

## Spring 2022, BIOL 3500/5500 - Mycology (4 credit hours)

Instructor: Dr. Emily Cantonwine, Office: BC 2031, [egcantonwine@valdosta.edu](mailto:egcantonwine@valdosta.edu), 229-333-5337

Lecture – BC2202 - M, W, F 11:00-11:50      Lab – BC2040 - M 2:00-4:50      Office hours – TWRF 2-3

Course Description: Biology of fungi with emphasis on morphology, taxonomy, physiology, and ecology, including the roles of fungi as both beneficial organisms and as causal agents of plant and animal diseases.

Course Objectives (Educational Outcomes): By the end of the semester, students will be able to

- explain how fungi are similar and different from other organisms
- identify fungal groups based on microscopic and macroscopic characteristics
- describe how fungi are adapted to their various environments
- explain the importance of fungi to ecosystems and human culture
- identify important diseases of animals and plants caused by fungi
- compare and contrast beneficial and nuisance fungi
- conduct laboratory techniques to aid in fungal observations towards identification

### Required Texts:

- 1) Kendrick, W.B. 2017. The Fifth Kingdom, 4th Edition. Focus Publishing/R. Pullins Co.
- 2) Hudler, G.W. 1998. Magical mushrooms, mischievous molds, Princeton University Press.

***Students are required to bring the Fifth Kingdom, syllabus, and lecture notes to lecture and lab.***

### Important information:

- A grade of C or higher is required in this course to count towards biology degree.
- Midterm is March 3
- If you have need for special arrangements to meet the requirements of this course, please contact the Access Office and discuss this need with me as soon as possible.

<u>Assessment</u>	<u>#</u>	<u>points each</u>	<u>points total</u>	<u>SCALE Depends on Participation*</u>	
Exams	4	100	400	A	89.5 to 100%
Reading Quizzes	10 of 15	5	50	B	79.5 to 89.4%
Scavenger Hunt Project	1	100	100	C	69.5 to 79.4%
Lab Practical	1	100/50*	100/50*	D	59.5 to 69.4%
<b>*Honors/Graduate Project</b>		<b>50</b>	<b>50</b>	F	< 59.5%
Total			700		

**\*Attendance Bonus:** Attendance, either in class or via Kaltura viewing is expected. Bonus points, up to 10pt total, will be granted for perfect attendance. More info will be presented in class.

## **ASSESSMENTS:**

**Exams:** There will be 4 lecture exams, each worth 100 points. Exams will be based on lecture material and may include material from reading assignments (i.e. peer-reviewed articles, blog posts, etc) discussed in class. Exams cannot be taken early unless you have a university related excuse and have informed me of this need at least one week in advance. Make-up exams are an option - If you have an acceptable, documented excuse, you can take an exam of similar difficulty to the rest of the class. If you do not have documentation, or I do not accept your excuse, the make-up exam will be more challenging with essay questions.

**Reading Quizzes:** Readings from Hudler's Magical mushrooms, mischievous molds will be evaluated with quizzes (see the tentative schedule for weekly assignments). Quizzes will occur at the beginning of class as scheduled. Your 10 highest quiz grades will count. Most quizzes will be ~5 questions and you will have 5-7 minutes to complete (don't be late to class!). To do well on the quizzes, pay attention to big picture concepts, and interesting & easy to remember facts while you read. You may refer to the reading and your own hand-written notes during the quiz; however, a digital version of the reading and another person's notes, or notes that were put together by a group, are NOT allowed! There are no make-ups for reading quizzes.

**Scavenger Hunt Project:** This is a semester-long project that covers a wide diversity of fungal observations. More information will be presented in lab.

**Lab Practical:** A lab practical will be given to evaluate your ability to identify fungal structures, recognize the taxonomic group that the structure belongs to, and determine the function of the structure (ex. asexual, sexual, etc). All structures presented on the lab practical will be part of the scavenger hunt. Most will be presented in lecture too.

**Honors Option/Graduate Project:** TBD

## **GENERAL RULES**

**Attendance:** You are expected to attend all lectures & labs unless you are sick. If you are absent (excused or unexcused), it is your responsibility to obtain missed lecture notes before the next class (Kaltura videos or other student). If any lectures are provided via Kaltura ONLY, students must watch the entire recording before the next class period. Missed labs may or may not be made up. See me to discuss options. Missed lecture and lab handouts, if applicable, should be picked up from me in my office.

**Lecture notes:** Lecture notes are not provided. It is your responsibility to take notes during lecture. I may lecture faster than you can take notes. You are encouraged to come up with a note-taking system to keep up with lecture, or watch Kaltura videos to get any notes that you missed during lecture.

**Access to the laboratory:** Students are granted access to the Laboratory (BC 2040) during weekdays except for when other lab courses are using the space. A schedule is posted on the lab door.

**Food and Drink in the Laboratory and Lecture Rooms:** No food or drink is allowed in the laboratory. My policy in the lecture room is more lenient. You may consume food or drink as long as their use does not cause a disturbance. Each student is responsible for cleaning up after their-/him- or herself.

**Expectations of student conduct in the classroom and lab:** I expect your *full attention* to be on the material during instruction. If you cannot do this (for whatever reason), then I expect you to be *respectful* of other students and myself by not being disruptive. Cell phone use is discouraged during lecture and should be on airplane mode in lab! Cell phone photography is encouraged in lab. No photographs, video or sound recordings are permitted in lecture without prior approval.

**Academic Integrity:** I follow the Academic Honesty Policies and Procedures of the University and the Policy on Plagiarism composed by the Department of Biology. See [www.valdosta.edu/biology/documents/biologyplagiarism.doc](http://www.valdosta.edu/biology/documents/biologyplagiarism.doc) and [www.valdosta.edu/academic/AcademicHonestyPoliciesandProcedures.shtml](http://www.valdosta.edu/academic/AcademicHonestyPoliciesandProcedures.shtml). "Academic Integrity/Honesty" means performing all academic work without plagiarism, cheating, lying, tampering, stealing, receiving unauthorized or illegitimate assistance from any other person, or using any source of information that is not common knowledge.

## Tentative Schedule:

Week	Lecture Topics	Readings (* Required, ^ Reference)	Lab
Jan 10	- Introduction to fungi - Phylogeny - Basidiomycetes	* Friday Quiz - MMMM pg. ix-xvi & Ch. 1 ^ Text pg. vii-ix, Ch. 1, 5	Introduction – Scavenger Hunt
Jan 17	- MLK DAY – No lecture - Basidiomycetes	* Friday Quiz - MMMM Ch. 2 ^ Text Ch. 1, 5, 9, 10, 11, 17	<b>NO LAB</b>
Jan 24	- Basidiomycetes	* Friday Quiz - MMMM Ch. 12 ^ Text Ch. 1, 5, 9, 10, 11, 17	Basidiomycete Lab I
Jan 31	- Basidiomycetes - Catch-up/Review - Exam 1 (Feb 4)	^ Text Ch. 1, 5, 9, 10, 11, 17	Basidiomycete Lab II, Lichen Lab I
Feb 7	- Ascomycetes	* Friday Quiz - MMMM Ch. 3 ^ Text Ch. 1, 4, 6, 7, 11, 12, 16	Lichen Lab II, Ascomycete Lab I
Feb 14	- Ascomycetes	* Friday Quiz - MMMM Ch. 4 ^ Text Ch. 1, 4, 6, 7, 11, 12, 16	Ascomycete Lab II
Feb 21	- Ascomycetes	* Friday Quiz - MMMM Ch. 5 ^ Text Ch. 1, 4, 6, 7, 11, 12, 16	Scavenger Hunt day
Feb 28	- Ascomycetes (yeast) - Catch-up/review - Exam 2 (March 4)	^ Text Ch. 1, 4, 6, 7, 11, 12, 16	Microbrewery lab
March 7	- Glomeromycota	* Friday Quiz - MMMM Ch. 14 ^ Text Ch. 1, 2, 3, 17	Glomeromycota Lab
March 14	- SPRING BREAK		<b>NO LAB</b>
March 21	- Zygomycetes	* Friday Quiz - MMMM Ch. 13 ^ Text Ch. 1, 2, 3, 17	Zygomycete Lab
March 28	- Chytridiomycota	* Friday Quiz - Handout, 2017 Golden Goose Award winner Dr. Joyce Longcore ^ Text Ch. 1, 2, 3, 17	Chytridiomycete Lab + Other groups
April 4	- Fungus-like organisms - Catch-up/review - Exam 3 (April 8)	^ Text Ch. 1, 2, 3, 17	Scavenger hunt Day
April 11	- Medical mycology & medicinal fungi	* Wednesday Quiz - MMMM Ch. 7 * Friday Quiz - MMMM Ch. 8 ^ Text Ch. 18-24	Scavenger hunt day
April 18	- Psychotropic and poisonous fungi	* Wednesday Quiz - MMMM Ch. 6 * Friday Quiz - MMMM Ch. 11 ^ Text Ch. 18-24	Field Trip/Guest Lecture <b>Scavenger Hunt Report Due</b>
April 25	- Fungal products	* Wednesday Quiz - MMMM Ch. 9 * Friday Quiz - MMMM Ch. 10 ^ Text Ch. 18-24	<b>NO LAB</b>
May 2	<b>Exam 4 (Thursday, May 5, 10:15-12:15)</b>		<b>LAB PRACTICAL (Monday)</b>