

BIOL 221 – Concepts of Botany
Laboratory Syllabus – Spring 2009 – Section 1B

Instructor: Dr. Ryan Wagner

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Office: Roddy 274

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Office Hours: Mon: 12-2; Thurs: 2-4; Fri: 9-10; or by appointment

Lab Text: *Photographic Atlas for Botany Laboratory 5th Ed.*. 2008. Rushforth, Crawley, DeGraaff...

Equipment: Lab notebook for drawings and other notes. Cross-reference these to your laboratory exercise printouts and the Photographic Atlas.

Objectives: Upon successful completion of this course, students are expected to be able to:

1. identify plant cell structures, plant tissues, and plant organs by sight
2. relate structure to function via physiological experiments examining photosynthesis, hormones, and water relations
3. generate testable hypotheses about the functioning of biological systems
4. chronicle the phases of gametogenesis, embryogenesis, and development of the primary and secondary plant (sporophyte) bodies
5. compare and contrast the life cycles of plants to animals
6. distinguish between and confidently identify members of larger groups such as fungi, algae, liverworts, mosses, horsetails, ferns, seed plants, gymnosperms, and angiosperms
7. effectively use statistics and graphing techniques to draw logical conclusions from experiments
8. use dissecting and compound microscopes effectively

Laboratory Schedule (Mon 6-9. Wed 1-4. Thu 1-4):

Week of	Lab Topics	Quizzes
Jan. 12	Cells and Tissues	
Jan. 19	Roots ***CHANGE OF DATE = 1/23/09***	#1
Jan. 26	Shoots	#2
Feb 2	Embryos and Seeds	#3
Feb 9	Wood & Cork	#4
Feb 16	Plant Modifications & Marketplace	#5
Feb 23	Water Relations	#6
Mar 2	Spring Break – No Lab –	
Mar 9	Tropisms	#7
Mar 16	Photosynthesis	#8
Mar. 23	Cyanobacteria & Algae	#9
Mar 30	Ferns	#10
Apr 6	Gymnosperms	#11
Apr 13	Angiosperms	#12
Apr 20	TBA	#13

Lab Instructor Contact Information for Alternative Lab Sections:

Dr. Christopher Hardy Roddy 271A 871-2312

Christopher.Hardy@millersville.edu

Section 1A: Wednesday 1 - 3:50 P.M.

Dr. Yuan Zhong: Roddy163 871-5112

Yuan.Zhong@millersville.edu

Section 1C: Thursday 1 – 3:50 P.M.

Attendance: *Attendance to all labs is mandatory.* No make-up quizzes will be given for unexcused absences. You are responsible for all material covered in the labs regardless of your presence. Excused absences must request permission prior to class and will be expected to arrange to complete the lab in another instructor's lab section. Due to the school calendar, be aware that lab schedules can vary between instructors. Whenever possible, plan in advance. See the Millersville University attendance policy for qualifying excused absences.

Special Needs: If you have special needs that may affect classroom performance please inform me immediately so that appropriate accommodations can be arranged to the best of my ability.

Honesty: Cheating, plagiarism, falsification, etc. will not be tolerated. Refer to the Millersville University Academic Honesty and Dishonesty brochure for specific details.

Lab quizzes (13 x 10pts each): Quizzes will consist of short answer, diagram labeling, identification, graphing, and data interpretation. Quizzes will cover the details and concepts discussed and demonstrated in the previous lab exercise. The lowest quiz score will be dropped. Make-up quizzes will only be allowed under special circumstances.

Assignments (4 x 10pts each): Assignments will be announced in lab and will be due one week following assignment unless otherwise specified by the instructor. **All lab assignments are to be done individually!** Assignments are expected to be neat and typed. Late assignments will be penalized by 10% per day late.

1. Physiology Lab Report (25pt): One lab will be chosen by the instructor from the Physiology section and will be prepared by the student in the format used by the journal *Plant Physiology*. Sections detailing an abstract, introduction, materials and methods, results, and conclusions will be included. Standard deduction of 10% per day late will be assessed.

2. Society Impact Report (25pt): The student will choose a plant species that has had an impact on the development of human society (economic, recreational, food, etc.) and write a 1000-1500 word article. The article should address: a) the taxonomy; b) historical applications or cultivation; c) current use(s), d) economic and social impact. Report due dates will be given on the day of assignment. A standard deduction of 10% per day late will be assessed.

Lab Quizzes:	120pt
Assignments:	40pt
Reports	50pt
Attendance and Participation	20pt
Total	230pt *

(* point distribution may vary between lab sections)

Consideration: Please leave the lab as clean as you found it. Turn off all cell phones, pagers, and any other electronic devices before class.

Open Lab: Roddy 279 will be open and available to all Botany students every Friday from 12-5. The materials from that week's lab will be available for analysis. Additional materials relating to that week's topic will also be available for analysis and exploration. Please direct any questions or concerns about open lab to Dr. Wagner.