

CORNELL UNIVERSITY OFFICIAL PUBLICATION

Announcement of the
Two-Year Courses
in the New York State
College of Agriculture
for 1941-42



VOLUME 32 : JUNE 1, 1941 : NUMBER 20

The University Calendar for 1941-42

1941		FIRST TERM
Sept.	8, <i>Monday</i> ,	Entrance examinations begin.
Sept.	22, <i>Monday</i> ,	Registration and assignment, new students.
Sept.	23, <i>Tuesday</i> ,	Registration and assignment, old students.
Sept.	25, <i>Thursday</i> ,	Instruction begins at 8 A.M.
Oct.	16, <i>Thursday</i> ,	Last day for the payment of tuition for the first term.
Nov.	19, <i>Wednesday</i> ,	Instruction suspended at 4 P.M.
<i>(Thanksgiving Recess)</i>		
Nov.	24, <i>Monday</i> ,	Instruction resumed at 8 A.M.
Dec.	20, <i>Saturday</i> ,	Instruction suspended at 12:50 P.M.
<i>(Christmas Recess)</i>		
1942		
Jan.	5, <i>Monday</i> ,	Instruction resumed at 8 A.M.
Jan.	11, <i>Sunday</i> ,	Founder's Day.
Jan.	26, <i>Monday</i> ,	Final examinations begin.
Feb.	4, <i>Wednesday</i> ,	Final examinations end.
Feb.	5, <i>Thursday</i> ,	A holiday.
		SECOND TERM
Feb.	6, <i>Friday</i> ,	Registration of all students.
Feb.	9, <i>Monday</i> ,	Instruction begins at 8 A.M.
Feb.	9-14,	Farm and Home Week.
March	2, <i>Monday</i> ,	Last day for the payment of tuition for the second term.
March	28, <i>Saturday</i> ,	Instruction suspended at 12:50 P.M.
<i>(Spring Recess)</i>		
April	6, <i>Monday</i> ,	Instruction resumed at 8 A.M.
May	—, <i>Saturday</i> ,	Spring Day: a holiday.
June	1, <i>Monday</i> ,	Final examinations begin.
June	9, <i>Tuesday</i> ,	Final examinations end.
June	15, <i>Monday</i> ,	COMMENCEMENT.

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.
Carl Edwin Ladd, Ph.D., LL. D., Dean of the College of Agriculture and Director of Experiment Stations, and Professor of Agricultural Economics.
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., Assistant Director of the Cornell University Agricultural Experiment Station and Professor of Plant Pathology.
Cedric Hay Guise, B.S., M.F., Professor in Personnel Administration in charge of Admissions.
John Parker Hertel, Ph.D., Assistant Professor in Personnel Administration and Secretary of the College.
Howard Styring Tyler, Ph.D., Assistant Professor in Personnel Administration in charge of vocational guidance and placement.
Willard Waldo Ellis, A.B., LL.B., Librarian.
Ralph Hicks Wheeler, B.S., Professor in Extension Service and Assistant University Treasurer.
Arthur Howard Peterson, M.A., Bursar.

George Woodford Abel, M. S., Assistant in Forestry.
Raymond Clayton Allen, Ph.D., Assistant Professor of Floriculture.
Thomas Jefferson Baird, B. Arch., Instructor in Ornamental Horticulture.
Damon Boynton, Ph.D., Assistant Professor of Pomology and Assistant Pomologist in the Experiment Station.
Jacob Herbert Bruckner, Ph.D., Professor of Poultry Husbandry and Poultry Husbandman in the Experiment Station.
Warren William Burger, B. S., Assistant in Extension Teaching.
Daniel Grover Clark, Ph.D., Assistant Professor of Botany and Assistant Botanist in the Experiment Station.
John Francis Cornman, B.S., Instructor and Propagator in Floriculture and Ornamental Horticulture.
Robert Thomas Cotton, B. S., Assistant in Entomology.
Otis Freeman Curtis, Ph.D., Professor of Botany and Plant Physiologist in the Experiment Station.†
William Marshall Curtiss, Ph.D., Assistant Professor of Marketing and Investigator in Marketing in the Experiment Station.
Louis James Edgerton, B.S.A., Extension Instructor in Pomology.
John Norman Efferson, Ph.D., Acting Assistant Professor of Farm Management and Investigator in Farm Management in the Experiment Station. (Exchange).
Alpheus Mansfield Goodman, B.S.A., Extension Professor of Agricultural Engineering.†
Leon Franklin Graves, M.A., Assistant in Meteorology.
Axel Ferdinand Gustafson, Ph.D., Professor of Soil Technology and Soil Technologist in the Experiment Station.
Edward Sewall Guthrie, Ph.D., Professor of Dairy Industry and Dairy Technologist in the Experiment Station.
Goldan Orlando Hall, Ph.D., Associate Professor of Poultry Husbandry and Associate Poultry Husbandman in the Experiment Station.
Earle Volcart Hardenburg, Ph.D., Professor of Vegetable Crops and Investigator in Vegetable Crops in the Experiment Station.*

*On leave first term. †On leave second term.

- Edwin Shepherd Harrison, Ph.D., Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Herbert Bertsch Hartwig, Ph.D., Professor of Field Crops.
- Arthur John Heinicke, Ph.D., Professor of Pomology and Pomologist in the Experiment Station.
- Gustave Frederick Heuser, Ph.D., Professor of Poultry Husbandry and Poultry Husbandman in the Experiment Station.
- Robert Byron Hinman, Ph.D., Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Leon Frederic Hough, M.S., Assistant in Pomology.
- Burton Aaron Jennings, B.S., Professor of Agricultural Engineering and Agricultural Engineer in the Experiment Station.
- Curtis Gilbert Keyes, M.S., Instructor in Ornamental Horticulture.
- Merrill Newkirk Knapp, B.S., Instructor in Extension Teaching.
- Lewis Knudson, Ph.D., Professor of Botany and Plant Physiologist in the Experiment Station.
- Jake Luther Krider, B.S., Assistant in Animal Husbandry and Assistant in Animal Husbandry in the Experiment Station.
- George H. M. Lawrence, Ph.D., Assistant Professor of Botany and Horticulture in the Bailey Hortorium.
- John Clarence McCurdy, B.S., C.E., Professor of Agricultural Engineering.
- Laurence Howland MacDaniels, Ph.D., Professor of Horticulture and Horticulturist in the Experiment Station.
- Charles Thomas Male, jr., M.S., Instructor in Agricultural Engineering.
- Woodrow Wilson Middlekauff, Ph. D., Instructor in Entomology.
- John Ivan Miller, Ph.D., Assistant Professor of Animal Husbandry and Assistant 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 Niederhauser, B.S., Assistant in Plant Pathology.
- Tarmo Abraham Pasto, M.A., Instructor in Drawing.
- George Eric Peabody, M.S., Professor of Extension Teaching.
- Loren Clifford Petry, Ph.D., Professor of Botany.
- Elmer Strobel Phillips, B.S., Assistant Professor of Extension Teaching.
- 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., Instructor in Floriculture.
- Marius Peter Rasmussen, Ph.D., Professor of Marketing and Investigator in Marketing in the Experiment Station.
- Philip Adna Readie, Ph.D., Professor of Economic Entomology and Entomologist in the Experiment Station.
- Arthur Bernhard Recknagel, B.A., M.F., Professor of Forest Management and Utilization.
- 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., Associate Professor of Animal Husbandry and Animal Husbandman in the Experiment Station.
- Elmer Seth Savage, Ph.D., D.Sc., 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.

†On leave second term.

- Robert Mumford Smock, Ph.D., Assistant Professor of Pomology and Assistant Pomologist in the Experiment Station.
- Franklin Wallburg Southwick, M.S., Assistant in Pomology.
- Thomas Sproston, jr., B.S., Instructor in Plant Pathology.
- Clifford Nicks Stark, Ph.D., Professor of Bacteriology and Bacteriologist in the Experiment Station.
- Leon John Tyler, Ph.D., Assistant Professor of Plant Pathology and Assistant Plant Pathologist in the Experiment Station.
- Archie Van Doren, A.B., Instructor in Pomology.
- Alfred Van Wagenen, Ph.D., Instructor in Marketing and Investigator in Marketing in the Experiment Station.
- Stanley Whitson Warren, Ph.D., Associate Professor of Farm Management and Investigator in Farm Management in the Experiment Station.*
- Ross Derrick Watson, M.S., Assistant in Plant Pathology.
- 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., Associate Professor of Animal Husbandry and Associate Animal Husbandman in the Experiment Station.†
- Andrew Leon Winsor, Ph.D., Professor of Rural Education.
- Paul Work, Ph.D., Professor of Vegetable Crops and Investigator in Vegetable Crops in the Experiment Station.

*On leave first term. †On leave second 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 of various types, 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 winter course beginning in November and running through twelve weeks; 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, since the procuring of the necessary credentials often takes considerable time.

Every candidate for admission in September must make a deposit of \$25 before August 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 August 1 without charge. After August 1 and before August 31 a charge of \$10 is made against the deposit for accrued expenses. After August 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 \$200 for the full college year. This amount is payable in installments of \$110 at the beginning of the first term and \$90 at the beginning of the second term, but a student registered only for the second term of the academic year is required to pay at the rate of the first 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.

A *health and infirmary fee* of \$7.50 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, see 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.

An *examination book fee* of \$1 is required of every student at entrance to pay for the examination books furnished to the student throughout his course. The charge is made against the student's application deposit.

A *University administration fee* of \$5 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*.

Laboratory fees are charged to cover the cost of materials used in certain courses that require laboratory and field work. A few of the courses involve out-of-town trips for the purpose of studying marketing and field conditions. Every student must pay his own travel and living expenses on those trips. The approximate total amount of the laboratory fees and trip expenses for each of the courses for two years is as follows:

	Laboratory fees	Trip expenses
Dairy Farming.....	\$50.00	\$
General Livestock Farming.....	50.50	10.00
Poultry Farming.....	42.50	11.50
Fruit Growing.....	70.00	
Vegetable Growing.....	61.00	10.00
General Farming.....	55.50	
Marketing of Fruits and Vegetables.....	63.00	8.00
Commercial Floriculture.....	101.00	
Nursery Landscape Service.....	93.00	

BOARD AND LODGING

The University has ten residential halls and houses for men; at present there are accommodations for about 700 students. On July 1 available rooms are assigned by lot to new students applying for them. For particulars, address the Manager of Residential Halls, Morrill Hall, Ithaca, New York.

Many private lodging houses near the University offer furnished rooms, with heat and light, at rates ranging from \$3 to \$5 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 August 15. New students are advised to engage rooms at least a few days before the day set for registration. The Freshman Advisory Committee offers its help to new students, and sends them a circular letter of suggestions about September 1.

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 satisfactory board and lodging for the full college year for a total of \$400. Those with limited means will be able to save \$1 or \$2 a week from this amount by living in the cheaper rooms and buying less expensive meals.

The necessary college expenses for the two years, exclusive of clothes and travel, may average \$500 a year. The additional amount spent for clothes and incidentals will vary 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>First term</i>	<i>Hours credit</i>	<i>Second 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 Cattle).....	3
Bacteriology 3 (Agricultural).....	3	*Chemistry 102 (General).....	3
*Chemistry 102 (General).....	3	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 Cattle, Advanced Course).....	2
Agronomy 6 (Soils).....	3	Dairy Industry 2 (Elementary)....	2
Agricultural Engineering 1 (Farm Mechanics).....	3	Agronomy 11 (Production of Field Crops).....	4
Agricultural Economics 103 (Farm Records and Accounts).....	3	Agricultural Elective.....	2

*Those who offer Chemistry for entrance should register for Chemistry 104 or they may substitute six credit hours of other courses in Agriculture for Chemistry.

TWO-YEAR COURSES

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CURRICULUM IN GENERAL LIVESTOCK FARMING

FIRST YEAR

<i>First term</i>	<i>Hours credit</i>	<i>Second 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	*Chemistry 102 (General).....	3
Agricultural Economics 103 (Farm Records and Accounts).....	3	Agricultural Elective.....	6
*Chemistry 102 (General).....	3	Suggested Animal Husbandry 50, 60, 70	

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 Animal Husbandry 40, 90	
Agricultural Engineering 1 (Farm Mechanics).....	3	Vegetable Crops 2	
		Pomology 1	

CURRICULUM IN POULTRY FARMING

FIRST YEAR

<i>First term</i>	<i>Hours credit</i>	<i>Second term</i>	<i>Hours credit</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 Economics 103 (Farm Records and Accounts).....	3	Pomology 1 (Fruit Growing).....	3
*Chemistry 102 (General).....	3	Poultry 50 (Market Eggs and Poultry).....	2
		*Chemistry 102 (General).....	3

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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COLLEGE OF AGRICULTURE

CURRICULUM IN FRUIT GROWING

FIRST YEAR

	<i>Hours credit</i>		<i>Hours credit</i>
<i>First term</i>		<i>Second term</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 (Livestock Production).....	3	Pomology 1 (Fruit Growing).....	3
Agricultural Economics 103 (Farm Records and Accounts).....	3	Agricultural Engineering 1 (Farm Mechanics).....	3
*Chemistry 102 (General).....	3	*Chemistry 102 (General).....	3

SECOND YEAR

Pomology 111 (Handling, Storage, and Utilization of Fruit).....	3	Agricultural Economics 102 (Farm Management).....	5
Agronomy 6 (Soils).....	3	Plant Pathology 1b (Plant Diseases)	2
Agricultural Economics 142 (Mar- keting Fruits and Vegetables)...	4	Entomology 41 (General Economic)	3
Botany 31 (Plant Physiology).....	4	Vegetable Crops 2 (Special Cash Crops).....	3
Pomology 102 (Fruit Varieties)...	2	Pomology 131 (Advanced).....	4

CURRICULUM IN VEGETABLE GROWING

FIRST YEAR

	<i>Hours credit</i>		<i>Hours credit</i>
<i>First term</i>		<i>Second term</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
Agricultural Economics 103 (Farm Records and Accounts).....	3	†Chemistry 102 (General).....	3
†Chemistry 102 (General).....	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 (Plant Dis- eases).....	2 or 4	Agronomy 11 (Production of Field Crops).....	4
Agronomy 6 (Soils).....	3	Agricultural Elective.....	3
Agricultural Elective.....	2 or 4	Suggested Animal Husbandry 10 Pomology 1 Meteorology 1	

*Those who offer Chemistry for entrance should register for Chemistry 104.

†Those who offer Chemistry for entrance should register for Chemistry 104 or they may substitute six credit hours of other courses in Agriculture for Chemistry.

CURRICULUM IN GENERAL FARMING

FIRST YEAR

<i>First term</i>	<i>Hours credit</i>	<i>Second term</i>	<i>Hours credit</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 102 (General).....	3
*Chemistry 102 (General).....	3	Agricultural Elective.....	5
Agricultural Elective.....	3	Suggested	
Suggested		Entomology 41	
Agricultural Economics 103, 120		Pomology 1	
Poultry Husbandry 1		Vegetable Crops 2	
Animal Husbandry 1		Botany 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		Dairy Industry 2	
		Agricultural Engineering 103	

CURRICULUM IN THE MARKETING OF FRUITS AND VEGETABLES

FIRST YEAR

<i>First term</i>	<i>Hours credit</i>	<i>Second 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	Pomology 1 (Fruit Growing).....	3
Vegetable Crops 12 (Grading and Handling).....	3	Entomology 41 (General Economic)	3
Agricultural Engineering 1 (Farm Mechanics).....	3	*Chemistry 102 (General).....	3
*Chemistry 102 (General).....	3	Vegetable Crops 1.....	3

SECOND YEAR

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

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COLLEGE OF AGRICULTURE

CURRICULUM IN COMMERCIAL FLORICULTURE

FIRST YEAR

<i>First term</i>	<i>Hours credit</i>	<i>Second 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
Pomology 1 (Fruit Growing) or Elective.....	3	Floriculture and Ornamental Horticulture 5 (Flower Arrangement)	1
*Chemistry 102 (General).....	3	Entomology 41 (General Economic)	3
		*Chemistry 102 (General).....	3

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 5 (Flower Arrangement)	2
Botany 31 (Plant Physiology).....	4	Floriculture and Ornamental Horticulture 125 (Flower-Store Management).....	2
Floriculture and Ornamental Horticulture 10 (Taxonomy of Cultivated Plants).....	3	Plant Pathology 1b (Plant Diseases)	2
		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>First term</i>	<i>Hours credit</i>	<i>Second 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
Pomology 1 (Fruit Growing) or Elective.....	3	Floriculture and Ornamental Horticulture 2 (Introduction to Landscape Design).....	3
*Chemistry 102 (General).....	3	*Chemistry 102 (General).....	3

*Those who offer Chemistry for entrance should register for Chemistry 104.

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)	1
Floriculture and Ornamental Horticulture 32 (Elementary Design and Planting of Small Properties)	3	Plant Pathology 1b (Plant Diseases)	2
Agricultural Engineering 21 (Farm Engineering) or elective	3	Entomology 41 (General Economic)	3
		Agricultural Elective	4
		Suggested	
		Agricultural Engineering 121, 122	
		Vegetable Crops 1	

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

102. Farm Management. Second term. Credit five hours. Not open to first-year students. Lectures, M W F 10. Warren 25. Laboratory, T W Th or F 1.40-3.40. Warren 101. On days when farms are visited, laboratory periods are from 1.40-6. Associate Professor WARREN, and other members of the departmental staff.

Farming as a business; type of farming; size of business; rates of production; labor efficiency; combination of enterprises; farm layout; building arrangement; machinery; forms of tenure and leases; choosing and buying 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 during April and May to visit farms in near-by regions. These trips are taken on the day of the regular laboratory period. Fee for materials furnished and for transportation on trips, \$6.

103. Farm Records and Accounts. First term. Credit three hours. Lectures, T Th 8. Warren 25. Laboratory, M T or W 1.40-4. Warren 101, 140, and 240. Acting Assistant Professor EFFERSON.

Planning an accounting system designed to meet the needs of the individual farm and farmer; practice in keeping the records; training in the interpretation and analysis of farm records. Fee for materials furnished, \$3.

120. Personal Financial Management. First term. Credit three hours. Lectures, T Th 11. Discussion, T 1.40-4. Warren 225. Assistant 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. Fee for materials furnished, \$2.

121. Financial Statements. First term. Credit three hours. Lectures, T Th 9. Warren 225. Discussion and quiz, W 2-4. Warren 201. Professor POWELL.

For persons who wish to understand and interpret the statements of financial condition and income of cooperatives and other businesses. Content of, and relationship between, balance sheet, operating statement, and statement of surplus; methods of valuing assets; analysis by means of ratios. Fee for materials furnished, \$2.

122. Accounting Method. Second term. Credit three hours. Class will meet during Farm and Home Week for those only who have not had course 121. Lectures, W F 11. Warren 225. Practice period, F 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. Fee for materials furnished, \$1.

126. Farmers' Cooperatives. Second term. Credit three hours. Lectures, W F 8. Warren 225. Discussion and quiz, S 9-10.50. Warren 201. Professor POWELL.

What cooperatives have tried to do and what they have done; their special problems of organization, finance, and control. Fee for materials furnished, \$2.

142. Marketing Fruits and Vegetables. First term. Credit four hours. Lectures, M W F 9. Warren 25. Laboratory, Th or F 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. Fee for materials furnished, \$3.

144. Marketing Poultry Products. Second term. Credit three hours. Lectures, T Th 10. Warren 225. Laboratory, T 1.40-4. Warren 240. Doctor VAN WAGENEN.

A study of the economic factors involved in the marketing of eggs and poultry; including: areas of production; distribution channels; sales methods; market costs; cold-storage operations; legislation; demand; terminal market, and consumption problems. Fee for materials furnished, \$2.

AGRICULTURAL ENGINEERING

1. Farm Mechanics. First or second term. Credit three hours. Lectures: first term, T Th 9, Caldwell 100; second term, T Th 10, Warren 25. Recitation: first term, M T or W 10 or 11; second term, M or W 10 or 11 or T 9 or 11. Agricultural Engineering Laboratories. Professor RILEY and Mr. MALE.

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. Materials fee, \$1.

102. Farm Power. First term. Credit three hours. Prerequisite, a reasonable proficiency in drawing. Lectures, W F 8. East Roberts 222. Practice, M 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. Laboratory fee, \$3.

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

A study of the use, care, operation, adjustment, and repair of farm field 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. Laboratory fee, \$3.

21. Farm Engineering. First or second term. Credit three hours. Lectures, first term, M W 9; second 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. Laboratory fee, \$2.

121. Farm Engineering, Advanced Course. Second term. Credit two hours. Alternates with course 122. Lecture, T 10. Dairy Industry Building 119. Field work, W 1.40-4. Professor MCCURDY.

A course in topographic surveying and mapping; leveling, including cross-

section and earthwork computations; a study of the use and adjustments of the better class of levels and of the transit. Laboratory fee, \$1.

[122. **Drainage and Irrigation.** Second term. Credit two hours. Alternates with course 121. Professors ROBB and MCCURDY.] Not given in 1941-42.

A course covering the principles and practice of drainage and irrigation; laying out drainage for farm lands, golf courses, gardens, and roads; a study of irrigation systems for humid climates; pumping plants for drainage, irrigation, and water supply. One two-day excursion to drainage projects near Ithaca is taken sometime in May. Laboratory fee, \$1.

31. **Farm Structures.** First 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. Materials fee, \$1.

40. **Farm Shop Work.** First or second 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.

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. Laboratory fee, \$4.

AGRONOMY

6. **Soils.** First term. Credit three hours. Lectures and recitations, M W F 10. Comstock 245. Laboratory, M T or Th 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. Fee for materials furnished, \$1.

11. **Production of Field Crops.** Second term. Credit four hours. Lectures, M W F 11. Caldwell 100. Laboratory, M Th or F 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 adaption, and the better varieties of the important crops are considered. Laboratory fee, \$3.

ANIMAL HUSBANDRY

1. **Livestock Production.** First term. Credit three hours. Lectures, W F 10. Warren 25. Laboratory, T Th or F 1.40-4, or W 11-1. Judging Pavilion. Professors HARRISON, HINMAN, and SAVAGE, Associate Professors SALISBURY and J. P. WILLMAN, Assistant Professor MILLER, and assistants.

Introduction to types, breeds, judging, and management of livestock. Laboratory fee, \$2.

10. **Livestock Feeding.** First or second term. Credit four hours. First term: Lectures, M W F 11. Wing A. Laboratory, Th or F 1.40-4. Wing C. Assistant Professor MILLER and assistants. Second term: Lectures, M W F 9. Wing A. Laboratory, M T W or Th 1.40-4. Wing C. Professor MORRISON, Assistant Professor MILLER, 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.** First term. Credit three hours. Lectures, M W 9. Wing A. Recitation, demonstration, or laboratory, W 1.40-4. Wing C. Associate Professor SALISBURY and assistants.

A general outline of the principles of physiology and heredity as applied to the breeding of farm animals. Laboratory fee, \$2.

30. Health and Diseases of Animals. First 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. The Horse. Second term. Credit three hours. Lectures, T Th 9. Wing B. Practice, W 1.40-4. Judging Pavilion. Associate Professor SALISBURY.

A general course treating of the horse and the mule. Judging, care, and management, economy in feeding, breeding, and stable management, including harnessing, hitching, and the like. Origin, history, and development of the breeds of horses. Laboratory fee, \$2.

50. Dairy Cattle. Second term. Credit three hours. Lectures, T Th 10. Wing A. Practice, M or Th 1.40-4. Wing A and Judging Pavilion. Professors SAVAGE and HARRISON 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. Laboratory fee, \$2.

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

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.

60. Beef Cattle. Second term. Credit three hours. Lectures, W F 10. Wing C. Practice, F 1.40-4. Judging Pavilion. Professor HINMAN.

Origin, history, and development of the breeds of beef cattle; herd management; feeding for fattening; practice in judging. Lectures, recitations, discussions, reports, tracing of pedigrees, and field trips. Field trips, two and one-half days total; estimated cost, \$6. Laboratory fee, \$2.

70. Swine. Second term. Credit three hours. Lectures, W F 11. Wing C. Practice, T 1.40-4. Judging Pavilion. Mr. KRIDER.

Origin, history, and development of the breeds of swine; herd management; practice in judging swine; and reports on assigned topics. Lectures, recitations, discussions, and field trips intended to give the student a knowledge of the feeding, management, production, and marketing of swine. One-day field trip; estimated cost, \$4. Laboratory fee, \$2.

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

Origin, history, and development of the breeds of sheep; flock management; feeding and fattening lambs; practice in judging. Lectures, recitations, discussions, reports, and field trips intended to give the student a knowledge of the management, production, and marketing of sheep and lambs. One-day field trip; estimated cost, \$4. Laboratory fee, \$2.

90. Meat and Meat Products. First or second term. Credit three hours. Lecture, M 8. Wing A. Two laboratory periods a week, one slaughter section, and one cutting section. Slaughter section, M 1.40-4, W 8-10.30, or W 1.40-4. Cutting section, M 9.40-12 or F 1.40-4. Professor HINMAN and Mr. SCHUTT.

A course in the slaughtering of farm animals, the cutting of carcasses, and the preparation and curing of meats. One required inspection trip to Buffalo stockyards and slaughterhouses; estimated cost, \$12. Laboratory fee, \$2.

BACTERIOLOGY

3. Agricultural Bacteriology. First term. Credit three hours. Lectures, M W F 9. Plant Science 233. Professor STARK.

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

BOTANY

1. General Botany. First and second terms. Credit three hours a term. Lectures, T Th 9 or 11. Plant Science 233. Laboratory, one period of two and one-half hours. Plant Science 240, 242, 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. Laboratory fee, \$3.50 a term.

31. Plant Physiology. First or second term. Credit four hours. Lectures, T Th 10. Plant Science 233. Laboratory, T Th 1.40-4 or W F 1.40-4. Plant Science 227. Professor KNUDSON or Professor O. F. CURTIS, Assistant 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. Laboratory fee, \$4; deposit, \$3.

DAIRY INDUSTRY

2. Elementary Dairy Industry. Second term. Credit two hours. Lecture throughout the term, S 8. Laboratory, S 9-1. Three sections of one-third term each. Dairy Industry Building 119. Professor GUTHRIE.

A special course in milk testing and market dairying adapted to the needs of non-degree students in dairy farming. Laboratory fee, \$4.

DRAWING

10. Free-Hand Drawing. First or second term. Credit two hours. Practice, W F 1.40-4.30. Plant Science 433. Mr. PASTO.

A course for beginners in landscape design, including some mechanical drawing and perspective. Laboratory fee, \$1.

ENTOMOLOGY

41. General Economic Entomology. Second term. Credit three hours. Lectures, T Th 9 or W F 9. Comstock 145. Professor READIO. Practical exercises, M T W Th or F 1.40-4. Comstock 100. Doctor MIDDLEKAUFF and Mr. COTTON.

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. Laboratory fee, \$2.

EXTENSION TEACHING

1. Oral and Written Expression. Throughout the year. Credit three hours a term. Lectures and practice, M W F 8 or 9, Roberts 131; M W F 8, Roberts 392; M W F 11, Comstock 245 and Plant Science 233. Criticism, by appointment, daily 8-4, and S 8-1. Professor PEABODY, Assistant Professor PHILLIPS, and Messrs. M. N. KNAPP and BURGER.

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. First term. Credit three hours. Lectures, M W 10. Plant Science 37. Laboratory, T or Th 1.40-4. Plant Science 15. Associate Professor POST and Assistant Professor ALLEN.

An elementary course covering the principles and practices of growing ornamental plants in the garden, greenhouse, and home. Laboratory fee, \$4; deposit, \$2.

2. Introduction to Landscape Design. Second term. Credit three hours. Lecture, M W F 9. Plant Science 233. Associate Professor PORTER.

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

5. Flower Arrangement. Second term. Credit two hours. Lecture, T 10 or 11. Laboratory, T W or Th 10-12.30, or F 1.40-4. Plant Science 22. Mr. KEYES.

A study of the principles and methods of arranging flowers and other plant materials for decorative use. Laboratory fee, \$8.

10. Taxonomy of Cultivated Plants. First term. Credit three hours. Lecture, W 11. Laboratory, W F 1.40-4. Plant Science 22. Assistant Professor LAWRENCE.

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. Laboratory fee, \$3.

12. Herbaceous Plant Materials. Second term. Credit two hours. Lecture, T 8. Plant Science 37. Laboratory, T or Th 1.40-4. Plant Science 15. Assistant Professor ALLEN.

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. Laboratory and transportation fee, \$7.

114. Turf. Second term. Credit two hours. Lecture, W 11. Laboratory, W 1.40-4. Plant Science 29. Mr. CORNMANN.

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 in and near Washington, D. C. Laboratory and transportation fee, \$12.

115. Plant Propagation. First term. Credit three hours. Lectures, T Th 11. Plant Science 37. Laboratory, S 8-10.30 or 10.30-12.50. Greenhouses and nurseries. Doctor PRIDHAM.

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. Laboratory and transportation fee, \$5.

119. Outdoor Culture of Ornamental Plants. Second term. Credit three hours. Lectures, T Th 11. Plant Science 37. Laboratory, F 1.40-4. Professor MACDANIELS.

A study of the principles and practices employed in the production of plants in the nursery and the maintenance of landscape materials in the garden. Soil relationships, fertilizing, pruning, winter protection, and other problems are considered. Laboratory fee, \$2.

123. Florist-Crop Production. First term. Credit four hours. Lectures and recitations, M W F 9. Plant Science 37. Laboratory, M 1.40-4. Greenhouses. Associate Professor POST and Mr. ———.

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. Laboratory and transportation fee, \$7.

124. Commercial Greenhouse Production. Second term. Credit three hours. Lecture, M W 9. Plant Science 37. Laboratory, W 1.40-4. Greenhouses. Associate Professor POST and Mr. ———.

A course supplementary to course 123 dealing with the study of the commercial production of florists crops, with emphasis upon the practical problems concerned. A trip is made to nearby commercial greenhouses. Laboratory and transportation fee, \$2.

125. Flower-Store Management. Second term. Credit two hours. Lecture, M 11. Laboratory, M 1.40-4. Plant Science 22. Mr. _____.

Flower-shop management, business methods, and the making of floral designs are studied. Laboratory fee, \$10; deposit, \$2.

32. Elementary Design and Planting of Small Properties. First 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. Laboratory fee, \$5.

FORESTRY

1. Farm Woodlands. First term. Credit three hours. Lectures, W F 11. Fernow 122. Practice, M 1.40-4. Fernow 206. Professor RECKNAGEL and Mr. ABEL.

A course covering those phases of forestry that are applicable to the farm woods. Identification of the principal trees of this region; measurement of logs, trees, and stands; nursery work, forest planting, thinning, and improvement cuttings; the preservative treatment of farm timbers. Laboratory fee, \$1.

METEOROLOGY

1. Elementary Meteorology. First or second term. Credit three hours. Lectures, T Th 11. Plant Science 143. Laboratory, T or F 8-10 or M T W or F 1.40-4. Plant Science 114. Professor MORDOFF and Mr. GRAVES.

A course covering those phases of meteorology that are applicable to the general and secondary circulation of the atmosphere; the elements of weather and climate; practical weather forecasting from weather maps and local observations. Laboratory fee, \$2.

PLANT PATHOLOGY

1. Elementary Plant Pathology. First or second term. The course number *1a* should be used by those who register for four-hours credit and *1b* by those who register for two-hours credit. For undergraduates. Registration limited to sixty-six students in the first term and to forty-eight students in the second term. Admission on the basis of average standing to date; students with an average below 75 may register for two hours only. Lecture, W 8. Plant Science 37. Practice and conference, any two periods, T W Th F 1.40-4. Plant Science 336, 341, 343, and 362. Professors WHETZEL and WELCH, Assistant Professor L. J. TYLER, and Messrs. SPROSTON, NIEDERHAUSER, and WATSON.

1a. Credit four hours. A minimum of fifteen exercises with a personal conference on each. Prerequisite for course 2.

1b. Credit two hours. A minimum of twelve exercises with two or three conferences during the term. Not accepted as a prerequisite for courses in Plant Pathology except for course 111.

An elementary course introducing the student to the nature, cause, and control of plant diseases. Illustrated by studies of the commoner diseases of cultivated plants. Laboratory fee, \$4.50; breakage deposit, \$5.

POMOLOGY

1. General Pomology. First or second term. Credit three hours. Lectures, T Th 8. Plant Science 233. Laboratory: first term, W Th or F 1.40-4; second term, M T W Th or F 1.40-4. Plant Science 107. Assistant Professors SMOCK and BOYNTON and Messrs. EDGERTON, HOUGH, and SOUTHWICK.

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. Laboratory fee, \$1.50.

102. Fruit Varieties. First term. Credit two hours. Given in alternate years. Lecture and laboratory, T Th 11-1. Plant Science 107. Assistant Professor BOYNTON and Mr. HOUGH.

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. Laboratory fee, \$1.50.

111. Handling, Storage, and Utilization of Fruit. First term. Credit three hours. Lectures, T Th 8. Laboratory, S 8-10.30 or M 1.40-4. Plant Science 107 and the packing house. Assistant Professor SMOCK and Mr. VAN DOREN.

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. Laboratory fee, \$1.50.

131. Advanced Pomology. Second term. Credit four hours. Lectures, M W F 9. Conference, W 11. Plant Science 141. Professor HEINICKE.

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. First term. Credit three hours. Lectures, M W F 10. Rice 300. One recitation to be arranged. Rice 305. Associate 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. Second term. Credit three hours. Lectures, T Th 9. Laboratory, T or W 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. First term. Credit three hours. Lectures or recitations, M W 11. Rice 100. Laboratory, M or T 1.40-4. Judging Laboratory. Associate 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. Second term. Credit three hours. Lectures, T Th 11. Laboratory, Th F 1.40-4, or S 8-10.30. Rice 100. Professor BRUCKNER.

Principles and practice of incubation and brooding of domestic and game birds; problems of hatchery management. Approximate cost of field trips, \$5.

50. Market Eggs and Poultry. Second term. Credit two hours. Lecture, M 10. Laboratory, M T W or Th 1.40-4. Rice 100. Associate 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. A one-day trip is made to Syracuse markets. Estimated cost for transportation, \$1.50. Laboratory fee, \$2.

RURAL EDUCATION

110. Psychology: An Introductory Course. First or second term. Credit three hours. M W F 10. Goldwin Smith C. Professor WINSOR. Fee, \$1.

VEGETABLE CROPS

1. **Vegetable Crops.** Second term. Credit three hours. Lectures, M W 11. East Roberts 222. Laboratory, M T or W 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, \$2. Laboratory fee, \$2.

2. **Special Cash Crops.** Second term. Credit three hours. Lectures, T Th 10. Comstock 245. Laboratory, M T 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. Laboratory fee, \$2.50.

12. **Grading and Handling Vegetable Crops.** First 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, \$8. Laboratory fee, \$2.50.

[113. **Types and Varieties of Vegetables.** First term. Credit three hours. Professor WORK.] Not given in 1941-42.

This course deals with the taxonomy, origin, history, characteristics, adaptations, 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. For this reason, part of the laboratory work is done in the gardens prior to and during registration week. Laboratory fee, \$2.

COURSES IN OTHER COLLEGES

102. **General Chemistry.** Throughout the year. Credit three hours a term. Open only to those students who do not offer entrance chemistry. Lecture, Th or F 11. Baker, Main Lecture Room. Recitation, one hour a week to be arranged. Laboratory, M T W Th or F 1.40-4. Professors BROWNE and LAUBENGAYER, Doctor ———, and assistants.

This course deals with the fundamental laws and theories of chemistry and the properties of the more common elements and their compounds. Deposit, \$11 each term.

104. **General Chemistry.** Throughout the year. Credit three hours a term. Prerequisite, entrance credit in chemistry. Lecture, M or T 11, or T 9. Baker, Main Lecture Room. Recitation, one hour a week to be arranged. Laboratory, M T W Th or F 1.40-4. Professor PAPISH, Doctor EATON, and assistants.

This course deals with the fundamental laws and theories of chemistry and the properties of the more common elements and their compounds. Deposit, \$11 each term.