Biology 130: Plant Biology
Section 02 / L1-2
Spring 2019

Lecture 9:30-10:45 M W, SCI D 101

Lab Sec02/L1: 13:00-14:50 T R, CBB 176
Sec02/L2: 15:00-16:50 T R, CBB 176

Professor Dr. Qiang Sun
Office: CBB 348
Phone: 715-346-2737
Email: qsun@uwsp.edu
Website: http://www.uwsp.edu/biology/Pages/Faculty/Sun.aspx
Office hours: 14:00 – 15:00 T
14:00 – 15:00 R
8:00 – 9:00 F
Other times by appointment

Textbook Stern KR, Bidlack JE, Jansky SH. 2014. *Introductory Plant Biology*, 13th Edition. The McGraw-Hill Companies, Inc., New York. Required, rental from the University Bookstore

Lab manual *Essentials of Botany---Laboratory Manual for Introductory Botany* (7th Edition) compiled and written by UWSP Botany Faculty. Required, purchase from the University Bookstore

Course related websites

1. UWSP Biology 130 Lab Review Images: http://www.uwsp.edu/biology/courses/botlab/
2. Common Plants of Wisconsin: http://www4.uwsp.edu/biology/courses/plantID/cphome.htm

Course materials All the lecture outlines, handouts and other course materials will be posted on Desire2Learn (D2L). Please visit the website frequently.

Course description and learning outcomes

This course will provide you with important, up-to-date information about modern plant biology. We will cover fundamental concepts in different fields of plant biology, including structure, function, genetics, molecular biology and biotechnology, diversity, evolution and ecology. Below are the four core learning outcomes that students are expected to achieve after completing this course:

1. Develop analytical and critically thinking skills through the application of

the scientific method.

2. Describe the molecular, biochemical, and cellular basis of plants.

3. Describe the anatomy, physiology, inheritance and reproduction of plants.

4. Distinguish the major groups of plants, fungi, protists and bacteria and describe their evolutionary and ecological relationships as well as their relevance to humans.

Attendance

You are required to actively participate in all activities of this course. Missing class will severely hinder your ability to understand subsequent material and perform well on exams and quizzes. If you miss a lecture, it is your responsibility to borrow notes from your classmate. There will be no points for missed exams or quizzes. Make-up exams or labs will be allowed only in case of unavoidable emergencies, in which you need to get my approval in advance if possible and provide a written proof later.

Exams

Three midterm lecture exams	300 points (100 points x 3 times)
Six lab quizzes	180 points (30 points x 6 times)
One final lecture exam	100 points
Fifteen lecture pop quizzes	60 points (4 points x 15 times)
One lab report	8 points
Lab attendance	52 points (2 points x 26 times)
Total possible score	700 points

Projects

You will be anticipated to complete two projects at a total of 40 extra points. One is group project. You will need to form a group of four students, write up a report collaboratively and present it to the class (30 extra points). The other project needs to be completed independently (10 extra points). Detailed instructions for the projects will be given when assigned.

Grading

Grade	Percent
A	93 - 100
A-	90 - 92
B+	87 - 89
B	83 - 86
B-	80 - 82
C+	75 - 79
C	70 - 74
C-	65 - 69
D+	60 - 64
D	55 - 59
F	<55

Academic integrity

Academic honesty is an essential element to the educational principles of UWSP as well as to this course. Academic misconduct in any form is strictly prohibited by the University regulations. Any violation will result in disciplinary sanction in accordance with "UWS/UWSP Chapter 14: Student Academic Standards and Disciplinary Procedures". Please find the details of UWSP academic integrity policy at http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf.

Special needs

If you need course adaptations, accommodations, or any other special arrangements because of disability and other medical conditions, please visit the Student Disability Office first to establish a record of your disability. After that, please make an appointment with me as soon as possible or see me during my office hours.

Emergency response guidance

In the event of a medical emergency, call 911 or use Red Emergency Phone. Offer assistance if trained and willing to do so. Guide emergency responders to victim. In the event of a tornado warning, proceed to the lowest level interior room without window exposure. Avoid wide-span structures (gyms, pools or large classrooms). See www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx for floor plans showing severe weather shelters on campus. Get to know at the start of the semester the locations of red emergency phone and severe weather shelters closest to our lecture hall and laboratory. In the event of a fire alarm, evacuate the building in a calm manner. Meet at an instructed location 200 yards away from building. Notify instructor or emergency command personnel of any missing individuals. In the event of active shooting, run/escape, hide or fight. If trapped, hide, lock doors, turn off lights, spread out and remain quiet. Call 911 when it is safe to do so. Follow instructions of emergency responders. See UW-Stevens Point Emergency Procedures at www.uwsp.edu/rmgt/Pages/em/procedures for details on all emergency response at UWSP.

Tentative Lecture and Lab Schedule

Week #	Week of	Lecture topic	Lab topic
1	Jan 20	An introduction to plant biology; Chemical and physical bases of life; The macromolecules of cells	NO LAB on Jan 23; Lab 1 (P.1 in the laboratory manual; the same below), lab safety and Lab 15 Part II-A (P.158)
2	Jan 27	Structure, function and reproduction of plant cells; Plant tissues - I	Lab 2 (P. 11); Lab 3 (P. 17)

3	Feb 3	Plant tissues – II; Plant growth; Stems; Review	Lab 4 (P. 29); Lab 5 (P. 35)
4	Feb 10	Roots and leaves – I; **Lecture Exam 1 (02/14)**	Lab 6 (P. 45) and **Lab Quiz 1 (02/13)**; Lab 7 (P. 59)
5	Feb 17	Leaves – II; Plant water relations; Enzymes and respiration – I	Lab 8 (P. 71); Lab 9 (P. 87)
6	Feb 24	Respiration – II; Photosynthesis; Plant growth control; Genetics - I	Lab 10 (P. 105) and **Lab Quiz 2 (02/27)**; Lab 11 (P. 117)
7	Mar 3	Genetics – II; Molecular biology; GMO video; Group project assignment	Lab 12-1 (P. 127)-Growth setup; Lab 13 (P. 141)
8	Mar 10	**Lecture Exam 2 (03/12);** Evolution - I	Lab 12-2 (P. 127)-Growth analysis; Lab 14 (P. 147)
9	Mar 24	Evolution – II; Darwin video; Prokaryotes and protists – I	Lab 15 (P. 155) and **Lab Quiz 3 (03/20);** Lab 16 (P. 167)
10	Mar 31	Protists – II; Fungi and lichens	Lab 17 (P. 177); Lab 18 (P. 187) and **Lab Quiz 4 (04/05)**
11	Apr 7	Bryophytes; Review; Seedless vascular plants and gymnosperms - I	NO LAB on Apr 10; Lab 19 (P. 199)
12	Apr 14	**Lecture Exam 3 (04/18)**; Gymnosperms – II; Angiosperms - I	Lab 20 (P. 209); Lab 21 (P. 219)
13	Apr 21	Angiosperms – II; Reproductive organs; Population ecology	Lab 22 (P. 229) and **Lab Quiz 5 (04/24);** Lab 23 (P. 241)
14	Apr 28	Project presentations	Lab 24 (P. 253); Lab 25 (P. 263) and **Lab Quiz 6 (05/03)**
15	May 5	Community ecology; Ecosystem ecology; Invasive species video	NO LAB this week
16	May 12	**Final Lecture Exam (05/13, Monday)**	NO LABS this week