

**BIOL 325**, Plant Systematics, Fall 2017

**Course Web:** <http://herbarium.millersville.edu/325.php>

**Lecture:** T & R 1:10-2:00, Roddy 258      **Lab:** T 2:10-5:00, Roddy 268

**Instructor:** Dr. Chris Hardy      Office Hrs: Roddy 271, M 2:30-4, W & F 10-11:45  
Tel: 871-4317      Web: <http://herbarium.millersville.edu/hardy.php>

**Required:**

1. Rhoads, AF, and TA Block. 2007. *The Plants of Pennsylvania: An Illustrated Manual, 2<sup>nd</sup> Edition*. University of Pennsylvania Press. (ISBN: 0-8122-4003-0)
2. Hand magnifying lens (10x is appropriate, but not higher than 20x).
3. Preparedness for the out-of-doors, rain, snow or shine, during all Tuesday meetings of lecture and laboratory. Be prepared to depart to the field even during lecture time on Tuesdays.

**Suggested:**

1. Three-ring binder(s) in which to insert lecture and lab handouts, and notes taken on looseleaf paper.
2. Camera.
3. Hand pruners.

**Objectives:** At the successful completion of BIOL 325, a student should be able to

1. list key characteristics of and recognize major vascular plant taxa, as well as selected genera;
2. list characteristics of larger groups such as vascular plants, lycophytes, ferns, gymnosperms, angiosperms, dicots, and monocots; to be able to draw a cladogram showing how these larger groups are related to one another;
3. use and construct dichotomous keys to plant taxa;
4. use a hand lens and a dissecting scope to dissect and make detailed observations of plant parts;
5. outline the basic hierarchy of taxonomic ranking;
6. list and explain the fundamental rules of botanical nomenclature;
7. explain what herbaria are and what their functions are;
8. outline the basic tenets of cladistics and the implications of cladistic thinking for taxonomy;
9. list the types of data collected by systematists for the construction of classifications.

**Grading:** Final letter grades are earned on basis of percentage of total points available as follows (A = 93-100%; A- = 90<93; B+ = 87<90; B = 83<87; B- = 80<83; C+ = 77<80; C = 73<77; C- = 70<73; D+ = 67<70; D = 63<67; D- = 60<63; F = <60%).

Lecture Exam 1 (Unit topics plus families)	50
Lecture Exam 2 (Unit topics plus families)	50
Final Lecture Exam (1/3-1/2 cumulative, all topics, all families)	75
Plant Collection Project	50
Lab quizzes / keys	60
<u>Lab Final (cumulative)</u>	<u>50</u>
Total points possible	335

**Special Needs:** Please let me know if you have any disabilities or special needs that might affect your performance in this course. I will do my best to accommodate you.

**Readings:** Will be announced in class. You are responsible for all content in the assigned readings.

**Attendance:** Attendance of laboratories and field trip(s) is required.

Attendance of lectures is optional, but you are responsible for all information discussed or homework assigned in class.

Missed lecture exams may be made up as an essay exam with a valid excuse (doctor's note or proof of family emergency).

There will be no make-ups for missed lab quizzes.

**Honesty:** No cheating on tests, plagiarism, or cut-&-pasting from electronic sources on any assignment.

**Title IX** Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment, comply with Title IX of the Education Amendments of 1972, 20 U.S.C. §1681, et seq., and act in accordance with guidance from the Office for Civil Rights, the University requires faculty members to report to the University's Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report to the person designated in the University Protection of Minors policy incidents of sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred.

Information regarding the reporting of sexual violence, and the resources that are available to victims of sexual violence, is available at <http://www.millersville.edu/sexualviolence/index.php>.

### Lecture Schedule

<u>Lecture Topic</u>	<u>Special Comments / Your Notes</u>
Week 1: Aug 29 & Aug 31 Topic 1 - Introduction	
Week 2: Sep 05 & 07 Topic 2 - PA Floristics	
Week 3: Sep 12 & 14	
Week 4: Sep 19 & 21 Topic 3 - The Code	
Week 5: Sep 26 & 28	
Week 6: Oct 03 & Oct 05 <b>Exam 1</b>	
Week 7: Oct 10 & 12 Fall Break Topic 4 - History - Plant Systematics	
Week 8: Oct 17 & 19	
Week 9: Oct 24 & 26	
Week 10: Oct 31 & Nov 02 Topic 5 - Cladistics	Plant Collection Project due Nov 3, 5:30 pm
Week 11: Nov 07 & 09 <b>Exam 2</b>	
Week 12: Nov 14 & 16	
Week 13: Nov 21 & 23 T-day Recess	
Week 14: Nov 28 & 30 Topic 6 - Molecular Systematics	
Week 15: Dec 05 & 07	
Week 16: Dec 12 (T) <b>Final Exam, 12:30-2:30</b>	

**Lab Schedule**

<u>Lab Topic</u>	<u>Notes</u>
Week 1: Aug 29 Basal Angiosperm Grade	
Week 2: Sep 05 Monocots, part 1	Pressing Plants and NatureAtlas Demo
Week 3: Sep 12 Basal Eudicot Grade	Quiz 1
Week 4: Sep 19 Rosids, part 1	
Week 5: Sep 26 Asterids, part 1	Quiz 2
Week 6: Oct 03 Monocots, part 2	Mounting Herbarium Specimens Demo
Week 7: Oct 10 Fall Break	Fall Break
Week 8: Oct 17 Rosids, part 2	Quiz 3
Week 9: Oct 24 Asterids, part 2	
Week 10: Oct 31 Rosids, part 3	Quiz 4; Plant Collection Project due Nov 3, 5:30 pm
Week 11: Nov 07 Asterids 3 & Caryophyllids	
Week 12: Nov 14 Pteridophyte Grade	Quiz 5
Week 13: Nov 21 Monocots, part 3	
Week 14: Nov 28 Gymnosperms	Quiz 6
Week 15: Dec 05 Lab Final Exam	Lab Final Exam