

Biology 130

Introduction to Plant Biology

Fall 2020

Lecture Online asynchronous delivery, Tue Thu

Lab Sec01/L1: 10:00-11:50 Mon Wed, CBB 176 (in-person labs)
Sec01/L2: 13:00-14:50 Mon Wed, CBB 176 (in-person labs)
Sec01/L3: 15:00-16:50 Mon Wed, CBB 176 (in-person labs)

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Virtual office hours: 11:00 – 12:00 Tue, 11:00 – 12:00 Thu, 9:00 – 10:00 Fri, and other times by appointment

Textbook Bidlack JE, Jansky SH. 2017. *Stern's Introductory Plant Biology*, 14th 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://www.uwsp.edu/biology/courses/plantid/cp-hires-main.htm>

Course materials

All lecture slideshows, pre-recorded lecture videos, lecture-related videos, lecture handouts, lab outlines, lab-related videos, lab summaries, and other course materials will be posted on the Canvas. Please visit the website frequently.

Learning outcomes of General Education Program (GEP) investigation-level natural science courses

1. Explain major concepts, methods, or theories used in the natural sciences to investigate the physical world
2. Interpret information, solve problems, and make decisions by applying natural

- science concepts, methods, and quantitative techniques
3. Describe the relevance of aspects of the natural sciences to their lives and society

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 five core learning outcomes that students are expected to achieve.

1. Upon completing this course, students need to be able to explain fundamental molecular, biochemical, and cellular principles of plants
2. Upon completing this course, students need to be able to describe general anatomical structures and physiological functions of plants and interpret fundamental principles of genetics, evolution, and ecology
3. Upon completing this course, students need to be able to recognize major groups of plants, fungi, protists and prokaryotes and describe their evolutionary and ecological relationships as well as their impacts on ecosystems and human welfare etc.
4. Upon completing this course, students need to be able to apply the scientific method in analyzing problems
5. Upon completing this course, students need to be able to apply the concepts, methods and theories they have learned to clearly identify, critically think, and better interpret plant biology related issues/problems in the real world

Attendance

You are required to actively participate in all activities of this course. Missing activities will severely hinder your ability to understand subsequent material and perform well on exams and quizzes.

All lecture exams, lecture quizzes and lab quizzes will be posted on the Canvas and are open-note/open-book. Each test or quiz will become accessible to you online after the relevant material has been completed in class. You have only one attempt to finish it online within a certain period of time.

There will be no points for missed exams or quizzes. Make-up exams or quizzes 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 etc

Four non-cumulative lecture exams	400 points (100 points x 4 times)
Six non-cumulative lab quizzes	240 points (40 points x 6 times)
Twenty-two lecture quizzes	88 points (4 points x 22 times)
One individual project	20 points
One chapter summary	20 points

One lab report
Total possible score

20 points
788 points

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](#)

Special needs

If you need course adaptations, accommodations, or any other special arrangements because of disability and/or other medical conditions, please contact the Student Disability Office first to establish a record. After that, please schedule a virtual meeting with me as soon as possible to see how I can do to accommodate your needs.

Copying and Recording of Instructional Materials or Lectures

According to [the UWS Board of Regents Policy Document 4-1](#), instructional materials for this course are protected intellectual property at UW-Stevens Point. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. Students may not copy or share course materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and

17, governing student academic and non-academic misconduct.

Emergency Response Guidance and UWSP COVID-19 Related Policies

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 [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](#) for details on all emergency response at UWSP.

Guidance Regarding Face Coverings in the Classroom

Face Coverings:

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact [the Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.

Other Guidance:

- Please monitor your own health each day using this [screening tool](#). If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646).
 - As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Maintain a minimum of 6 feet of physical distance from others whenever possible.
- Do not congregate in groups before or after class; stagger your arrival and departure from the classroom, lab, or meeting room.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.

- Please maintain these same healthy practices outside the classroom

[UW System COVID-19 Health and Safety Video](#)

Tentative lecture and lab schedule

All lectures will be delivered online in an asynchronous format. Labs will be in a hybrid format with 18 virtual labs and 7 in-person labs (you will be assigned to a group and attend the in-person labs at designated times). All pre-recorded lectures, full lecture slideshows, lab outlines and videos, and lab instructions *etc.* will be posted on the Canvas prior to their respective times in the tentative schedules below. Although this allows you some time flexibility, I strongly encourage that you establish a daily routine and commit enough time to ensure an effective learning of the materials. Below are tentative schedules for lectures, virtual labs and in-person labs. Attendance will be taken in all in-person labs to aid in any needed COVID-19 contact tracing purpose. All in-person labs have their online alternatives for students who opt to take those labs online.

Lectures

- 3-Sep Lecture 1 Introduction to Plant Biology & the physical and chemical bases of life-1
- 8-Sep Lecture 2 The physical and chemical bases of life-2 and the macromolecules of cells
- 10-Sep Lecture 3 Structure, function and reproduction of plant cells-1
- 15-Sep Lecture 4 Mitosis, meiosis and plant tissues - I
- 17-Sep Lecture 5 Plant tissues -II and plant growth
- 22-Sep Lecture 6 Stems; review
- 24-Sep lecture 7 Roots and Leaves - I
- 29-Sep Exam 1 (Lectures 1-6)**
- 1-Oct Lecture 8 Leaves -II and plant water relation
- 6-Oct Lecture 9 Enzymes and respiration-I
- 8-Oct Lecture 10 Respiration - II and photosynthesis
- 13-Oct Lecture 11 Plant growth control and molecular biology of the gene - I
- 15-Oct Lecture 12 Molecular biology of the gene - II and plant biotechnology
- 20-Oct GMO video; Group project assignment
- 22-Oct Exam 2 (Lectures 7-12)**
- 27-Oct Lecture 13 Evolution
- 29-Oct Darwin Video
- 3-Nov Lecture 14 Prokaryotes and Protists - I
- 5-Nov Lecture 15 Protists - II
- 10-Nov Lecture 16 Fungi and Lichens
- 12-Nov Lecture 17 Bryophytes; review
- 17-Nov Lecture 18 Ferns and Gymnosperms - I
- 19-Nov Exam 3 (Lectures 13-17)**

24-Nov Lecture 19 Gymnosperms - II and Angiosperms - I
26-Nov Thanksgiving holiday
1-Dec Lecture 20 Angiosperms - II and reproductive organs
3-Dec Lecture 21 Population Ecology
8-Dec Lecture 22 Community ecology
10-Dec Lecture 23 Ecosystem ecology; Invasive species video
Final exam (Lectures 18-22) on 14-16 December

Virtual Labs

9-Sep Lab 2. Microscopic Measurements and Oil Immersion Lens
14-Sep Lab 3. The Plant Cell
16-Sep Lab 4. Mitosis
23-Sep Lab 5. Meristems and Lab quiz 1 (Labs 1-4)
28-Sep Lab 6. Wood
30-Sep Lab 7. Roots [trichomes, coleus]
5-Oct Lab 8. Leaves
7-Oct Lab quiz 2 (Labs 5-8)
14-Oct Lab 13. Gas and Photosynthesis
19-Oct Lab 14. Molecular Biology
21-Oct Lab 15. Genetics (Count Trichomes)
4-Nov Lab quiz 3 (and Labs 9-13)
9-Nov Lab 17. Fungi-I
11-Nov Lab 18. Fungi-II
16-Nov Lab quiz 4 (Labs 14, 15, 17 & 18) and Lab 19. Cyanobacteria and Algal Diversity
19-Nov Lab 20. Green Algae and Lichens
23-Nov Lab 21. Bryophytes
25-Nov Lab quiz 5 (Labs 16 & 19-21) and Lab 22. Ferns and Allies
30-Nov Lab 23. Gymnosperms
2-Dec Lab 24. Angiosperms
7-Dec Lab 25. Seeds and Fruits
9-Dec Lab quiz 6 (Labs 22-25)

In-person Labs

Group A of Each Lab Section

16-Sep Lab 1. Introduction to the Botany Lab; Microscopes and Trichome counting
28-Sep Lab 9. Water Relations
7-Oct Lab 10. Enzymes and Respiration
19-Oct Lab 11. Light and Photosynthesis
28-Oct Lab 12-2. Growth Analysis; Harvest and Replant
9-Nov Lab 14. Molecular Biology
18-Nov Lab 16. Bacteria

Group B of Each Lab Section

21-Sep Lab 1. Introduction to the Botany Lab; Microscopes and Trichome counting

30-Sep Lab 9. Water Relations

12-Oct Lab 10. Enzymes and Respiration

21-Oct Lab 11. Light and Photosynthesis

2-Nov Lab 12-2. Growth Analysis; Harvest and Replant

11-Nov Lab 14. Molecular Biology

23-Nov Lab 16. Bacteria

Group C of Each Lab Section

23-Sep Lab 1. Introduction to the Botany Lab; Microscopes and Trichome counting

5-Oct Lab 9. Water Relations

14-Oct Lab 10. Enzymes and Respiration

26-Oct Lab 11. Light and Photosynthesis

4-Nov Lab 12-2. Growth Analysis; Harvest and Replant

16-Nov Lab 14. Molecular Biology

25-Nov Lab 16. Bacteria