1. Professor EVERETT and Messrs. DUNN and————.

A study of the problems of university extension in agriculture. Practice in the oral and written presentation of topics in agriculture, with criticism and individual conferences on the technic of public speech. The course is designed to acquaint students with parliamentary practice, to encourage interest in public affairs, and to train for effective self-expression in public. Open to all students in the winter courses. Special training will be given to competitors for the winter-course prize in public speaking. This prize is a silver cup given to the College by Mrs. Florence M. Nevin, of the winter course of 1918–19. It is to be retained by the College, and the name of the winner is to be engraved upon it. Competition is open to all winter-course students.

2. **The Rural Press.** Two hours a week. Lectures, T Th, 4. Roberts Hall 292. Professor ADAMS and Assistant Professor ATWOOD.

A course intended to show the relation of the country newspaper to the community; the place and purpose of the country correspondent, and the value of the local paper to the farmers as a source of information and as a medium for advertising.

Remove this application without separating the pages

NEW YORK STATE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY

APPLICATION FOR ADMISSION TO WINTER COURSES

Name of applicant IN FULL .....
Last name First name Middle name

Permanent Home Address (number and street, or R. F. D.) .....

Place ..... *County* ..... *State* .....

Date of birth, month ..... *day* ..... *year* .....

Nationality ..... *Married* ..... *Date of this application* .....

Name of parent or guardian, or person to be notified in case of serious illness or accident .....

.....

Address of parent or guardian .....

Name of school or college last attended .....

Place ..... *State* ..... *When?* ..... *How long?* .....

Have you ever before registered in this or any other college? .....

When? ..... *Where?* ..... *In what course?* .....

Have you received any degree or certificate? ..... *What?* ..... *Where and when?* .....

OVER

What has been your practical experience in farm work and in the special work covered by the winter course in which you are registering? .....

.....

.....

What has been your residence and occupation during the past five years?

Occupation 1917.....*Place*.....*State* .....

Occupation 1918.....*Place*.....*State*.....

Occupation 1919.....*Place*.....*State*.....

Occupation 1920.....*Place*.....*State* .....

Occupation 1921.....*Place*.....*State*.....

What church do you attend?.....

REFERENCES.—I am personally acquainted with the above applicant and know* .....*to be of good moral character, industrious, studious, and physically and otherwise capable.*

Name.....	*Name* .....
Position	*Position*.....
Address.....	*Address*.....

*Two endorsements are necessary, and should be preferably by your teacher and your pastor or a public official, not a member of your own family. These persons should sign the application themselves.

NOTE.—The applicant must answer ALL the questions asked on both sides of this application blank. When the blank has been answered in full, mail it to Robert P. Sibley, Secretary, College of Agriculture, Cornell University, Ithaca, New York.

Name .....

Last name ..... First **name** ..... Middle name .....

SCHEDULE OF SUBJECTS

IMPORTANT:—Before filling out the blanks on this page, make out a form such as is given on the reverse side.

Indicate by a check mark *(✓) the one of the following eight* ***courses in which*** *you desire to register.* ***Do not check more*** *than* ***one course.***

1. ***Agriculture***
2. ***Dairy Industry***
3. ***Poultry Husbandry***
4. ***Fruit Growing***
5. *Home Economics*] ***Not given in 1921-22***
6. ***Flower Growing***
7. ***Vegetable Gardening***
8. *Game Farming*] ***Not given in 1921-22***

If you desire to specialize *in either the* ***professional course*** *in dairy industry* ***or the professional course*** *in poultry* ***husbandry, it is not necessary for*** *you to fill out the* ***remainder*** *of the blanks on* ***this*** *page.*

If you are registering *in any one of the other six courses write here* ***the number*** *and the name* ***of each subject*** *that you desire to take,* ***using the number given in the catalog.*** *Example:* ***No. 2*** *Subject* **Agricultural Economics and Farm Management.** *Without* ***special permission, no student is*** *allowed to* ***take*** *less than* ***twelve*** *or* ***more than*** *eighteen "hours"* ***of work.*** *For definition of "hour",* ***see page 14.***

No. ..... *Subject* ***Lecture,*** *required* ***of all students***

No. ..... *Subject* .....

No. ..... *Subject* .....

No. ..... ***Subject*** .....

No. ..... *Subject* .....

No. ..... *Subject* .....

No. ..... *Subject* .....

No. ..... *Subject* .....

No. ..... *Subject* .....

No. ..... *Subject* .....

No. ..... *Subject* .....

After filling out this schedule completely **according to** directions, **mail it,** with **your application** for admission, **to Robert P. Sibley, Secretary.**

OVER

GUIDE FOR THE APPLICANT

Before filling out the previous page the applicant should make sure, by means of a form similar to the one shown below, that the subjects he desires do not conflict in time. Most of the courses offer options in laboratory periods so that with the exercise of care one can generally arrange to include the subjects desired. Students in general agriculture should note that Agricultural Chemistry 100, Agronomy 200 and 201, form a unit to be taken at the same time.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8-9						
9-10					Required Lecture	
10-11						
11-12						
12-1						
2-3						
3-4						
4-5						
5-6						

Floriculture

[3. **Amateur Floriculture.** Three hours a week. Lectures, T Th, 3. Floriculture Building. Practice, T, 10–12.30. Greenhouses. Mr. PRATT.] Not given in 1921–22.

This course is designed primarily for persons interested in growing plants in the house. Plants best suited for house culture will be considered, also plants for indoor and outdoor window boxes and veranda boxes. Methods of preparation of soil, propagation, potting, and seed sowing will be studied. This course will not be given unless there is a registration of at least five persons. Laboratory fee, $1.50.

4. **Gardening and Garden Flowers.** Three hours a week. Lectures, M T Th, 9. Greenhouses. Assistant Professor NEHRLING.

A course designed to study the methods of propagation and growing of outdoor annuals and herbaceous perennials. Studies will be made, so far as possible, of individual garden problems. The culture of outdoor roses, asters, peonies, phlox, iris, and bulbous plants, will be considered. Occasional laboratory periods, which are optional for the students, will be held. Laboratory fee, $1.

Forestry

1. **The Farm Woodlot.** One hour a week. Lecture, M, 10. Forestry Building 210. On three Saturday afternoons there will be field trips or laboratory periods. Assistant Professor GUISE.

This course is designed to present certain sides of forestry that are of value in farm work. The course covers the methods of identifying the principal trees of this region; the care of the woodlot, including tree planting for timber and windbreaks; thinning, and cutting mature timber; methods of measuring the amount of standing and felled timber; protection from fire and other enemies; preservative treatment of posts; the making of maple sugar.

[Home Economics] Not given in 1921-22

Any of the following subjects from the course in home economics may be taken by students registered in the course in agriculture, as far as laboratory accommodations permit:

1. **Foods and Nutrition.** (See page 33.)
10. **Elementary Clothing and Design.** (See page 33.)
11. **Dressmaking and Dress Design.** (See page 33.)
15. **Elementary Millinery.** (See page 33.)
20. **Household Management.** (See page 33.)
25. **Home Environment.** (See page 35.)
30. **Civic Responsibilities of Women.** (See page 35.)

Landscape Art

6. **Landscape Planning and Planting.** Three hours a week. Lecture, W, 10. Practice, M, 9–11, W, 2–5. Landscape Art Building. Mr. PORTER.

A discussion of the principles underlying simple arrangements and planting in home grounds, school grounds, and village improvement work.

The course will consist of lectures to illustrate fundamental principles and of practice and field trips to observe land conditions; making small surveys; preparing simple plans; learning the common plants, and utilizing them in planting practice.

Meteorology

1. **Elementary Meteorology.** One hour a week. Lecture, M, 9. Dairy Building 341. Mr. MORDOFF.

This course is designed to present the more essential phases of meteorology and climatology and their relations to agriculture. Some time will be spent in studying the principles and methods of practical weather forecasting from weather maps and local observations.

Plant Breeding

1. Plant Breeding. Two hours a week. Lectures and discussions, T Th, 9. Forestry Building 210. Assistant Professor FRASER.

A consideration of some of the general biological principles concerned in reproduction in plants, and the better-known facts of heredity and variation, followed by discussion of the methods of plant breeding as applied to certain types of crops.

Plant Pathology

1. **Plant Diseases.** Three hours a week. Lecture, S, 9. Roberts Hall 292. Practice, Section A, for students in fruit growing, T, 11-1; Th, 10–1, Section B, for students in general agriculture, W, 11–1, F, 10–1. Bailey Hall, West Basement. Professor BARRUS and Messrs. KIRBY and————.

The first two weeks will be spent in studying the structure and development of plants and of organisms causing disease. The more important diseases of commercial crops will then be studied carefully in regard to their symptoms, cause and control. Students will have an opportunity during the latter half of the term to select for study certain diseases in which they have a special interest. Laboratory fee, **$1.50**; breakage deposit, **$3**.

Pomology

2. **General Fruit Growing.** Three hours a week. Lectures, T W Th, 9. Roberts Hall 292. Professor HEINICKE and Assistant Professor PECK.

This lecture course is designed for students who desire a general knowledge of fruit growing. It covers practically the same topics as course 1 in fruit growing (page 32), but in less detail.

Poultry Husbandry

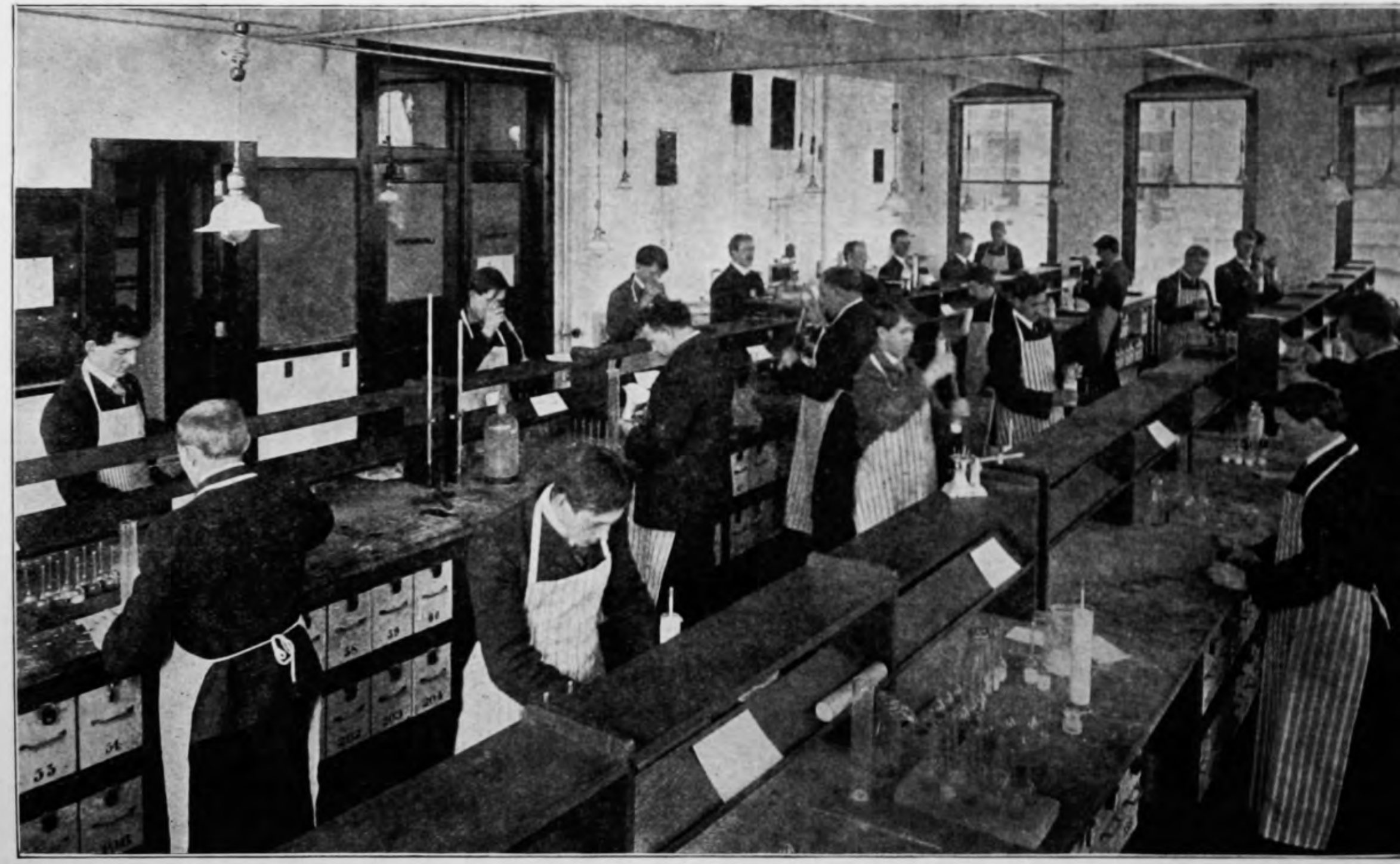
11. **Farm Poultry.** Four hours a week. Lectures, M W F, 5–6. Poultry Building 375. Laboratory practice, T or W, 10.30–1. Poultry Building 300. Professors RICE and KENT, Assistant Professors HEUSER and BOTSFORD, and Messrs. WEAVER, CARD, and KRUM.

A discussion of the domestic breeds of poultry; hatching and rearing; the principles of breeding, feeding, and management; marketing; diseases of poultry; the building of poultry houses; related matters. Laboratory fee, **$3**.

Rural Engineering

1. **Farm Mechanics.** Three hours a week. Lectures, T Th, 2. Roberts Hall 292. Practice, Th or S, 10–1. Rural Engineering Building. Professor RILEY, Assistant Professor FAIRBANKS, and assistants.

A study of the principles of operation, details of construction, and practical operation and care of: (a) machinery, including gasoline engines, devices for transmitting power, hydraulic rams, pumps, spray nozzles, spraying outfits, water-supply outfits;



PROSPECTIVE MILK TESTERS AT WORK

A completely equipped laboratory offers facilities for those who wish to study milk composition and milk tests

(b) implements, including plows, mowers, grain binders, and binder attachments; discussion of the special mechanical features of some of these implements now on the market. Laboratory fee, $2.

Vegetable Gardening

1. **Principles of Vegetable Gardening.** (See page 37.)
2. **Vegetable Forcing.** (See page 37.)

Veterinary Medicine

1. **Diseases of Dairy Cattle, and Veterinary Hygiene.** One hour a week. Lecture S, 9. Veterinary College, Small Lecture Room. Doctor HAYDEN.

This course includes a discussion of the commonest diseases of dairy cattle, the prevention and cure of these diseases, ventilation of stables, and general questions ot animal hygiene.

II. COURSE IN DAIRY INDUSTRY

The coures in dairy industry is intended especially for persons who plan to operate commercial dairy plants, and students expecting to enter this field professionally should register in this course. The work of the course requires the student's entire time. This course is not intended for persons who plan to follow dairy farming. Those wishing to study the manufacturing side of dairy farm work should register in the farm dairy courses outlined on page 20.

If there are more applicants for the course than laboratory space will allow, students will be accepted according to their previous dairy experience and the order in which the applications are received.

There will be a meeting of dairy-course students and teachers in lecture room 222 of the Dairy Building at five o'clock on the afternoon of registration day, November 9. All students registered in the winter course in dairy industry are required to attend this meeting.

Special Expenses

Laboratory fee (to pay in part for materials used)	$15.00
Laboratory deposit (part returnable) to cover laundry and breakage	8.00
Books, about	10.00
One suit of blue overalls, about	3.00
Three white suits, with caps, about	10.00
One rubber apron, about	1.00

Waterproof footwear is necessary for work in the dairy laboratories. Books, notebooks, and the special clothing listed above can be purchased in Ithaca.

STUDENTS LEARN TO KNOW AND JUDGE VARIOUS BREEDS

Students are given opportunity to learn the history and characteristics of the different breeds and how to select individual birds

Methods of Instruction

Instruction, although partly by lectures and recitations, is largely by actual practice in the different kinds of dairy work. The class assembles daily at 8 a.m., and the class work continues for two hours. The students are then assigned, in sections, to different kinds of practice for the remainder of the day. These assignments are so made that in the course of the term each student has a due amount of work in each of the various divisions.

The lectures and recitations are given in one-hour periods. Frequently they are replaced by examinations; often, also, a part of the hour is occupied by informal discussions of former lectures or of topics previously assigned for study. The lectures are supplemented by references to dairy literature, books, current periodicals, and experiment station publications.

The first six weeks of the term will be occupied in studying the composition of milk, and methods of testing; the bacteriology of dairy products; preparation of starters from bacterial cultures; dairy chemistry; dairy-cattle feeding; veterinary hygiene; dairy arithmetic and bookkeeping; dairy mechanics.

Required Subjects

The subjects of the required lecture and practice courses for the first half of the term are as follows:

200. **Milk Composition and Tests.** Three hours a week. Lectures, W S, 9, F, 8. Dairy Building 222. Practice, by appointment, W Th F, 10.15–12.30, 1.30–4. Dairy Building 232. Professor TROY, Assistant Professor MCINERNEY, and Mr. TRAVIS.

This course includes the composition and secretion of milk; the Babcock test for fat in milk and its products, acid tests, salt tests, moisture tests; use of the lactometer; calculating milk solids; some of the simple tests for preservatives and adulterations. A thorough drill will be given in making all the above determinations. The testing laboratory is furnished with all necessary equipment.

201. Dairy Bacteriology. Four hours a week. Lectures, W S, 8. Dairy Building 222. Practice, by appointment, W Th F S, 10 15–12.30. Dairy Building 122. Professor STOCKING and Messrs. DOWNS and PITTMAN.

This course considers the nature of bacteria and their relation to dairy work, including their sources, action on milk, butter, and cheese, and the methods of controlling their growth.

The laboratory is equipped with modern apparatus for the preparation and sterilization of glassware and media, the plating of samples, and the incubation of organisms. Studies are made of the various bacteria commonly found in milk. Students are given practice in plating samples, counting organisms, and making microscopic examinations.

202. Starters, Laboratory Course. One hour a week. Practice, by appointment, S, 10.15–12.30, 1.30–3.30. Dairy Building E 132. Assistant Professor JACKSON.

Under the direction of the instructor the students prepare starters from various

commercial cultures. Methods of control and the effects of different ripening temperatures are considered.

203. **Dairy Chemistry.** Two hours a week. Lectures, T Th, 8. T, Dairy Building 222, Th, Stone Hall 192. Mr. WHITE.

The elementary principles of chemistry are explained in order that the student may better understand the composition of dairy products and the chemical changes connected with and influencing dairy operations.

204. **Feeds and Feeding.** Four hours a week. Lectures, M T 9. Practice, M T, 10–12. Animal Husbandry Building C. Professor SAVAGE and assistants.

The principles and practice of compounding rations and of feeding farm animals.

205. **Dairy Arithmetic and Bookkeeping.** Two hours a week. Practice, by appointment, M T Th S, 1.30–4.30. Dairy Building 119. Professor Ross and Mr.—.

A thorough drill is provided in such problems as are constantly arising in all kinds of dairy work and in the keeping of factory accounts.

206. **Dairy Mechanics.** Two hours a week. Lecture, M, 8. Dairy Building 222. Practice, by appointment, M T W F, 1.30–5. Dairy Mechanics Laboratories. Mr. AYRES.

Students receive practice in the firing, care, and operation of boilers, and in the care and operation of steam and gasoline engines, cream separators, and other dairy machinery. Practical work is also given in the installation of shafts and pulleys, pipe fitting, belt lacing, and soldering.

In the last six weeks of the course the student will be given laboratory practice, supplemented by lectures, in such branches of dairy manufacturing as he may choose after consultation with the Department. The number of days in a week that will be devoted to each branch of the work cannot be determined until the proportion of students wishing to take each subject is known; therefore no schedule is given.

207. **Butter.** Four hours a week. Lecture periods to be arranged. Dairy Building 222. Practice, by appointment. Dairy Building E 151. Messrs. AYRES and—.

This course deals with the principles and practice of butter making, from the receiving of the milk and cream to the judging and marketing of the finished product; construction and arrangement of creameries; accounts and business methods.

The creamery is furnished with apparatus such as is found in a well-equipped commercial plant. The milk is received, weighed, sampled, and separated, and the entire process of ripening cream and of churni g is carried through in the most thorough manner. Special attention is given to the use of starters. Every step of the work is performed by students under the close supervision of the instructor.

208. **Cheese.** Four hours a week. Lecture periods, to be arranged. Dairy Building 222. Practice, by appointment. Dairy Building E 152. Professor FISK and Mr. OWENS.

The work includes the principles and methods of making cheddar, or American, cheese. Attention is given to the making and use of starters; the judging and marketing of cheese; factory accounts; the construction and equipment of cheese factories.

The cheese room is equipped with all necessary apparatus, such as is used in large

factories for making cheddar cheese. All the work is performed by students and every step is carefully observed and reported by them on blank forms provided for the purpose. Special attention is given to judging the quality of milk for making cheese, and to judging the cheese when it is ready for market.

209. **Fancy Cheeses.** Two hours a week. Lecture period, to be arranged. Dairy Building 222. Practice, by appointment. Dairy Building E 132. Professor FISK and Mr. OWENS.

The best methods to be used in making the various kinds of soft cheeses, the commercial possibilities of these products, and marketing methods, will be discussed in these lectures.

The students will make a variety of cheeses, including cottage, baker's cream, pimento, club, neufchatel, and camembert.

210. **Ice Cream.** Three hours a week. Lecture periods, to be arranged. Dairy Building 222. Practice, by appointment. Dairy Building E 122. Assistant Professor FISK and Mr.————.

The subject matter covered in the lectures consists of the successive steps in the making of ice cream; it will include also allied subjects, such as types of machines; refrigeration; quality of materials used; marketing; business management; factory construction and equipment.

The laboratory is equipped with both hand and power freezers. There are two types of the latter, one using ice for freezing and hardening, and one using mechanical refrigeration. Various kinds of ice cream are made, including custards and puddings. In the laboratory the student becomes familiar with the actual commercial business.

211. **Market Milk.** Three hours a week. Lecture periods, to be arranged. Dairy Building 222. Practice, by appointment. Dairy Building E 121. Professor Ross and Mr.————.

This course includes the sanitary construction of dairy barns; score cards for dairy barns and market milk; food value of milk; standardizing milk and cream; legal standards for milk and cream; dairy utensils; the general production and handling of clean milk.

The laboratory work includes bottling; milk pasteurization; different methods of cooling milk; clarification; standardization of milk and cream; judging milk and cream for sanitary quality; the use of the sanitary score card in judging dairy barns and dairy plants.

Certificate of Proficiency

A student who has completed all of the work of the winter course in dairy industry and has passed all the required examinations, may become a candidate for a certificate of proficiency in the kind of dairy work in which he is engaged. The candidate must complete one year of satisfactory work in a responsible dairy position approved by the Department of Dairy Industry, though a longer period than one year may be required by the department if conditions seem to warrant it. He must have his plant in readiness for inspection by a representative of the department at any time, and the inspector's reports must be satisfactory to the department.

A certificate will not be granted on a year's work if a part of the year is spent in making one product and a part in making another. For example, six months in a cheese factory and six months in a butter factory will not entitle a man to a certificate; but two seasons of six months each in any one line of work will be accepted as one full year, if the factory does not run for a longer time.

If the candidate is regularly employed in the manufacture of more than one kind of dairy product—for example, if he is making both butter and cheese—he may become eligible to work for a certificate of proficiency in each of these lines by complying with the requirements, which, stated briefly, are as follows: (1) satisfactory completion of all subjects studied in the winter course in dairy industry; (2) occupying a position of responsibility in dairy work, in a manner satisfactory to the department, for at least one year; (3) satisfactory reports of plant and product by the departmental representative who makes the inspections during this period.

III. COURSE IN POULTRY HUSBANDRY

The winter course in poultry husbandry is one of the means by which the College of Agriculture attempts to meet the needs of farmers. The course is intended also to assist in supplying the large and growing demand for trained poultrymen to take charge of poultry plants owned by others. Although it is manifestly impossible in twelve weeks to give full preparation for so exacting a business as poultry keeping, this course will start the student in the right direction, enable him to avoid many mistakes, and offer him facts and principles of value gleaned from the lifelong experience, study, and observation of others. Persons expecting to take up poultry raising professionally should register in the course in poultry husbandry, not in the course in agriculture. Applicants must furnish satisfactory evidence of having had at least six months experience in working on an approved farm or poultry plant.

A meeting of all winter-course students in poultry husbandry with the staff of the department will be held at five o'clock on the afternoon of registration day, November 9, in Poultry Building 375.

Special Expenses

Laboratory fee (to pay in part for material used)	$12.00
General supplies	12.00
Excursions	35.00

Besides these expenses, about $5 worth of books are usually bought

and retained by the student. For the cost of board and other expenses, see page 9. If the prospective student owns a set of drawing instruments, he should bring them and thereby save part of the expense for general supplies.

Required Subjects

1. **Poultry Husbandry.** Six hours a week. Open only to students in the professional course. Lectures, M T W Th S, 9; F, 8.15, and by appointment. Poultry Building 375. Examination, W, 10–12.30. Poultry Building 300. Professors RICE and KENT, Assistant Professors HEUSER and BOTSFORD, and Messrs. WEAVER and CARD.

The lectures include discussions of subjects of special interest to poultrymen; opportunities in poultry husbandry; advantages and disadvantages of various types of poultry keeping; laying out and estimating the cost of poultry plants; poultry-farm management; history and characteristics of breeds; feeding for egg production and for flesh; feeding young chickens; incubating and brooding; principles of poultry-house construction; capons and caponizing; diseases; preparing eggs and poultry for market; marketing poultry products. Assignments for reading will be announced.

2. **Special Lectures.** Two hours a week. Open only to students in the professional course. T Th, 4.45–5.45, F, 9. Poultry Building 375, and Roberts Hall 131.

A course of lectures, not limited to the subject of poultry husbandry, given by members of the staff of many of the departments of the College of Agriculture and of the Cornell Medical College, and by men of experience outside of the University.

3. **Laboratory Practice.** Four hours a week. Open only to students in the professional course. T W Th F, 2–4; F, 10–12.30. Poultry Building 300. Mr. ANDREWS and members of the staff.

This course includes the designing and drawing of plans for poultry buildings and colony houses; laying out poultry plants; selecting fowls for mating; killing, dressing, picking, and marketing poultry; testing, grading, and packing eggs; study of the formation and structure of the egg; anatomy of poultry; caponizing; study of poultry feeds; mixing rations; balancing rations; fitting fowls for exhibition; judging and scoring for fancy points and for utility; sanitation.

5. **Flock Management.** One hour a week. Open to students in the professional course or to those who have taken or are taking course 11 (page 22). Practice periods and extra time arranged by appointment. Practice, reporting three times daily (including Sunday) for four weeks, 7.45-8.15, 12.30-1, 4-4.30. Poultry Plant. Mr. ANDREWS.

Practice in record keeping, and management of fowls for egg production and for fattening, including preparation for market.

6. **Poultry Mechanics and Appliances.** One hour a week. Open only to students in the professional course. Practice, S, 10-12.30. Poultry Building 125. Mr. KRUM.

Instruction in the use of power tools; machinery and equipment. Making shipping coops, catching hooks, and other poultry appliances.

7. **Incubator Practice.** One hour a week. Open to students in the professional course or to those who have taken or are taking course 11 (page 22). Practice periods and extra time arranged by appointment. Practice, reporting three times daily (including Sunday) for four weeks, 7.45–8.15, 12.30–1, 4–4.30. Poultry Building 1. Mr. WEAVER.

Practice in operating incubators; testing eggs, keeping records, and comparison of results.

8. **Brooder Practice.** One hour a week. Open to students in the professional course or to those who have taken or are taking course 11 (page 22). Practice periods and extra time arranged by appointment. Practice, reporting three times daily (including Sunday) for four weeks, 7.45-8.15, 12.30-1, 4-4.30. Poultry Plant. Mr. WEAVER.

Practice in the management of a brooder and a flock of chickens; keeping of temperature, food, and growth records.

9. **Poultry Accounts.** One hour a week. Open only to students in the professional course. Th, 10–12.30. Poultry Building 300. Assistant Professor BOTSFORD.

Comparison of various methods of poultry-farm accounting, and practice in recording a set of transactions. A study will be made of the summarized results to determine the profit or loss in the various poultry-farm operations.

Excursions. One or more excursions will be made to neighboring poultry farms, and one three-day trip will be taken, during the three days following the Christmas vacation, to visit successful New York State farms and the New York City markets. These excursions are required, and every student must take them in order to receive full credit for the course. The total expense is about $35.

Certificate of Proficiency

On the completion of the required course, seventeen hours, with no deficiencies, a student in poultry husbandry may become an applicant for a certificate signed by the Dean of the College and the professor of Poultry Husbandry, under the following terms and conditions.

A candidate must spend one full year in successful work at an approved poultry plant. He must present regularly, on blank forms furnished for the purpose, such information in regard to the work as may be required, and he must hold his plant in readiness for inspection at any time. Under certain conditions a longer period than one year of practical work may be required. On satisfactory completion of these requirements a certificate will be granted.

IV. COURSE IN FRUIT GROWING

The course is intended to meet the requirements of persons engaged in commercial fruit growing. Lectures will cover the relation of the fundamental sciences to the various orchard operations, and a digest of experimental work bearing on fruit growing. Special emphasis will be placed on the interpretation of experimental work with reference to New York conditions. In the laboratory exercises each student will be given opportunity to perform all the orchard operations which the season will permit. The course should be of value to men who are preparing to become managers or foremen of fruit farms. Unless the student has had considerable previous experience, the course will not equip him for such a position.

Required Subjects

All students in this course who have not already satisfactorily completed the winter course in agriculture are required to take the subjects that follow. Those who have completed the winter course in agriculture may elect other subjects, but should consult with their faculty adviser before making the election.

1. **Commercial Fruit Growing.** Six hours a week. Lectures, M T W Th, 9. Practice, M W, 10-1. Roberts Hall 202. Professor HEINICKE and Assistant Professor PECK.

This course includes a study of methods of propagation; principles of budding and grafting; soils, varieties, and planting plans for the orchard; cultivation; cover crops, fertilization, and pruning, as practiced in orchard management; picking, grading, packing, storing, and marketing fruit. The course considers the apple, pear, quince, cherry, plum, peach, grape, raspberry, blackberry, currant, gooseberry, and strawberry. Laboratory fee, $2.

1. **Plant Diseases.** (See page 22.)
1. **Injurious Insects.** (See page 20.)
100. **Agricultural Chemistry.** (See page 17.)
200. **Agronomy.** (See page 18.)

Certificate of Proficiency

When the student has completed the course outlined, he may become an applicant for a certificate of proficiency in orchard practice. Before this certificate is granted, however, the candidate must have spent a year in work on a fruit farm that has been approved by the department. The applicant must present reports of his experience on the farm, and a statement from the proprietor or manager that he has done a satisfactory year's work and has had experience in all phases of orchard work, particularly pruning, spraying, harvesting, and packing.

V. [COURSE IN HOME ECONOMICS]

Not given in 1921-22

The winter course in home economics was first given in 1906, before the Department of Home Economics was organized. The course is not a professional one with university requirements, nor does it give university credit. It meets the growing interest in household efficiency of those who are managing their own homes. Increased interest is given to the housekeeper through a knowledge of the principles affecting the management of food, shelter, and clothing. The aim of the course is to help the housekeeper to solve the problem of expenditure for food and clothing. The course includes lectures and laboratories, with the same instructors and equipment as are

provided for the regular courses in the College.

Opportunity is offered through these courses to persons who wish to qualify for volunteer leadership in clubs and other groups.

1. Foods and Nutrition. Six hours a week. Lectures, M, 9, T Th, 11. Home Economics Building 265. Practice, M W F, 2–5. Home Economics Building 205. Total laboratory registration limited to twenty students. Those whose major course is home economics will be given the preference. Professor ROSE and Assistant Professor BOYS.

The course includes the study of food composition; food values; methods of selection, preparation, and preservation of food materials; principles of nutrition; dietaries: the care and feeding of children. Laboratory work is given for application of the principles studied, and includes practice in the preparation and serving of food. Laboratory fees, $15.

10. Elementary Clothing and Design. Three hours a week. Should be taken by students who have had little experience in sewing. Total laboratory registration limited to fourteen students. Practice, M W F, 10.30–1. Home Economics Building 300. Miss ————.

This course includes hand and machine sewing; the use of commercial patterns; designing of garments from a foundation pattern; household mending; simple embroidery. Emphasis is placed upon the design in every process. The work consists of demonstrations, discussions, and practice. Students provide all dress materials, subject to the approval of the instructor. Estimated cost of dress materials, $10. Laboratory fee, to cover cost of laboratory materials, $3.

11. Dressmaking and Dress Design. Five hours a week. Open only to those students who are particularly interested in costume design and dressmaking, and who have a practical background of dress construction. Persons having had experience in making clothes for others should find this course particularly valuable and should be able to use it as a basis for further commercial work. Total laboratory registration limited to fourteen students. Practice, M T W Th F, 2–4.30. Home Economics Building 265. Miss ————.

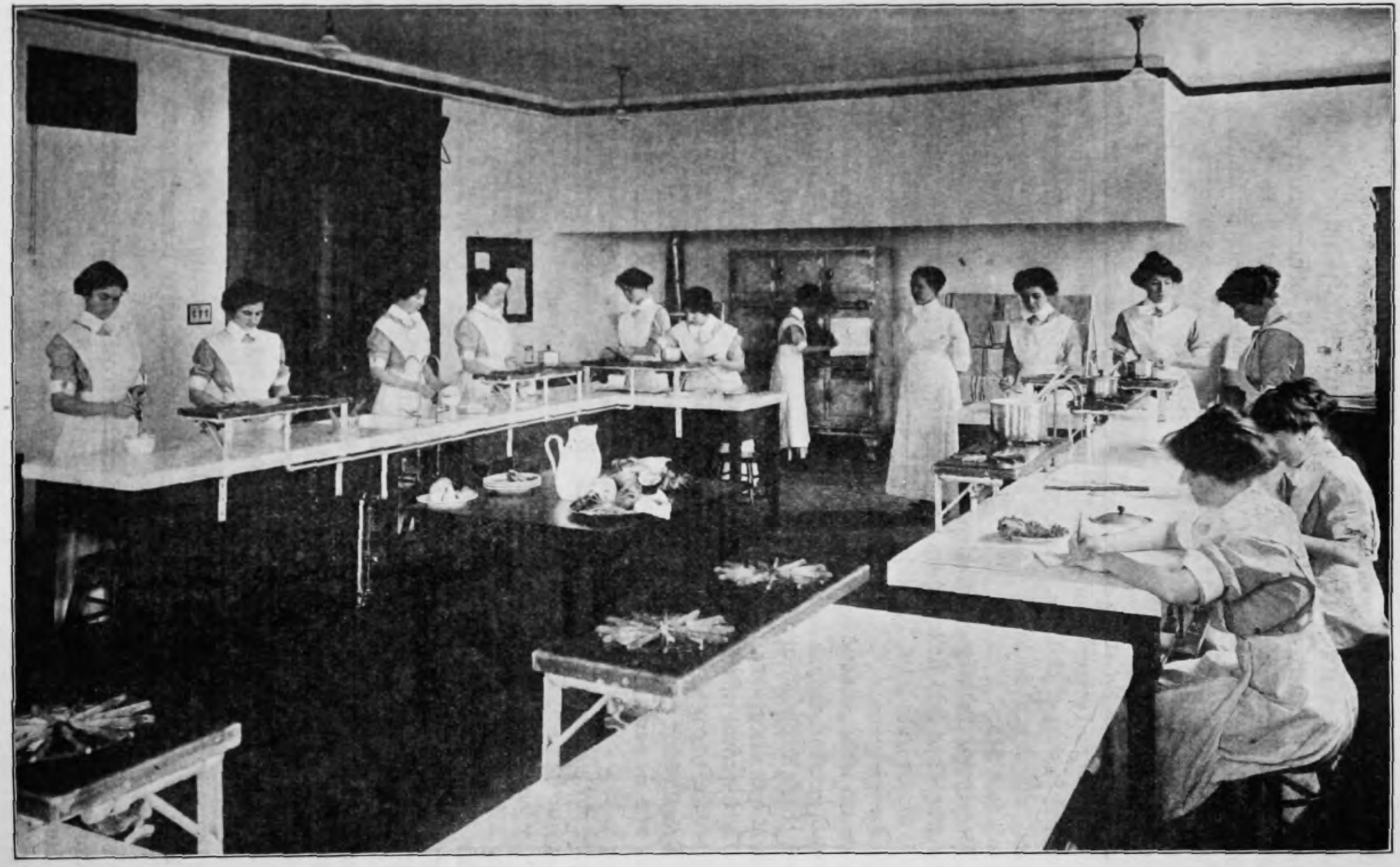
In this course dress design and technic are emphasized. The problems include making a simple cotton dress; using a commercial pattern; designing a pattern; making a lingerie waist and a wool skirt. The last problem will depend upon the ability of the student. Students provide all dress materials, subject to the approval of the instructor. Estimated cost of dress materials, $20 to $30. Laboratory fee, to cover cost of laboratory materials, $3.

15. Elementary Millinery. Two hours a week. Practice, W, 8–10, F, 8–9, 10–11. Home Economics Building 265. Total laboratory registration limited to twenty students. Miss HILLHOUSE.

This course considers method of manipulation in the construction of straw and fabric hats; use and renovating of old materials; preparation of trimmings; study of design in hats, their becomingness and cost. Students provide all hat materials, subject to the approval of the instructor. Estimated cost of materials from $6 to $10. Laboratory fees, to cover cost of laboratory material, $3.

20. Household Management. Three hours a week. M T Th, 8. Home Economics Building 265. Miss ————.

This course includes a study of the source and division of the income of the household; making of the budget; cost of food, shelter, and clothing; cost of equipment;



FOODS LABORATORY IN THE HOME ECONOMICS BUILDING]

Here are studied food values and the methods of choosing, preparing, and preserving foods. It is aimed to help housekeepers solve present-day problems, as work in home economics naturally centers around cooking. Young women are given instruction in the culinary art in foods and cooking laboratory

family welfare; standards of living; elimination of waste; methods of saving; problem of domestic service; marketing; personal and household accounts, bank accounts, savings, and investments.

25. **Home Environment.** One hour a week. Th, 10. Home Economics Building 265. Professor ————.

A series of lectures dealing with the arrangement, design, and furnishing of the home.

30. **Civic Responsibilities of Women.** Three hours a week. Lectures, T Th, 9. Home Economics Building 265. Conference period, by arrangement. Professor——.

The course is planned for home makers and volunteer civic group leaders. It includes a study of the political, social, and industrial phases of community, state, and national life, and an appreciation of international relations. It aims to make women understand the civic responsibilities they are assuming, so as to become more efficient voting citizens and future office holders.

A third lecture hour and an intensive program of reading will be added for those who plan to undertake the leadership of volunteer civic groups.

VI. COURSE IN FLOWER GROWING

New York is distinctly a flower-growing State. The financial interests of the industry are greater in this than in any other State in the Union. There is keen competition among flower growers, and progressive young men realize that they must equip themselves with all the information possible if they are to make a success of the business. Two courses are offered for those especially interested in commercial floriculture. These, with other required subjects, should give the student a broad knowledge of the subject and equip him well for his work.

Interest in flower growing, however, is not confined to men engaged in the commercial industry. There is an increasing demand from amateurs for information regarding the culture of plants to be used about the home or the school grounds. Courses have been arranged with a view to meeting this demand. These courses are outlined on page 21. Those following are planned especially for persons who intend to engage in commercial floriculture. Course 2 is equally well suited for those interested in vegetable forcing under glass.

Required Subjects

1. **Commercial Floriculture and Greenhouse Practice.** Five hours a week. Lectures, M T Th, 2, W, 8. Floriculture Building. Practice, S, 10–12.30. Greenhouses. Assistant Professor NEIBLING and Mr. PRATT.

A study of the methods of growing standard florist's crops, such as roses, carnations, violets, sweet peas, orchids, and plants for bedding. So far as possible, laboratory practice in growing these crops will be given. The course is designed to familiarise the student with the ordinary work of the greenhouse and the garden. Laboratory fee, $3.

2. **Commercial Greenhouse and Conservatory Construction and Heating.** Three hours a week. Lecture, F, 2. Floriculture Building. Practice, T, 11–1; Th, 10–1. Floriculture Building. Mr. PRATT.

This course considers the details of the construction and heating of glasshouses for growing plants and vegetables; choice of location; water, soil, and light; glazing; all the conditions found in well-appointed modern ranges. The construction and care of hotbeds and coldframes are also studied. Laboratory work consists of drawings of construction details; the making of plans and specifications; preparation of estimates; any practical work in construction that may be available. Laboratory fee, $1.50.

100. **Agricultural Chemistry.** (See page 17.)
200. **Agronomy.** (See page 18.)
1. **Plant Diseases.** (See page 22.)
1. **Injurious Insects.** (See page 20.)

Elective Subjects

4. **Gardening and Garden Flowers.** (See page 21.)
1. **Extension Work.** (See page 20.)
6. **Landscape Planning and Planting.** (See page 21.)
1. **Plant Breeding.** (See page 22.)

Certificate of Proficiency

Certificates are available to students who satisfactorily complete courses 1 and 2 in floriculture, also the courses in agricultural chemistry, agronomy, plant diseases, and injurious insects, and who subsequently spend one full season in floricultural work. A statement is required of the work for the season, approved by the proprietor of the establishment in which the student has been employed and satisfactory to the Professor of Floriculture.

VII. COURSE IN VEGETABLE GARDENING

With the rapid growth of cities and with vegetable food occupying a place of constantly increasing importance in the dietary, the demand for vegetables has undergone a great development within the past few years. An ever-increasing number of persons are looking to the growing of vegetables as a source of all or part of their income, not only on highly specialized vegetable farms and in connection with other less intensive types of agriculture, but also in home and school gardens.

In view of this wide and growing interest in vegetable culture, the Department of Vegetable Gardening offers two courses to meet the needs of those who are not able to take a regular college course but who desire to obtain in a short time a fundamental knowledge of the principles and practices of vegetable growing. The principles

underlying successful vegetable production are discussed, and methods of applying these principles in different types of vegetable gardening are described. Care is taken to so shape the work that it will be of service to persons who have already gained field experience, although it should be of value also to those interested in home and school gardening.

It is suggested that the following courses be combined with the work in vegetable gardening.

200. Agronomy. (See page 18.)
100. Agricultural Chemistry. (See page 17.)
1. Injurious Insects. (See page 20.)
1. Plant Diseases. (See page 22.)

Required Subjects

1. Principles of Vegetable Gardening. Four hours a week. Lectures, M T F, 2. Poultry Building 350. Laboratory, T, 10–12.30. Poultry Building 350 and vegetable greenhouses. Assistant Professor SCHNECK.

A study of the principles underlying successful vegetable production and marketing. A comprehensive survey of the vegetable industry is given. The problems of the market gardener, the truck grower, the muck-land farmer, and the producer of canning crops are considered. The lectures deal with questions of location, equipment, soil management, seed and plant growing. Each important vegetable crop is considered individually as regards use, importance, adaptation, fertilizer requirements, culture, varieties, enemies, harvesting, storage, and marketing. The laboratory work includes plant growing, hotbed and coldframe construction and management, seed and seedling studies, seed testing. Plants are grown under glass as for outdoor setting. Laboratory fee, $1.50.

2. Vegetable Forcing. Three hours a week. Open only to those who are taking course 1. Lectures, M F, 4. Poultry Building 350. Laboratory, S, 10.30–1. Poultry Building 350, and vegetable greenhouses. Assistant Professor SCHNECK.

Vegetable production under glass; management of vegetable greenhouses; greenhouse fumigation and soil sterilization; greenhouse crops and their requirements. In connection with the laboratory, each student will be assigned space in the greenhouses for the growing of crops. The class will participate in a one-day excursion to Rochester in January to visit vegetable greenhouses; cost, about $9. Laboratory fee, $1.50.

Certificate of Proficiency

After the student has satisfactorily completed courses 1 and 2 in vegetable gardening, and the sugsested courses to be combined with the work in vegetable gardening, he may apply for a certificate of proficiency. Before this certificate is awarded the applicant must have spent at least a year in vegetable gardening work. A statement from the applicant's last employer, regarding the nature and character of the work must be submitted with the application.

[VIII. COURSE IN GAME FARMING*]

Not given in 1921-22

The course in game farming is intended to supply the growing demand for the training of practical gamekeepers and wardens, and those who wish to take up the propagation and care of wild fowl as a commercial pursuit. Although it is manifestly impossible to give full preparation for such work in twelve weeks, this course will start the student in the right direction, enable him to avoid many mistakes, and offer him facts and principles of value, gleaned from the lifelong experience, study, and observation of others. In this course the work in poultry husbandry is used to a considerable extent as a basis, not only because of its intrinsic value but also because in this closely related field both practical and educational methods are already well established.

Methods of Instruction. The required work listed below includes lectures at 9 o'clock five days a week, and others will be announced for 10 o'clock. The special public lectures which short-course students are required to attend will usually come at 4.45, although some will be in the evening. One or more trips will be made for inspection of a few well-managed game farms and estates.

Required Subjects

1. **Game Farming.** Eight hours a week. Lectures, M T W Th, 9, Poultry Building 375; and 10, Poultry Building 325. Professors RICE, NEEDHAM, KENT, BENJAMIN, and EMBODY, Assistant Professor ALLEN, and Mr. CARD.

The topics will include fish culture, the pheasant, the mallard and other ducks, native and introduced upland game; fur and meat-bearing mammals, feeding, breeding, hatching, and rearing; buying and selling; handling and shipping; wintering; vermin and diseases; field and cover maintenance; the history and present development of game farming; the domestication and habits of wild species.

2. **Special Lectures.** Two hours a week. Lectures. W F, 4.45. Poultry Building 325. Speakers from within and without the College.

The topics of the special lectures will include: wild life conservation; attracting and protecting wild birds; the organization of conservation work; opportunities in this field.

3. **Laboratory Practice in Game Farming.** Two hours a week. T Th, 2–4.30. Identification of species, feeds, plantings; study of anatomy; diseases; methods of marketing; materials for construction; appliances; coops; bills of material; designing; farm layouts; farm types; accounts.

4. **Practice in Game Flock Management.** One hour a week. Practice periods and extra time, by appointment. Practice twice daily (including Sunday) for six weeks, 8–8.30, 4.30–4.45. Poultry Plant.

Practice in handling and feeding pheasants and mallards in winter quarters. A

*No appropriations having been made for the maintenance of the work in game farming during 1921-22, the instruction is suspended during this period.

series of tests will be carried out by the students.

5. **Practice in Natural and Artificial Incubation.** One hour a week. Practice periods and extra time by appointment. Practice three times daily (including Sunday) for six weeks, 7.45–8.15, 12.30–1. 4.30–5. Poultry Building 1.

Practice in hatching eggs with hens and incubators; testing eggs; keeping records; comparison of results. A series of tests will be conducted by the class.

6. **Practice in Brooding and Rearing Chickens.** One hour a week. Practice periods and extra time, by appointment. Practice three times daily (including Sunday) for four weeks, 7.45–8.15, 12.30–1, 4.30–5. Poultry Plant. Messrs. CARD and ——

Practice in the management of hens and brooders with flocks of chickens; the keeping of temperature, food, and growth records.

Certificate of Proficiency

On the satisfactory completion of this course the student desiring a certificate of proficiency in game farming should procure employment approved by the Department. After one year of experience the student may make application accompanied by proper records, and a certificate will be issued if both class work and the later experience are satisfactory.

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This series of pamphlets is designed to give prospective students and other persons information about Cornell University. No charge is made for the pamphlet unless a price is indicated after its name in the list below. Requests for pamphlets should be addressed to the Secretary of the University at Ithaca. *Money orders should be made payable to* CORNELL UNIVERSITY.

The prospective student should have a copy of the
General Circular of Information

and a copy of one or more of the following Announcements:
Announcement of the College of Arts and Sciences.
Announcement of the College of Engineering.
Announcement of the College of Law.
Announcement of the College of Architecture.
Announcement of the New York State College of Agriculture.
Announcement of the Winter Courses in the College of Agriculture.
Announcement of the Summer Term in Agriculture.
Program of the Annual Farmers' Week.
Announcement of the New York State Veterinary College.
Announcement of the Department of Chemistry.
Announcement of the Graduate School.
Announcement of the Summer Session.
Annual Report of the President.
Special departmental announcements, a list of prizes, etc.

Other periodicals are these:
The Register, published annually in September, and containing, not announcements of courses, but a comprehensive record of the University's organization and work during the last year. Price, 50 cents.
Guide to the Campus. Illustrated. Price, 50 cents.
Directory of the University. Price, 10 cents.
Samples of entrance and scholarship examination papers. Price, 15 cents.

The *Announcement of the Medical College* may be obtained by addressing the Cornell University Medical College, Ithaca, N. Y.

Correspondence regarding the Cornell University Official Publication should be addressed to

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