

# **Biology of Plants and Microbes 231**

## *Lecture Syllabus*

### *Fall 2016*

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- Instructor:** Dr. Stephen Bentivenga (Office: 111C Halsey; 424-7088, [bentiven@uwosh.edu](mailto:bentiven@uwosh.edu))
- Office Hours:** Tue & Thu, 2:00 - 3:00, and by appointment.
- Required Text:** *Biology of Plants* (8<sup>th</sup> Edition) by Raven, Evert, and Eichhorn (2013)  
Bring your text to class each period
- Also required:** Biology 231 Laboratory Manual (available in the bookstore)  
(bring your lab manual to each lab, you will need to make drawings in it)

#### **Course Description:**

This four credit-hour course will examine the biology of plants, fungi, algae, and microorganisms traditionally studied by botanists, with an emphasis on photosynthetic organisms and fungi. Topics to be covered include taxonomy, evolution, ecology, physiology, morphology and life history traits. The impact of these organisms on human affairs will be stressed.

#### **Course Objectives:**

When you complete this class you should be able to:

1. Demonstrate an appreciation of the diversity of the domains and kingdoms of living organisms
2. Outline the higher taxonomy of the plants, fungi, algae, protists, and bacteria
3. Discuss the ecological roles of plants, fungi, and microorganisms
4. Demonstrate an understanding of how plants, fungi, and microorganisms impact human affairs
5. Demonstrate a working knowledge of how these organisms grow and reproduce, and their important structures
6. Discuss important aspects of plant physiology and anatomy

#### **Attendance Policy:**

Attendance in both lecture and laboratories is highly recommended. Earning a high grade in the class will be difficult if not impossible without regular attendance. If you miss a lecture period, it is your responsibility to get notes from a fellow student; I do not give my lecture notes out to students. You are 100% responsible for everything covered in class.

If you miss a lab period without a University-approved excuse, you will not be allowed to make up the missed points for that day. If you know in advance that you will miss a lab, it may be possible for you to attend another section that day, provided you make arrangements with me in advance. DO NOT attend a lab section other than your own without prior permission.

**Grading:**

4 Lecture Exams – 100 points each  
 4 Laboratory Exams – 50 points each  
 Laboratory Notebook –100 points

Grading Scale – out of 700 points total:

100 – 93%	A
92.9 – 90%	A-
89.9 – 88%	B+
87.9 – 83%	B
82.9 – 80%	B-
79.9 – 78%	C+
77.9 – 73%	C
72.9 – 70%	C-
69.9 – 68%	D+
67.9 – 63%	D
62.9 – 60%	D-
< 60%	F

**Make-up Exams:**

Make-up exams will be given only in extreme circumstances (such as the death of a close relative). Notification is required *prior* to the start of the exam as well as confirmation of the excuse afterwards. To be fair to those students who took the scheduled exam, make-up exams will generally be more difficult than the original exam. A make-up exam may take any format I deem appropriate (e.g., practical, essay, oral).

**Outside Assistance:**

I am willing to spend time outside of class with any student who is having difficulty. If you are not performing well in this class, I would like to speak with you early in the semester to try to remedy the situation. I can often help with study techniques to assist you in learning the material. Please come by my office any time; please do not feel limited to my office hours only. Also, the Center for Academic Resources (750 Elmwood Ave., SSC 102, phone: 424-2290) pays for a tutor for this class. Call them to make an appointment.

**Academic Dishonesty:**

Academic dishonesty of any sort will not be tolerated. The giving or receiving of assistance on any exam, talking during exams, using notes, books, or any electronic device during exams, or the misrepresentation of someone else's work as your own all are considered cheating. Do not look at another student's exam and keep your own answers covered. Do not copy drawings from someone else's lab sketchbook; the work you turn in must be based on your own observations of the material. Sanctions for offenses may range from a zero on the assignment, to a failing grade for the class. See the UWO Code of Student Conduct manual for additional information on academic dishonesty.

**Courtesy in the Classroom:**

Try to arrive to lecture and lab on time. If you arrive to lab early, please do not begin the work until you have been instructed to do so. We have pre-lab lectures for a reason.

Silence all cell phones during all class periods (lecture and lab) and keep them out of sight. Refrain from using your cell phone for text messaging during class. Please do not use music players or headphones of any kind during class. To discourage you from using your cell phone during class, I will penalize you 20 points **any** time I see or hear your phone in the classroom. Turn your phone off before you walk into the room. This policy extends to both lecture and laboratory.

## Biology of Plants and Microbes 231

### Lecture Schedule

Lecture No.	Date	Topic	Reading
1	Sep. 7	Course Intro Prokaryotes vs. Eukaryotes	
2	Sep. 12	3 Domains and 5 Kingdoms Taxonomy & Systematics	Ch. 12 pp. 234-255
3	Sep. 14	Bacteria I	Ch. 13 pp. 256-277
4	Sep. 19	Bacteria II: Cyanobacteria	
5	Sep. 21	Eukaryotic Life Cycles Fungi I	pp. 250-254
6	Sep. 26	Fungi II	Ch. 14 pp. 278-316
7	Sep. 28	Fungi III	
	<b>Oct. 3</b>	<b>Exam 1 (lectures 1-7)</b>	
8	Oct. 5	Protists and Algae I	Ch. 15 pp. 317-324; 327-330; 340-344; 360-365
9	Oct. 10	Heterokonts	Ch. 15 pp. 330-340; 358-360
10	Oct. 12	Chlorophyta	Ch. 15 pp. 345-358
11	Oct. 17	Bryophytes	Ch. 16 pp. 366-390
12	Oct. 19	Seedless Vascular Plants	Ch. 17 pp. 391-429
13	Oct. 24	Gymnosperms	Ch. 18 pp. 430-456
14	Oct. 26	Angiosperms	Ch. 19 pp. 457-476
	<b>Oct. 31</b>	<b>Exam 2 (lectures 8-13)</b>	
15	Nov. 2	Flowers and Fruits	Ch. 19 pp. 460-465; Ch. 20 pp. 477-496
16	Nov. 7	Plant Cell Biology	Ch. 3 pp. 38-62
17	Nov. 9	Plant Anatomy I: Roots	Ch. 24 pp. 558-578
18	Nov. 14	Plant Anatomy II: Stems and Leaves	Ch. 25 pp. 579-599
19	Nov. 16	Plant Water Relations	Ch. 30 pp. 708-727
	<b>Nov. 21</b>	<b>Exam 3 (lectures 14-18)</b>	
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20	Nov. 28	Plant Hormones Tropisms Photoperiodism	Ch. 27 pp. 638-653 Ch. 28 pp. 660-682
21	Nov. 30	The Nature of Light and Pigments	Ch. 7 pp. 122-129
22	Dec. 5	Photosynthesis: Light Reactions	Ch. 7 pp. 129-135
23	Dec. 7	Photosynthesis: Light-Independent Reactions	Ch. 7 pp. 135-149
24	Dec. 12	Economic Botany	Ch. 21 pp. 501-523
	<b>Dec. 14</b>	<b>Exam 4 (lectures 19-24)</b>	