PLANT BIOLOGY 509
PLANT SYSTEMATICS AND OHIO FLORA
Spring 2007

Call Number: 05182
Credits: 6
Lectures: M, W, F 1:10-2:00 (301 Porter Hall)
Labs: M,W 2:10-5:00 (301 Porter Hall)
Instructor: Philip Cantino, 411 Porter Hall (593-1128)
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.csdl.tamu.edu/FLORA/gallery.htm). You may find these sites useful in studying for exams.

Attendance and Academic Dishonesty: Although it hardly seems necessary in a graduate level course, we are required to state our policy on attendance and dishonesty on all syllabi.

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.

The penalty for cheating or plagiarism is failure of the course.

Lab Practicals and Quizzes: There will be two lab practicals and five or six lab 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 27)	20%
Second Lab Practical (Wednesday, June 1)	30%
Final Lecture Exam (Thursday, June 9, 8:00 a.m.)	25%
Lab Quizzes (and service learning activities)	10%
Project or Paper	15%

Project/Paper: Each student is required to do a project or write a paper, which must be turned in on or before the last day of class (Friday, June 1).

There is considerable latitude in the selection of a topic. It should be something of personal interest to you as well as being related to plant systematics. Examples: 1) a floristic study of a tract of land that has not previously (or at least recently) been studied, yielding a collection of labeled and correctly identified specimens for our herbarium; 2) a library paper on a subject related to this course.

If you decide to do a library paper rather than a project, your paper must go into much greater depth than my lecture coverage and should be 10-20 pages long with an extensive bibliography. Projects must also include written documentation, but this may be relatively short so long as all the relevant information is included (i.e., an introduction [please keep this brief!], materials and methods, results, discussion, and either an abstract or a summary).

Please start thinking about this right away, and consult with me about your idea as soon as possible. **You must turn in a one-page proposal by the end of the second week of the quarter (Friday, April 6).**

TENTATIVE LECTURE SCHEDULE AND READING

(The disjunct scheduling of some topics results from coordinating lecture and lab on Mondays and Wednesdays.)

Dates	Topic	Reading (Judd et al.)
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)