

Developmental Studies of Agriculturally Important Plants of Lancaster County

Objectives: Following completion of this class, a student should be able to

1. Be familiar with the process of executing a developmental study of an organism.
2. Describe the development, from seed to maturity, of agriculturally important plant species through writing, verbal communication, and high-quality figures.
3. Associate adaptive functions with the morphology of seedlings and plants at various stages of development.
4. Understand the value and demonstrate the process of preparing voucher specimens for botanical research.
5. Make effective use of Adobe Photoshop to construct high-quality scientific figures in support of your research.

Class Time & Location: W 10-10:50, Roddy 279

Instructor: Dr. Christopher Hardy (<http://herbarium.millersville.edu/hardy.php>)

Office: Roddy 271 Tel: 871-4317 Office Hrs: T 1:30-2:30, R 10-12, F 12-2

Reference Text: Evert RF, SE Eichhorn. 2013. *Raven Biology of Plants*, 8th Edition. WH Freeman and Co. New York, NY, USA.

Schedule:

<u>Lab Topic</u>		
Week of Jan 23:	Introduction to Botany	
Week of Jan 30:	1-week germination & seedling study; SLR Camera, Pressing & Photoshop Tutorials	Species Overview Report
Week of Feb 06:	2-week seedling study; Intro Seed Photography	Week 1 Report
Week of Feb 13:	3-week seedling study; Seed Photography continued	Week 2 Report
Week of Feb 20:	4-week study	Week 3 Report
Week of Feb 27:	5-week study	Week 4 Report
Week of Mar 06:	6-week study	Week 5 Report
Week of Mar 13:	Spring Break (Mar 13-Mar 19)	
Week of Mar 20:	Week 8 study; Poster Tutorial	Week 7 Report
Week of Mar 27:	Week 9 study	Week 8 Report
Week of Apr 03:	Week 10 study	Week 9 Report
Week of Apr 10:	Week 11 study	Week 10 Report
Week of Apr 17:	Week 12 study	Week 11 Report
Week of Apr 24:	Week 13 study	Week 12 Report
Week of May 01:	Week 14 study	Week 13 Report
Week of May 08:	Final (Oral Presentation), F May 12, 8-10	Oral Poster Presentation

Grading: 390 lab points total.

1. Weekly Reports (150 pts. total). Fourteen 1 (or 2-page) written reports at 10 (or 20) pts a piece. Reports only summarize the morphology of the seedling from previous week's study, and does not entail summarizing the development up to that week
2. Poster (100 pts). Graded on quality of photographs, poster-craft, and accuracy.
3. Oral Poster Presentation (50 pts). Graded based on oral communication skills.
4. Photograph Catalog (20 pts). A digital collection of all of your photos taken each week. Each photo is labeled as per the following example "phaseolus-vulgaris-week01a.jpg". Graded on completeness.
5. Voucher Specimens (70 pts). A collection of pressed and dried specimens of seedlings at weekly stages of development. Graded on completeness & quality of specimens and data.
6. Participation/Attendance Penalties. You will lose upwards of 5 points per lab period for unexcused absences, late arrivals or early departures, failure to work diligently for the entire lab, failure to clean-up thoroughly after lab, failure to treat equipment and other persons in the lab with due courtesy, or recreational use of phones during lab.

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 required. 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>.