

CORNELL UNIVERSITY
NEW YORK STATE COLLEGE
OF AGRICULTURE



1944-45

TWO-YEAR COURSES

PUBLISHED BY THE UNIVERSITY
ITHACA, NEW YORK

The College Calendar for 1944-45

1944

FALL TERM

Nov.	1,	<i>Wednesday,</i>	Registration, civilian students.
Nov.	2,	<i>Thursday,</i>	Registration, Navy students.
Nov.	3,	<i>Friday,</i>	Instruction begins at 8 A. M.
Nov.	23,	<i>Thursday,</i>	Last day for the payment of tuition for the Fall Term.
Dec.	25,	<i>Monday,</i>	Christmas, a holiday.

1945

Feb.	22,	<i>Thursday,</i>	Instruction ends at 4 P.M.
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SPRING TERM

March	2,	<i>Friday,</i>	Registration, Navy students.
March	3,	<i>Saturday,</i>	Registration, civilian students.
March	5,	<i>Monday,</i>	Instruction begins at 8 A.M.
March	29,	<i>Thursday,</i>	Last day for the payment of tuition for the Spring Term.
June	23,	<i>Saturday,</i>	Instruction ends at 12:50 P.M.

CORNELL UNIVERSITY OFFICIAL PUBLICATION

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NEW YORK STATE COLLEGE OF AGRICULTURE

STAFF OF ADMINISTRATION AND INSTRUCTION IN THE TWO-YEAR COURSES

Edmund Ezra Day, Ph.D., LL.D., President of the University.
Cornelius Betten, Ph.D., D. Sc., Dean of the University Faculty and Professor of Entomology.
William Irving Myers, Ph.D., Dean of the College of Agriculture, Professor of Farm Finance, and Agricultural Economist in the Experiment Station.
Anson Wright Gibson, M.S., Director of Resident Instruction and Professor in Personnel Administration.
Lloyd R. Simons, B.S., Director of Extension and Professor in Extension Service.
Carl Edward Frederick Guterman, Ph.D., Director of Research, Director of the Cornell University Agricultural Experiment Station, and Professor of Plant Pathology.
Arthur John Heinicke, Ph.D., Director of the New York State Agricultural Experiment Station at Geneva and Professor of Pomology.
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Howard Styring Tyler, Ph.D., Associate Professor in Personnel Administration in charge of vocational guidance and placement.
Willard Waldo Ellis, A.B., LL.B., Librarian.
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Damon Boynton, Ph.D., Associate Professor of Pomology and Associate Pomologist in the Experiment Station.
Jacob Herbert Bruckner, Ph.D., Professor of Poultry Husbandry and Poultry Husbandman in the Experiment Station.
Herman Jacob Brueckner, Ph.D., Extension Professor of Dairy Industry.*
Harry Oliver Buckman, Ph.D., Professor of Soil Technology.
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Otis Freeman Curtis, Ph.D., Professor of Botany and Plant Physiologist in the Experiment Station.
Ralph Wright Curtis, M.S.A., Professor of Ornamental Horticulture.
William Marshall Curtiss, Ph.D., Associate Professor of Marketing and Investigator in Marketing in the Experiment Station.
Herrell Franklin DeGraff, Ph.D., Assistant Professor of Land Economics and Assistant Land Economist in the Experiment Station.
Clara Louise Garrett, B.S., Assistant Professor of Drawing.
Alpheus Mansfield Goodman, B.S.A., Extension Professor of Agricultural Engineering.
Cedric Hay Guise, B.S., M.F., Professor of Forestry.
Axel Ferdinand Gustafson, Ph.D., Professor of Soil Technology and Soil Technologist in the Experiment Station.
Goldan Orlando Hall, Ph.D., Professor of Poultry Husbandry and Poultry Husbandman in the Experiment Station.
Earle Volcart Hardenburg, Ph.D., Professor of Vegetable Crops and Investigator in Vegetable Crops in the Experiment Station.
Herbert Bertsch Hartwig, Ph.D., Professor of Field Crops.

*On leave fall term.

- Gustav Frederick Heuser, Ph.D., Professor of Poultry Husbandry and Poultry Husbandman in the Experiment Station.
- Melvin Butler Hoffman, Ph.D., Extension Professor of Pomology.
- Burton Aaron Jennings, B.S., Professor of Agricultural Engineering and Agricultural Engineer in the Experiment Station.
- Lewis Knudson, Ph.D., Professor of Botany and Plant Physiologist in the Experiment Station.
- John Clarence McCurdy, B.S., C.E., Professor of Agricultural Engineering.
- John Ivan Miller, Ph.D., Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Richard Alan Mordoff, Ph.D., Professor of Meteorology.
- Frank Barron Morrison, B.S., Professor of Animal Husbandry and Animal Nutrition and Animal Husbandman and Animal Nutritionist in the Experiment Station.
- John Strong Neiderhauser, Ph.D., Instructor in Plant Pathology.
- George Eric Peabody, M.S., Professor of Extension Teaching.
- Loren Clifford Petry, Ph.D., Professor of Botany.
- Joseph Pullman Porter, B.S., M.S.A., M.L.D., Associate Professor of Ornamental Horticulture.
- Kenneth Post, Ph.D., Associate Professor of Floriculture and Associate Floriculturist in the Experiment Station.
- Whiton Powell, Ph.D., Professor of Business Management and Investigator in Business Management in the Experiment Station.
- Alfred M. S. Pridham, Ph.D., Assistant Professor of Ornamental Horticulture and Assistant Ornamental Horticulturist in the Experiment Station.
- Maritus Peter Rasmussen, Ph.D., Professor of Marketing and Investigator in Marketing in the Experiment Station.
- Philip Adna Read, Ph.D., Professor of Economic Entomology and Entomologist in the Experiment Station.
- Howard Wait Riley, M.E., Professor of Agricultural Engineering and Agricultural Engineer in the Experiment Station.
- Byron Burnett Robb, M.S. in Agr., Professor of Agricultural Engineering.
- Louis Michael Roehl, B.S., Professor of Farm Mechanics.*
- Glenn Wade Salisbury, Ph.D., Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Cecil D. Schutt, Instructor in Animal Husbandry and Assistant in Animal Husbandry in the Experiment Station.
- Robert Mumford Smock, Ph.D., Associate Professor of Pomology and Associate Pomologist in the Experiment Station.
- Clifford Nicks Stark, Ph.D., Professor of Bacteriology and Bacteriologist in the Experiment Station.
- Kenneth Leroy Turk, Ph.D., Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Leon John Tyler, Ph.D., Associate Professor of Plant Pathology and Associate Plant Pathologist in the Experiment Station.
- Stanley Whitson Warren, Ph.D., Associate Professor of Farm Management and Investigator in Farm Management in the Experiment Station.
- Donald Stuart Welch, Ph.D., Professor of Plant Pathology and Forest Pathologist in the Experiment Station.
- Herbert Hice Whetzel, M.A., D.Sc., Professor of Plant Pathology and Plant Pathologist in the Experiment Station.
- John Peter Willman, Ph.D., Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Paul Work, Ph.D., Professor of Vegetable Crops and Investigator in Vegetable Crops in the Experiment Station.

*On leave fall term.

NEW YORK STATE COLLEGE OF AGRICULTURE

The New York State College of Agriculture is maintained by the State as one of three state colleges within Cornell University. It is equipped with a staff and facilities for teaching resident students, for making investigations in all phases of agriculture and the underlying sciences, and for disseminating its teachings to the people of the State. The support of the State towards these ends is supplemented by substantial appropriations from the Federal Government, and by the land and other large facilities and services freely placed at the disposal of the College by Cornell University.

COURSES AVAILABLE

The information contained in this announcement relates to the two-year courses. These are designed for young men who expect to go into farming or into business closely allied thereto, and who desire agricultural training of college grade, but cannot devote more than two years to it. The College offers, in addition, a summer session of six weeks; a four-year course, leading to the degree of bachelor of science; and graduate courses, leading to higher degrees. These offerings give preparation for different kinds and different levels of agricultural vocations and call for different prerequisites for admission. A separate printed announcement of each of these courses is available on application to the Secretary of the College of Agriculture, Roberts Hall, Ithaca, New York.

REQUIREMENTS FOR ADMISSION

For admission to the two-year courses, candidates must offer: Fifteen units acceptable to Cornell University in subjects credited by the University of the State of New York toward a state diploma, or the equivalent by school certificates. English, 4 years, is counted as 3 units.

Approximately one year of practical experience on a farm or in a business related to the curriculum to be followed.

Certificates of good moral character.

All students matriculating in the University must present a satisfactory certificate of vaccination against smallpox. This certificate is considered satisfactory only if it certifies to a successful vaccination within five years, or certifies that at least three unsuccessful attempts have been made within the same period.

THE APPLICATION FOR ADMISSION

Candidates for admission should address Dr. E. F. Bradford, Director of Admissions, Morrill Hall, Ithaca, New York, stating that they desire to enter one of the two-year courses in the College of

Agriculture. This should be done as early as possible, because the procuring of the necessary credentials often takes considerable time.

Every candidate for admission in September must make a deposit of \$25 before October 1. A check, draft, or money order should be made payable to Cornell University and sent to the Office of Admissions, Morrill Hall, Ithaca, New York.

If the candidate matriculates, the deposit will be credited to his account, \$10 for the matriculation fee, \$1 for examination books, and \$14 as a guaranty fund, which every two-year student is required to maintain, and which is to be refunded to him upon his permanent withdrawal, less any indebtedness to the University.

If admission is denied a candidate who has complied with these rules, the deposit is refunded in full at any time.

The application may be withdrawn and the refund of deposit claimed before October 1 without charge. After October 1 and before October 31 a charge of \$10 is made against the deposit for accrued expenses. After October 31 no refund is allowed.

CERTIFICATE ON COMPLETION OF COURSE

Students who satisfactorily complete the work of an approved two-year course with credit for at least sixty hours, will be granted an appropriate certificate.

RELATION TO THE FOUR-YEAR DEGREE COURSE

Except in respect to the items of administration and curriculum specifically covered in this announcement, students in the two-year course are governed by exactly the same conditions as are students of the four-year course. They should, therefore, consult the announcement of the latter course for further details of information and for the description of courses open to their election but not here listed or described.

Transfer to the degree course will be possible at the end of the two-year course for those who have given evidence of ability to carry advanced work. Students who qualify for such transfer will not be required to offer any further entrance credit. The transfer is possible solely on a basis of the full two-year record, which must be considerably better than the average of all two-year students. Students who transfer from the two-year to the four-year course are given full credit toward the degree for work satisfactorily passed in the two-year course.

Two-year students are registered as special students and are not eligible to represent the University in intercollegiate athletics.

EXPENSES

TUITION

Tuition is free to two-year students in the New York State College of Agriculture, who at the time of their admission are, and for at

least twelve months prior thereto have been, bona-fide residents of the State of New York. A student transferring from one college or course in the University to another, must pay for the hours credit he receives in the latter college or course an amount corresponding to the difference in tuition; and no such transfer is allowed or credit given until such payment has been made.

Students in agriculture who are not exempt under these provisions are required to pay \$100 a term. Tuition and other fees become due when the student registers. The University allows twenty days of grace after the last registration day of each term of the regular session. The last day of grace is generally printed on the registration coupon which the student is required to present at the Treasurer's office. Any student, graduate or undergraduate, except as hereinafter provided, who fails to pay his tuition, fees, and other indebtedness, or if entitled to free tuition fails to claim the same at the Treasurer's office and pay his other fees, within the time prescribed by the University is thereby dropped from the University. When in his judgment the circumstances in a particular case so warrant, the Treasurer may allow an extension of time to complete payments. For such extension, the student will be assessed a fee of \$2. A financial reinstatement fee of \$5 will be assessed in the case of any student who is permitted to continue or return to classes after being dropped from the University for default in payments. For reasons satisfactory to the Treasurer and the Registrar, which must be presented in writing, the above assessment may be waived in any individual case.

Any tuition or other fee may be changed by the Board of Trustees to take effect at any time without previous notice.

OTHER FEES

A *matriculation fee* of \$10 is required of every student upon entrance into the University. A new two-year student who has made the required deposit of \$25 with the Treasurer does not make an additional payment of the matriculation fee, because the Treasurer draws on the deposit for this fee. An *examination book fee* of \$1 is also made against the student's application deposit to pay for examination books furnished throughout his course.

A *health and infirmary fee* of \$10 a term is required at the beginning of each term of every student. For a statement of the privileges given in return for this fee, read what is said about the Student Clinic and Infirmary in the *General Information Number*.

A *Willard Straight Hall membership fee* of \$5 is required at the beginning of each term. Its payment entitles the student to a share in the common privileges afforded by the operation of Willard Straight Hall, subject to the regulations made by the Board of Managers.

A *physical recreation fee* of \$4, required at the beginning of each term, entitles the student to the use of a locker, bathing facilities, and towels, in the gymnasium, Barton Hall, or the Schoellkopf Memorial Building.

A University administration and endowed college laboratory fee of \$8.50 a term is required of every student in the state colleges at the beginning of each term.

Automobile Registration and Parking. See Automobile Regulations in the *General Information Number*.

A laboratory and library fee of \$9 a term is required of every student in the College of Agriculture at the beginning of each term to cover the cost of materials used in laboratory and field work and for the use of the library. A few courses involve out-of-town trips. The student must pay his own travel and living expenses on those trips.

BOARD AND LODGING

Many private lodging houses near the University offer furnished rooms, with heat and light, at rates ranging from \$4 to \$6 a week for a single room. Before he rents a room in a private house, a student should make sure, by a personal inspection, that the sanitary arrangements of the house are good, and he should especially insist on a good fire escape. The University publishes a list of lodging houses that have been inspected and found to be satisfactory in the above respects; the list is ready for distribution on about August 15 from the office of the Counselor of Students, 201 Tower Road. New students are advised to engage rooms at least a few days before the day set for registration.

The number of private houses that offer both room and board is small, and many students get their meals outside the houses where they live. The University conducts a cafeteria in Willard Straight Hall, and the College of Home Economics also has a public cafeteria. There are other good cafeterias that are patronized mainly by students.

It is possible to obtain board and lodging for the full college year for a total of \$400, but on the average it will cost a little more than that.

The necessary college expenses, exclusive of clothes and travel, will average about \$550 a year for those who do not have to pay tuition. The additional amount spent for incidentals varies with the tastes and means of the student.

THE TWO-YEAR CURRICULA

The two-year course has organized within it nine curricula giving preparation for the major types of farming in New York State and for certain allied businesses. A two-year student must select one of these curricula and follow closely the work as outlined. Changes from these outlines may be made with the consent of the Director of Resident Instruction and the faculty adviser to whom the student will be assigned when he registers.

Requests for further information regarding these curricula should be addressed to the Secretary of the College of Agriculture, Roberts Hall, Ithaca, New York.

CURRICULUM IN DAIRY FARMING

FIRST YEAR

<i>Fall term</i>	<i>Hours credit</i>	<i>Spring term</i>	<i>Hours credit</i>
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Animal Husbandry 1 (Livestock Production).....	3	Animal Husbandry 10 (Livestock Feeding).....	4
Agricultural Engineering 40 (Farm Shop Work).....	2	Animal Husbandry 50 (Dairy Cat- tle).....	3
Bacteriology 3 (Agricultural).....	3	*Chemistry 2a (General).....	2
*Chemistry 1a (General).....	4	Agricultural Elective.....	3

SECOND YEAR

Animal Husbandry 20 (Animal Breeding).....	3	Agricultural Economics 102 (Farm Management).....	5
Animal Husbandry 30 (Health and Diseases of Animals).....	3	Animal Husbandry 150 (Dairy Cat- tle, Advanced Course).....	2
Agronomy 6 (Soils).....	3	Dairy Industry 4 (Production and Care of Milk).....	2
Agricultural Engineering 1 (Farm Mechanics).....	3	Agronomy 11 (Production of Field Crops).....	4
Agricultural Elective.....	3	Agricultural Elective.....	2

*Those who offer Chemistry for entrance may substitute six credit hours of other courses in Agriculture for Chemistry.

CURRICULUM IN GENERAL LIVESTOCK FARMING

FIRST YEAR

	<i>Hours credit</i>		<i>Hours credit</i>
<i>Fall term</i>		<i>Spring term</i>	
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Animal Husbandry 1 (Introduction to Animal Husbandry).....	3	Animal Husbandry 10 (Livestock Feeding).....	4
Agricultural Engineering 40 (Farm Shop Work).....	2	*Chemistry 2a (General).....	2
Bacteriology 3 (Agricultural).....	3	Agricultural Elective.....	6
*Chemistry 1a (General).....	4	Suggested Animal Husbandry 50, 67	

SECOND YEAR

Animal Husbandry 20 (Animal Breeding).....	3	Agricultural Economics 102 (Farm Management).....	5
Animal Husbandry 30 (Health and Diseases of Animals).....	3	Agronomy 11 (Production of Field Crops).....	4
Animal Husbandry 80 (Sheep)....	3	Agricultural Elective.....	6
Agronomy 6 (Soils).....	3	Suggested Agricultural Engineering 103 Animal Husbandry 40, 90 Entomology 41 Vegetable Crops 2 Pomology 1	
Agricultural Engineering 1 (Farm Mechanics).....	3		

CURRICULUM IN POULTRY FARMING

FIRST YEAR

	<i>Hours credit</i>		<i>Hours credit</i>
<i>Fall term</i>		<i>Spring term</i>	
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Poultry Husbandry 1 (Farm Poultry).....	3	Poultry Husbandry 30 (Incubation and Brooding).....	3
Bacteriology 3 (Agricultural).....	3	Agricultural Engineering 1 (Farm Mechanics).....	3
Agricultural Engineering 40 (Farm Shop Work).....	2	Pomology 1 (General).....	3
*Chemistry 1a (General).....	4	Poultry 50 (Market Eggs and Poultry).....	2
		*Chemistry 2a (General).....	2

SECOND YEAR

Poultry Husbandry 20 (Breeds, Breeding, and Judging).....	3	Agricultural Economics 102 (Farm Management).....	5
Agronomy 6 (Soils).....	3	Agronomy 11 (Production of Field Crops).....	4
Agricultural Engineering 31 (Farm Structures).....	3	Poultry Husbandry 110 (Poultry Nutrition).....	3
Agricultural Elective.....	6	Agricultural Economics 144 (Marketing Poultry Products).....	3

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TWO-YEAR COURSES

II

CURRICULUM IN FRUIT GROWING

FIRST YEAR

<i>Fall term</i>	<i>Hours credit</i>	<i>Spring term</i>	<i>Hours credit</i>
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Botany 1.....	3	Botany 1.....	3
Animal Husbandry 1 (Introduction to Animal Husbandry).....	3	Pomology 1 (General).....	3
Agricultural Economics 2 (Agricultural Geography).....	3	Agricultural Engineering 1 (Farm Mechanics).....	3
Chemistry 1a (General).....	4	Chemistry 2a (General).....	2

SECOND YEAR

Pomology 111 (Handling, Storage, and Utilization of Fruit).....	3	Agricultural Economics 102 (Farm Management).....	5
Agronomy 6 (Soils).....	3	Plant Pathology 1 (Elementary)...	3
Agricultural Economics 142 (Marketing Fruits and Vegetables)...	4	Entomology 41 (General Economic)	3
Botany 31 (Plant Physiology)....	4	Pomology 112 (Advanced Laboratory Course).....	2
Pomology 102 (Fruit Varieties)...	2	Pomology 131 (Advanced).....	4

CURRICULUM IN VEGETABLE GROWING

FIRST YEAR

<i>Fall term</i>	<i>Hours credit</i>	<i>Spring term</i>	<i>Hours credit</i>
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Botany 1.....	3	Vegetable Crops 1.....	3
Agricultural Engineering 1 (Farm Mechanics).....	3	Entomology 41 (General Economic)	3
*Chemistry 1a (General).....	4	*Chemistry 2a (General).....	2
Agricultural Elective.....	3	Agricultural Elective.....	3

SECOND YEAR

Vegetable Crops 12 (Grading and Handling).....	3	Agricultural Economics 102 (Farm Management).....	5
Vegetable Crops 113 (Types and Varieties).....	3	Vegetable Crops 2 (Special Cash Crops).....	3
Plant Pathology 1 (Elementary)...	3	Agronomy 11 (Production of Field Crops).....	4
Agronomy 6 (Soils).....	3	Agricultural Elective.....	3
Agricultural Elective.....	3	Suggested	
		Animal Husbandry 10	
		Pomology 1	
		Meteorology 1	

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COLLEGE OF AGRICULTURE

CURRICULUM IN GENERAL FARMING
FIRST YEAR.

	<i>Hours credit</i>		<i>Hours credit</i>
<i>Fall term</i>		<i>Spring term</i>	
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Bacteriology 3 (Agricultural).....	3	Animal Husbandry 10 (Livestock Feeding).....	4
Agricultural Engineering 1 (Farm Mechanics).....	3	*Chemistry 2a (General).....	2
*Chemistry 1a (General).....	4	Agricultural Elective.....	5
Agricultural Elective.....	3	Suggested	
Suggested		Entomology 41	
Agricultural Economics, 2, 120		Pomology 1	
Agronomy A.....	3	Vegetable Crops 2	
Poultry Husbandry 1		Botany 1	
Animal Husbandry 1			
Botany 1			

SECOND YEAR

Agronomy 6 (Soils).....	3	Agronomy 11 (Production of Field Crops).....	4
Agricultural Elective.....	12	Animal Husbandry 50 (Dairy Cat- tle).....	3
Suggested		Agricultural Economics 102 (Farm Management).....	5
Agricultural Engineering 31, 40, 102		Agricultural Elective.....	3
Animal Husbandry 20		Suggested	
Forestry 1		Agricultural Economics 126	
Plant Pathology 1, 13		Dairy Industry 4	
Pomology 2		Agricultural Engineering 103	

CURRICULUM IN THE MARKETING OF FRUITS AND VEGETABLES

FIRST YEAR

	<i>Hours credit</i>		<i>Hours credit</i>
<i>Fall term</i>		<i>Spring term</i>	
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Botany 1.....	3	Pomology 1 (General).....	3
Vegetable Crops 12 (Grading and Handling).....	3	Entomology 41 (General Economic)	3
*Chemistry 1a (General).....	4	*Chemistry 2a (General).....	2
Agricultural Elective.....	3	Vegetable Crops 1.....	3
Suggested			
Agricultural Economics 2, 120			
Agricultural Engineering 1			

SECOND YEAR

Pomology 111 (Handling, Storage, and Utilization of Fruit).....	3	Vegetable Crops 2 (Special Cash Crops).....	3
Agricultural Economics 142 (Mar- keting Fruits and Vegetables).....	4	Agricultural Economics 102 (Farm Management).....	5
Plant Pathology 1 (Elementary).....	3	Agricultural Economics and Farm Management 126 (Farmers' Co- operatives).....	3
Agronomy 6 (Soils).....	3	Agricultural Elective.....	3
Agricultural Elective.....	3	Suggested	
Suggested		Agricultural Economics 122	
Pomology 102		Meteorology 1	
Vegetable Crops 113			

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CURRICULUM IN COMMERCIAL FLORICULTURE

FIRST YEAR

<i>Fall term</i>	<i>Hours credit</i>	<i>Spring term</i>	<i>Hours credit</i>
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Botany 1.....	3	Botany 1.....	3
Floriculture and Ornamental Horticulture 1 (General).....	3	Floriculture and Ornamental Horticulture 2 (Introduction to Landscape Design).....	3
Chemistry 1a (General).....	4	Floriculture and Ornamental Horticulture 5 (Flower Arrangement)	2
Agricultural Elective.....	3	Entomology 41 (General Economic)	3
		Chemistry 2a (General).....	2

SECOND YEAR

Floriculture and Ornamental Horticulture 123 (Florist Crop Production).....	4	Floriculture and Ornamental Horticulture 124 (Commercial Greenhouse Production).....	3
Floriculture and Ornamental Horticulture 115 (Plant Propagation)	3	Floriculture and Ornamental Horticulture 125 (Flower-Store Management).....	2
Botany 31 (Plant Physiology)....	4	Plant Pathology 1 (Elementary)...	3
Floriculture and Ornamental Horticulture 10 (Taxonomy of Cultivated Plants).....	3	Floriculture and Ornamental Horticulture 12 (Herbaceous Plant Materials).....	2
		Agricultural Electives.....	4
		Suggested	
		Agricultural Economics 122	
		Rural Education 110	

CURRICULUM IN NURSERY LANDSCAPE SERVICE

Students who take this curriculum must enroll in the six weeks Summer Session at Cornell University between the first and second years. Tuition is charged in the Summer Session.

FIRST YEAR

<i>Fall term</i>	<i>Hours credit</i>	<i>Spring term</i>	<i>Hours credit</i>
Extension Teaching 1 (Oral and Written Expression).....	3	Extension Teaching 1 (Oral and Written Expression).....	3
Botany 1.....	3	Botany 1.....	3
Floriculture and Ornamental Horticulture 1 (General).....	3	Drawing 10 (Free-Hand).....	2
Floriculture and Ornamental Horticulture 10 (Taxonomy of Cultivated Plants).....	3	Floriculture and Ornamental Horticulture 2 (Introduction to Landscape Design).....	3
*Chemistry 1a (General).....	4	*Chemistry 2a (General).....	2

*Those who offer Chemistry for entrance may substitute six credit hours of other courses in Agriculture for Chemistry.

SUMMER SESSION

Floriculture and Ornamental Horticulture A 12 (Herbaceous Plant Materials)...	2
Floriculture and Ornamental Horticulture A 13 (Woody Plant Materials for Landscape Planting).....	3
Floriculture and Ornamental Horticulture A 118 (Landscape Construction)...	2

SECOND YEAR

Botany 31 (Plant Physiology)....	4	Floriculture and Ornamental Horticulture 114 (Turf).....	2
Agronomy 6 (Soils).....	3	Floriculture and Ornamental Horticulture 119 (Outdoor Culture of Ornamental Plants).....	3
Floriculture and Ornamental Horticulture 115 (Plant Propagation)	3	Floriculture and Ornamental Horticulture 5 (Flower Arrangement)	2
Floriculture and Ornamental Horticulture 32 (Elementary Design and Planting of Small Properties)	3	Plant Pathology 1 (Elementary)...	3
Agricultural Elective.....	3	Entomology 41 (General Economic)	3
Suggested		Agricultural Elective.....	3
Agricultural Engineering 21		Suggested	
Floriculture and Ornamental Horticulture 112, 113		Drawing 11	

DESCRIPTION OF COURSES

The courses described in the following pages are those required in one or more of the preceding curricula. With the exception of the courses in chemistry, they are all given by members of the staff of the College of Agriculture.

The administrative units of the College in charge of the various subject-matter fields are called *departments*. There are several departments whose work is not required in these two-year curricula, but the courses offered by them may be elected as time permits and if the prerequisites are met. For the description of these offerings, reference should be made to the announcement of the four-year courses.

The arrangement of the courses in the foregoing curricula is such that all prerequisites will have been met if the courses are taken in the order in which they are listed. Consult the four-year announcement for course prerequisites before making any change in the order of scheduling.

AGRICULTURAL ECONOMICS

2. **Agricultural Geography.** Fall term. Credit three hours. Lectures, W F 11. Warren 225. Laboratory, W 1.40-4. Warren 101. Assistant Professor DEGRAFF.

The characteristics of agriculture as an industry; its place in the national and world economy; crop and livestock production in New York State, in the United States, and in other countries as determined by natural environment and by historical and economic development; interregional trade in agricultural products.

102. **Farm Management.** Spring term. Credit five hours. Not open to first-year students. Lectures, M W F 10. Warren 25. Laboratory, F 1.40-4. Warren 101. On days when farms are visited, the laboratory period is from 1.40-6. Professor WARREN.

Farming as a business; simple farm accounts; factors affecting profits; forms of tenure and leases; methods of getting started in farming; choosing a farm; use

of capital and credit; planning the organization and management of specific farms. One all-day trip and four half-day trips are taken to visit farms in near-by regions.

120. Personal Financial Management. Fall term. Credit three hours. Lectures, T Th 11. Warren 225. Discussion, T 1.40-4. Warren 240. Associate Professor CURTISS.

Planning an individual's financial program; sources and terms of credit; savings and investments; insurance of property, and income; acquisition and disposition of property; provision for dependents.

122. Accounting Method. Spring term. Credit three hours. Lectures, M W 8. Warren 225. Practice period, M 1.40-4. Warren 201. Professor POWELL.

For persons who wish to understand the records and procedures commonly used in keeping accounts of cooperatives and other businesses. Recording business transactions and deriving financial statements; analyses of costs and budgets.

126 Farmers' Cooperatives. Spring term. Credit three hours. Lectures, T Th 8. Warren 225. Discussion, Th 1.40-4. Warren 201. Professor POWELL.

What cooperatives have tried to do and what they have done; their special problems of organization, finance, and control.

142. Marketing Fruits and Vegetables. Fall term. Credit four hours. Lectures, M W F 9. Warren 225. Laboratory, W 1.40-4. Warren 240. Professor RASMUSSEN.

A study of the economic factors involved in the marketing of fruits and vegetables. Regional and seasonal competition; areas of distribution; methods of handling; costs of marketing; types of marketing organizations; sales methods; transportation and carrier services; produce law and methods of credit rating; terminal problems; aspects of retailer- and consumer-demand.

144. Marketing Poultry, Eggs, and Livestock. Spring term. Credit three hours. Lectures, T Th 10. Warren 225. Laboratory, W 1.40-4. Warren 240. Associate Professor CURTISS.

A study of the economic factors involved in the marketing of eggs, poultry, hogs, cattle, sheep, and wool. Subjects to be considered include: areas of production; distribution channels; sales methods; market costs; cold-storage operations; legislation; demand; terminal market; and consumption problems.

AGRICULTURAL ENGINEERING

1. Farm Mechanics. Fall or spring term. Credit three hours. Lectures: Fall term, T Th 9, Plant Science 37; spring term, T Th 10, Rice 100. Recitation: Fall term, M or T 10 or 11; spring term, M 10 or 11 or T 11. Agricultural Engineering Laboratories. Professor RILEY and assistants.

A course planned to give training in understanding the farm application of mechanical methods and appliances and to develop ability to think and to reason in terms of these.

102. Farm Power. Fall term. Credit three hours. Prerequisite, a reasonable proficiency in drawing. Lectures, T Th 8. Caldwell 100. Recitation to be arranged. Practice, T or W 1.40-4. Agricultural Engineering Laboratories. Professor JENNINGS.

A study of the principles of operation and adjustments of single-cylinder and multi-cylinder engines and the care, repair, and adjustments of modern farm tractors.

103. Field Machinery. Spring term. Credit three hours. Prerequisite, a reasonable proficiency in drawing. Lectures, T Th 8. Caldwell 100. Recitations to be arranged. Practice, T or W 1.40-4. Agricultural Engineering Laboratories. Professor JENNINGS.

A study of the use, care, operation, adjustment, and repair of farm machinery, such as plows, drills, binders, combines, sprayers, potato diggers, and the like. Horse-drawn, as well as tractor, equipment is included. The selection of the size and the type of field equipment best adapted for a specified size of farm is considered.

21. Farm Engineering. Fall or spring term. Credit three hours. Lectures: Fall term, M W 9; spring term, M W 10. Dairy Industry Building 119. Practice, M or T 1.40-4. Dairy Industry Building, Fourth Floor, and field. Professor McCURDY.

A study of the practical solution of the elementary problems involved in connection with surveying and mapping the farm; leveling for farm drainage and water supply; laying out building foundations. Farm drainage, concrete, and sewage disposal are studied.

31. Farm Structures. Fall term. Credit three hours. Lectures, M W F 8. Fernow 122. Extension Professor GOODMAN.

A study of the plan and structure of the buildings suited to various types of farming, with emphasis on construction, remodeling, insulation, and ventilation.

40. Farm Shop Work. Fall or spring term. Credit two hours a term. Section 1, T Th 1.40-4; section 2, M F 1.40-4. Agricultural Engineering Laboratories. Professor ROEHL. (Not given in fall term).

This course includes woodworking, with special jobs in carpentry, cabinet making, and fitting tool handles; metal working, with special jobs in saw fitting, tool grinding, cold-metal working, sheet-metal working, selecting and attaching builders' hardware; forge work, with special jobs in shaping and tempering tools; painting, with special jobs in repairing and refinishing furniture; harness repairing; problems in the use of rope. Mechanical drawing and free-hand sketching are done as they supplement the work.

AGRONOMY

A. Introductory Agronomy. Fall or spring term. Credit three hours. Open to freshmen only. Lectures, T Th 9. Laboratory demonstrations, M 1.40-4. Caldwell 100. Professors BUCKMAN and HARTWIG.

An introductory study emphasizing the practical problems of soil and field-crop management.

6. Soils. Fall term. Credit three hours. Lectures and recitations, M W F 10. Comstock 245. Laboratory, F 1.40-4. Caldwell 143. Professor GUSTAFSON.

A course dealing with the composition, properties, and plant relationships of soils, with particular reference to the practical use of lime, fertilizers, and other means of maintaining soil fertility and of controlling soil erosion.

11. Production of Field Crops. Fall or spring term. Credit four hours. Fall term: lectures, M W F 10. Caldwell 100; laboratory, T 1.40-4. Caldwell 250. Spring term: lectures, M W F 11, Caldwell 100; laboratory, W 1.40-4. Caldwell 250. Professor HARTWIG.

A course dealing principally with the crops that are used for feeding livestock and poultry. Emphasis is placed on the hay, silage, pasture, and grain crops of the Northeastern States. Cultural methods, crop rotation, fertilizer practices, soil and climatic adaptation, and the better varieties of the important crops are considered.

ANIMAL HUSBANDRY

1. Introduction to Animal Husbandry. Fall term. Credit three hours. Lectures, W F 10. Wing A. Laboratory, T or F 1.40-4. Judging Pavilion. Professors MILLER, SALISBURY, TURK, and J. P. WILLMAN, and assistants. Professor TURK has charge of the course records.

Introduction to types, breeds, judging, and management of livestock.

10. Livestock Feeding. Spring term. Credit four hours. Lectures, M W F 9. Wing A. Laboratory, Th or F 1.40-4. Wing C. Professors MILLER and MORRISON and assistants.

The feeding of farm animals, including the general basic principles, feeding standards, the computation of rations, and the composition and nutritive value of livestock feeds.

20. Animal Breeding. Fall term. Credit three hours. Lectures, M W 9. Wing A. Recitation, demonstration, or laboratory, T 1.40-4. Wing C. Professor SALISBURY and assistants.

A general outline of the principles of physiology and heredity as applied to the breeding of farm animals.

30. Health and Diseases of Animals. Fall term. Credit three hours. Lectures, M W F 11. Veterinary College. Professor BIRCH.

The course is designed to give the student a clear conception of the causes and nature of the diseases of animals, with suggestions for their prevention. Special attention is given to the methods of preventing the spread of the infectious and epizootic diseases. Such information as is practicable is given for the treatment of slight injuries and for first aid in emergencies.

40. Horses. Spring term. Credit three hours. Lectures, T Th 9. Wing B. Practice, W 1.40-4. Judging Pavilion. Professor SALISBURY.

A general course treating of the horse and the mule. Judging, care, and management, economy in feeding, breeding, and stable management. Origin, history, and development of the breeds of horses.

50. Dairy Cattle. Spring term. Credit three hours. Lectures, T Th 10. Wing A. Practice, M or Th 1.40-4. Wing A and Judging Pavilion. Professor TURK and assistants.

Origin, history, and development of the breeds of dairy cattle; methods of breeding, economy of feeding; production of milk; care, management, and sanitation of the dairy herd. Practice in judging, scoring, tracing pedigrees, and keeping records.

150. Dairy Cattle, Advanced Course. Spring term. Credit two hours. Lecture, T 11. Practice, T 1.40-4. Wing E. Professor TURK.

Analysis of breeding operations in successful breeding establishments. Formulating a breeding program. Selection of foundation females and herd bulls, and special problems in the feeding and management of the purebred dairy herd.

67. Beef Cattle and Swine. Spring term. Credit three hours. Lectures, W F 11. Wing B. Practice, T 1.40-4. Judging Pavilion. If a student has previously had Course 60, Beef Cattle, or Course 70, Swine, this course can be taken with two hours of credit; the student takes the half of the course dealing with the class of livestock he has not previously studied, and prepares a report on a special problem. Professors MILLER and J. P. WILLMAN.

A combined course on beef-cattle production and swine production.

80. Sheep. Fall term. Credit three hours. Lectures, T Th 10. Wing B. Practice, M 1.40-4. Judging Pavilion and Sheep Barn. Professor J. P. WILLMAN.

A general course in the care, breeding, feeding, and management of the farm flock; feeding and fattening of lambs; practice in judging and handling of sheep and wool. Lectures, recitations, demonstrations, discussions, reports, and field trips intended to give students a practical knowledge of sheep production. One-day field trip, estimated cost, \$4.

90. Meat and Meat Products. Fall or spring term. Credit three hours. Lecture, M 8. Wing B. Two laboratory periods a week, one slaughter section, and one cutting section. Slaughter section, W 1.40-4. Cutting section, M 1.40-4. Professor MILLER and Mr. SCHUTT.

A course in the slaughtering of farm animals, the cutting of carcasses, and the preparing and curing of meats.

BACTERIOLOGY

3. Agricultural Bacteriology. Fall term. Credit three hours. Lectures, M W F 9. Dairy Industry Building 218. Professor STARK.

The elements of bacteriology, with a survey of the relation of microorganisms to agriculture.

BOTANY

1. **General Botany.** Fall and spring terms. Credit three hours a term. Lectures: fall term, T Th 11; spring term, W F 10. Plant Science 233. Laboratory, one period of two and one-half hours. Plant Science 240, 242, and 262. Professor PETRY, instructors, and assistants.

A survey of the fundamental facts and principles of plant life. The work of the first term deals with the structures and functions of the higher plants, with special emphasis on their nutrition. The work of the second term traces the evolution of the plant kingdom, as illustrated by representatives of the principal groups, and concludes with a brief introduction to the principles of classification of the flowering plants.

31. **Plant Physiology.** Fall or spring term. Credit four hours. Lectures, T Th 10. Plant Science 143. Laboratory, T Th 1.40-4. Plant Science 227. Professor KNUDSON or Professor O. F. CURTIS, Associate Professor CLARK, and assistants.

This course is designed to acquaint the student with the general principles of plant physiology. Topics such as water relations, photosynthesis, translocation, digestion, respiration, mineral nutrition, growth, and reproduction are studied in detail. Particular emphasis is placed, both in laboratory and classroom, on the discussion of principles and their application to plants.

DAIRY INDUSTRY

[4. **Production and Care of Milk.** Spring term. Credit two hours. Extension Professor BRUECKNER.] Not given in 1944-45.

The production, care, and processing of milk on the farm. The composition and nutritive properties of milk; the bacteriology of milk and milk sanitation; laws pertaining to milk; milk flavors and abnormalities.

DRAWING

10. **Free-hand Drawing.** Fall or spring term. Credit two hours. Practice, W F 1.40-4.30. Plant Science 433. Mr. _____.

A course for beginners in landscape design, including some mechanical drawing and perspective.

11. **Free-hand Drawing.** Fall and spring terms. Credit from two to four hours a term. One hour of credit means three hours of actual practice. Lectures during practice. Practice by appointment, daily 9-12.50 and 1.40-4, except S morning. East Roberts 371. Assistant Professor GARRETT and Mr. _____.

An elementary course for the development of graphic expression applicable to scientific studies. Of special value to those who expect to enter the field of teaching, nature study, or biological research.

ENTOMOLOGY

41. **General Economic Entomology.** Spring term. Credit three hours. Lectures, W F 9. Comstock 145. Professor READIO. Practical exercises, T or Th 1.40-4. Comstock 100. Professor READIO and assistants.

Lectures on the life histories and habits of injurious insects, and on the methods of control; practical exercises on the commoner pests and the more important insecticides, as time permits; several field excursions.

EXTENSION TEACHING

1. **Oral and Written Expression.** Throughout the year. Credit three hours a term. Lectures and practice: fall term, M 11, T Th 10; spring term, M W F 11, Roberts 131. Criticism, by appointment, daily 8-4, and S 8-1. Professor PEABODY and Mr. _____.

Practice in oral and written presentation of topics in agriculture, with criticism and individual appointments on the technic of public speech. Designed to encourage interest in public affairs, and, through demonstrations and the use of graphic

materials and other forms, to train for effective self-expression in public. Special training is given to competitors for the Eastman Prizes for Public Speaking and the Rice Debate Stage. In addition, some study is made of representative works in English literature. Part of the work in the second term is a study of parliamentary practice.

FLORICULTURE AND ORNAMENTAL HORTICULTURE

1. **General Floriculture and Ornamental Horticulture.** Fall term. Credit three hours. Lectures, M W 10. Plant Science 37. Laboratory, T or Th 1.40-4. Plant Science 15. Associate Professor POST.

An elementary course covering the principles and practices of growing ornamental plants in the garden, greenhouse, and home.

2. **Introduction to Landscape Design.** Spring term. Credit three hours. Lecture, M W F 9. Plant Science 37. Associate Professor PORTER.

A consideration of the principles of landscape design as applied to the small-residence property.

[5. **Flower Arrangement.** Spring term. Credit two hours. Mr. ———.] Not given in 1944-45.

A study of the principles and methods of arranging flowers and other plant materials for decorative use.

[10. **Taxonomy of Cultivated Plants.** Fall term. Credit three hours. Professor ———.] Not given in 1944-45.

A study of the kinds of cultivated ferns and seed plants and their classification into genera and families. Emphasis is placed on methods of identification, the preparation and use of analytical keys, the distinguishing characteristics of the families concerned and their importance in ornamental horticulture.

[12. **Herbaceous Plant Materials.** Spring term. Credit three hours. Assistant Professor ALLEN.] Not given in 1944-45.

A study of the ornamental herbaceous plants used in landscape and garden plantings. Emphasis is placed on the identification, use, and culture of spring-flowering bulbs and perennials. The class visits Rochester Parks and gardens in late May.

[12. **Herbaceous Plant Materials, Advanced Course.** Fall term. Credit one hour. Assistant Professor ALLEN.] Not given in 1944-45.

A continuation of course 12 dealing with annuals and late-summer and fall-flowering perennials. The arrangement and use of herbaceous plants in the garden are studied.

[113. **Woody-Plant Materials, Advanced Course.** Fall term. Credit two hours. Professor R. W. CURTIS.] Not given in 1944-45.

A continuation of course 13 for students in the landscape nursery service. An opportunity for the more intimate study of important groups of ornamental plants, particularly their adaptability to landscape use. A trip is taken to the Rochester Parks.

[114. **Turf.** Spring term. Credit two hours. Mr. ———.] Not given in 1944-45

A course dealing chiefly with the principles, practices, and materials for the construction and maintenance of lawn areas. Some attention is given sports turf. A week-end inspection trip is taken to experimental test plots and special turf areas.

115. **Plant Propagation.** Fall term. Credit three hours. Lectures, T Th 11. Plant Science 37. Laboratory, S 10.30-12.50. Greenhouses.

A study of the principles and methods involved in the propagation of woody and herbaceous plants by seeds, division, layers, cuttings, budding, and grafting. The class visits nurseries at Geneva and Newark, New York.

[119. **Outdoor Culture of Ornamental Plants.** Spring term. Credit three hours. Assistant Professor PRIDHAM.] Not given in 1944-45.

A study of the principles and practices employed in the maintenance of landscape materials in the garden and in the production of plants in the nursery. Soil relationships, fertilizing, pruning, winter protection, and other problems are considered. A trip to observe estates and nurseries is taken.

[123. **Florist-Crop Production.** Fall term. Credit four hours. Associate Professor POST and Mr. ———.] Not given in 1944-45.

A comprehensive study of the application of basic science to the culture of ornamental plants, particularly under greenhouse conditions. A trip is taken to greenhouses in Rome and Utica, New York.

[124. **Commercial Greenhouse Production.** Spring term. Credit three hours. Associate Professor POST and Mr. ———.] Not given in 1944-45.

A course supplementary to course 123 dealing with the commercial production of florists crops; emphasis is upon the practical problems concerned. A trip is made to nearby commercial greenhouses.

[125. **Flower Store Management.** Spring term. Credit two hours. Associate Professor POST.] Not given in 1944-45.

Flower-shop management, business methods, and the making of floral designs are studied.

32. **Elementary Design and Planting of Small Properties.** Fall term. Credit three hours. Lecture, F 9. Plant Science 22. Laboratory, M 1.40-5, and three additional hours. Plant Science 433. Associate Professor PORTER and Mr. BAIRD.

The application of the principles of design to the specific problems of the small residence property.

FORESTRY

1. **Farm Forestry.** Fall term. Credit three hours. Lectures, M W 11. Fernow 122. Laboratory, M 1.40-4. Fernow 206. Professor GUISE.

Techniques of forestry practice applicable to farm woodlands. The principal trees of New York State, their identification, ecological relationships and uses; measurement of logs, trees, and stands; reforestation; treatment of second-growth stands, including thinnings and improvement cuttings; protection from grazing and fire; harvesting of timber and utilization of products, including preservative treatment of wood.

METEOROLOGY

1. **Elementary Meteorology.** Fall or spring term. Credit three hours. Lectures, T Th 11. Plant Science 143. Laboratory, Th or F 1.40-4. Plant Science 114. Professor MORDOFF and assistants.

A course designed to acquaint the student with the principles of the general and secondary circulation of the atmosphere; the elements of weather and climate; practical weather forecasting from weather maps and local observations.

PLANT PATHOLOGY

1. **Elementary Plant Pathology.** Fall term. Credit three hours. Lecture, Th 11. Plant Science 336. Practice and conference, any two periods, T W Th F 1.40-4. Plant Science 336, 341, 343, and 362. Professors WHETZEL and WELCH and Doctors NEIDERHAUSER and ———.

An introductory course dealing with the nature, cause, and control of disease in plants. Some of the commoner diseases of cultivated crops are studied in the laboratory.

13. **Diseases of Plants.** Fall term. Credit three hours. Lecture, W 10. Plant Science 336. Practice, W F 1.40-4. Plant Science 341. Professor WELCH and members of the Plant Pathology staff.

A course designed to introduce beginning students to the general field of plant pathology, including the importance of plant diseases to agriculture, the nature

and causes of disease in plants, and the various methods employed in their control.

POMOLOGY

1. General Pomology. Spring term. Credit three hours. Lectures, T Th 8. Plant Science 143. Laboratory, M 1.40-4. Plant Science 107. Associate Professor SMOCK and Messrs. _____ and _____.

A study of the general principles and practices in pomology and their relation to the underlying sciences; propagation and care of orchard trees and small fruits: harvesting, storing, and marketing fruit; practical work in budding, grafting, pruning, and planting; study of varieties, growth, and fruiting habits.

2. Practices of Fruit Growers. Fall term. Credit three hours. Lecture, Th 8. Laboratory, S 8-12. Plant Science 107. Associate Professor BOYNTON and _____.

This course is designed for students who intend to work on fruit farms, or to work with fruit growers during the war. Emphasis is placed on the practices that are used, and, when possible, the laboratories give the students actual experience with the operations carried out in commercial orchards. Attention is given to the problems of growing small fruits, and, in connection with orchard-fruit production, the practice of growing, harvesting, packing and storage, spraying, selection of orchard site, soil management, fruit varieties, pollination, thinning, grafting, and pruning.

[102. **Fruit Varieties.** Fall term. Credit two hours. Professor _____.] Not given in 1944-45.

A systematic study of the most important varieties of apples, pears, peaches, plums, grapes, and small fruits from the standpoint of their identification, growth, characters, regional adaptation, season of ripening, storage quality, utilization, and other matters of a similar nature. The breeding and testing of new varieties is considered.

111. Handling, Storage, and Utilization of Fruit. Fall term. Credit three hours. Lectures, T Th 8. Laboratory, M 1.40-4. Plant Science 107 and the packing house. Associate Professor SMOCK and Mr. _____.

The important factors in harvesting and handling fruit that affect quality and marketability are studied. Emphasis is placed on the practices and problems of handling apples, but the work covers also such fruits as peaches, pears, and grapes, in so far as these are available. The effect of grades and packages on distribution and marketing is fully discussed, with some attention to the problems of market inspection. Consideration is given to the principles and practices of common, cold, and modified air storage, and to the utilization of fruits in the dried, canned, frozen, or juice forms.

112. Advanced Laboratory Course. Spring term. Credit two hours. S 8-1. Plant Science 107. Associate Professors BOYNTON and SMOCK and Extension Professor HOFFMAN.

This course is designed to give more extended practice in the various orchard operations than can be given in course 1. Special attention is given to problems of pruning, tree surgery, bracing, orchard-soil selection and management, fruit judging, pollination, and spray practice.

[131. **Advanced Pomology.** Spring term. Credit four hours. Given in alternate years. Professor HEINICKE.] Not given in 1944-45.

A comprehensive study of the sources of knowledge and opinion as to practices in pomology. The results of experiences and research pertaining to pomology are discussed, with special reference to their application in the solution of problems in commercial fruit growing.

POULTRY HUSBANDRY

1. Farm Poultry. Fall term. Credit three hours. Lectures, M W F 10. Rice 300. One recitation period to be arranged. Rice 305. Professor HALL, assisted by other members of the staff.

A general course dealing with the practical application of the principles of poultry husbandry to general farm conditions.

110. Poultry Nutrition. Spring term. Credit three hours. Lectures, T Th 9. Laboratory, T 1.40-4. Rice 305. Professor HEUSER.

The principles of poultry nutrition and their application to poultry-feeding management.

20. Poultry Breeds, Breeding, and Judging. Fall term. Credit three hours. Lecture or recitation, M W 11. Rice 100. Laboratory, T 1.40-4. Judging Laboratory. Professor HALL.

Selecting and judging birds for production and breed characters; origin, history, and classification of breeds; introduction to breeding. A one-day trip is made to one of the leading poultry shows. Estimated cost for transportation, \$5.

30. Incubation and Brooding. Spring term. Credit three hours. Lectures, T Th 11. Laboratory, Th 1.40-4. Rice 100. Professor BRUCKNER.

Principles and practice of incubation and brooding of domestic and game birds; problems of hatchery management.

50. Market Eggs and Poultry. Spring term. Credit two hours. Lecture, M 10. Laboratory, T 1.40-4. Rice 100. Professor HALL.

A detailed study of the interior and exterior qualities of eggs; abnormalities; egg grades and standards; practice in candling, grading, and packing. Grades and standards of market poultry; killing, dressing, and packing. General market information. Laboratory fee, \$2.

RURAL EDUCATION

110. Psychology: An Introductory Course. Fall or spring term. Credit three hours. M W F 10. Fall term, Warren 25. Doctor WOODRUFF.

VEGETABLE CROPS

1. Vegetable Crops. Spring term. Credit three hours. Lectures, M W 11. East Roberts 222. Laboratory M or T 1.40-4. Vegetable greenhouses and East Ithaca gardens. Professor WORK.

A general study of the principles of vegetable growing and handling, giving a comprehensive survey of the industry. Intended for the student who desires a brief general course, and as an introductory course for the student who wishes to specialize in commercial vegetable growing. Economic importance, geography, cultural requirements, marketing, storage, and uses of the important vegetables. A one-day trip is required, usually the last Saturday of the term; approximate cost, \$3.

2. Special Cash Crops. Spring term. Credit three hours. Lectures, T Th 10. East Roberts 222. Laboratory, W or Th 1.40-4. East Roberts 223. Professor HARDENBURG.

A study of the major cash-crop vegetables grown in New York, including potatoes, field beans, cabbage, and the important canning crops, peas, tomatoes, sweet corn, and snap beans. About one-half of the term's work is devoted to potatoes. A visit to a near-by bean elevator is required.

12. Grading and Handling Vegetable Crops. Fall term. Credit three hours. Lectures, T Th 10. East Roberts 222. Laboratory, T or W 1.40-4. East Roberts 223, vegetable greenhouses, and East Ithaca gardens. Professor WORK.

Geography of vegetable production and distribution, factors of environment, culture, and handling as affecting quality, condition, and marketing of vegetable crops. Harvesting, grades and grading, packing, shipping-point and terminal-market inspection, transportation, refrigeration, and storage are discussed with reference to the various crops. A two-day trip is required; maximum cost, \$10.

113. Types and Varieties of Vegetables. To be given during two weeks, September 18 to 29, 1944, with registration for the course in the fall term. Credit two hours. Two lectures and two laboratories each day, M T W Th F 8-12 and 1.30-

4.30. Work for an additional hour of credit may be arranged. Advance notice of intention to register is requested. Professor WORK.

This course deals with the taxonomy, origin, history, characteristics, adaptation, identification, classification, exhibition, and judging, of kinds and varieties of vegetables; the characteristics, production, and handling of vegetable seeds. The leading varieties of the vegetable crops are grown each year. The value of the course depends to a great extent upon gaining an acquaintance with the plant material as it grows.

COURSES IN OTHER COLLEGES

1a. **General Chemistry.** Repeated each term. Credit four hours. Lecture, Th S 8 or 9. Main Lecture Room, Baker 200. Laboratory, M T W Th or F 1.40-4.30 or S 9-12. Baker 50 and 150. Recitation, one hour to be arranged. Professor BROWNE and assistants.

This course, together with Chemistry 2a, is substantially the equivalent of Chemistry 102 or 104.

2a. **General Chemistry.** Repeated each term. Credit two hours. Prerequisite, course 1 or 1a. Lecture, T 8 or 9. Main Lecture Room, Baker 200. Laboratory, M T W Th or F 1.40-4.30 or S 8-11. Baker 150. Recitation, one hour to be arranged. Mr. RUBIN and assistants.