



Biology 335/535  
**Mycology**  
Fall 2016

**Instructor:** Dr. Terese M. Barta  
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**Class times:** Lecture: 1:00-1:50 pm MW, Science A208  
Laboratory: 10:00 am-1:00 pm, MW, TNR 451

**Final Exam:** Wednesday, Dec. 21, 8:00-10:00 am

**Office hours:** Mon & Wed, 2:00-3:00 pm; Tues & Thurs 3:00-4:00 pm  
Appointments also welcomed.

**Textbook:** 21<sup>st</sup> Century Guidebook to Fungi. David Moore, Geoffrey D. Robson, Anthony P.J. Trinci. Cambridge University Press. 2011.

**Materials required for the lab:** Each student must provide a three-ringed binder to hold the lab handouts and notes (lab notebook). Purchase of a Sharpie<sup>®</sup> brand marking pen for labeling lab materials (e.g. petri plates and tubes) is also recommended. For collecting specimens, you may want to purchase some wax paper bags. Optional: Students may purchase some type of field guide for identifying mushrooms (recommended: Peterson guide to Mushrooms (McKnight & McKnight, available through the UC Bookstore). Identification resources will be provided in lab.

There is no lab manual for the class. Lab handouts will be posted on D2L by Thursday (please read ahead and bring printouts to lab). Additional materials will be provided as handouts. Students will be expected to keep an organized notebook incorporating the lab exercises, handouts, and notes on experiments.

**COURSE DESCRIPTION:**

This course is a four-credit upper division course in biology. The course entails a taxonomic survey of fungi and an exploration of the relationships of fungi with other organism, and various areas of applied mycology (such as food mycology and medical mycology). Activities will include a field trip to Schmeekle Reserve in order to do some mushroom collecting. Students will be expected to put together a lab notebook that incorporates sketches of fungi collected or displayed in lab. Students will also research a fungal species of their choosing and make a 10-minute presentation on that fungus to the class.

## **LEARNING OBJECTIVES OF THIS COURSE:**

- 1) To know the structural, physiological, genetic, and growth characteristics of fungi.
- 2) To understand the principles and schemes used to classify fungi.
- 3) To appreciate the beneficial roles fungi play in biotechnology, food production, and the environment, as well as the negative impact of certain fungi on humans.
- 4) To learn the basic techniques used to collect, grow, observe, and identify fungi.

## **GRADING**

Grades in this course are based on the following components (**500 points total**):

**1) Examinations (300 points).** There will be two exams given during the semester as well as a final exam (December 21, 8:00-10:00 am). Each exam is worth 100 points. The final exam will be emphasize the last unit but may depend on comprehensive understanding of material from other units. Format for the exam will primarily be multiple choice and short answer, possibly with a take-home component.

**2) Lab Quizzes (50 points).** There will be 4 lab quizzes, varying from 10 to 15 points each. The quizzes will cover recognition of fungal specimens and theory/practice of the experiments we will be performing. Dates are shown on the lecture/lab schedule.

**3) Laboratory notebook (100 points).** Each student will be required to create a laboratory notebook. The notebook will be collected for informal evaluation twice during the semester and at the end of the course for a grade. Notebooks will be graded on completeness and accuracy, but not artistic ability.

**4) Mushroom identification (25 points).** Students will also be required to collect and key out different species of mushrooms and other fleshy fungi. Each correct identification to species level is worth five points and three points will be given if it is only identified to correct genus. At least two different families must be represented. Incorrect identifications will not be counted. A maximum point value of 25 can be earned, no matter how many specimens are turned in. One fleshy fungus specimen must be something other than a typical mushroom (i.e., bracket fungus, puffball, stinkhorn, etc.). Students will have access in the lab to shared resources (which must stay in the lab). PLEASE NOTE: Students are expected to work independently on identification (even if classmates have collected the same specimen).

**5) Fungal presentation (25 points).** Each student will research a fungal species of their choosing, approved by me. Each student will give an oral presentation to the class during the last week of class. The presentation should include such aspects as taxonomy, life history, and significance.

**Note:** Students taking this class for graduate credit (Biol 535) will complete an additional paper or project in consultation with me. The paper/project will be worth 50 points and will be due before the last day of classes (December 16).

## Grading scheme

The following scheme will be used for translating numerical scores into letter grades:

92% = A (460 pts)	77% = C+ (385 pts)
90% = A- (450) pts	72% = C (360 pts)
87% = B+ (435 pts)	70% = C- (350 pts)
82% = B = (410 pts)	60% = D (300 pts)
80% = B- (400 pts)	<60% = F ( $\leq$ 300 pts)

Because bonus points are offered on exams and quizzes, there will be no rounding up points to the next highest grade level.

## My Philosophies on “curving” exams and “extra credit:”

I do not curve exam scores for the following reasons:

- Most students understand “curving” to mean adding points to an exam to achieve a certain number of A’s and B’s.
- Technically, curving is designed to limit the number of students who can get an "A" to only the top 7% of the class. (the next 24% must receive a "B," the next 38% receive a "C," etc). This also means the bottom 7% *must* fail!
- Curving is only legitimate when there is a bell-shaped distribution of scores (which is rare in advanced classes or classes of small class).
- Curving really means is that your grade is based on your performance relative to peers and therefore grading standards fluctuate from test to test.
- Curving discourages students from helping each other learn because students who do achieve higher scores on tests in effect "lower" the grade of their peers.

Rather than “curving,” I employ a "mastery learning model" in which all students are expected to master the material and are evaluated according to the same standard, which doesn’t change from test to test. There is no "curve" or quota for any numerical score or letter grade.

## “Extra Credit”

There might be a few opportunities offered to the entire class to earn "extra credit" points from attending special presentations or something that has academic value. However, I do not offer extra credit assignments (such as papers, projects, etc.) to individual students trying to boost a low grade. I may offer an additional assignment to the entire class if I feel it benefits the class.

If you come to me and ask to do extra credit because your grade is not what you’d like it to be, here are some of the possible responses you might get:

- So, you are struggling with the material/work I am already giving you and you want MORE?
- Are you asking me to give you something easy to do in place of something hard?
- Would you have confidence in a nurse, doctor, dentist, auto mechanic (or other profession)

who passed only because he/she got extra credit?

Bottom line: It is better to concentrate on your study habits and test-taking skills rather than look for an "easy fix." If you are having trouble in the course, don't wait-- GET HELP EARLY!

## **POLICIES ON ATTENDANCE, MAKE-UP EXAMS, AND ACADEMIC INTEGRITY**

It is expected that you will attend and be on time for all the lecture and laboratory sessions. Because of room scheduling and the preparation time involved in setting up live cultures, make-up labs will range from difficult to practically impossible to accommodate. Every effort will be made to save material if there is an avoidable absence due to illness or other emergency (see below), provided you notify me *in advance*. Absences due to participation in academically sanctioned events such as athletic events or music competitions will be considered excused absences if written documentation is provided in advance.

Make-up exams will be permitted **ONLY** for unavoidable emergencies provided that you have called in advance. Acceptable excuses for missing an exam include<sup>1</sup>:

- personal injury, extreme illness or hospitalization, or that of an immediate family member (written verification needed from health care worker, parent, or residence hall representative).
- death in the immediate family (proof required).
- verifiable court appearance or jury duty.
- participation in a university-sponsored extracurricular activity (e.g., sports, music competitions, academic conferences).

If you cannot call, please have someone else call! The make-up must be scheduled to occur within two class days of the original test date (except in cases of hospitalization). The format of the make-up exam may be modified (instructor discretion).

You are encouraged to work and study with each other in order to get the most out of the laboratory experience. Lab experiments often involve working in pairs or groups. However, you are expected to work independently on examinations. Cheating will not be tolerated. If any student is found cheating or aiding another student in cheating, I will initiate disciplinary action in accordance with section 14.04 of the UW System Administrative Code. Penalties may range from a zero on that exam to a failing grade in the course.

Standards and Disciplinary Procedures for UWSP can be found at:

<http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf>

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<sup>1</sup>The following are *not* considered valid excuses for missing class or exams: oversleeping, purchase of a plane ticket, leaving early for holiday break, hunting season, or family trip.



## SAFETY ISSUES

### Lab Safety

**You will be asked to read and sign a safety agreement the first day of lab.** Your signature indicates your willingness to abide by the safety policies of this university. Please be aware that no eating or drinking is allowed in the lab. Also, students are not permitted to wear open-toed or open-heeled shoes in the lab. Even in warm weather, students should also wear clothing that covers the legs to the ankles (unintentional spillage of cultures and chemicals can and does occasionally happen). Lab coats or aprons are not provided—you will need to provide your own if you wish to wear them.

**Personal Emergencies.** If you anticipate receiving an important call (for reasons like family health issues), please notify me before class. If your family needs to contact you during class in an unanticipated emergency, they should call the biology office at 715-346-4524 or Campus Protective Services, 715-346-3456 (after hours).

### Emergency Response Guide

See the UWSP Emergency Management Plan at [www.uwsp.edu/rmgt](http://www.uwsp.edu/rmgt) for more details on emergency responses. In the event of a medical emergency, call 911 or use the nearest red emergency phone. In the event of a tornado warning, proceed to the lowest level interior room without windows. If there is a fire alarm, evacuate the building in a calm manner. Meet on away from the building on the south side near the Sundial. Notify instructor or emergency personnel of any missing individuals. In an active shooter situation, remember: **Run/Hide/Fight** in that order. Evacuate quickly if able; if trapped, hide quietly in a locked room, turn off lights, and silence cellphones. Spread out—do not cluster together. *If no other option is available*, work together to surprise and overtake the attacker. Follow directions of emergency responders and stay where you are until directed.

**You can sign up for Pointer Alerts**, an emergency communication alert system that allows UW-Stevens Point students, faculty, and staff to be additionally notified in the event of a campus emergency. The system is designed to provide information about active credible emergency situations that pose a threat and require immediate action. Go to the Risk Management page and click on "Pointer Alerts."

## Risk Management

Risk Management is a unit of Business Affairs. The office of Risk Management provides the UWSP campus with leadership and direction in the areas of general risk management, property and liability insurance and claims management, loss prevention and control, worker's compensation management, occupational health and safety, laboratory safety and chemical hygiene, DOT compliance, ergonomics, hazardous materials/wastes management, and environmental management.

### Quick Links

- ✚ Emergency Plan
- ▲ Emergency Procedures
- 📄 Pointer Alerts
- 🔗 Training Resources

## LECTURE & LAB SCHEDULE

Date	Topic	Text
W 9/7	Fungi and human culture	---
<b>F 9/9 LAB</b>	<b>Fungal nutrition; Preparation of fungal media</b>	
M 9/12	Overview of Fungi: General characteristics	Chap. 3
W 9/14	Mushroom collection & identification	
<b>F 9/15 LAB</b>	<b>Field trip Schmeekle Reserve (meet at shelter off Maria Dr.)</b>	
M 9/19	Fungal cell biology: cell structure	Chap. 5
W 9/21	Fungal cell biology, cont.	Chap. 6
<b>F 9/23 LAB</b>	<b>More Mushroom Identification (bring in specimens); Isolation of fungi from soil</b>	
M 9/26	Fungal genetics	Chap. 7
W 9/28	Fungal genetics, cont.	Chap. 8
<b>F 9/30 LAB</b>	<b>Quiz #1; Techniques for purifying and studying fungi</b>	
M 10/3	Biochemistry & Developmental Biology	Chap. 10
W 10/5	The Chytrids	(Chap. 3) + other resources
<b>F 10/7 LAB</b>	<b>Chytrids; set up moist chambers for Zygomycetes</b>	
M 10/10	<b>EXAM I</b>	
W 10/12	Zygomycota	(Chap. 3) + other resources
<b>F 10/14 LAB</b>	<b>Zygomycetes; inoculate plates for zygospores</b>	
M 10/17	Ascomycota	(Chap. 3) + other resources
W 10/19	Ascomycota, cont.	"

<b>F 10/21 LAB</b>	<b>Quiz #2; Ascomycetes</b>	
M 10/24	Basidiomycota	(Chap. 3) + other resources
W 10/26	Basidiomycota, cont.	"
<b>F 10/28 LAB</b>	<b>Basidiomycetes; mushroom culturing experiment</b>	
M 10/31	Basidiomycota, cont. (rusts & smuts)	
W 11/2	Anamorphic fungi ("Deuteromycota")	
<b>F 11/4 LAB</b>	<b>Deuteromycota; Nematode trapping fungi</b>	
M 11/7	Fungal-like organisms: Oomycetes	(Chap. 3) + other resources
W 11/9	Fungal-like organisms: slime molds	
<b>F 11/11 LAB</b>	<b>Quiz #3; Oomycetes; potato inoculations; Slime mold project</b>	(Chap. 3) + other resources
M 11/14	<b>EXAM II</b>	
W 11/16	Fungi & food	
<b>F 11/18 LAB</b>	<b>Fungi and Food: Fermentation experiment; Isolation of yeast from fruit</b>	
M 11/21	Ecosystem mycology: fungi as saprotrophs	Chap. 13
W 11/23	Symbiotic associations: mycorrhizae & lichens	Chap. 13
<b>F 11/15 LAB</b>	<b>No LAB: THANKSGIVING</b>	
M 11/28	Symbiotic associations with animals	Chap. 13
W 11/30	Fungi as plant pathogens	Chap. 14
<b>F 12/2 LAB</b>	<b>Fungal potpourri: pathogens of plants and animals; antibiosis; lichens</b>	



M 12/5	Fungi & human health	Chap. 15
W 12/7	CLASS PRESENTATIONS	Chap. 16
<b>F 12/9 LAB</b>	<b>Quiz #4; CLASS PRESENTATIONS, cont.</b>	
M 12/12	Fungal biotechnology	Chap. 17
W 12/14	Wrap up & Review; course evaluations	

Note: even though there are scheduled times to work on some lab experiments, there will be need to conduct some of the work outside of class (set up or observation).

FINAL EXAM: Wednesday, Dec. 21, 8:00-10:00 am