

BIO 130: Introduction to Plant Biology

Fall 2017, 4 Credit

Lecture: T, R, F 9:00 AM – 9:50 AM

Lecture Instructor: Ann Impullitti, Ph.D.

Office: TNR 454

Work Phone: 715-236-2772

Email: ann.impullitti@uwsp.edu (this is the best way to reach me)

Office hours: M, W 9:30– 11:30 PM, and by appointment

In general, I have an open door policy. If you have any questions stop by any time and I will answer them, time permitting

How I will contact you: I will use your UWSP email address so please check your email daily. If you use a different email address, make arrangements to have messages forwarded to the account you use.

Introduction and Objectives

Welcome to Plant Biology! This course will cover many aspects of plant biology, including anatomy, ecology, biotechnology, diversity, and physiology. By the end of this course you will have an appreciation for the role and function of plants in the environment, and you will have gained an understanding about their diversity, physiology, and ecology.

In lecture, we will begin by studying the difference between plants and animals, the evolution of plants, and the intricate details of photosynthesis. We will then begin a journey from the most primitive plants (Bryophytes) to the most advanced (Angiosperms).

Labs will be hands-on so come prepared to explore! The lab is designed to complement the lecture material so you will be able to see and explore many of the topics we discuss in lecture.

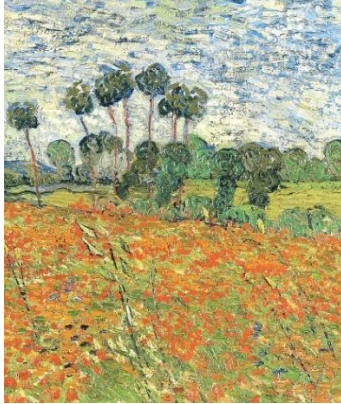
At the completion of this course you should be able to:

- 1) Understand the ecological role of plants and the importance of the relationship between plants and humans in the environment
- 2) Appreciate the species richness and diversity of plants
- 3) Be able to identify and distinguish the differences between the lowest of the low (algae), bryophytes, pteridophytes, gymnosperms, and angiosperms
- 4) Appreciate the importance of photosynthesis for all organisms and explain the process of photosynthesis
- 5) Understand how plants function: hormones, water movement, reproduction, and tropisms

Course Materials

For lecture

Textbook: Evert, R.F. and Eichhorn, S.E. *Raven Biology of Plants*, 8th edition. W.H. Freeman
ISBN-10:1-4292-1961-0



For Lab

Lab Manual: Essentials of Botany, Seventh ed., Fall 2017, edited by Hardy and Hillier
(REQUIRED, PURCHASE FROM BOOKSTORE).

Student expectations and attendance

I will not formally take attendance in lecture, but you are expected to attend all lectures. Furthermore, I am in front of you every day, meaning that I look at my audience daily and will know if you are not in attendance on a regular basis. Please note that there is also a strong correlation with attendance and being successful as an undergraduate.

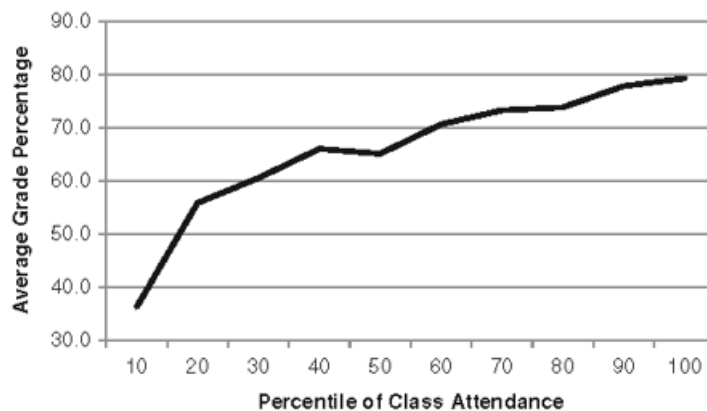


Figure. Illustration of the curvilinear relationship between attendance and grade outcomes. *Data from Gendron and Pieper (2005). Class Attendance in College A Meta-Analytic Review of the Relationship of Class Attendance With Grades and*

Learning is not a spectator sport. Most people learn best by getting involved with the subject material, talking about it, and questioning it. Therefore, we will be writing in class almost daily and doing other

activities. I will work hard to facilitate your learning, but ultimately you are responsible for your education and can only learn the material by focus, study time, and effort. If something is unclear, please ask questions, send me an email, or visit/make an appointment during my office hours.

Keep cell phones and other electronic devices turned OFF.

Assessment

Exams (530 pts)

- Three in class exams (100 pts/exam) and a final (150 pts) Exams are based on lectures and assigned readings from the textbook. Exams may be composed of any of the following T/F, multiple choice, fill in the blank, short answer, data interpretation, problem solving, and essay. The final exam is cumulative. Biology is a discipline in which you are constantly building on prior knowledge, and therefore on the final you will be expected to integrate concepts and ideas from throughout the semester.
 - A makeup exam will be given if you have a conflict due to a religious observance or an UWSP sponsored event. In cases such as these, you need to make arrangement with me **at least 1 week before the exam. The rescheduled test must be taken 24hrs before the scheduled time. NO EXCEPTIONS**
 - If you miss an exam for any other reason (car troubles, illness, family emergency, alarm clock failure, etc.), you will receive a zero on the exam. This zero will be replaced with the percentage you earn on the final exam. For example, you missed lecture exam #1 and earned a 75% (112.5/150pts) on the final exam. Exam #1 will now be replaced with 75pts.

Quizzes

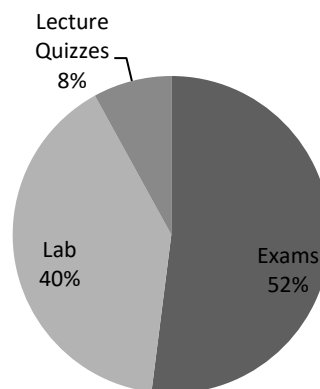
- Four in-class quizzes (20 pts/quiz) will be given throughout the semester. The quizzes are designed to help you keep up with your studying (rather than waiting until the exam...which you should NOT do). All quizzes are multiple choice, and **you cannot make up a missed quiz.** (20 pts x 4 quizzes = 80 pts).

Lab (340 pts) (See your lab syllabus for details)

Grading

Your grades will be posted on D2L

A	>93%	> 809
A -	90 - 92.9%	783 - 808
B+	87 - 89.9%	757 - 782
B	83 - 86.9%	722 - 756
B-	80 - 82.9%	696 - 721
C+	77 - 79.9%	669 - 695
C	73 - 76.9%	635 - 668
C-	70 - 72.9%	609 - 634
D+	67 - 69.9%	582 - 608
D	63 - 66.9%	548 - 581
D-	60 - 62.9%	522 - 547
F	<59.9	> 521



UWSP Policies

ACADEMIC INTEGRITY: Academic dishonesty in any form will not be tolerated! It is your responsibility to be aware of your rights and responsibilities as a UWSP student. Please take the time to read and understand the information found here (and let me know of any questions):

<http://www.uwsp.edu/dos/Documents/CommunityRights.pdf>. Cheating or plagiarism related to any of the course assessments will result in a score of zero for that assessment.

ACCOMODATIONS: I will be happy to help you if you need special accommodations to succeed in this course. Please visit the UWSP Student Disability and Assistive Technology Center (located in LRC 609) to document your needs and contact me so that appropriate arrangements can be made. More information:

<http://www.uwsp.edu/disability/Pages/default.aspx>

Tentative Lecture Schedule

Week 1	Topic	Reading
Tue-Sep-5	Syllabus, Course Overview and Introductions	
Thu-Sep-7	Biological Chemistry	Ch 2: 17 - 30
Fri-Sep-8	Biological Chemistry	Ch 2: 17 - 30
Week 2		
Tue-Sep-12	Plant Cells (Inside the cell)	Ch 3: 38 - 56
Thu-Sep-14	Plant Cells (Outside the cell)	Ch 3: 56 - 61 Ch4: 82 - 87
Fri-Sep-15	Quiz #1	
Week 3		
Tue-Sep-19	Growth and Division of the cell	Ch 3: 62 - 74
Thu-Sep-21	Cells, tissues, and organization of stems	Ch 23: 538 - 557
Fri-Sep-22	Leaves	Ch 25: 579 - 613
Week 4		
Tue-Sep-26	Roots	Ch 24: 558 - 578
Thu-Sep-28	Structure of woody plants	Ch 26: 614 - 636
Fri-Sep-29	Transport Processes	Ch 4: 75 - 80; Ch 30: 708 - 722
Week 5		
Tue-Oct-3	Exam #1	
Thu-Oct-5	Metabolism Overview	Ch 5: 93 - 106
Fri-Oct-6	Photosynthesis: Light and Pigments	Ch 7: 122 - 140
Week 6		
Tue-Oct-10	Photosynthesis: The light reactions	Ch 7: 122 - 140
Thu-Oct-12	Photosynthesis: Carbon Fixation	Ch 7: 122 - 140
Fri-Oct-13	Respiration and Energy flow	Ch 6: 107 - 121
Week 7		
Tue-Oct-17	Development and Morphogenesis	Ch 22: 525 - 537
Thu-Oct-19	Development and Morphogenesis	Ch 27: 637 - 652
Fri-Oct-20	Quiz #2	

Week 8		
Tue-Oct-24	Mendelian Genetics	Ch 8: 151 - 173
Thu-Oct-26	Mendelian Genetics	Ch 8: 151 - 173
Fri-Oct-27	Molecular Genetics	Ch 9: 174 - 191
Week 9		
Tue-Oct-31	Molecular Genetics	Ch 9: 174 - 191
Thu-Nov-2	Exam #2	
Fri-Nov-3	Tree of life, Diversity, and Life Cycles	Ch 12: 234 - 255
Week 10		
Tue-Nov-7	Viruses and Bacteria	Ch 13: 270 - 277
Thu-Nov-9	Lecture TBD (YOU WILL HAVE LAB!)	
Fri-Nov-10	Lecture TBD	
Week 11		
Tue-Nov-14	Fungi are fun!	Ch 14: 278 - 316
Thu-Nov-16	Before Land Fall. The Chlorophyta (Green Algae) and other protists	Ch 15: Pg 317 – 365
Fri-Nov-17	Quiz #3 Green algae Cont'd; Land fall – Bryophyte Intro	Ch 15: Pg 317 – 365
Week 12		
Tue-Nov-21	Bryophytes diversity: Liverworts, hornworts, and mosses	Ch 16: 366 -390
Thu-Nov-23	Thanksgiving break	
Fri-Nov-24	Thanksgiving break	
Week 13		
Tue-Nov-28	Seedless Vascular Plants (Getting taller!! – Why?!?):	Ch 17: 391 - 429
Thu-Nov-30	Gymnosperms – Vascular Seed Plants: Overview and Coniferophyta	Ch 18: 430 - 456
Fri-Dec-1	Coniferophyta and other important gymnosperms	Ch 18: 430 - 456
Week 14		
Tue-Dec-5	Exam #3	
Thu-Dec-7	Angiosperms – Flowering Seed Plants - Reproduction	Ch 19: 457 - 476
Fri-Dec-8	Angiosperm Evolution – Flowers and fruit	Ch 20: 477 - 500
Week 15		
Tue-Dec-12	Seed Development; Finish Plant Diversity	Ch 22: 525 - 532
Thu-Dec-14	Plants and People	
Fri-Dec-15	Quiz #4 Plants and People	
Finals Week		
Tue-Dec-19	Cumulative Final - 10:15 - 12:15 (SCI A201)	