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SUMMER SESSION CORNELL UNIVERSITY

DEPARTMENT OF BOTANY
NEW YORK STATE COLLEGE OF AGRICULTURE



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CALENDAR

Summer Session, July 5—August 16, 1916

July 5	Wednesday,	Registration at office of the Registrar. Instruction begins at times and places announced for each course.
July 8	Saturday,	First all-day trip.
July 22	Saturday,	Second all-day trip.
Aug. 5	Saturday,	Third all-day trip.
Aug. 16	Wednesday,	Session closes.

ITHACA AN IDEAL LOCATION FOR SUMMER BOTANY

It was the elder Agassiz who remarked, while a lecturer at Cornell, that no place in eastern North America was more ideally situated for biological work than Ithaca. That this early statement has been fully justified by experience is abundantly testified by the great number of students and teachers who have worked at Ithaca during the past forty years.

The region is extremely rich in plant life. The unusual richness of the fungous and algal floras as well as the great number of lichens, mosses, liverworts, ferns, and flowering plants renders work here especially attractive and valuable. The very diversified country about the University affords fields, woodlands, ravines, marshes, bogs, streams, and lakes, most of which are accessible for day trips. Half-day trips to extremely interesting country can be readily made. The opportunity thus offered has led us to give special attention in the summer school to field botany, though other phases of the work are not ignored. The field work is supplemented by lectures and laboratory work, illustrated by lantern slides, microscopical preparations, museum and herbarium material, charts, etc. It is likely that some round-table discussions will be arranged. The great University library is open to summer school students. Although a peculiar and extremely pleasant vacation spirit and spirit of good fellowship have always pervaded our summer school work in botany, the work itself is not allowed to fall in standard and it is our endeavor to establish a reputation for consistent work of the highest merit.

ITHACA AS AN IDEAL LOCATION FOR A SUMMER VACATION

Not only is the region about Ithaca extremely rich in plant life, but it is very beautiful as well, and is an ideal place in which to spend a vacation. The city of Ithaca with a population of about 15,000 people is situated at the south end of Cayuga Lake, a long narrow body of water forty miles long and 435 feet deep. The shores of the lake become constantly more rugged in passing southward until finally at Ithaca and beyond they give place to deep valleys bordered by high rugged almost mountainous hills. These hills dotted as they are with alternating farm lands and forests are extremely beautiful when seen from the elevated location of the University. The University is situated on the brow of a plateau four hundred feet above the lake, and thus commands a view of the distant hills, valley, and lake, and at the same time receives cooling breezes during the warm summer days. Numerous deep wooded ravines intersect the hillsides, abounding in cascades, and furnishing a cool retreat at all times. The campus is bounded on the north and south by two of these ravines. At Taughannock ravine, ten miles from the University, there is a water fall with a straight drop of 212 feet. Tramping and picnicing is a special feature of Summer university life at Ithaca. No better place could be found in which to combine work in botany with recreation and rest.

OBJECT OF THE WORK

The courses are planned to meet the needs of high school and college teachers, as well as to furnish information for persons not intending to teach. Teachers in agriculture and nature study, as well as farm bureau managers and extension workers, will find here a means of increasing their knowledge of the wild flora.

ADMISSION, REGISTRATION, AND CREDIT

There is no examination for admission to the Summer Session. Each person, however, must be qualified to pursue the work in the course which he elects. Any duly registered student of the Summer Session of the University may visit such classes as he desires. Admission to the class room is restricted to duly registered students. Students must register with the Registrar of the University on the day set or as soon thereafter as they arrive in Ithaca. Regular students in the University may receive credit for seven hours or less toward their degree, the various courses in botany counting as indicated in each case. Students in the Summer School not matriculated in the University may receive certificates of attendance and of work satisfactorily performed. Applications for certificates must be made before August 15, and according to the rule of the Registrar's office.



Tuition: Free to all residents of New York State. For all others the fee is \$30 whether one or more courses are taken. This must be paid at the office of the Treasurer within five days after registration day.

Laboratory Fees: A nominal fee of from \$1 to \$6 is charged each student for material and for the wear on laboratory apparatus. This does not include the cost of excursions nor the cost of text book, if required, note paper, pencil, and hand lens, which are furnished by the student.

LIVING IN ITHACA

Three of the residential halls will be open to women students in botany. The charge for meals and lodging for the entire session varies from \$48 to \$60, depending upon the size and location of the room. Applications should be made to Thomas Tree, Manager of Residential Halls, Cornell University, Ithaca, N. Y.

The application must be accompanied by a deposit of \$5. This deposit is later deducted from the rent or is refunded on formal notice of withdrawal before June 15.

Men and women students will find numerous lodging and boarding houses in the city, conveniently near the campus. The cost of board and furnished room ranges from about \$6 per week upward. Cheaper rooms may not be desirable. The price of board runs from \$4.50 to \$6. There are several cafeterias and restaurants convenient to the campus.

LECTURES, MUSICAL RECITALS, EXCURSIONS

Public University lectures, open to all students of the Summer Session, are held each Monday evening. There will also be several special evening lectures given by the department of Botany.

Musical recitals under the auspices of the department of Music will be given Tuesday and Thursday evenings, alternately in Sage Chapel and Bailey Hall.

Wednesday evenings are devoted to departmental conferences.

Many half-day field excursions will be taken in connection with the various courses as indicated below. These will visit fields, ravines, bogs, marshes, and streams in the vicinity of Ithaca. In addition, three all-day trips are scheduled. Each student in Course A, B, D, E, H, I, and J, is expected to take at least two of the three all-day trips. These will occur on Saturday and will entail an extra expense of 50 cents to \$1.50 for each; one of the trips will cost \$2.50.



CLOTHING FOR FIELD WORK

Life at the University during the summer is less formal than during the regular college year. For our short trips as well as for the longer ones, clothing suitable for out of door tramping is customarily worn. Some of the excursions will be in rough and wild localities, and clothing suitable for such trips should be provided. Women are strongly advised to wear the bloomer costume, which, however, must be approved. During recent years this costume has been very generally worn on the longer excursions. For one trip indeed, which, however, is not definitely required, the bloomer costume is really a necessity. For foot wear, sneakers with cloth tops and rubber soles are very generally worn. They adhere well to the rock, dry out easily without the necessity for oiling, and are inexpensive.

SCHEDULE OF COURSES

A. Elementary Botany. Credit, three hours. Lectures, M W, 8. Laboratory, M W, 9-1, F, 8-1 with additional reading or field work. Botanical Laboratory, Agronomy Building. Professor FAULL and Mr. DUFF.

Representative plants from all the larger plant groups will be studied. Emphasis will be placed on structure and life history with particular attention to evolutionary relationship. Some attention will be given to the economic aspects of the different groups, and to their adaptation to surroundings. Field work will replace laboratory hours to a limited extent and some all-day trips will be required.

This is a general course planned as an introduction to the study of botany and as a preparation for advanced courses. It is intended also to cover certain phases of college entrance requirements and of general secondary school botany. Laboratory fee, \$2.50.

B. Elementary Morphology of Seed Plants. Credit, one hour. Lectures T, 2-3. Laboratory T, 3-5:30, Th, 2-4:30, with some additional reading. Botanical Laboratory, Agronomy Building, Professor FAULL and Mr. DUFF.

A study of the variation in form and structure of roots, stems, leaves, flowers, fruits, and seeds, together with the terminology concerned, and the advantages of these variations. Modified plant parts, pollination, and seed dissemination will receive attention. Fundamental internal structure will be briefly treated. Laboratory and field studies, conferences, recitations, and reading.

The course is arranged somewhat after the plan of Gray's Lessons in Botany, and is designed as a preparation for systematic field botany and for persons desiring a general knowledge of the common plants. It also covers certain phases of secondary school botany. Identification is not a feature of this course. Laboratory fee, \$2.

C. General Plant Physiology. Credit, four hours. Prerequisites: all freshman work or its equivalent, and general botany. Lectures, daily, except S, 9. Laboratory, daily except S, 10-1:30. Agronomy Building. Assistant Professor KNUDSON and Mr. KNOWLTON.

Lectures, recitations, laboratory work, reports, and occasional field studies. Topics include absorption, conduction, transpiration, metabolism, relation to environment, growth, reproduction, and propagative processes. Laboratory fee, \$6.

D. Identification, Classification, and Ecology of the Higher Plants. Credit, two hours. Prerequisite: some training in structural botany taken previously or in connection with this course. Lectures Th, 8. Laboratory or field, T, 8-1. Th, 9-1. Botanical Laboratory, Agronomy Building. Professor WIEGAND and Mr. METCALF.

A comprehensive study of the wild flora about Ithaca, with reference to the practical recognition of species and varieties as well as to the floral and foliar characteristics of these species and to the grouping of them into genera, families, and more comprehensive groups. The course consists of field and laboratory work, but is supplemented by general discussions and lectures on the broader questions of classification, nomenclature, distribution, and habitat. The ecological association and modifications of the various species and varieties will be noted. The course is intended to supply teachers and others with a general knowledge

of the flora. Some all-day trips are required. Supplementary instruction will be given in the preservation of material for the museum and for the herbarium.

If necessary this course will be divided as follows: A. For those beginning this type of work. B. For students who already possess some knowledge of the flora. Laboratory fee, \$2.50.

E. Trees and Shrubs. Credit, two hours. Prerequisite: some training in structural botany, taken previously or in conjunction with this course. Lectures W, 2. Laboratory or field work M, 2-5, W, 3-5, F, 2-5. Agronomy Building. Mr. MACDANIELS and Mr. METCALF.

A course intended for those who desire more concentrated work on the woody plants of our flora than can be obtained in course D. The aim is to familiarize the student with as many as possible of the trees and shrubs in the Cayuga Lake flora, their floral and foliar characters, their structure, methods of growth, habits, and distribution. Much of the work will be in the field, supplemented by laboratory practice, lectures, and demonstrations. Some all-day trips are required. Laboratory fee, \$2.50.

H. Identification and Classification of Lichens, Liverworts, Mosses, and Ferns. Credit, one hour. Prerequisite: a general knowledge of structural botany. Laboratory and field work, T Th, 2-5, with some additional work by appointment. Botanical Laboratory, Agronomy Building. Professor WIEGAND and Assistants.

An introduction to the four groups of plants indicated by the title of the course. The student will become acquainted with the general structural characteristics of different members of these groups, and will receive practice in tracing the various species through the keys. The field trip is planned to acquaint students with the flora of our ravines and swamps which is especially rich in lichens, liverworts, mosses, and ferns. Material will be collected, identified, mounted in standard packets and will become the property of the student. Some all-day trips are required. Laboratory fee, \$2.

(The following courses are given under the direction of the Department of Plant Pathology)

I. Parasitic Fungi. Credit, two hours. Prerequisite general introductory botany. Lectures M W, 8. Laboratory or field work M W, 9-1. Bailey Hall. Professor JACKSON.

This course is designed to cover the general field of parasitic fungi and related forms, especial emphasis being placed on collection and identification as well as upon disease producing characteristics. Teachers will find these courses in fungi helpful in providing facts and materials for use in their work. Fee, \$3.

J. Fleshy Fungi. Credit, two hours. Prerequisite general introductory botany. Lecture F, 8. Laboratory or field work, F, 9-1, 2-5:30, with some additional reading or field work. Bailey Hall. Professor JACKSON.

This course is planned to give a general knowledge of the so-called mushrooms, toadstools, and allied forms. Particular attention will be given to the collection, identification and classification of the species growing about Ithaca. Fee, \$3.

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[Entered as second-class matter, August 31, 1910, at the post office at Ithaca, New York, under the Act of July 16, 1894.]

These publications include

The Annual Register (for the year 1915-16, published January 1, 1916).
Price 50 cents.

Book of Views, price 25 cents.

Directory of Faculty and Students, Second Term, 1915-16, price 10 cents, and the following informational publications, any one of which will be sent gratis and post-free on request. The date of the last edition of each publication is given after the title.

General Circular of Information for prospective students December 15, 1915.

Announcement of the College of Arts and Sciences, April 15, 1916.

Announcement of Sibley College of Mechanical Engineering and the Mechanic Arts, January 15, 1916.

Announcement of the College of Civil Engineering, March 15, 1916.

Announcement of the College of Law, May 15, 1916.

Announcement of the College of Architecture, August 1, 1915.

Announcement of the New York State College of Agriculture, June 1, 1916.

Announcement of the Winter Courses in the College of Agriculture, September 1, 1915.

Announcement of the Summer Term in Agriculture, April 1, 1916.

Announcement of the New York State Veterinary College, May 1, 1916.

Announcement of the Graduate School, February 1, 1916.

Announcement of the Summer Session, March 1, 1916.

Annual Report of the President, November 1, 1915.

Pamphlets on prizes, samples of entrance and scholarship examination papers, special departmental announcements, etc.

Announcement of the Medical College may be procured by writing to the Cornell University Medical College, Ithaca, N. Y.

Correspondence concerning the publications of the University should be addressed to

The Secretary of Cornell University,
Ithaca, New York.