Biology 130: Plant Biology
Section 02 L1-3
Fall 2017

Lecture 12:30-13:45 T R, SCI D102

Lab Sec02L1: 10:00-11:50 M W, TNR153
Sec02L2: 13:00-14:50 M W, TNR153
Sec02L3: 15:00-16:50 M W, TNR153

Professor Dr. Qiang Sun
Office: 467 TNR
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 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://www.uwsp.edu/biology/courses/plantid/cp-hires-main.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)
Lab attendance	52 points (2 points x 26 times)
Total possible score	692 points

Projects

You will be anticipated to complete two projects at a total of 40 extra points. One is a 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 9-1-1 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 9-1-1 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	Sep 3	An introduction to plant biology; The chemical and physical bases of life; The macromolecules of cells	NO LABS
2	Sep 10	Structure, function and reproduction of plant cells; Plant tissues - I	Lab 1 (P.1 in the laboratory manual; the same below), lab

			safety and Lab 15 Part II-A (P.158); Lab 2 (P. 11)
3	Sep 17	Plant tissues – II; Plant growth; Stems; Review	Lab 3 (P. 17); Lab 4 (P. 29)
4	Sep 24	Roots and leaves – I; **Lecture Exam 1 (09/28)**	Lab 5 (P. 35); Lab 6 (P. 45) and **Lab Quiz 1 (09/27)**;
5	Oct 1	Leaves – II; Plant water relations; Enzymes and respiration – I	Lab 7 (P. 59); Lab 8 (P. 71)
6	Oct 8	Respiration – II; Photosynthesis; Plant growth control; Genetics - I	Lab 9 (P. 87); Lab 10 (P. 105) and **Lab Quiz 2 (10/11)**
7	Oct 15	Genetics – II; Molecular biology; GMO video; Group project assignment	Lab 11 (P. 117); Lab 12-1 (P. 127)-Growth setup
8	Oct 22	**Lecture Exam 2 (10/24);** Evolution - I	Lab 13 (P. 141); Lab 12-2 (P. 127)-Growth analysis
9	Oct 29	Evolution – II; Darwin video; Prokaryotes and protists – I	Lab 14 (P. 147); Lab 15 (P. 155) and **Lab Quiz 3 (11/01)**
10	Nov 5	Protists – II; Fungi and lichens	Lab 16 (P. 169); Lab 17 (P. 179)
11	Nov 12	Bryophytes; Review; Seedless vascular plants and gymnosperms - I	Lab 18 (P. 189); Lab 19 (P. 201) and **Lab Quiz 4 (11/15)**
12	Nov 19	**Lecture Exam 3 (11/21)**; Thanksgiving Holiday	Lab 20 (P. 211); NO LAB on Nov 23
13	Nov 26	Gymnosperms – II; Angiosperms; Reproductive organs	Lab 21 (P. 221); Lab 22 (P. 231) and **Lab Quiz 5 (11/29)**
14	Dec 3	Population ecology; Community ecology; Project presentations-I	Lab 23 (P. 243); Lab 24 (P. 255)
15	Dec 10	Ecosystem ecology; presentation-II	Lab 25 (P. 265) and **Lab Quiz 6 (12/11);** Invasive species video
16	Dec 17	**Final Lecture Exam**	NO LABS this week