CORNELL UNIVERSITY ANNOUNCEMENTS

JUNE 8, 1965

TWO-YEAR COURSE IN AGRICULTURE 1965—1966

NEW YORK STATE COLLEGE OF AGRICULTURE
A CONTRACT COLLEGE OF THE STATE UNIVERSITY
CORNELL UNIVERSITY, ITHACA, NEW YORK

ACADEMIC CALENDAR

	1965–1966	1966–1967
Freshman Orientation	S, Sept. 18	S, Sept. 17
Registration, new students	M, Sept. 20	M, Sept. 19
Registration, old students	T, Sept. 21	T, Sept. 20
Instruction begins, 1 p.m.	W, Sept. 22	W, Sept. 21
Midterm grades due	W, Nov. 10	W, Nov. 9
Thanksgiving recess		
Instruction suspended, 12:50 p.m.	W, Nov. 24	W, Nov. 23
Instruction resumed, 8 a.m.	M, Nov. 29	M, Nov. 28
Christmas recess		
Instruction suspended, 10 p.m. (12:50 p.m. in 1965)	S, Dec. 18	W, Dec. 21
Instruction resumed, 8 a.m.	M, Jan. 3	Th, Jan. 5
First-term instruction ends	S, Jan. 22	S, Jan. 21
Registration, old students	M, Jan. 24	M, Jan. 23
Examinations begin	T, Jan. 25	T, Jan. 24
Examinations end	W, Feb. 2	W, Feb. 1
Midyear recess	Th, Feb. 3	Th, Feb. 2
Midyear recess	F, Feb. 4	F, Feb. 3
Registration, new students	S, Feb. 5	S, Feb. 4
Second-term instruction begins, 8 a.m.	M, Feb. 7	M, Feb. 6
Midterm grades due	S, Mar. 26	S, Mar. 25
Spring recess		
Instruction suspended, 12:50 p.m.	S, Mar. 26	S, Mar. 25
Instruction resumed, 8 a.m.	M, Apr. 4	M, Apr. 3
Second-term instruction ends, 12:50 p.m.	S, May 28	S, May 27
Final examinations begin	M, May 30	M, May 29
Final examinations end	T, June 7	T, June 6
Commencement Day	M, June 13	M, June 12

The dates shown in the Academic Calendar are tentative.

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NEW YORK STATE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY

TWO-YEAR COURSE

1965-1966

New York State College of Agriculture
A Contract College of the State University
Cornell University, Ithaca, New York

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THE NEW YORK STATE COLLEGE OF AGRICULTURE—TWO-YEAR COURSE

THE New York State College of Agriculture, a contract college 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 toward these ends is supplemented by substantial appropriations from the federal government, and by land and other 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 course. This course is designed for young men who expect to go into farming or into business closely allied thereto, who desire agricultural training of college grade, and whose current needs are best met though a two-year curriculum. 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 course, 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, but not required, that three or more units be in mathematics.

The Scholastic Aptitude Test of the College Entrance Examination Board. The scores submitted must be for a test taken within one year prior to the date of anticipated matriculation. (While not required for admissions consideration, the Writing Sample administered by the College Board is required of students who are accepted and decide to enter the College of Agriculture. Many candidates will probably wish to meet this requirement on the same College Board testing date selected for taking the Scholastic Aptitude Test.)

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

Certifications regarding personal health which meet the health requirements adopted by the Board of Trustees of Cornell University. Details of the health requirements and the health services may be found in the *Announcement of General Information,* obtainable by writing to the Announcements Office, Day Hall.

THE APPLICATION FOR ADMISSION

Candidates for admission should address the Director of Admissions, Day Hall, Ithaca, New York, stating that they desire to enter the two-year course in the College of Agriculture. This should be done as early as possible in the senior year of secondary school, because it often takes considerable time to assemble the necessary credentials. Applicants are not required to come to the College for interviews, but those who wish to do so should write two or three weeks in advance for appointments. Conference hours are 10 a.m. until 12 noon during the week and 9 a.m. until 12 noon on Saturdays during the school year. The College office is closed on Saturdays during June, July, and August.

CERTIFICATION ON COMPLETION OF COURSE

Students who satisfactorily complete the work of an approved two-year course with credit for at least sixty semester hours 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 this 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 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 courses 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 $200 per term for students in the New York State College of Agriculture, who at the time of their matriculation are, and for at least twelve months prior thereto have been, bona-fide residents of the State of New York. Since physical presence in the State, especially for persons under age, does not necessarily constitute legal residence, applicants who are at all doubtful of their right to qualify as New York State residents should address inquiries in advance to the Director of Resident Instruction in the College of Agriculture. Students transferring from the College of Agriculture to other colleges in the University must first make payment for the difference in tuition for the credit transferred.

Students in the College of Agriculture who do not qualify as New York State residents are required to pay tuition of $300 a term. Tuition and other fees become due when the student registers. The University allows a ten-day period of grace after the last registration day of each term of the regular session. The last day of grace is printed on the bill for tuition and fees which the student is required to present at the Treasurer's office. Any student, graduate or undergraduate, who fails to pay his tuition, fees, and other indebtedness within the time prescribed is 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 $5. A reinstatement fee of $10 is assessed to any student who is permitted to continue in 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 latter assessment may be waived in any individual case. If the student withdraws, University fees are charged on the basis of 10 per cent for each week or fraction thereof in attendance.

The amount, time, and manner of payment of tuition, fees, or other charges may be changed by the Board of Trustees at any time without notice.

FEES AND INSTRUCTIONAL EXPENSES

A DEPOSIT OF $45 must be made after the applicant has received notice of provisional acceptance. At the time of the first registration in the University, the deposit is used to cover matriculation charges. It also provides for certain graduation expenses, and establishes a fund for undergraduate and alumni class activities. The deposit is not refundable and none of it applies toward tuition or fees.

A DEPOSIT OF $30 is required for a uniform, payable at registration in the first term, for students who enroll in the basic course in military science. Most of this deposit is returned as earned uniform allowance upon completion of the basic course.

A GENERAL FEE OF $50 for New York State residents, and $150 for nonresidents, is required at the beginning of each term. This fee and the tuition cover the following services: (1) *Health services and medical care.* These services are centered in the University Clinic or out-patient department and in the Sage Hospital. For details regarding services that are provided, including charges for special services, see the *Announcement of General Information.* (2) *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. (3) *Laboratory services* for courses taken in the state colleges. (4) *University administration and endowed college laboratory services.* (5) *Physical recreation.* Each male student is entitled to the use of the gymnasium and the University playgrounds, and to the use of a locker, showers, and towels in Teagle Hall, Barton Hall, or the Schoellkopf Memorial Building; and each woman student to the use of the facilities in Helen Newman Hall, the women's physical education and sports building. (6) *Student activities.* The fee helps to provide funds for worthy student organizations as approved by the Board of Trustees on recommendation of the Executive Board of the Cornell Student Government.

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

MISCELLANEOUS RULES AND ASSESSMENTS

Every student is held personally responsible for any injury done by him to any of the University's property.

Assessments, charged to the student's account and payable at the Treasurer's office, are levied upon the student in certain circumstances, under the following rules of the University: (1) A matriculated student desiring to register after the close of registration day must first pay a fee of $10; (2) a student desiring to take an examination or other test for the completion of a course in which the grade "absent" or "incomplete" was reported must first pay a fee of $2 for each examination or other test.

For reasons satisfactory to the proper authority, any of the abovementioned assessments may be waived in any individual case if the student's failure to comply with the regulation was due to ill health or to any other reason beyond his control. Application for such a waiver should be made to the Secretary of the College.

STUDENT HOUSING AND DINING

UNDERGRADUATE STUDENTS

MEN . . . Cornell University provides, on the campus, dormitory facilities for about 2100 men. Complete cafeteria and dining service is provided in Willard Straight Hall, Noyes Lodge, Baker Cafeteria, Martha Van Rensselaer Cafeteria, and Stocking Hall (Dairy Bar) Cafeteria. Male students are not required to live in dormitories and are individually responsible for making their own living and dining arrangements. As a matter of convenience for those who wish to live in dormitories, application forms will be mailed to each male candidate for admission as a freshman or a transfer student at the time of notification of provisional acceptance to the University.

Housing in dormitories can be guaranteed for all undergraduate men who have been admitted to the University and have filed dormitory applications by May 15.

Off-campus housing may be obtained in private homes and rooming houses. The University, as a service to students, maintains a listing of available rooms, and apartments. Inquiries should be addressed to the Off-Campus Housing Office, Day Hall.

WOMEN . . . The University provides dormitories for the housing of undergraduate and graduate women. These residence units are supplemented by sorority and cooperative houses close to the dormitories. With few exceptions all undergraduate women students are required, under University policy, to live and take their meals in a University residential unit or in a sorority house (for members only). Permission to live elsewhere in Ithaca is granted only under exceptional circumstances upon written application to the Office of the Dean of Students, Day Hall.

An application form for living accommodations for undergraduate women will be sent with the notice of provisional acceptance from the Office of Admissions to each candidate.

Graduate women should make application for University dormitory housing directly to the Department of Housing and Dining Services.

MARRIED STUDENTS

The University, through the Department of Housing and Dining Services, maintains apartment accommodations for some of its married students and their families. These are Cornell Quarters, Pleasant Grove Apartments, and Hasbrouck Apartments, with total housing for about 400 families. All apartments are unfurnished. For further information and application, write the Department of Housing and Dining Services, Day Hall.

The Department of Housing and Dining Services also maintains a list of available rental housing in the Ithaca area. Information on housing currently available can be obtained only at the Off-Campus Housing Office in Day Hall. Lists cannot be sent out as changes occur daily.

THE CURRICULA

The two-year course has organized within it seven 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. 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 students must register for physical education. Material describing courses in this field will be made available to entering students by the Department of Physical Education.

Requests for further information regarding the seven curricula, described in the pages following, should be addressed to Professor 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*
Extension Teaching 100 (Oral and Written Expression)	3
Animal Husbandry 100 (Introductory Animal Science)	3
Biochemistry 100 (Introductory Agricultural Chemistry)	5
Education 7 (Reading Improvement Program)	
Physical Education	
Agricultural Elective	3 to 4
Suggested:	
Agricultural Economics 150	
*Agricultural Engineering 104	
Poultry Husbandry 100	

Spring term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Agronomy 111 (Production of Field Crops)	4
Physical Education	
Agricultural Elective	8 to 9
Suggested:	
Agricultural Economics 240, 326	
Agricultural Engineering 204, 205, 312	
Animal Husbandry 260, 270, 290	
Orientation 5	
Vegetable Crops 103	

SECOND YEAR

Agronomy 200 (Nature and Properties of Soils)	4
Animal Husbandry 112 (Livestock Feeding)	4
Animal Husbandry 220 (Animal Breeding)	3
Physical Education	
Agricultural Elective	4 to 6
Suggested:	
Agricultural Economics 240	
Agricultural Engineering 311	
Animal Husbandry 241, 280	
Botany 101	
Poultry Husbandry 100	
Pomology 101	
Rural Sociology 100	

Animal Husbandry 251 (Dairy-Cattle Selection and Type Evaluation)	3
Agricultural Economics 302 (Farm Management)	5
Veterinary 261 (Health and Diseases of Animals)	3
Animal Husbandry 350 (Dairy Cattle Production and Management)	3
Physical Education	
Agricultural Elective	3
Suggested:	
Agricultural Engineering 205	
Animal Husbandry 260, 280, 290	
Botany 102	
Entomology 210	
Poultry Husbandry 310	
Rural Sociology 100	

* Agricultural Engineering 104 is required for other agricultural engineering courses.

CURRICULUM IN GENERAL LIVESTOCK FARMING

FIRST YEAR

Fall term	*Hours credit*	*Spring term*	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3	Extension Teaching 100 (Oral and Written Expression)	3
Animal Husbandry 100 (Introductory Animal Science)	3	Animal Husbandry 112 (Livestock Feeding)	4
Biochemistry 100 (Introductory Agricultural Chemistry)	5	Agronomy 111 (Production of Field Crops)	4
Education 7 (Reading Improvement Program)		Physical Education	
Physical Education		*Agricultural Electives	3 to 5
Agricultural Elective	3 to 4	Suggested:	
Suggested:		Animal Husbandry 260, 270, 290	
Agricultural Economics 150			
†Agricultural Engineering 104			

SECOND YEAR

Biology 101 (General Biology)	3	Biology 102 (General Biology)	3
Animal Husbandry 220 (Animal Breeding)	3	Veterinary 261 (Health and Diseases of Animals)	3
Agronomy 200 (Nature and Properties of Soils)	4	Agricultural Economics 302 (Farm Management)	5
Physical Education		Physical Education	
*Agricultural Elective	4 to 7	*Agricultural Elective	4 to 6
Suggested:		Suggested:	
Agricultural Economics 240		Agricultural Engineering 311	
Animal Husbandry 241, 280, 290		Agronomy 312	
		Animal Husbandry 251, 350	
Entomology 210		Entomology 210	
		Vegetable Crops 103	

* At least 3 additional animal husbandry courses are to be included in the electives. These will depend upon the interest of the individual student.

† Agricultural Engineering 104 is required for other agricultural engineering courses.

CURRICULUM IN POULTRY FARMING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Biochemistry 100 (Introductory Agricultural Chemistry)	5
Poultry Husbandry 100 (Farm Poultry)	3
Poultry Husbandry 121 (Biology of the Fowl)	3
Animal Husbandry 100 (Introductory Animal Science)	3
Education 7 (Reading Improvement Program)	
Physical Education	

Spring term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Bacteriology 103 (Agricultural and Home Economics Bacteriology)	3
Bacteriology 105 (Laboratory for Bacteriology 103)	1
Physical Education	
Agricultural Elective	8 to 10
Suggested:	
Agricultural Engineering 104, 106, 205	
Agronomy 111	
Entomology 210	

SECOND YEAR

Agricultural Economics 150 (Agricultural Geography)	4
Poultry Husbandry 151 (Market Eggs and Poultry)	2
Biology 101	3
Physical Education	
Agricultural Elective	6 to 8
Suggested:	
Agricultural Economics 240, 330	
Agricultural Engineering 104, 205	
Agronomy 200	
Entomology 210	
Rural Sociology 100	

Agricultural Economics 302 (Farm Management)	5
Poultry Husbandry 280 (Poultry Farm Management)	3
Poultry Husbandry 310 (Poultry Nutrition)	3
Biology 102	3
Physical Education	
Agricultural Elective	3
Suggested:	
Agricultural Economics 326	
Agricultural Engineering 205	
Animal Husbandry 110	
Entomology 210	

CURRICULUM IN FRUIT GROWING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Botany 101 (Introductory)	3
Biochemistry 100 (Introductory Agricultural Chemistry)	5
Pomology 101 (Tree Fruits)	3
Education 7 (Reading Improvement Program)	
Physical Education	

Spring term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Botany 102 (Introductory)	3
Agricultural Engineering 104 (Farm Mechanics)	3
Physical Education	
Agricultural Elective	6
Suggested:	
Agronomy 111	
Orientation 5	
Vegetable Crops 211	

SECOND YEAR

Pomology 102 (Small Fruits)	3
Pomology 201 (Handling and Storage of Fruits)	3
Agricultural Economics 240 (Marketing)	3
Entomology 210 (Introductory Entomology)	3
Agronomy 200 (Nature and Properties of Soils)	4
Physical Education	

Agricultural Economics 302 (Farm Management)	5
Plant Pathology 301 (Elementary)	3
Pomology 202 (Advanced Laboratory)	2
Physical Education	
Agricultural Elective	5 to 6
Suggested:	
Agricultural Engineering 205	
Animal Husbandry 112	
Pomology 301	

CURRICULUM IN VEGETABLE GROWING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Botany 101 (Introductory)	3
OR	
Biology 101	3
Biochemistry 100 (Introductory Agricultural Chemistry)	5
Education 7 (Reading Improvement Program)	
Physical Education	
Agricultural Elective	3 to 4
Suggested:	
Agricultural Economics 150	
Agricultural Engineering 104	
Animal Husbandry 100	
Floriculture 101	
Pomology 101	
Poultry Husbandry 100	

Spring term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Botany 102 (Introductory)	3
OR	
Biology 102	3
Agronomy 111 (Production of Field Crops)	4
Vegetable Crops 103 (General Horticulture)	4
OR	
Vegetable Crops 211 (Commercial Vegetable Production)	4
Physical Education	
Agricultural Elective	3 to 4
Suggested:	
Animal Husbandry 110	
Orientation 5	
Vegetable Crops 222	

SECOND YEAR

Vegetable Crops 212 (Post-Harvest Handling)	3
Agronomy 200 (Nature and Properties of Soils)	4
Botany 235 (Plant Physiology)	4
Physical Education	
Agricultural Elective	3 to 5
Suggested:	
Entomology 210	
Floriculture 103	
Food Science 161	
Pomology 102, 201	

Agricultural Economics 302 (Farm Management)	5
Agricultural Economics 347 (Marketing Institutions)	2
Plant Pathology 301 (Elementary)	3
Physical Education	
Agricultural Elective	6
Suggested:	
Agricultural Economics 240	
Floriculture 213	

CURRICULUM IN GENERAL FARMING

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Biochemistry 100 (Introductory Agricultural Chemistry)	5
Education 7 (Reading Improvement Program)	
Physical Education	
Agricultural Elective	6 to 7
Suggested:	
Agricultural Economics 150	
Agricultural Engineering 106, 204, 205	
Animal Husbandry 100, 250	
Food Science 161	
Poultry Husbandry 100	

Spring term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Agronomy 111 (Production of Field Crops)	4
Physical Education	
Agricultural Elective	8 to 9
Suggested:	
Agricultural Economics 240	
Agricultural Engineering 104, 106, 205	
Drawing 111	
Entomology 260	
Orientation 5	
Vegetable Crops 103	

SECOND YEAR

Agronomy 200 (Nature and Properties of Soils)	4
Physical Education	
Agricultural Elective	11 to 12
Suggested:	
Agricultural Economics 150, 221, 330, 346	
Agricultural Engineering 233, 305, 311, 312	
Animal Husbandry 110	
Biology 101 or Botany 101	
Pomology 101, 102	
Vegetable Crops 212	

Agricultural Economics 302 (Farm Management)	5
Physical Education	
Agricultural Elective	10 to 12
Suggested:	
Agricultural Economics 326	
Agricultural Engineering 313, 314	
Agronomy 312	
Bacteriology 103, 105	
Biology 102 or Botany 102	
Rural Sociology 100, 210	
Vegetable Crops 211, 222	
Veterinary 261	

CURRICULUM IN GENERAL FLORICULTURE AND ORNAMENTAL HORTICULTURE

FIRST YEAR

Fall term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Botany 101 (Introductory)	3
*Drawing 109 (Drawing for landscape students)	3
Biochemistry 100 (Introductory Agricultural Chemistry)	5
Floriculture and Ornamental Horticulture 101 (General)	3
Physical Education	

Spring term	*Hours credit*
Extension Teaching 100 (Oral and Written Expression)	3
Botany 102 (Introductory)	3
Physical Education	
Agricultural Elective	8 to 10
Suggested:	
Agricultural Economics 240	
Drawing 110 or 111	
Education 7	
Entomology 210	
Floriculture 105, 213	
Rural Education 110	
Rural Sociology 100	

SECOND YEAR

Floriculture 102 or 103 (Landscape Design)	3
Agronomy 200 (Nature and Properties of Soils)	4
Physical Education	
Agricultural Elective	8 to 11
Suggested:	
Agricultural Economics 150, 221, 240	
Botany 235	
Entomology 210	
Floriculture 105, 210	
Plant Pathology 301	
Pomology 101	
Rural Education 110	
Rural Sociology 100	

Physical Education	
Agricultural Elective	15 to 18
Suggested:	
Agricultural Economics 222	
Botany 235	
Entomology 210	
Floriculture 102, 105, 212, 213, 232, 314, 325	
Plant Pathology 301, 303	
Rural Education 110	
Rural Sociology 100	

* Orientation 5, if required, in place of Drawing 109.

DESCRIPTION OF COURSES

THE COURSES described in the following pages are those required or suggested for 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 two-year students will be admitted 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.

ORIENTATION

5. *ORIENTATION.* Fall or spring term. Fall term, time to be arranged. Spring term, M W F 12. Warren 160. Dr. ———.

Emphasis on the analysis and reasoning involved in the solution of work problems which have been drawn mainly from College of Agriculture courses requiring the use of mathematics.

AGRICULTURAL ECONOMICS

150. *THE ECONOMICS OF AGRICULTURAL GEOGRAPHY.* Fall term. Credit four hours. Lectures, M W F 9, Warren 45, or M W F 11, Warren 131. Discussion, W Th or F 2–4 or W 7–9 p.m. Warren 345. Assistant Professor SISLER.

The economics and geography of the world's agriculture, providing a basis for understanding past development and future changes in agriculture. Elementary economic principles, historical development, physical geography, and population growth are studied in their relation to agricultural development and to the economic problems of farmers. Particular emphasis is placed upon study of the agriculture of various farming regions of the United States, their economic problems and competitive situation.

221. *ACCOUNTING.* Fall term. Credit three hours. Lectures, M F 10. Warren 45. Laboratory, T or Th 8–10; M T W or Th 2–4. Warren 201. First class of term on Friday. Professor CARPENTER.

A comprehensive survey of basic accounting principles. Some analysis and interpretations of financial statements with special emphasis on agricultural businesses.

222. *ACCOUNTING.* Spring term. Credit three hours. Prerequisite, Course 221 or its equivalent. Lectures, T Th 11. Warren 45. Laboratory, W 11–1, T or W 2–4. Warren 260. Associate Professor GOODRICH.

Consideration of corporation and partnership accounting; manufacturing cost systems; tax, inventory, depreciation, and price level problems as they affect income determination; preparation and interpretation of financial statement data. Emphasis is placed on special problems of agricultural business.

240. *MARKETING.* Fall or spring term. Credit three hours. Lectures, M W F 11; one discussion period only, during the first week of the term: M T W Th or F 2–4 or S 9–11. Warren 45. Professor DARRAH.

A study of how food products are marketed. Special attention is given to the consumption of food products, factors that affect consumption, market channels, operation of different marketing agencies, storage, transportation, packaging, product identification, advertising and promotion, buying, selling, and costs.

302. *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 1:30–5:30. 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 started 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 nearby regions.

326. *FARMERS' COOPERATIVES.* Spring term. Credit three hours. Lectures, M W 9. Warren 45. Discussion, W or Th 2–4. Warren 145. Professor CARPENTER.

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

330. *LOCAL GOVERNMENT.* Fall term. Credit three hours. Lectures, T Th 9. Warren 145. Discussion period, T or Th 2–4. Warren 31. Professor LUTZ.

Government in the United States with emphasis upon examination, analysis, and resolution of public issues confronting leadership in areas of New York. Government organization, administration, functions, and finance are discussed in this context.

346. *PRICING AND DISTRIBUTION OF MARKET MILK.* Fall term. Credit three hours. Lectures, M W 11. Warren 345. Discussion period, F 11–1. Warren 260. Professor STORY.

A review of the economic characteristics of the dairy industry, including the marketing and pricing systems for market milk. Particular attention will be given to problems and resulting government programs, including marketing orders, price support operations, and regulation of competition.

347. *MARKETING INSTITUTIONS.* Spring term. Credit two hours. Enrollment limited to 40. M 12. Warren 245. Professor DOMINICK.

Economic functions performed by various types of specialized marketing agencies, with an emphasis on their physical operating patterns. Five days of spring vacation are spent in New York City inspecting and studying the major terminal marketing institutions. Total cost of the trip need not exceed $50 in addition to transportation to and from New York.

AGRICULTURAL ENGINEERING

104. *ELEMENTS OF AGRICULTURAL ENGINEERING.* Fall or spring term. Credit three hours. Lectures, T Th 10. Recitation period, F 11 or 12. Riley-Robb 125. Laboratory, M T Th or F 2–4:30. Riley-Robb 160. Mr. TOWNSEND.

An introductory course covering basic principles of farm structures, electric power and processing, soil and water conservation, and power and machinery. Some of the topics included are farm wiring, electric motors, elementary statics and structural design, refrigeration, water pumps and systems, internal combustion engines, machinery, and soil and water engineering problems. Emphasis is placed upon the application of basic physical principles to the solution of agricultural engineering problems.

106. *MECHANICAL DRAWING.* Fall or spring term. Credit three hours. Lectures, T Th 8. Riley-Robb 105. Laboratory, W or Th 1:40–4:30. Riley-Robb 425. Limited to 40 students per laboratory. Book and supply lists are available at the book stores. Mr. LONGHOUSE.

Graphic presentation, including lettering, use of instruments; orthographic projection of multiview drawings including sections, auxiliaries, plans and elevations; pictorial drawing, graphs and charts; elementary descriptive geometry; and the practical applications of these principles to simple problems. Both machine drawing and architectural drawing conventions and practices are discussed and employed in the solution of drawing problems.

204. *WOODWORKING AND CARPENTRY.* Fall term. Credit two hours. Lecture, T 9. Riley-Robb 125. Laboratory, M T or Th 1:40–4:30 or Th 8–10:50. Riley-Robb 70. Limited to 15 students per section. Associate Professor LECHNER and Mr. MAYNARD.

Designed to acquaint the student with the common woodworking, carpentry, concrete, tool-fitting, and wood-finishing jobs common to the farm and home. The skill in use of both hand and power tools is emphasized in the construction and repair of farm equipment. A field trip is included to a local woodworking plant and sawmill.

205. *FARM METAL WORK.* Fall or spring term. Credit two hours. Lecture, Th 9. Riley-Robb 125. Laboratory, including metal lathe work, M 1:40–4:30. Laboratory, not including metal lathe work, T 8–10:50, or T or Th 1:40–4:30. Riley-Robb 60 and 64. Limited to 20 students per laboratory section. Associate Professor LECHNER and Mr. MAYNARD.

Instruction and practice in the fundamentals of electric arc welding, oxyacetylene welding, sheet metal work, pipe fitting, hot and cold metal work, and metal lathe work as they apply to farm shop work for both repair and construction jobs.

233. *FARM STRUCTURES.* Fall term. Credit three hours. Prerequisites, intermediate algebra and physics. Lectures, M W F 8. Riley-Robb 105. Assistant Professor LORENZEN.

A study of the facilities and equipment for livestock production and crop storage, with emphasis on farm buildings from the viewpoint of structural design, environment, and materials handling.

305. *ADVANCED FARM METAL WORK.* Fall or spring term. Credit one or two hours. Prerequisite, Course 205, its equivalent, or permission of instructor. Laboratory for one credit, F 1:40–4:00; for two credits, one additional 2½-hour laboratory to be arranged. Riley-Robb 60 and 64. Associate Professor LECHNER and Mr. MAYNARD.

Machine shop practice is offered in fall term. Advanced welding only, or welding together with metal construction or redesign project, is offered in spring term.

311. *FARM MACHINERY.* Fall term. Credit two hours. Not open to first-year students. Lectures, T Th 11. Riley-Robb 125. One recitation each week to be arranged Friday a.m. Riley-Robb 225. Professor MILLER.

A study of the operating principles, use, selection, and methods of estimating costs of owning and operating farm machinery and equipment. Machines in each of the following groups are included: tillage, seeding, fertilizer application, pest control, harvesting, processing, and crop handling.

312. *FARM POWER.* Spring term. Credit three hours. Prerequisite, Course 104. Lectures, T Th 11. Riley-Robb 125. Laboratory, M T or Th 2–4:30. Riley-Robb 74. Assistant Professor SIEMENS.

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.

AGRONOMY

111. *PRODUCTION OF FIELD CROPS.* Spring term. Credit four hours. Lectures, M W F 10. Caldwell 100. Laboratory, T W Th or F 2–4:30. Caldwell 250. Professor HARTWIG.

Deals primarily with the crops that are used for feeding livestock and poultry. Emphasis is placed on the hay, silage, pasture, and grain crops of the United States. Cultural methods, management, crop rotations, lime and fertilizer practices, soil and climatic adaptations, and the fundamental principles of species and varietal recognition are considered. Two outdoor practicums involving study in a very extensive crop garden will be held during regular laboratory periods.

200. *NATURE AND PROPERTIES OF SOILS.* Fall term. Credit four hours. Lectures, M W F 9. Caldwell 100. Laboratory, M T W Th or F 2–4:30. Professor LATHWELL.

A comprehensive introduction to the field of soil science with emphasis on scientific principles and their application in solutions of practical soil management problems.

312. *FEED CROPS.* Spring term. Credit four hours. Prerequisite, an introductory course in crop production. A course in livestock feeding is desirable but not essential preparation. Lectures, M W F 8. Discussion, F 11 or 12. Warren 345. Associate Professor M. J. WRIGHT.

The production of field crops with reference to their value for livestock in terms of energy, protein, and other nutritional components. Consideration will be given to establishment, management, harvesting, and preservation practices that influence yield and nutritive value. Forage grasses, forage legumes, and corn will be emphasized.

ANIMAL HUSBANDRY

100. *INTRODUCTORY ANIMAL SCIENCE.* Fall term. Credit three hours. Lectures, W F 10. Morrison 146. Laboratory, T Th or F 2–4:30, W 11–1. Livestock Pavilion. Assistant Professor J. M. ELLIOT.

Designed to acquaint the beginning student with the development, scope, economic importance, problems, and language of the livestock industry. All commercially important classes of farm animals are considered, with emphasis on dairy cattle, beef cattle, sheep, and swine. The place of the biological sciences in a rapidly changing animal agriculture is stressed. The intent of the course is to give insight into opportunities in the field and to serve as an introduction to subsequent specialized courses.

112. *LIVESTOCK FEEDING.* Fall or spring term. Credit four hours. Lectures: fall term, M W F 11; spring term, M W F 9. Morrison 146. Laboratory: fall term, Th or F 2–4:30; spring term, M W Th or F 2–4:30. Morrison 161. Fall term: Professor WARNER; spring term: Professor S. E. SMITH.

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.

220. *ANIMAL BREEDING.* Fall term. Credit three hours. Lectures, T Th 9. Morrison 146. Recitation, demonstration, and laboratory, M T W Th or F 2–4:30. Morrison 174. Professor FOOTE.

An introduction to the anatomy and physiology of reproduction and the genetics of farm animals, and improvement of livestock through the integrated application of this knowledge. Laboratory material to give the student a first-hand knowledge of reproductive processes, and equipment for studying problems in livestock improvement are provided.

HEALTH AND DISEASES OF ANIMALS. (Veterinary 261.) Spring term. Credit three hours. Not open to first-year students or to those who have had no course in animal husbandry. Lectures, M W F 11. Veterinary College. Room C 207. Dr. LOOMIS and collaborators.

The causes and the nature of the common diseases of livestock are discussed. Emphasis is placed on the prevention and control of animal diseases.

241. *APPLIED LIVESTOCK SELECTION:* Beef Cattle, Sheep, and Swine. Fall term. Credit two hours. Lecture and laboratory period, W 1:40–4:30. Livestock Pavilion and Barns. Professor J. I. MILLER.

The application of the various methods used in determining utility value of market and breeding classes of meat animals. Visual appraisal, carcass data, breeding records, and performance tests are considered.

250. *DAIRY CATTLE.* Fall term. Credit three hours. Lectures, T Th 8. Morrison 163. Laboratory, M or Th 2–4:30. Morrison 163 and Livestock Pavilion. Associate Professor MERRILL.

A basic course in Dairy Cattle. Students with dairy and livestock majors should elect to take Course 350 which requires prerequisites of Courses 112 and 220. Course 250 is designed for students whose primary interest is other than dairy and livestock and who do not have the prerequisites for Course 350.

Some of the economic aspects of the dairy industry; study of dairy breeds; 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 of rations, planning of breeding programs, and keeping of records.

251. *DAIRY-CATTLE SELECTION AND TYPE EVALUATION.* Spring term. Credit three hours. Practice, W 2–4:30 and S 10–12:30. Livestock Pavilion. Professor TRIMBERGER.

A beginning course in the selection and judging of all breeds of dairy cattle. Practice includes all-day trips on Saturday, during the latter part of the term, to herds in the state.

260. *BEEF CATTLE.* Spring term. Credit three hours. Lectures, T Th 10. Morrison 163. Laboratory, F 2–4:30. Livestock Pavilion and Beef Cattle Barn. Professor 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.

270. *SWINE.* Spring term. Credit three hours. Lectures, T Th 9. Morrison 163. Laboratory, T 2–4:30. Morrison 38 and Swine Barn. Associate Professor POND.

A general course in swine production. The application of nutritional and genetic principles to practical swine management are stressed, and practical exercises are included. A one-day field trip is taken.

280. *SHEEP.* Fall term. Credit three hours. Lectures, T Th 10. Morrison 163. Laboratory, M 2–4:30. Morrison 164 and Sheep Barn. Associate Professor HOGUE.

A general course in the care, breeding, feeding, management, and selection of sheep. Lectures and laboratory periods designed to give the student a practical knowledge of sheep production as well as some scientific background for improved practices in sheep production.

290. *MEAT AND MEAT PRODUCTS.* Fall or spring term. Credit three hours. Lecture, T 8. Discussion, Th 8. Morrison 82. Laboratory, M T or W 2–4:30. Morrison 77. It is requested that two-year students register in the Tuesday laboratory section. Registration limited to sixteen students in each section. Associate Professor STOUFFER.

Livestock slaughtering, retail meat cutting, live animal-carcass relationships, and the preservation and storage of meat and meat products. A one-day field trip to packing plants will be taken.

350. *ADVANCED DAIRY CATTLE PRODUCTION AND MANAGEMENT.* Spring term. Credit three hours. Lectures, T Th 11. Morrison 163. Laboratory and discussion, T 2–4:30. Morrison 164. Professor TRIMBERGER and Associate Professors MERRILL and SCHMIDT.

Analysis of breeding and management programs in successful herds. Study of the dairy cattle breeds. Formation of breeding programs; development of feeding programs for high economical production; study of the principles of milk secretion and milking procedures, including an evaluation of milking systems. Emphasis will be placed on the economical production and merchandising of a quality product and superior cattle. Consideration will be given to the application of modern technology for breeding, feeding, and management, including mechanization, housing arrangements, and feeding systems on successful dairy farms.

BACTERIOLOGY

203. *AGRICULTURAL AND HOME ECONOMICS BACTERIOLOGY.* Spring term. Credit three hours. Not recommended for first-year students. Not accepted as pre-

requisite for advanced courses, except with special permission from the instructor. Course 205 must be taken with Course 203. Lectures, M W F 11. Caldwell 100. Professor VANDEMARK.

The basic principles of bacteriology, with those fundamentals essential to further work in the subject, as well as a survey of their application in agriculture, home economics, industry, and public health.

205. *AGRICULTURAL AND HOME ECONOMICS BACTERIOLOGY LABORATORY.* Spring term. Credit two hours. Must be taken simultaneously with Course 203. T Th 2–4:30 or T Th 8–10:30, Stocking 301; or W F 2–4:30, Stocking 321. Professor VANDEMARK and assistants.

The general laboratory techniques in bacteriology.

BIOCHEMISTRY

100. *INTRODUCTORY AGRICULTURAL CHEMISTRY.* Fall term. Credit five hours. Lectures and recitations, M T W Th F 11. Morrison 163. 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.

BIOLOGY

101–102. *GENERAL BIOLOGY.* Fall and spring terms. Credit three hours a term. Biology 101 with a grade of 50 or higher is prerequisite to Biology 102, unless special permission is obtained from the instructor. Not open to students who have taken both Zoology 103–104 (or 101–102) and Botany 101–102. If Biology 101–102 is taken after Zoology 103–104 (or 101–102) or Botany 101–102, credit two hours a term. Lectures, M W F 8, Ives 120, or M W F 10, Warren 231; or M W F 11, Plant Science 233. Laboratory, M T W Th or F 1:40–4:30, or Th F or S 8–10:50, or T Th or F 10–12:50, or S 9–11:50, or T W Th 7–9:50. Roberts 392 or 304. Neither the Friday lecture nor the laboratory will meet every week. Two preliminary examinations will be given each term at 7:30 in the evening. Associate Professor KEETON and Assistant Professor HALL.

Designed to acquaint students majoring within or outside the biological sciences with the established principles of biology, and with the body of research and the methods that led to the formulation of these principles. The work is not divided in the more traditional way into a unit on animals and a unit on plants, nor is it based on a phylum-by-phylum survey; instead, attention is focused on a series of topics central to modern biology, and these are explored in some depth. More specifically, the topics include the organization, integration, and maintenance of living organisms as energy systems, and their reproduction, heredity, behavior, and interactions. Emphasis is placed on an understanding of each topic in the light of modern evolutionary theory.

The Friday lectures, given approximately every other week, will be by outstanding faculty members of the University, lecturing on their own fields of research. The intent is to acquaint students with the excitement and promise of modern biological research, both basic and applied, and, more particularly, with the research being done at Cornell.

BOTANY

101–102. *INTRODUCTORY BOTANY.* Fall and spring terms. Credit three hours a term. If taken after Biology 101–102, credit two hours a term. Students may begin the course in the spring term. Lectures, T Th 9 or 11. Plant Science 233. One laboratory period a week, M T W Th or F 2–4:30, T 10–12:30, S 8–10:30 or 9–11:30. Plant Science 240, 242, and 262. Professor BANKS and assistants.

Designed to give general students an understanding of the growth and evolution of plants and their role in nature. It provides the basic knowledge necessary for those who intend to specialize in some aspect of plant science.

Botany 101 is devoted to a study of growth in the flowering plants, with emphasis placed on structure, function, and reproduction. Botany 102 is concerned with the phyla of plants, with representative life cycles, and with a consideration of the importance of various groups in the study of biological principles. The study of the evolution of the groups of plants is based on genetical and environmental mechanisms that control it. The classification and ecology of plants is introduced in several laboratory periods spent in the field. The scientific process, the growth of botanical knowledge, botanical principles, and, particularly, the necessity of changing interpretations as new information is acquired are introduced throughout the course.

235. *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. Staff.

Designed to acquaint the student with the general principles of plant physiology. Topics such as water relations, photosynthesis, translocation, 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. The introductory course in plant physiology is intended to give students a first appreciation of modern aspects of the subject and to serve as the basis for more advanced study.

DRAWING

109–110. *DRAWING FOR LANDSCAPE STUDENTS.* Throughout the year. Credit three hours a term. Credit may not be received for both Course 109 and Course 111. Fall term is prerequisite to spring term. Fall term, W F 2–4:30; spring term, M W F 11–12:50. Mann 500. Assistant Professors A. M. ELLIOT and LAMBERT.

Planned to develop practical ability in the sketching of outdoor planting and landscaped features, facility in lettering, and knowledge of isometric and perspective construction from plans and elevations. Sketch-book assignments, to be done outside class, will be given throughout the year.

111. *FREEHAND DRAWING.* Fall or spring term. Credit three hours. Credit may not be received for both Course 109 and Course 111. For beginning students. Lecture, T or W 10. Six hours of time, including the lecture period, are to be spent in the drawing room, preferably in two-hour units. These hours must be scheduled between 9 and 11 M W F or T 2–4 in the fall term, and between 9 and 12, M T W Th F, or T 2–4, in the spring term. Mann 500. Assistant Professors A. M. ELLIOT and LAMBERT.

The objective is to develop accuracy of observation and skill in delineation. Practice is given in outdoor sketching and in the drawing of still-life set-ups, interior scenes, and human figures. The principles of free-hand perspective are taught and applied. The

course is designed to aid those who plan to work in nature study, biological sciences, and home economics. Sketch-book assignments to be done outside class are given throughout the year.

ENTOMOLOGY

210. *INTRODUCTORY ENTOMOLOGY.* Spring term. Credit three hours. Lectures, T Th 9. Comstock 245. Laboratory, M T W Th or F 2–4:30. Comstock 100. Associate Professor RAFFENSPERGER and assistants.

A survey of the structure, biology, and classification of insects; an introduction to the study of insects as a major segment of the biological community, with attention to representative species of economic importance, the techniques and consequences of their control. Laboratory exercises in the anatomy and biology of insects, and practice in the techniques of insect identification.

260. *INTRODUCTORY BEEKEEPING.* Spring term. Credit two hours. Lectures, T Th 11. Comstock 245. Professor DYCE and Associate Professor MORSE.

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

100. *ORAL AND WRITTEN EXPRESSION.* Throughout the year. Credit three hours a term. Fall term is prerequisite to spring term. Lectures and practice: fall term, M W F 8 or T Th S 10, Warren 231, or M W F 9, Comstock 145; spring term, M W F 8 or 9, Warren 231, or M W F 11, Comstock 145. Criticism by appointment, daily 8–5, and S 8–1. Professor ———, Associate Professor MARTIN and Mr. LUEDER.

Practice in oral and written presentation of topics in agriculture and other fields, with criticism and individual appointments on the technique 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. In addition, some study is made of representative work in English literature. Part of the work in the second term is a study of parliamentary practice.

FLORICULTURE AND ORNAMENTAL HORTICULTURE

101. *GENERAL FLORICULTURE AND ORNAMENTAL HORTICULTURE.* Fall term. Credit three hours. Lectures, M W 8. Plant Science 37. Laboratory, M or T 2–4:30. Plant Science 15. Associate Professor LANGHANS.

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

102. *INTRODUCTION TO LANDSCAPE DESIGN.* Fall or spring term. Credit three hours. Lectures, M W F 9. East Roberts 122. Mr. DWELLE.

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

103. *ELEMENTARY LANDSCAPE DESIGN.* Fall term. Credit three hours. Lectures, T Th 11. Laboratory, Th 2–4:30. Plant Science 433. Associate Professor SCANNELL.

Principles of design, with practice in the use of drawing instruments and graphic interpretation of ideas.

105. *PRINCIPLES OF FLOWER ARRANGEMENT.* Fall or spring term. Credit two hours. Enrollment limited to 18 students for each laboratory section. Fall term: Lecture, Th 9, Plant Science 37; laboratory, W or Th 2–4:30, or Th 10–12:30, Plant Science 22. Spring term: Lecture, T 10. Plant Science 37. Laboratory, W 2–4:30, Th 10–12:30, or Th 2–4:30. Plant Science 22. Associate Professor FOX.

A study of the care and handling of flowers, the factors affecting keeping quality, and the design principles involved in the use of flowers and related decorative materials.

210. *TAXONOMY OF CULTIVATED PLANTS.* Fall term. Credit four hours. Lectures, W F 10. Plant Science 37. Laboratory, W F 2–4:30. Plant Science 29. Associate Professor INGRAM.

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

212. *HERBACEOUS PLANT MATERIALS.* Spring term. Credit three hours. Prerequisite, Course 210 or permission to register. Lectures, T Th 8. Plant Science 143. Laboratory, W 10–12:30 or W 2–4:30. Plant Science 15. Associate 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 bulbs, annuals, and perennials.

213. *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. Assistant Professor MOWER.

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

232. *INTERMEDIATE LANDSCAPE DESIGN.* Spring term. Credit three hours. Lecture, M 11. Laboratory, T Th 10–12:30. Plant Science 433. Mr. DWELLE.

The application of the principles of design to the specific problems of the small residential property. A terminal course for those not intending to major in this field.

314. *TURFGRASS MANAGEMENT.* Spring term. Credit two hours. Prerequisite, Agronomy 200 or permission to register. Lecture, W 11. Plant Science 37. Laboratory, Th 2–4:30. Plant Science 29. Professor CORNMAN.

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.

325. *FLOWER-STORE MANAGEMENT.* Spring term. Credit three hours. Prerequisite, Course 105, and permission to register. Lecture, T Th 8. Plant Science 37. Laboratory, T 2–4:30. Plant Science 22. Associate Professor 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 required two-day field trip is made to flower shows, and to wholesale and retail florist establishments.

FOOD SCIENCE

161. *INTRODUCTORY FOOD SCIENCE.* Fall term. Credit two hours. Lectures, M W 10. Stocking 218. Associate Professor BUCK.

A survey course to orient the student in the broad field of food science and processing. Includes the economic importance of the food industry and the relation of engineering operations and processes in the production, processing, and handling of the raw products through distribution of the processed foods.

PLANT PATHOLOGY

301. *ELEMENTARY PLANT PATHOLOGY.* Fall or spring term. Credit three hours. Lecture, Th 11. Recitation, T 11. Plant Science 37. Laboratory, T W Th or F 2–4:30. Plant Science 341. Conferences to be arranged. Associate Professor MILLAR.

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

POMOLOGY

101. *TREE FRUITS.* Fall term. Credit three hours. Should be preceded or accompanied by an elementary course in botany. Lectures, T Th 8. Warren 131. Laboratory, W 2–4:30. Plant Science 107. Professor EDGERTON.

A study of the general principles and practices of tree-fruit culture and their relation to the underlying sciences. Topics to be covered include propagation, varieties, orchard management, and growth and fruiting habits. Practical work is presented in grafting, pruning, site and soil selection, and planting.

102. *SMALL FRUITS.* Fall term. Credit three hours. Should be preceded or accompanied by an elementary course in botany. Lectures, M W 8. Plant Science 143. Laboratory, M 2–4:30. Plant Science 114. Associate Professor TOMKINS.

A study of the general principles and practices in the culture of grapes, strawberries, brambles, and bush fruits, and their relation to the underlying sciences. Fruiting and growth habits are covered, with practical work in pruning, planting, and propagation. One or two Saturday field trips will be taken.

201. *POST-HARVEST PHYSIOLOGY, HANDLING, AND STORAGE OF FRUITS.* Fall term. Credit three hours. Prerequisite, Course 101 or 102. Lectures, T Th 8. Plant Science 143. Laboratory, F 2–4:30. Plant Science 107. Professor SMOCK.

The chemistry and physiology of fruits as they affect quality and marketability are studied. Handling methods, maturity indices, and storage practices are considered. Practical work involves grading and inspection of fruits and storage of fruit in different ways. One Saturday field trip is required.

202. *ADVANCED LABORATORY COURSE.* Spring term. Credit two hours. S 8–12. Plant Science 107. Professors HOFFMAN and EDGERTON.

This course is designed to give more extended practice in the various orchard operations than can be given in Course 101. Special attention is given to problems of pruning, grafting, orchard-soil selection and management, pollination, and spray practices. One or two field trips extending into the afternoon are made.

301. *ECONOMIC FRUITS OF THE WORLD.* Spring term. Credit three hours. Given in alternate years. Lectures, M W 8. Plant Science 141. Laboratory, F 2–4:30. Plant Science 114. Professor SMOCK.

The physiology, morphology, and culture of the more important tropical and subtropical fruits are studied. About sixteen species are covered; among these are citrus, banana, mango, cacao, coffee, and pineapple.

POULTRY HUSBANDRY

100. *INTRODUCTION TO POULTRY SCIENCE.* Fall term. Credit three hours. Lectures, M W F 9. One recitation period, to be arranged. Rice 300. Professor BRUCKNER, assisted by other members of the staff.

121. *BIOLOGY OF THE FOWL.* Fall term. Credit three hours. Given in alternate years. Lectures, T Th 10. Laboratory, T 2. Rice 101. Professor MARBLE.

[151. *MARKET EGGS AND POULTRY.* Fall term. Credit two hours. Given in alternate years. Lectures, T 11. Laboratory, T 2. Rice 101. Professor BAKER.] Not given in 1965–1966.

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. Two field trips are taken.

280. *POULTRY FARM MANAGEMENT.* Spring term. Credit three hours. Lectures, T Th 10. Laboratory, T 2. Rice 101. Professor MARBLE.

Management of the hatchery, young stock and laying flock. Practical management problems of the hatcheryman and commercial poultryman will be studied. A two-day field trip is taken.

310. *POULTRY NUTRITION.* Spring term. Credit three hours. Lectures, M W F 8. Rice 300. Assistant Professor NESHEIM.

The principles of poultry nutrition and their application to poultry feeding and feed manufacturing.

RURAL EDUCATION

110. *GENERAL PSYCHOLOGY.* Fall or spring term. Credit three hours. Lectures, M W 10. Plant Science 233. Discussion sections, Th 8, 9, 10, or 11, or F 8, 9, 10, 11, or 12. Assistant Professor MCCONKIE.

A general survey of the field, providing an adequate foundation for further work in the area, but intended primarily for those students who elect psychology as part of their general education rather than as a field of specialization. Some time is devoted to each

of the major areas of psychology: physiological bases of behavior, growth and development, sensation and perception, learning and remembering, individual differences, motivation, emotion, and abnormal psychology. Emphasis is placed on giving the student increased insight into human behavior.

COLLEGE READING AND STUDY SKILLS PROGRAM. (Education 7.) Fall or spring term. Noncredit. Lecture and discussion, M W 10 or 12 or T Th 9 or 10. Laboratory, two half-hour periods a week to be arranged. Spring program is open to all registered students. Enrollment limited. Room to be announced. Assistant Professor PAUK.

Designed to increase efficiency in reading rate and comprehension. Principles and techniques of good reading are explained, demonstrated, and practiced in class. The laboratory is equipped to provide an opportunity to practice good reading habits under controlled conditions.

RURAL SOCIOLOGY

100. *GENERAL SOCIOLOGY.* Fall or spring term. Credit three hours. Lectures, M W 8. Warren 45. Discussion sections, Th 8, 9, 10, or 11 and F 8, 9, 10, or 11. Fall term, Assistant Professor CARROLL; spring term, Associate Professor HARP.

A general introduction to the theory and methods of sociology. Major topics selected for discussion include culture, socialization, deviancy and social control, stratification, ideologies, and social change. Supplementary reading including recent research will be assigned for illustrative purposes and to assist students in analyzing topical areas as term projects.

210. *FOUNDATIONS FOR SOCIAL ACTION.* Spring term. Credit three hours. Not open to first-year students. M W F 10. Warren 345. Associate Professor REEDER.

The purpose is to provide the basic information essential to an understanding of social action and planned change. The course is designed for two categories of students: (1) students of various fields who wish to take one or two courses in sociology and who want to gain the kind of knowledge which relates directly to human relationships in their occupation and in their activities as organization members and citizens; (2) persons whose work or interests are likely to involve them in some phase of planned change—either as administrators, organization leaders, extension agents, teachers, or community development workers—and others for whom the role of change agent is an essential part of their job.

VEGETABLE CROPS

103. *GENERAL HORTICULTURE.* Spring term. Credit four hours. Lectures, M W F 8. East Roberts 222. Laboratory, M W or F 2–4:30. East Roberts 301. Associate Professor SHELDRAKE.

An introductory course in general horticulture, including flower, fruit, and vegetable growing. Intended primarily for students who want a general knowledge and for those who wish to specialize in some field of horticulture but have limited background, either in practical experience or in training in botany and agronomy.

211. *COMMERCIAL VEGETABLE CROPS.* Spring term. Credit four hours. Lectures, M W F 11. East Roberts 222. Laboratory, W or F 2–4:30. East Roberts 301. Professor SWEET.

Intended for the students who wish to specialize in commercial vegetable growing. Consideration is given to the economic importance, cultural requirements, marketing, and storage of important vegetables. Field trips are required.

212. *HANDLING AND MARKETING VEGETABLES.* Fall term. Credit three hours. Lectures, T Th 11. East Roberts 222. Laboratory, T or W 2–4:30. East Roberts 223. Professor HARTMAN.

(Students registered for the Tuesday laboratory are scheduled to go on a field trip at 9:30 a.m., Wednesday, the day on which classes officially begin at noon in the fall term.)

The handling of vegetables from harvest, whether for fresh market or processing, through the marketing channels to the consumer; personnel, facilities, machinery, and organization of the industry; quality measurement and grade standards; federal, state, and other regulations; principles and practices in precooling, storage, packaging, prepackaging, other types of handling.

222. *POTATO PRODUCTION AND PROCESSING.* Spring term. Credit three hours. Lectures, T Th 10. East Roberts 222. Laboratory, T 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 and 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, one of which is all day, are taken to potato farms and processing plants.

CORNELL UNIVERSITY ANNOUNCEMENTS

The Cornell Announcements are designed to give prospective students and others information about the University. The prospective student should have a copy of the General Information Announcement; after consulting that, he may wish to write for one or more of the following Announcements:

New York State College of Agriculture (Four-Year Course), New York State College of Agriculture (Two-Year Course), College of Architecture, College of Arts and Sciences, Department of Asian Studies, School of Education, College of Engineering, New York State College of Home Economics, School of Hotel Administration, New York State School of Industrial and Labor Relations, Officer Education (ROTC), Summer School.

Undergraduate preparation in a recognized college or university is required for admission to the following Cornell divisions, for which Announcements are available:

The Graduate School, Graduate School of Business and Public Administration, Law School, Medical College, Cornell University-New York Hospital School of Nursing, Graduate School of Nutrition, New York State Veterinary College.

Requests for the publications listed
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