

PLANT BIOLOGY 309
PLANT SYSTEMATICS AND OHIO FLORA
Spring 2005

Call Number: 05159

Credits: 6

Lectures: M, W, F 1:10-2:00 (301 Porter Hall)

Labs: M,W 2:10-5:00 (301 Porter Hall)

Prerequisites: PBIO 111 or 211

Instructor: Philip Cantino, 411 Porter Hall (593-1128), cantino@ohio.edu

Teaching Assistants: Jody Schaub (js307094@ohio.edu) and Nat Miller (nm177505@ohio.edu)

Required Texts and Supplies:

1. Gleason, H. A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada, 2nd edition. New York Botanical Garden.
2. Judd, W. S., C. S. Campbell, E. A. Kellogg, P. F. Stevens, and M. J. Donoghue. 2002. Plant Systematics: a Phylogenetic Approach. Second Edition. Sinauer Associates.
3. Hand lens, 10x, available at local book stores

Lectures focus on: 1) the principles and procedures of systematics and nomenclature and 2) angiosperm taxonomy.

Laboratory: The principal objectives of the lab sessions are:

1. To provide practical experience in identifying plants with a dichotomous key.
2. To teach the characteristics of selected angiosperm taxa (mostly families and genera), with emphasis on the more distinctive taxa that occur in Ohio.

There will be at least three field trips, two during a scheduled lab period (either April 16 or 18 (whichever day the weather is better) and either May 14 or May 16) and one on a Sunday (May 6). Clothes and footwear appropriate for the weather should be worn to class on these dates. **Do not wear shorts or sandals on outings if you are allergic to poison-ivy!!**

Internet Study Resources: Plant image databases are maintained by the University of Hawaii Botany Department (http://www.botany.hawaii.edu/faculty/carr/alpha_cronq_judd_apgii.htm), Illinois Natural History Survey (http://www.inhs.uiuc.edu/cwe/illinois_plants/), and Texas A&M University (<http://www.csd.tamu.edu/FLORA/gallery.htm>). You may find these sites useful in studying for exams.

Academic Dishonesty: The penalty for cheating on an exam or quiz is failure of the course.

Lab Practicals and Quizzes: There will be two lab practicals and at least five quizzes. On quizzes and practicals, you will be expected to identify plant specimens to supraspecific taxon (usually family but sometimes subfamily or genus) without the aid of any books or notes. You will also be expected to identify plants you have never seen before to species using the key in your manual (Gleason & Cronquist). You will be given a series of handouts listing the required supraspecific taxa (families, genera, etc.) as they are introduced, so there should never be any question about which ones are "fair game" on tests. You may also be tested on botanical terms (floral, fruit, and inflorescence morphology) that are introduced in the first few labs.

Some quizzes will also involve a take-home portion, which will require you to collect specimens of selected taxa, to be turned in at the beginning of the indoor portion of the quiz.

Service Learning: There will be optional opportunities to participate in forest stewardship activities on several weekend days and possibly some evenings. These outings will involve removal of invasive plants from local natural areas and transplanting of native plants from future road construction zones to other forested sites where they can initiate new populations. In the process of helping to protect our native flora, you will have the opportunity to review the plant taxonomy you have learned in lecture and lab and become familiar with additional plants that you might not otherwise see. Participation in one forest stewardship outing will substitute an A (a score of 100%) for your lowest quiz grade.

Basis for Grade:

First Lab Practical (Wednesday, April 25)	20%
Second Lab Practical (Wednesday, May 30)	35%
Final Lecture Exam (Wednesday, June 6, 12:20 p.m.)	30%
Lab Quizzes (and service learning activities)	15%

Attendance is mandatory. Any unexcused absence from lab or more than one unexcused absence from lecture will lower your course grade by one notch (e.g., from an A- to a B+ for one unexcused absence; from an A- to a B for two absences, etc.).

Legitimate reasons for missing class include illness, death in the immediate family, religious observance, and involvement in university-sponsored academic activities. Other reasons will be considered on an individual basis. *Any absence from lab, other than for illness or death in the family, must be cleared with me in advance.*

A missed lab, quiz, or lab practical cannot be made up, regardless whether the absence is excused. However, a missed quiz or practical will not be counted against your grade if you were absent for a legitimate reason, as described above.

TENTATIVE LECTURE SCHEDULE AND READING
(The disjunct scheduling of some topics results from coordinating
lecture and lab on Mondays and Wednesdays.)

<u>Dates</u>	<u>Topic</u>	<u>Reading (Judd et al.)</u>
Mar 26, 30	Introduction to systematics and nomenclature	pp. 1-11, 511-519
Mar 28, Apr 2	Flower, inflorescence, and fruit morphology	pp. 63-69, 75-81
Apr 4	Other taxonomic characters	521-525; pp. 81-100 (optional), 105-118 (optional)
Apr 4, 23-30	Principles and methods of systematics	pp. 13-23, 33-38
Apr 9-18 and Apr 30 – May 21	Angiosperm taxonomy (survey of families)	pp. 217-223 pp. 223-487 (use as a reference)