CORNELL UNIVERSITY

OFFICIAL PUBLICATION

New York State College of Agriculture at Cornell University

THE TWO-YEAR AND ONE-YEAR COURSES

1953–54

THE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY IS A CONTRACT UNIT OF THE STATE UNIVERSITY OF NEW YORK

THE BOARD OF TRUSTEES, CORNELL UNIVERSITY

Neal Dow Becker, *Chairman*
Dorothy McS. Arnold
Frank W. Beneway
William D. P. Carey
Walker L. Cisler
John L. Collyer
Frank S. Columbus
William B. Cornell
Edward R. Corsi
Arthur H. Dean
Thomas E. Dewey
Mary H. Donlon
C. Chester DuMond
Victor Emanuel
Horace C. Flanigan
Edwin T. Gibson
Larry E. Gubb
Oswald D. Heck
Louis Hollander
Ruth F. Irish
Herbert Fisk Johnson
Harold Keller
Albert K. Mitchell
Frank C. Moore
Thomas A. Murray
Floyd R. Newman
Nicholas H. Noyes
John S. Parke
Thomas W. Pew
George R. Pfann
Joseph P. Ripley
Francis H. Sheetz
Jacob G. Schurman, Jr.
Harold M. Stanley
Harry G. Stutz
Myron C. Taylor
Reese H. Taylor
Walter C. Teagle
Robert E. Treman
Elbert P. Tuttle
Maxwell M. Upson
Preston A. Wade
J. Carlton Ward, Jr.
L. A. Wilson

Deane W. Malott, A.B., M.B.A., LL.D.
President of Cornell University

FACULTY REPRESENTATIVES

Herrell F. DeGraff
Joseph C. Hinsey
John W. MacDonald
Lloyd P. Smith

STATE UNIVERSITY OF NEW YORK BOARD OF TRUSTEES

Oliver C. Carmichael, *Chairman*
Mrs. Betty Hawley Donnelly
Charles Garside
Norman S. Goetz
Frederick F. Greenman
George Edmund Haynes
Earle J. Machold
Dwight Marvin
Frank C. Moore
Joseph J. Myler
Edward N. Scheiberling
Henry D. Sherwood
Mrs. Emily Smith Warner

William S. Carlson, A.B., M.S., Ph.D., LL.D.
President of the State University

COUNCIL FOR THE NEW YORK STATE COLLEGE OF AGRICULTURE AND THE AGRICULTURAL EXPERIMENT STATIONS

1952–53

Ex Officio Members

Deane W. Malott, President of the University, *Chairman.*
F. F. Hill, Provost.
John E. Burton, Vice President-Business.
William S. Carlson, President, State University of New York.
Lewis A. Wilson, Commissioner of Education.
Carroll V. Newsom, Associate Commissioner of Education.
C. Chester DuMond, Commissioner of Agriculture and Markets.
Harold M. Stanley, New York State Grange.
Frank W. Beneway, President, New York State Agricultural Society.
William A. Hagan, Dean, New York State Veterinary College.
Arthur J. Heinicke, Director, New York State Agricultural Experiment Station.
William I. Myers, Dean, New York State College of Agriculture.

Trustee Representatives

Albert K. Mitchell
George Pfann

Faculty Representatives

George C. Kent
Henry M. Munger

Conference Board Members

John V. B. Rice, New York State Poultry Council.
J. D. Ameele, Cooperative G.L.F. Exchange, Inc.
Mrs. Lowell Huntington, New York State Home Bureau Federation.
A. Morelle Cheney, Dairymen's League Cooperative Association.
James Roe Stevenson, New York State Horticulture Society.
Isaac de Hollander, New York State Vegetable Growers Association.
Marion Johnson, New York State Farm Bureau Federation.
Matthias Smith, New York State Grange.

Members-at-large

Thomas E. LaMont Robert Greig Halsey B. Knapp

Faculty

ADMINISTRATION

Deane W. Malott, A.B., M.B.A., LL.D., President of the University.
Forrest Frank Hill, Ph.D., Provost of the University and Professor of Land Economics.
William Irving Myers, Ph.D., Dean of the College of Agriculture and Professor of Farm Finance.
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.
John Parker Hertel, Ph.D., Professor in Personnel Administration and Secretary of the College.
Howard Styring Tyler, Ph.D., Professor in Personnel Administration in charge of vocational guidance and placement.
Leigh H. Harden, M.S., Associate Professor in Personnel Administration in charge of admissions.
Arthur Howard Peterson, M.A., Director of Finance, Assistant Treasurer of the University, and Professor in Business Administration.
Whiton Powell, Ph.D., Professor of Business Management and Librarian.
Vivien N. Warters, A.M.L.S., Associate Professor of Home Economics and Associate Librarian.

STAFF OF INSTRUCTION

John Stanley Ahmann, Ph.D., Assistant Professor of Rural Education.
Richard Connolly Andreasen, B.S., Assistant Professor of Floriculture.
Carl William Boothroyd, Ph.D., Assistant Professor of Plant Pathology.
Damon Boynton, Ph.D., Professor of Pomology.
Robert Webster Bratton, Ph.D., Associate Professor of Animal Husbandry.
Robert Brown, Ph.D., D.Sc., Visiting Professor of Botany.
Mrs. Elizabeth Loring Burckmyer, M.S., Assistant Professor of Drawing.
Harold Clough, Instructor in Agricultural Engineering.
John Farnsworth Cornman, Ph.D., Associate Professor of Ornamental Horticulture.
Lawrence Bryce Darrah, Ph.D., Professor of Marketing.
Elton James Dyce, Ph.D., Professor of Apiculture.
Louis James Edgerton, Ph.D., Associate Professor of Pomology.
Robert Hutchinson Foote, Ph.D., Assistant Professor of Animal Husbandry.
Edward Wilbur Foss, M.S.A., Professor of Agricultural Engineering.
Raymond Thomas Fox, M.S., Instructor in Floriculture.
Mrs. Vera Hakanson Fox, B.S., Instructor in Drawing.
Chester Higby Freeman, M.S.A., Associate Professor of Extension Teaching.

Harold Ellsworth Gray, Ph.D., Associate Professor of Agricultural Engineering.
Goldan Orlando Hall, Ph.D., Professor of Poultry Husbandry.
John Daniel Hartman, Ph.D., Professor of Vegetable Crops.
Herbert Bertsch Hartwig, Ph.D., Professor of Field Crops.
Glenn Wilbur Hedlund, Ph.D., Professor of Business Management.
Gustave Frederick Heuser, Ph.D., Professor of Poultry Husbandry.
Arthur Edward Hiltbold, M.S., Instructor in Agronomy.
Melvin Butler Hoffman, Ph.D., Professor of Pomology.
Burton Aaron Jennings, B.S., Professor of Agricultural Engineering.
Louis William Kaiser, B.F.A. in Radio, Associate Professor of Extension Teaching and Information.*
Steven Clarence King, M.S., Assistant Professor of Animal Genetics and Poultry Husbandry.
Robert Edwin Lee, Ph.D., Assistant Professor of Floriculture.
Gilbert Levine, Ph.D., Assistant Professor of Agricultural Engineering.
Francis Asbury Lueder, Jr., B.S., Instructor in Extension Teaching.
Laurence Howland MacDaniels, Ph.D., Professor of Horticulture.
Richard Pell March, M.S., Assistant Professor of Dairy Industry.
Russell Dickinson Martin, M.S., Assistant Professor of Extension Teaching.
John Ivan Miller, Ph.D., Professor of Animal Husbandry.
William Frederick Millier, Ph.D., Assistant Professor of Agricultural Engineering.
Arthur Leslie Neal, Ph.D., Associate Professor of Biochemistry.
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., Professor of Floriculture.
Alfred M. S. Pridham, Ph.D., Associate Professor of Ornamental Horticulture.
Marius Peter Rasmussen, Ph.D., Professor of Marketing.
Theodore Dwight Richards, Jr., M.S., Instructor in Extension Teaching and Information.
Daniel Altman Roberts, Ph.D., Assistant Professor of Plant Pathology.
Loris Henry Schultz, Ph.D., Associate Professor of Animal Husbandry.
Cecil D. Schutt, Instructor in Animal Husbandry.
Ben Edward Sheffy, Ph.D., Assistant Professor of Animal Husbandry.
Edwin Stanley Shepardson, M.S.A., Associate Professor of Agricultural Engineering.
Ora Smith, Ph.D., Professor of Vegetable Crops.*
Sedgwick Eugene Smith, Ph.D., Professor of Animal Husbandry.*
Robert Mumford Smock, Ph.D., Professor of Pomology.
William Enoch Snyder, Ph.D., Associate Professor of Ornamental Horticulture.
Robert Dean Sweet, Ph.D., Professor of Vegetable Crops.
George William Trimberger, Ph.D., Professor of Animal Husbandry.
Kenneth Leroy Turk, Ph.D., Professor of Animal Husbandry.
Richard Griswold Warner, Ph.D., Assistant Professor of Animal Husbandry.
Stanley Whitson Warren, Ph.D., Professor of Farm Management.
Thomas Cobb Watkins, Ph.D., Professor of Economic Entomology.
George Harvey Wellington, M.S., Associate Professor of Animal Husbandry.
John Peter Willman, Ph.D., Professor of Animal Husbandry.

*On leave fall term.

New York State College of Agriculture
Two-Year and One-Year Courses

THE NEW York State College of Agriculture, a unit of the State University of New York, is maintained by the State as one of four state colleges or schools within Cornell University. It is equipped with a staff and facilities to teach resident students, to make investigations in all phases of agriculture and the underlying sciences, and to disseminate 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 placed at the disposal of the College by Cornell University.

GENERAL INFORMATION

THE COURSES AVAILABLE

The information contained in this Announcement relates to the two-year courses and a one-year course in dairy manufacturing and marketing. The two-year courses 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 one-year course is chiefly for those who have had some experience in the dairy industry and want training for work in the manufacturing and marketing aspects of it. (This one-year curriculum will not be given in 1953–54 unless at least ten students have been accepted for it by June 1, 1953.) 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 and one-year courses, candidates must offer:

Sixteen units acceptable to Cornell University in subjects credited by the University of the State of New York toward a state diploma, or in

the case of applicants whose secondary-school training has been outside New York State, the equivalent by school certificates. It is recommended that at least 1 unit shall be in mathematics.

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

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 the Director of Admissions, Edmund Ezra Day Hall, Ithaca, New York, stating that they desire to enter one of the two-year courses or the one-year course in dairy manufacturing and marketing in the College of Agriculture. This should be done as early as possible, because it often takes considerable time to procure the necessary credentials.

CERTIFICATION ON COMPLETION OF COURSE

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

RELATION TO FOUR-YEAR COURSE

Except in respect to the items of administration and curriculum specifically covered in this Announcement, students in these courses 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 one of these curricula 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 record and on completion of the curriculum. The record must be considerably better than average. Students who transfer to the four-year course are given full credit toward the degree for work satisfactorily passed in the two-year or one-year course.

Two-year and one-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 and one-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 $150 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 students will be assessed a fee of $2. A financial reinstatement fee of $5 will be assessed 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 deposit of $30 must be made after the applicant has received notice of provisional acceptance. Of this deposit, $18 is used as a matriculation fee; $12 is used as a guaranty fund to be returned, less any indebtedness to the University, upon permanent withdrawal or graduation.

A deposit of $30 is required for a uniform, payable at registration in the first term, in the Basic Course in Military Science. Most of this deposit is returned as earned uniform allowance upon completion of the Basic Course.

A University and College Composite Fee of $62.50 is required of every student at the beginning of each term. This fee covers the following services:

Infirmary and Health Clinic. For a statement of the privileges given, see the *General Information* booklet.

Willard Straight Hall membership. Willard Straight Hall is the student union; each student shares in the common privileges afforded by the operation of Willard Straight Hall, subject to regulations approved by the Board of Managers of the Hall.

Laboratory services for courses taken in the state colleges.

University administration and endowed college laboratory services.

Physical recreation. Each male student is entitled to the use of the gymnasium and the University playgrounds, and to the use of a locker, bathing facilities, and towels, in the gymnasium, Barton Hall, or the Schoellkopf Memorial Building; and a women student to the use of the women's gymnasium, recreation rooms, and playgrounds, and to the use of a locker.

Student activities. This fee provides funds for worthy student organizations as approved by the Board of Trustees on recommendation of the Student Council.

Books, instruments, and *instructional supplies* may cost from $25 to $50 a term.

LIVING ACCOMMODATIONS

FOR MEN

Approximately 1,500 spaces are available in the men's Residential Halls. These rooms are in both temporary and permanent dormitories and accommodate one, two, or three persons. All rooms are completely furnished, including bedding and bed linen. The range of prices in the temporary units is from $182 to $240 a year; in the permanent units, from $248 to $355 a year. Application for assignment to space in the men's Residential Halls should be addressed to the Director of Residential Halls, Edmund Ezra Day Hall, Cornell University, Ithaca, New York.

No dining rooms are operated in the men's Residential Halls, but meals are obtainable at any of the cafeterias or dining rooms on the campus, or in the restaurants and cafeterias within the city. From $12 to $16 a week is the minimum allowance recommended for meals, and some students spend more than that.

Off-campus housing may be obtained in private homes and rooming houses. While most of these are on East Hill and adjacent to the campus, some are downtown. Prices of off-campus accommodations range, in general, from $6 to $8 weekly for single rooms, and from $10 to $14 weekly for double rooms. The number of privately owned homes that offer both room and board is few, and the majority of students utilize the same eating places as outlined for use of men living in Residential Halls.

The University anticipates the publication about August 1 of a list of off-campus residences that have been inspected and approved. Ap-

proval is based on good sanitary arrangements, adequate fire protection, and both satisfactory furniture and living conditions. If a student rents a room not on this list, he should make sure, through personal inspection, that these requirements are satisfactory.

Students planning to live off-campus are advised to come to Ithaca prior to registration to complete room arrangements. Students are usually requested to sign contracts for the full college year, and the details of such agreements should be clearly understood at the outset.

Inquiries on off-campus housing should be addressed to the Off-Campus Housing Office, Department of Residential Halls, Edmund Ezra Day Hall, Cornell University, Ithaca, New York.

THE CURRICULA

The two-year course has organized within it eight curricula giving preparation for the major types of farming in New York State and for certain allied business. A two-year student must select one of these curricula and follow closely the work outlined. The curriculum in dairy manufacturing and marketing is the only one that is organized on a one-year basis at present. 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.

All two-year men students must register for the Basic Course in Military Science. It is not required of the one-year students. Men and women are required to register for Physical Training. These courses are described in the *Announcement of the Independent Divisions and Departments.*

Requests for further information regarding these curricula should be addressed to L. H. Harden, in charge of admissions in the College of Agriculture, Roberts Hall, Ithaca, New York.

CURRICULUM IN DAIRY FARMING

FIRST YEAR

Fall term	*Hours credit*	*Spring term*	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3	Extension Teaching 1 (Oral and Written Expression)	3
Animal Husbandry 50 (Dairy Cattle)	4	Agronomy 2 (Introduction to Field Crops)	3
Agricultural Economics 2 (Agricultural Geography)	4	Agronomy 6 (Soils)	3
Biochemistry 2 (Introductory Agricultural Chemistry)	5	Military Science	
Military Science		Physical Training	
Physical Training		Agricultural Elective	6 or 7
		Suggested:	
		Agricultural Engineering 1	
		Agricultural Engineering 103	
		Vegetable Crops 1, 2	

SECOND YEAR

Animal Husbandry 10 (Livestock Feeding) 4
Animal Husbandry 20 (Animal Breeding) 3
Animal Husbandry 1 (Introductory Livestock Production) 3
Military Science .....
Physical Training.....
Agricultural Elective 6
Suggested:
Agricultural Economics 126
Agricultural Engineering 102
Botany 1
Poultry Husbandry 1

Agricultural Economics 102 (Farm Management) 5
Veterinary 61 (Health and Diseases of Animals) 3
Animal Husbandry 150 (Dairy Cattle, Advanced Course) 3
Military Science .....
Physical Training.....
Agricultural Elective .....5 or 6
Suggested:
Entomology 42

CURRICULUM IN GENERAL LIVESTOCK FARMING

FIRST YEAR

Fall term	*Hours credit*	*Spring term*	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3	Extension Teaching 1 (Oral and Written Expression)	3
Animal Husbandry 1 (Introductory Livestock Production)	3	Animal Husbandry 10 (Livestock Feeding)	4
Biochemistry 2 (Introductory Agricultural Chemistry)	5	Agronomy 6 (Soils)	3
Military Science		Military Science	
Physical Training		Physical Training	
Agricultural Elective	3–5	Agricultural Elective	6
Suggested:		Suggested:	
Agricultural Economics 2		Agricultural Engineering 103	
Agricultural Engineering 1, 40		Agronomy 2	
		Animal Husbandry 60, 70	

SECOND YEAR

Animal Husbandry 20 (Animal Breeding) 3
Animal Husbandry 80 (Sheep)..... 3
Poultry Husbandry 1 (Farm Poultry) 3
Military Science .....
Physical Training.....
Agricultural Elective 6
Suggested:
Agricultural Engineering 102
Pomology 1

Agricultural Economics 102 (Farm Management) 5
Veterinary 61 (Health and Diseases of Animals) 3
Animal Husbandry 90 (Meat and Meat Products) 3
Military Science .....
Physical Training.....
Agricultural Elective .....4 or 5
Suggested:
Animal Husbandry 50
Entomology 42, 61
Vegetable Crops 2

CURRICULUM IN POULTRY FARMING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Poultry Husbandry 1 (Farm Poultry)	3
Biochemistry 2 (Introductory Agricultural Chemistry)	5
Military Science	
Physical Training	
Agricultural Elective	4
Suggested:	
Agricultural Economics 2	
Agricultural Engineering 1, 40	
Animal Husbandry 1	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Poultry Husbandry 50 (Market Eggs and Poultry)	2
Agronomy 6 (Soils)	3
Agricultural Economics 140 (Marketing)	3
Military Science	
Physical Training	
Agricultural Elective	4
Suggested:	
Pomology 1	

SECOND YEAR

Poultry Husbandry 20 (Breeds, Breeding, and Judging)	3
Agricultural Economics 144 (Marketing Eggs and Poultry)	2
Poultry Husbandry 30 (Incubation and Brooding)	3
Bacteriology 3 (Agricultural)	3
Military Science	
Physical Training	
Agricultural Elective	7
Suggested:	
Agricultural Engineering 31	

Poultry Husbandry 110 (Poultry Nutrition)	3
Agricultural Economics 102 (Farm Management)	5
Poultry Husbandry 30 (Incubation and Brooding)	3
Military Science	
Physical Training	
Agricultural Elective	4

CURRICULUM IN FRUIT GROWING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Botany 1	3
Biochemistry 2 (Introductory Agricultural Chemistry)	5
Military Science	
Physical Training	
Agricultural Elective	3–6
Suggested:	
Agricultural Economics 2	
Animal Husbandry 1	
Poultry Husbandry 1	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Botany 1	3
Agronomy 6 (Soils)	3
Pomology 1 (General)	3
Military Science	
Physical Training	
Agricultural Elective	3

SECOND YEAR

Pomology 111 (Handling, Storage, and Utilization of Fruit)	3
Pomology 102 (Fruit Varieties)	3
Agricultural Economics 142 (Marketing Fruits and Vegetables)	4
Agricultural Engineering 1 (Farm Mechanics)	3
Military Science	
Physical Training	
Agricultural Elective	3
Agricultural Economics 102 (Farm Management)	5
Entomology 42 (Elementary Economic Entomology)	3
Plant Pathology 1 (Elementary)	3
Pomology 112 (Advanced Laboratory Course)	2
Military Science	
Physical Training	
Agricultural Elective	3

CURRICULUM IN VEGETABLE GROWING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Botany 1	3
Biochemistry 2 (Introductory Agricultural Chemistry)	5
Agricultural Economics 2 (Agricultural Geography)	4
Military Science	
Physical Training	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Vegetable Crops 1	4
Vegetable Crops 2 (Potato Production and Processing)	3
Agronomy 6 (Soils)	3
Military Science	
Physical Training	
Agricultural Elective	3
Suggested:	
Agricultural Engineering 103	
Botany 1	
Pomology 1	

SECOND YEAR

Vegetable Crops 12 (Post-Harvest Handling)	3
Military Science	
Physical Training	
Agricultural Elective	12
Suggested:	
Agricultural Economics 142	
Animal Husbandry 1, 50	
Bacteriology 3	
Floriculture 1	
Pomology 111	
Poultry Husbandry 1	
Agricultural Economics 102 (Farm Management)	5
Entomology 42 (Elementary Economic Entomology)	3
Plant Pathology 1 (Elementary)	3
Military Science	
Physical Training	
Agricultural Elective	3 or 4
Suggested:	
Agricultural Engineering 1, 42	
Animal Husbandry 10	

CURRICULUM IN GENERAL FARMING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Agricultural Economics 2 (Agricultural Geography)	4
Biochemistry 2 (Introductory Agricultural Chemistry)	5
Military Science	
Physical Training	
Agricultural Elective	3
Suggested:	
Animal Husbandry 1	
Poultry Husbandry 1	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Agricultural Engineering 1 (Farm Mechanics)	3
Agronomy 2 (Introduction to Field Crops)	3
Agronomy 6 (Soils)	3
Military Science	
Physical Training	
Agricultural Elective	3 or 4
Suggested:	
Pomology 1	
Vegetable Crops 1	

SECOND YEAR

Animal Husbandry 10 (Livestock Feeding)	4
Animal Husbandry 20 (Animal Breeding)	3
Animal Husbandry 50 (Dairy Cattle)	4
Military Science	
Physical Training	
Agricultural Elective	3–6
Suggested:	
Agricultural Economics 126	
Agricultural Engineering 102	
Botany 1	

Agricultural Economics 102 (Farm Management)	5
Military Science	
Physical Training	
Agricultural Elective	9–11
Suggested:	
Agricultural Engineering 42, 103	
Botany 1	
Entomology 42	
Vegetable Crops 2	

CURRICULUM IN COMMERCIAL FLORICULTURE

Students who take this curriculum are expected to enroll in the six-week Summer Session at Cornell University between the first and second years. Tuition is charged in the Summer Session.

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Biochemistry 2 (Introductory Agricultural Chemistry)	5
Botany 1	3
Floriculture and Ornamental Horticulture 1 (General)	3
Military Science	
Physical Training	
Agricultural Elective	0–3
Suggested:	
Agricultural Economics 2	
Agricultural Engineering 40	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Botany 1	3
Floriculture and Ornamental Horticulture 2 (Introduction to Landscape Design)	3
Floriculture and Ornamental Horticulture 5 (Flower Arrangement)	2
Agronomy 6 (Soils)	3
Military Science	
Physical Training	
Agricultural Elective	0–3
Suggested:	
Agricultural Engineering 21	

SUMMER SESSION

Floriculture and Ornamental Horticulture A12 (Herbaceous Plant Materials)	2
Botany A31 (Plant Physiology)	4

SECOND YEAR

Floriculture and Ornamental Horticulture 123 (Florist Crop Production)	4
Floriculture and Ornamental Horticulture 115 (Plant Propagation)	3
Military Science	
Physical Training	
Agricultural Elective	8 or 9

Floriculture and Ornamental Horticulture 124 (Commercial Greenhouse Production)	3
Floriculture and Ornamental Horticulture 125 (Flower-Store Management)	2
Entomology 42 (Elementary Economic Entomology)	3
Plant Pathology 1 (Elementary)	3
Military Science	
Physical Training	
Agricultural Elective	3

CURRICULUM IN NURSERY MANAGEMENT

Students who take this curriculum are expected to enroll in the six-week Summer Session at Cornell University between the first and second years. Tuition is charged in the Summer Session.

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Biochemistry 2 (Introductory Agricultural Chemistry)	5
Botany 1	3
Floriculture and Ornamental Horticulture 1 (General)	3
Military Science	
Physical Training	
Agricultural Elective	0–4
Suggested:	
Agricultural Economics 2	
Agricultural Engineering 42	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Agronomy 6 (Soils)	3
Botany 1	3
Floriculture and Ornamental Horticulture 2 (Introduction to Landscape Design)	3
Military Science	
Physical Training	
Agricultural Elective	2–5
Suggested:	
Floriculture and Ornamental Horticulture 114	
Pomology 1	

SUMMER SESSION

Floriculture and Ornamental Horticulture A12 (Herbaceous Plant Materials)	2
Botany A31 (Plant Physiology)	4

SECOND YEAR

Entomology 12 (General Entomology)	3
Floriculture and Ornamental Horticulture 115 (Plant Propagation)	3
Floriculture and Ornamental Horticulture 119 (Planting and Maintenance of Ornamental Plants)	3
Bacteriology 3 (Agricultural)	3
Agricultural Elective	3–4

Plant Pathology 1 (Elementary)	3
Floriculture and Ornamental Horticulture 13 (Woody-Plant Materials)	4
Floriculture and Ornamental Horticulture 117 (Commercial Nursery Management)	3
Rural Education 10 (Psychology)	3
Agricultural Elective	2–3
Suggested:	
Extension Teaching 120	

ONE-YEAR CURRICULUM IN DAIRY MANUFACTURING AND MARKETING*

Fall term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Bacteriology 3 (Agricultural)	3
Dairy Industry 30 (Dairy Plant Equipment)	3
Dairy Industry 31 (Elementary Dairy Industry)	4
Animal Husbandry 53 (Dairy Production)	2
Physical Training	

Spring term	*Hours credit*
Extension Teaching 1 (Oral and Written Expression)	3
Dairy Industry 32 (Processing of Milk and Milk Products)	5
Dairy Industry 33 (Dairy Mathematics)	2
Dairy Industry 34 (The Dairy Industry)	1
Agricultural Economics 43 (Milk Marketing and Business Management)	4
Physical Training	

*This curriculum will not be given in 1953–54 unless at least ten students have been accepted for it by June 1, 1953.

Description of Courses

THE COURSES described in the following pages are those required in one or more of the preceding curricula. They are 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.* The work given in several of the departments is not required in these 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 prerequisites will have been met if the courses are taken in the order in which they are listed. One should consult the four-year Announcement for course prerequisites before making any change in the order of schedule.

AGRICULTURAL ECONOMICS

2. *AGRICULTURAL GEOGRAPHY.* Fall term. Credit four hours. Lectures, M W F 9 or 11. Warren 45. Discussions, W Th or F 2–4 or W or Th 7–9 p.m. Warren 345. Professor ————.

Historical perspective on present-day agriculture; adjustment of agriculture to natural and to economic environment; crop and livestock production in New York State, the United States, and other countries; interregional trade in agricultural products.

*43. *MILK MARKETING AND BUSINESS MANAGEMENT.* Spring term. Credit four hours. For one-year students in dairy manufacturing and marketing. Lectures, M W F 9. Discussion, M 2–4. Warren 201. Professor ————.

This course gives instruction in the economic aspects of milk marketing and the management phases of a milk-distribution business. Subjects include: factors affecting supply of and demand for milk; pricing milk for different uses; types of marketing systems; ways to reduce marketing costs; labor relations; selling and advertising; state and federal regulations; business organization and financing; and accounting records for milk dealers.

102. *FARM MANAGEMENT.* Spring term. Credit five hours. Not open to first-year students. Lectures, M W F 10. Warren 45. Laboratory, T W Th or F 2-4. Warren 101. On days when farms are visited, the laboratory period is from 2-6. Professor WARREN.

A study of the organization and operation of the farm from the point of view of efficiency and continuous profit; farm records, farm business analysis, factors affecting profits, size of business, choice of enterprises, partnership arrangements, getting start-

*Course 43 will not be given unless at least ten students have been accepted for the one-year curriculum in dairy manufacturing and marketing by June 1, 1953.

ed in farming, planning the organization and management of specific farms. One all-day trip and five half-day trips are taken to visit farms in near-by regions.

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, analysis of costs and budgets.

126. *FARMERS' COOPERATIVES.* Fall term. Credit three hours. Lectures, M W 10. Warren 45. Discussion, W or Th 2-4. Warren 145. Professor HEDLUND.

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

140. *MARKETING.* Spring term. Credit three hours. Lectures, M F 11. Warren 45. Discussion, T W or Th 2-4. Warren 245. Professor DARRAH.

Characteristics of the demand for and supply of farm products; alternative marketing channels; and services and costs involved in marketing. Course includes one all-day and five half-day field trips to visit farms and marketing agencies.

142. *MARKETING FRUITS AND VEGETABLES.* Fall term. Credit three hours. Lectures, W F 9. Laboratory, W or F 2-4. Warren 245. 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 ratings; terminal problems; aspects of retailer- and consumer-demand.

144. *MARKETING EGGS AND POULTRY.* Fall term. Credit two hours. Lecture and discussion, T Th 11. Warren 245. Professor DARRAH.

A detailed study of the marketing of poultry and eggs. Specific topics to be emphasized include the demand for poultry and eggs, price relationships, markets, salesmanship, interregional competition, and efficiency in marketing.

AGRICULTURAL ENGINEERING

1. *FARM MECHANICS.* Fall or spring term. Credit three hours. Lectures: T Th 10, fall term, Stocking 218; spring term, Rice 300. Laboratory, M T W Th or F 2–4:30. Agricultural Engineering Laboratories. Professor JENNINGS 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. It covers such farm equipment as pumps, water systems, plumbing, hoists and elevators, farm wiring and motors, refrigeration, and air fans.

102. *FARM POWER.* Fall term. Credit three hours. Prerequisite, course 1. Lectures, T Th 11. Rice 300. One recitation period a week to be arranged. Laboratory, M T W or Th 2-4:30, Agricultural Engineering Laboratories. Associate Professor SHEPARDSON and Assistant Professor MILLIER.

A study of the principles of operation and adjustment of internal combustion engines and their farm applications. Principal emphasis on farm tractors, including care and operation, power transmission, power requirements, and economic factors.

103. *FIELD MACHINERY.* Spring term. Credit three hours. Prerequisite, course 1. Lectures, T Th 11. Stocking 218. One recitation period a week to be arranged. Laboratory, M T W or Th 2-4:30. Agricultural Engineering Laboratories. Associate Professor SHEPARDSON and Assistant Professor MILLIER.

A study of the use, care, operation, and adjustment of farm field machines. Machines in each of the major groups, tillage, seeding, harvesting, processing, spraying and dusting, fertilizing, and crop loading are included.

21. *SURVEYING.* Spring term. Credit three hours. Prerequisite, Trigonometry.

Lectures, M W 10. Stocking 120. Recitation, F 10. Laboratory, M T or W 2-4:30. Agricultural Engineering Research Laboratory, Tower Road, and field. Assistant Professor LEVINE.

A study of the use and care of levels, transits, and plane tables, with special emphasis on their application to farm problems.

31. *FARM STRUCTURES.* Fall term. Credit three hours. Prerequisite, Intermediate Algebra and Physics. Lectures, M W F 8. Stocking 218. Associate Professor GRAY and Assistant Professor LEVINE.

A course in the elementary problems in farm buildings; a study of basic structural requirements, insulation, ventilation, and functional requirements for farm animals.

40. *GENERAL FARM SHOP.* Fall or spring term. Credit two hours a term. Lecture, T 10. Laboratory, M T or Th 1–5. Agricultural Engineering Laboratories. Professor FOSS.

A course designed to acquaint the student with the common woodworking, tool fitting, cold and sheet metal working, forging, welding, ropework, and wood-finishing jobs commonly found on the farm. The correct use of hand tools on new construction and repair work is emphasized.

42. *WELDING.* Fall or spring term. Credit one hour. One laboratory period, M T or Th 8–10:30, or M or T 2–4:30; in spring term, given also at F 2–4:30. Limited to twenty students a section. Mr. CLOUGH.

A course giving fundamentals and practice of oxyacetylene welding and cutting of metals; spot welding and arc welding, with special emphasis on farm-shop construction and repair.

AGRONOMY

2. *INTRODUCTION TO FIELD CROPS.* Spring term. Credit three hours. Discussion periods, W F 10. Caldwell 100. Laboratory, M T W Th or F 2–4:30. Caldwell 250. Professor HARTWIG.

A study of the culture of the common field crops that are produced in the Northeastern States, with emphasis on the practical aspects. Rotations with their seed and fertilizer requirements are worked out for three or four type-farms where the objective is to produce feed and food.

6. *SOILS.* Spring term. Credit three hours. Lectures, T Th 9. Caldwell 100. Laboratory, M T W Th or F 2–4:30. Caldwell 201. Mr. HILTBOLD.

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

ANIMAL HUSBANDRY

1. *INTRODUCTORY LIVESTOCK PRODUCTION.* Fall term. Credit three hours. Lectures, W F 8 or 10. Wing A. Laboratory, T Th or F 2–4:30, W 11–1. Judging Pavilion. Assistant Professor SHEFFY and assistants.

A survey course that gives the student a concept of the scope of the animal industry, an insight into the opportunities it offers, and a perception of its fundamental problems. It includes the fundamentals of successful livestock production that form a foundation on which to build specialized knowledge and skill in succeeding courses. It should serve equally well for students majoring in other fields, who will take but one course in Animal Husbandry. Animals specifically covered are beef cattle, sheep, swine, and horses. Two scheduled evening prelims are given.

10. *LIVESTOCK FEEDING.* Fall or spring term. Credit four hours. Lectures: fall

term, M W F 11; spring term, M W F 9. Wing A. Laboratory: fall term, Th or F 2–4:20, Wing A; spring term, M W Th or F 2–4:20. Wing C. Professor S. E. SMITH, Assistant Professor WARNER, 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, and laboratory, M T W Th or F 2–4:20. Wing C. Associate Professor R. W. BRATTON, Assistant Professor FOOTE, and assistants.

A study of anatomy and physiology of reproduction and the improvement of farm animals through the application of genetics.

HEALTH AND DISEASES OF ANIMALS. (Veterinary 61). Spring term. Credit three hours. Lectures, M W F 11. Veterinary College. Professor GILMAN.

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 infectious and epizootic diseases. Such information as is practicable is given for the treatment of slight injuries and for first aid in emergencies.

50. *DAIRY CATTLE.* Fall or spring term. Credit four hours. Lectures: fall term, T Th S 8; spring term, T Th S 10. Wing A. Laboratory: fall term, M 2–4:20; spring term, M or Th 2–4:20. Wing A and Judging Pavilion. Professor TURK, Associate Professor SCHULTZ, and assistants.

This course deals with some of the economic aspects of the dairy industry; factors in breeding and development of dairy cattle; milking methods and milk-production problems; efficient feeding; and care, management, and health of the dairy herd. Practice in selection, herd management, formulating rations, planning breeding programs, and keeping records.

*53. *DAIRY PRODUCTION.* Fall term. Credit two hours. Enrollment limited to one-year students in dairy industry. M W 1. Wing B. ————.

A lecture-demonstration and discussion course on classes, housing, feeds and feeding, and management of dairy cattle.

150. *ADVANCED DAIRY PRODUCTION.* Spring term. Credit three hours. Lectures, T Th 11. Lecture and discussion, T 2–4:20. Wing A. Professor TRIMBERGER.

Analysis of breeding and management programs in successful herds. Evaluation of the programs of dairy-cattle breed associations. Emphasis is placed on the application of the principles of dairy breeding, feeding, and management to the development and operation of a successful dairy farm.

60. *BEEF CATTLE.* Spring term. Credit three hours. Lectures, W F 10. Wing B. Laboratory, F 2–4:20. Judging Pavilion and Beef Cattle barn. Profesor J. I. MILLER.

A general course in beef-cattle production. The management, feeding, breeding, selection, and marketing problems involved in the beef-cattle enterprise are emphasized. A one-day field trip is taken to study successful beef-production methods.

70. *SWINE.* Spring term. Credit three hours. Lectures, W F 11. Wing B. Practice, T 2–4:20. Judging Pavilion and Swine Barn. Professor J. P. WILLMAN.

A general course in the care, feeding, breeding, and management of swine. Lectures, recitations, and discussions; studies in swine selection; field trips and practical exercises in the handling and care of swine. A one-day field trip is taken.

*Course 53 will not be given unless at least ten students have been accepted for the one-year curriculum in dairy manufacturing and marketing by June 1, 1953.

80. *SHEEP.* Fall term. Credit three hours. Lectures, T Th 10. Wing B. Practice, M 2–4:20. 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. A one-day field trip is taken.

90. *MEAT AND MEAT PRODUCTS.* Fall and spring terms. Credit three hours. Lecture, M 8. Wing B. Two laboratory periods a week, one slaughter section, and one cutting section. Slaughter section, T or W 10–12, W 2–4:20, or Th 2–4:20. Cutting section, M or T 1–3, or M 3–5. Registration limited to sixteen students in each cutting section and to twelve students in each slaughter section. Professor J. I. MILLER, Associate Professor WELLINGTON, and Mr. SCHUTT.

A course in slaughtering of meat animals; cutting of carcasses into retail cuts; identification and grading of carcasses; and the preservation of meats.

BACTERIOLOGY

3. *AGRICULTURAL BACTERIOLOGY.* Fall term. Credit three hours. Lectures, M W F 9. Stocking 218. Professor NAYLOR.

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

BIOCHEMISTRY

2. *INTRODUCTORY AGRICULTURAL CHEMISTRY.* Fall term. Credit five hours. Lectures and recitations, M W F 9, Plant Science 233; T Th 9, Caldwell 100. Associate Professor NEAL and assistants.

Lectures, demonstrations and recitations, dealing with the fundamental principles of chemistry and their application to agricultural practices. This course is not accepted as a prerequisite for further courses in Chemistry or Biochemistry.

BOTANY

1. *GENERAL BOTANY.* Fall and spring terms. Credit three hours a term. Lectures, T Th 9 or 11. Plant Science 233. One laboratory a week, M T W Th F 2–4:30; T 10–12:30, F or S 8–10:30, or S 9–11:30. 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 or W F 2–4:30, or M 2–4:30 and S 8–10:30. Plant Science 227. Visiting Professor BROWN.

This course is designed to acquaint the students with the general principles of plant physiology. Topics such as water relations, photosynthesis, translocations, 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

*30. *DAIRY PLANT EQUIPMENT.* Fall term. Credit three hours. For one-year students in dairy industry. Lectures, T 9, W 2. Stocking 120. Laboratory, T 10–12, W 3–5. Assistant Professor MARCH.

A study of dairy-plant equipment and the fundamentals of heat, power, and refrigeration as applied to this equipment.

*31. *ELEMENTARY DAIRY INDUSTRY.* Fall term. Credit four hours. For one-year students in dairy industry. Lectures, M W F 10. Stocking 119. Laboratory, Th 8–11. Stocking 209. Assistant Professor MARCH.

The composition and analysis of milk and milk products.

*32. *PROCESSING OF MILK AND MILK PRODUCTS.* Spring term. Credit five hours. For one-year students in dairy industry. Lectures, T Th 8. Stocking 119. Laboratory, T Th 9–1. Assistant Professor MARCH.

The processing and sanitary control of fluid milk, and the manufacture of milk products.

*33. *DAIRY MATHEMATICS.* Spring term. Credit two hours. For one-year students in dairy industry. Lectures, M W 11. Stocking 119. Assistant Professor MARCH.

Elementary mathematics as applied in the manufacture of dairy products.

*34. *THE DAIRY INDUSTRY.* Spring term. Credit one hour. For freshmen and one-year students in dairy industry. Lecture, M 1. Stocking 120. Assistant Professor MARCH and guest speakers.

DRAWING

10. *DRAWING FOR LANDSCAPE STUDENTS.* Throughout the year. Credit two hours a term. First term: W F 1:40–4:30; second term, M F 11–1 and S 9–11. Mann 500. Assistant Professor BURCKMYER.

A course planned to develop (1) practical ability in the sketching of outdoor plantings and landscaping; (2) facility in lettering, in isometric and perspective drawing, and in methods of rendering landscape plans.

ENTOMOLOGY

12. *GENERAL ENTOMOLOGY.* Fall term. Credit three hours. Lectures, W F 11. Comstock 245. Laboratory, W Th or F 2–4:30 or S 10:30–1. Comstock 300. Professor ———— and assistants.

A survey of the structure, biology, and classification of insects, with laboratory exercises on, and demonstrations of, their anatomy and biology, and practice in the identification of representative forms.

42. *ELEMENTARY ECONOMIC ENTOMOLOGY.* Spring term. Credit three hours. Lectures, T Th 9. Comstock 245. Laboratory, M T W Th or F 2–4:30. Comstock 100. Professor WATKINS and assistants.

Lectures, on the economic importance of insects, position of insects in the animal kingdom, orders of major importance, principles of insect control, life histories and habits of selected insects attacking plant and animal crops in New York. Laboratory exercises on life histories, recognition, and control of the commoner insects of New York.

*Courses 30, 31, 32, 33, and 34 will not be given unless at least ten students have been accepted for the one-year curriculum in dairy manufacturing and marketing by June 1, 1953.

61. *INTRODUCTORY BEEKEEPING.* Spring term. Credit two hours. Lectures, T Th 11. Comstock 245. Professor DYCE.

This course is intended to afford a general knowledge of the fundamentals of beekeeping, including the life history, instincts, and general behavior of honeybees. Special attention is given to the role of bees in the cross-pollination of agricultural crops, as well as production of honey and beeswax.

EXTENSION TEACHING

1. *ORAL AND WRITTEN EXPRESSION.* Throughout the year. Credit three hours a term. Lectures and practice: fall term, M W F 8 or 11 or T Th S 10; spring term, M W F 8, 9, or 11. Warren 131. Criticism by appointment, daily 8–5, and S 8–1. Associate Professor FREEMAN, Assistant Professor MARTIN, and Messrs. LUEDER and ————.

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.

120. *RADIO BROADCASTING.* Spring term. Credit three hours. M W F 9. Warren 145. Associate Professor KAISER, Mr. RICHARDS, and Mrs. GABRIEL.

An introductory course to familiarize students, particularly those in agriculture and home economics, with the best methods of presenting ideas by radio and with radio-studio procedure. Practice includes auditions and criticisms for all members of the class in preparing and presenting radio talks; continuity writing and program arrangements.

FLORICULTURE AND ORNAMENTAL HORTICULTURE

1. *GENERAL FLORICULTURE AND ORNAMENTAL HORTICULTURE.* Fall term. Credit three hours. Lectures, M W 10. Plant Science 37. Laboratory, T W or Th 2–4. Plant Science 15. Professor MACDANIELS and Mr. ————.

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 233. Associate Professor PORTER.

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

5. *FLOWER ARRANGEMENT.* Fall or spring term. Credit two hours. Fall term: lecture, M 10, Plant Science 141; laboratory, M 2–4:30, T or W 10–12:30, Plant Science 22. Mrs. Fox. Spring term: lecture, T 10, Plant Science 37; laboratory, T or W 2–4:30, or Th 10–12:30. Plant Science 22. Mr. Fox.

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

12. *HERBACEOUS PLANT MATERIALS.* Spring term. Credit three hours. Lectures. T Th 8. Plant Science 37. Laboratory, W 10–12:30 or 2–4:30. Plant Science 15. Assistant Professor LEE.

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.

13. *WOODY-PLANT MATERIALS.* Spring term. Credit four hours. Lectures, T Th 9. Plant Science 37. Laboratory and field trips, M and W or F 2–4:30. Plant Science 29. Associate Professor CORNMAN.

A study of the trees, shrubs, and vines used in landscape planting. Emphasis is placed on their chacateristics and values for use as landscape material. The class visits Rochester parks and gardens.

114. *TURF.* Spring term. Credit two hours. Given in alternate years. Lecture, W 11. Plant Science 143. Laboratory, Th 2–4:30. Plant Science 29. Associate Professor CORNMAN.

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 8. Plant Science 37. Laboratory, Th 2–4:30. Greenhouses and nurseries. Associate Professor SNYDER.

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

117. *COMMERCIAL NURSERY MANAGEMENT.* Spring term. Credit three hours. Lectures, T F 11. Plant Science 37. Laboratory, T 2–4:30. Greenhouses and nurseries. Associate Professor PRIDHAM.

A course supplementary to 115 dealing with the problems of the commercial propagation and growing of nursery plants. Pruning, digging, storage, and packaging of nursery stock are considered. Trips are made to near-by commercial nurseries.

119. *PLANTING AND MAINTENANCE OF ORNAMENTAL PLANTS.* Fall term. Credit three hours. Lectures, T W 11. Plant Science 37. Laboratory, W 2–4:30. Greenhouses, nurseries, and Cornell Plantations. Associate Professor PRIDHAM.

A study of the principles and practices employed in the maintenance of ornamental plants, including soil relationships, planting, watering, cultivation, pruning, and winter protection of landscape plant materials in garden and park planting. Both woody and herbaceous materials are considered. Field problems and observational trips are conducted.

123. *FLORIST-CROP PRODUCTION.* Fall term. Credit four hours. Lectures and recitations, M W F 9. Plant Science 37. Laboratory, M 2–4:30, Greenhouses. Professor POST.

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

124. *COMMERCIAL GREENHOUSE PRODUCTION.* Spring term. Credit three hours. Lectures, M W 9. Plant Science 37. Laboratory, W 2–4:30. Greenhouses. Assistant Professor ANDREASEN.

A course supplementary to course 123 dealing with the commercial production of florist crops; emphasis is upon the practical problems concerned. A trip is made to near-by commercial greenhouses.

125. *FLOWER-STORE MANAGEMENT.* Spring term. Credit two hours. Prerequisite, permission to register. Lecture, W 11. Plant Science 37. Laboratory, M 2–4:30. Plant Science 22. Mrs. FOX.

Lectures devoted to flower-shop management, business methods, merchandising, and marketing of floricultural commodities. Laboratories to include the application of subject matter and the principles of commercial floral arrangement and design.

A trip made to New York City includes the flower shops, retail florist establishments, and the New York Flower Market.

32. *ELEMENTARY DESIGN AND PLANTING OF SMALL PROPERTIES.* Fall term. Credit three hours. Lecture, F 12. Laboratory, M W 2–4:30. Plant Science 433. Associate Professor PORTER.

The application of the principles of design to the specific problems of the small residence property as related to both planning and planting.

PLANT PATHOLOGY

1. *ELEMENTARY PLANT PATHOLOGY.* Fall or spring term. Credit three hours. Lecture, Th 11, Plant Science 141. Practice and onferences, T Th, T F, W Th, or W F 2–4:30. Plant Science 341, 343, and 362. Assistant Professors BOOTHROYD and ROBERTS.

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

POMOLOGY

1. *GENERAL POMOLOGY.* Fall or spring term. Credit three hours. Lectures, T Th 8. Plant Science 233. Laboratory: fall term, T or W 2–4:30; spring term, M T W or Th 2–4:30. Plant Science 107. Spring term: Professor SMOCK; fall term: Associate Professor EDGERTON.

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.

102. *FRUIT VARIETIES.* Fall term. Credit three hours. Lectures, T Th 12. Laboratory, S 8–10:30. Plant Science 114. Professor BOYNTON, Associate Professor SLATE, and Assistant Professor LAMB.

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, and special cultural requirements. The development of new varieties by breeding and the methods of testing and evaluating them are discussed. At least one field trip is given.

111. *HANDLING, STORAGE, AND UTILIZATION OF FRUIT.* Fall term. Credit three hours. Lectures, T Th 8. Plant Science 143. Laboratory, Th or F 2–4:30. Plant Science 107. Professor SMOCK and Mr. ————.

Emphasis is placed on the practices and problems of handling apples, but the work covers also such fruits as peaches, pears, and grapes insofar as these are available. The important factors in handling fruit that affect quality and marketability, including the chemistry and physiology of fruits before and after harvest, are studied. 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 controlled atmospheric storage, and to the utilization of fruits in the dried, canned, frozen, or juice forms. One Saturday and one ofternoon field trip are required.

112. *ADVANCED LABORATORY COURSE.* Spring term. Credit two hours. S 8–1. Plant Science 107. Professors HOFFMAN and BOYNTON and Associate Professor EDGERTON.

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, grafting, orchard-soil selection and management, pollination, and spray practice. Several field trips extending into the afternoon are made.

POULTRY HUSBANDRY

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

A general course 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. Rice 100. Laboratory, Th or F 2–4. Rice 101. 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, T Th 10. Rice 101. Laboratory, T or W 2–4. Judging Laboratory. Professor HALL.

Selecting and judging birds for production and breed characters; origin, history, and classification of breeds; introduction to breeding.

30. *INCUBATION AND BROODING.* Spring term. Credit three hours. Lectures, T Th 10. Laboratory, M or T 2–4. Rice 201. Assistant Professor KING.

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

50. *MARKET EGGS AND POULTRY.* Spring term. Credit two hours. Lecture, T 11. Laboratory, T W or Th 2–4. Rice 101. 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.

RURAL EDUCATION

10. *PSYCHOLOGY.* Fall or spring term. Credit three hours. M W 10 and one hour to be arranged. Plant Science 233. Assistant Professor AHMANN.

Designed for students who are not preparing to teach. Should not be taken by students planning to take course 111. Consideration of the outstanding psychological concepts that bear upon personal problems and upon business and social relationships.

VEGETABLE CROPS

1. *VEGETABLE CROPS.* Spring term. Credit four hours. Lectures, M W F 11. Plant Science 233. Laboratory, M T W or F 2–4:30. Vegetable greenhouses and East Ithaca gardens. Professor SWEET.

Intended for the student who wishes to specialize in commercial vegetable growing, whether the vegetables are for the fresh market or for processing. A study of the general principles of vegetable growing. Consideration is also given to the economic importance, cultural requirements, marketing, and storage of important vegetables.

2. *POTATO PRODUCTION AND PROCESSING.* Spring term. Credit three hours. Lectures, T Th 10. East Roberts 222. Laboratory, T or W 2–4:30. East Roberts 223. Professor ORA SMITH.

General principles and practical phases of potato production, storage, and processing are discussed. Growth processes and soil environmental factors are emphasized as influencing production. Topics such as storage methods, grading, packaging, cooking quality, nutritive value, processing, and industrial uses of potatoes also are studied. Two field trips are taken to potato farms and processing plants.

12. *POST-HARVEST HANDLING OF VEGETABLE CROPS.* Fall term. Credit three hours. Lectures, T Th 11. East Roberts 222. Laboratory, T or W 2–4:30. East Roberts 223. Professor HARTMAN.

Horticultural aspects of marketing vegetables; vocational opportunities in the field; methods of estimating and measuring quality and grade; research results and practices in packing, storing, transporting, and selling. One two-day and three afternoon trips are required. Estimated partial cost of transportation to be collected from the student, $2.