

BIOL 221, Concepts of Botany, Spring 2018

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

**Lecture** (Roddy 261): T R, 2:35-3:50

**Labs** (Roddy 279): A, M 1:00-3:50 (Hardy)  
C, W 1:00-3:50 (Hardy)

B, T 9:00-11:50 (Hardy)

D, R 9:00-11:50 (Stieha)

**Lecture Instructor** Dr. Christopher Hardy

Office: Roddy 271 Tel: 871-4317 Office Hrs: T 4-5, R 10-12, F 12-2

**Required:** 1. Hoefnagels M. 2018. *Biology: Concepts and Investigations*, 4<sup>th</sup> Edition. McGraw Hill Education New York, USA.

Option 1: Custom Looseleaf Edition available on campus (ISBN13: 9781307185621 )

Option 2: The entire bound-book, hardcover (ISBN13: 9780078024207)

Option 3: The entire ebook (ISBN13: 9781259869587, 6-month access).

2. Hardy CR, RL Wagner (eds). 2018. *Guide to Lab Exercises in Concepts of Botany*, 6<sup>th</sup> edition. Millersville, Pennsylvania, USA.

3. Scientific calculator.

**Recommended:** Rushforth et al. 2016. *A Photographic Atlas for the Botany Laboratory*, 7<sup>th</sup> edition. Morton Publishing.

**Schedule**

<u>Lecture Topic</u>	<u>Lab (subject to change)</u>
<b>Structure &amp; Development</b>	
Week of Jan 22: Introduction	Introduction to Botany
Week of Jan 29: The Primary Plant Body	Seeds & Seedlings
Week of Feb 05: The Primary Plant Body	Morphology
Week of Feb 12: The Secondary Plant Body	Anatomy
Week of Feb 19: The Secondary Plant Body	Woody Plants
<b>Physiology &amp; Function</b>	
Week of Feb 26: Water & Nutrition <b>Exam 1 (Thu, Mar 01)</b>	Plant Modifications in Nature & The Marketplace
Week of Mar 05: Hormones & Tropisms	Water Relations
Week of Mar 12: Spring Break	Spring Break
Week of Mar 19: Photosynthesis	Plant Behavior
Week of Mar 26: Ethnobotany of Secondary Metabolism	Photosynthesis
<b>Diversity &amp; Evolution</b>	
Week of Apr 02: Gymnosperms	Ethnobotany of 2° Metabolism
Week of Apr 09: Angiosperms <b>Exam 2 (Thu, Apr 12)</b>	Gymnosperms
Week of Apr 16: Angiosperms	Angiosperms: Flowers
Week of Apr 23: Bryophytes & Pteridophytes	Angiosperms: Fruits
Week of Apr 30: Algae	Bryophytes & Pteridophytes
Week of May 07: Final Exam: <b>Fri, May 11, 2:45-4:45 PM</b>	

**Reading Assignments** Listed in this syllabus (above) and supplemental readings will be announced in class as necessary. You are responsible for all content in the assigned readings.

**Grading** A point system is employed. Final letter grades are determined based on the percentage of total possible points you earn as follows (A = 93-100%; A- = 90-92; B+ = 87-89; B = 83-86; B- = 80-82; C+ = 77-79; C = 73-76; C- = 70-72; D+ = 67-69; D = 63-66; D- = 60-62; F = below 60%).

Lecture Exam 1	50	No make-up exams.
Lecture Exam 2	50	
Final Lecture Exam	75	
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Lab	160 (scaled from your lab instructor's points)	
Total points possible	335	

**Objectives** At the successful completion of BIOL 221 lecture, a student should be able to

1. Understand the organization in plants from the cellular to tissue to organ to organism level.
2. Compare and contrast the life cycles of plants and animals.
3. Understand basic plant metabolism, including Electron Transport, and the Light and Dark Reactions of Photosynthesis.
4. Understand specific aspects of internal transport in plants including diffusion, osmosis, the Cohesion-Tension Theory, transpiration, translocation, and turgor pressure.
5. Understand and describe the mechanisms controlling plant behavior to light, gravity, touch, wounding and regeneration, and to flowering.
6. Recognize salient features and diversity within and between major plant taxa, and to develop a lineage of features from plesiomorphic to derived groups of plants.
7. Explain how the biology, anatomy, and structures of plants relate to their uses by humans.
8. Understand basic processes in the production of food, shelter, medicines, from plants.
9. Understand the role of plants in important societal issues.

**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.

**Attendance** Attendance is expected for all lectures and labs. No make-up exams or quizzes will be given for unexcused absences. Excused absences in lab must request permission prior to class and you will be expected to arrange to complete the lab in another lab section. Whenever possible, plan in advance. See the Millersville University attendance policy for qualifying excused absences.

**Honesty** Each student is expected to adhere to the Millersville University's Academic Honesty Policy. Violation of it results in a zero for the assignment. The policy can be found in the Student Handbook and the Academic Honesty and Dishonesty brochure (<http://www.millersville.edu/catalogs/undergraduate/index.pdf>)

**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>.