

Fungi and Civilization

PLPA 2130 - 001 3(3,0)

Spring 2021

TR 11:00am – 12:15 pm

Brackett Hall 100

Hybrid/Blended Instructional Method



Instructor and Office Hours

Dr. Julia Kerrigan

Office: D-137 Poole (P&A)

Office hours: TR 12:20, or by appointment

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Course Description

Overview of how fungi affect the lives of humans, both currently and historically.

The diversity of fungi and tremendous roles fungi play on the planet are addressed in respect to the biological, social, and ethical consequences.

The general nature of this course makes it beneficial to all students regardless of specialty.

This course satisfies General Education competencies in Science and Technology in Society, Natural Science, and Clemson Thinks2.

Learning Outcomes

Students will demonstrate:

An understanding of the defining characteristics and basic biology and ecology of fungi.

An awareness of the diversity of fungi and the roles they play on our planet.

A comprehension of how fungi affect the lives of individuals and societies, both currently and historically.

Critical evaluation of the social consequences, value judgments, ethical implications, and other viewpoints regarding the impacts of fungi and civilization.

Course Format

I will post lecture notes ~24 hours before class. **These notes are an outline and do not replace attending class, listening, and taking notes yourself.** I recommend you print the ppt's, listen, and take notes. You will find this provides a focused and effective learning environment

One half of the class will be in attendance on Tuesdays, the other half on Thursdays.

Please leave several seats between you and the next person when in Brackett 100.

Tests will be given using Respondus. On the day of a test, you *must* be in your assigned location (Brackett 100 or online) or you will not be able to take the test.

Lectures will be streamed and recorded via Zoom.

CT2

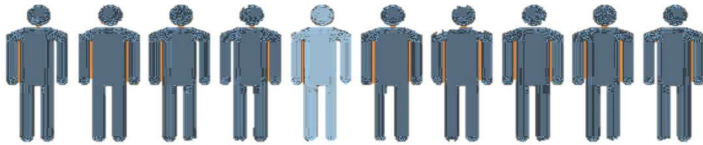
This class is participating in the Clemson Thinks2 (CT2) campus-wide Quality Enhancement Plan that focuses on undergraduate critical thinking, a skill that is invaluable for your success in college and in your career pursuits after graduation.

In-class questions and assignments, particularly Packback and the Fungi in the News assignment, are designed to enhance your critical thinking skills. The information in this course is primarily based on biological and historical facts, but our critical examination of WHY these events occurred will be raised throughout the course.

You will take the California Critical Thinking Assessment Test (details will be provided) at the beginning of the term and at the end of the term to measure how your skills have improved.

Lecture Requirements

Attendance is important



Regular attendance is expected and you are responsible for all the information presented in class, whether it is delivered verbally, on PowerPoints, in reading assignments, or on handouts.

Typically, poor class attendance is reflected in grades.

I do not take attendance, but occasionally there will be extra credit points for in-class participation.



“The academic resources of Clemson University are provided for the intellectual growth and development of students. Class attendance is critical to the educational process; therefore, students should attend scheduled courses regularly if they are to attain their academic goals.”

If you miss class you are responsible for getting notes from other class members. Get contact information from at least three other students enrolled in this class so you can easily share notes. I am always willing to clarify information if you need help after acquiring notes from someone in the class.88888

Laptops and similar devices are only permitted for taking notes.

Please be respectful and limit use to taking notes for this course – if you tend to open other websites, use social media, etc. be kind to your classmates and minimize distractions by sitting in the back rows.

Assignments

Details will be provided in separate handouts for each assignment.

1. Packback (introduction below)
2. Critical Thinking (CT2) pre-test due by February 16. Details provided separately.
3. Sampling Airborne Fungi. Details provided separately.
4. Fungi in News Adobe Spark page. Due March 30, details provided separately.
5. Critical Thinking (CT2) post- test due by April 20. Details provided separately.

To get the maximum points, be sure to read the assignment requirements carefully and turn things in before the deadlines.

1. Packback

Participation is a requirement for this course, and the Packback Questions platform will be used for online discussion about class topics. Packback Questions is an online community where you can be fearlessly curious and ask open-ended questions to build on top of what we are covering in class and relate topics to real-world applications.

Packback Requirements:

Your participation on Packback will count toward **10%** of your overall course grade.

There will be a weekly deadline for submissions, which is **Wednesday by midnight**. In order to receive your points per week, you should submit the following per each deadline period:

- 1 open-ended Question per week each worth 4pts of each assignment grade
- 2 Responses per week with a minimum Curiosity Score of 50, each worth 6pts of each assignment grade
- Half credit will be provided for responses that do not meet the minimum curiosity score.

How to Register on Packback:

An email invitation will be sent to you from help@packback.co prompting you to finish registration. If you don't receive an email (be sure to check your spam), you may register by following the instructions below:

1. Create an account by navigating to <https://questions.packback.co> and clicking "Sign up for an Account"
Note: If you already have an account on Packback you can log in with your credentials.
2. Then enter our class community's lookup key into the "Looking to join a community you don't see here?" section in Packback at the bottom of the homepage.
Community Lookup Key: **1206de2c-157c-4f61-96b2-c3fdca9f2b17**
3. Follow the instructions on your screen to finish your registration.

Packback requires a \$25 subscription fee. Refer to www.packback.co/product/pricing for more information.

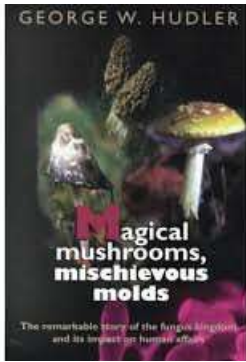
How to Get Help from the Packback Team:

If you have any questions or concerns about Packback throughout the semester, please read their FAQ at help.packback.co. If you need more help, contact their customer support team directly at help@packback.co.

For a brief introduction to Packback Questions and why we are using it in class, watch this video:

vimeo.com/packback/Welcome-to-Packback-Questions

Lecture Requirements



Textbook

Magical Mushrooms, Mischievous Molds by George Hudler is required.

Additional reading materials from other sources will be provided.

Canvas

Canvas will be used
<http://www.clemson.edu/canvas/>.

Copies of the syllabus, notes, readings, and other materials will be posted.

You can learn more about Canvas here
<https://community.canvaslms.com/docs/DOC-4121>

Examinations

Three examinations and six quizzes - based on lecture materials, relevant readings, videos, and discussions - will be given during lecture periods and the final exam schedule. Exams and quizzes are scheduled so that there is a relatively uniform number of lecture dates between each and so they rotate between Tuesdays and Thursdays. All tests are to be done independently and without any outside help, notes, texts, etc.

Test content will cover topics in lectures covered since the previous test. Previous test questions and answers will be posted on Canvas to help you prepare.

Make-up exams will be given only if a valid, documented excuse for your absence (i.e. medical emergency) is provided within 24 hours after an exam is given. Missed exams without an acceptable, timely excuse will receive a grade of zero.

The third and final exam is not cumulative and everyone is required to take it.

One quiz score will be dropped, this may include a quiz missed because of an undocumented absence or your lowest score.

If you have a scheduled absence for a valid reason (i.e. University function) and will be unable to attend a quiz or exam, you must convey that at least one week before the test and we will schedule a time for you to take it. After that no exceptions will be granted unless exemplary conditions exist (proof required).

During tests, all work must be your own. You may not use notes or any other external source for your information other than yourself. Any violation of this will be submitted to the Office of Academic Integrity.

For tests, we will use Respondus Lockdown and Respondus Monitor <https://www.clemson.edu/online/tools/responduslockdown.html> depending on if you are in the classroom or online, respectively. I will provide details regarding the logistics and application of these closer to the date. Get comfortable with these two tools early!

Lecture Requirements

Grading System



Clemson University's grading system is described in the Undergraduate Announcements. Please see the Registrar's web site at <http://www.registrar.clemson.edu/html/finalGrades.htm>. Scores will be calculated following a ten point (%) grading scale:

A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: below 60%.

Grades will be maintained on Canvas.

You can see how you are doing in the course anytime by looking up your scores.

		<u>Points / Percent</u>
Exams(100pointsx3exams)	=	300 / 60%
Quizzes(20pointsx5quizzes)	=	100 / 20%
Packback	=	50 / 10%
CT2 (10 points x 2 tests)	=	20 / 4%
Sampling Fungi	=	10 / 2%
Fungi in the News	=	20 / 4%
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Total	=	500 / 100%

Class Conduct



I like to have an informal atmosphere in my classes, but I also want an atmosphere of mutual respect.



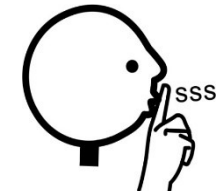
Be on time. It is disruptive to your classmates and me if you come to class after it has started. In addition, I provide important instruction about exams and assignments at the beginning of class.



Do not pack up until after I indicate the class is over. It only takes seconds to put your things away. This is a large class, if everyone starts packing up before the end of class it is difficult to hear my instruction.



Phone use is prohibited. Be an active listener, critical thinker, and participate. Enjoy the break from texts and social media!



Please be respectful of those around you. This is a large class, space is tight, and the room is full. Everything you do affects your neighbors. Do not have conversations, use you phone, or otherwise engage in activities that will bother your neighbors.

If you are distracted because of your surroundings please move to a different seat as well as let me know your concerns. This is a large room and my focus is on presenting the material, thus I often do not hear or see side activities

University Policies

COVID-19 Related Expectations for Face Coverings

While on campus, face coverings are required in all buildings and classrooms. Face coverings are also required in outdoor spaces where physical distance cannot be guaranteed. Please be familiar with the additional information on the Healthy Clemson website, such as the use of wipes for in-person classes. If an instructor does not have a face covering or refuses to wear an approved face covering without valid accommodation, students should notify the department chair. If a student does not have a face covering or refuses to wear an approved face covering without valid accommodation, the instructor will ask the student to leave the academic space and may report the student's actions to the Office of Community & Ethical Standards as a violation of the Student Code of Conduct. If the student's actions disrupt the class to the extent that an immediate response is needed, the instructor may call the Clemson University Police Department at 656-2222.

Specific COVID-19 related information for student absences:

For a student who reports testing positive or is being asked to quarantine because of exposure to the virus, it will be up to the student to inform the instructor that they will be moving to online only instruction for at least the next two weeks. Students are directed to use the Notification of Absence form in Canvas to initiate this notification, which can be found under the "Help" button on the left navigation. (For courses where Canvas is not used, the direct link to the Notification of Absence form can be found through the Division of Student Affairs site.) Additional communication via email is encouraged; students should follow up with their instructor to develop a continued plan of study for each course. Students cannot be penalized in their grade for needing to move to online instruction.

Class cancellation

As written in the Clemson University's Undergraduate Class Regulations: "Any exam that was scheduled at the time of a class cancellation due to inclement weather will be given at the next class meeting unless contacted by the instructor. Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless contacted by the instructor. Any extension or postponement of assignments or exams must be granted by the instructor via email or Blackboard within 24 hours of the weather related cancellation."

Clemson University's Copyright Statement

"Materials in some of the courses are copyrighted. They are intended for use only by students registered and enrolled in a particular course and only for instructional activities associated with and for the duration of the course. They may not be retained in another medium or disseminated further. They are provided in compliance with the provisions of the Teach Act. Students should be reminded to refer to the Use of Copyrighted Materials and "Fair Use Guidelines" policy on the Clemson University website for additional information: <http://www.clemson.edu/library/reference/qr/patents.html>."

Clemson University's Academic Integrity Policy

"As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning'. Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form."

Academic Honesty

You are expected to do your work independently of other students unless instructed to do otherwise by Dr. Kerrigan. You must use the Top Hat app yourself, having other students use it is for you is considered academic dishonesty. Any student suspected of academic dishonesty will be referred to the committee on academic integrity for action.

Clemson University's Title IX (Sexual Harassment) Policy

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. The University is committed to combatting sexual harassment and sexual violence. As a result, you should know that University faculty and staff members who work directly with students are required to report any instances of sexual harassment and sexual violence, to the University's Title IX Coordinator. What this means is that as your professor, I am required to report any incidents of sexual harassment, sexual violence, or misconduct, stalking, domestic and/or relationship violence that are directly reported to me, or of which I am somehow made aware. This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>

Clemson University's Accessibility Statement

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged – drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: <http://www.clemson.edu/campus-life/campus-services/sds/>.

Lecture Topics

0. Lecture title
Topic

1. Introduction to the course format, policies, and content
Overview of the importance of fungi and human affairs

2. What are fungi?
Introduction to the characteristics of fungi and what makes a fungus a Fungus

3. Lifestyles of the sick and famous
Fungal ecology: The functional roles of fungi in our environment

4. CT2
Critical thinking and why we need it more than ever

5. Mushrooms and boletes and stink horns, oh my
Diversity of fungi: Basidiomycota

6. Morels, molds and mildews, lichens
Diversity of fungi: Ascomycota

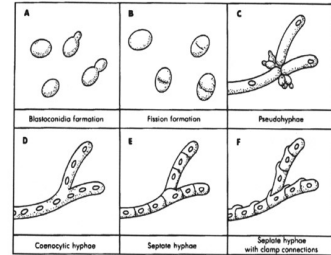
7. The mushroom treatment...to be kept in the dark and fed lots of manure
Cultivating mushrooms

8. Can you eat it?
Wild edible mushrooms, their nutritional values, and mushroom hunters

9. Mushrooms as medicine
Overview of common medicinal fungi and discussion on how different cultures use fungi for health

10. Just remember...all fungi are edible, but some will kill you
Poisonous and hallucinogenic mushrooms, their active compounds

11. Santa Claus, shamans, fairies, and Wasson
Ethnomycology: Discussion on the social values of psychoactives, why some cultures embrace their use while others outlaw it ?



Critical thinking is something we do every day, but like most skills we can improve it through practice - we will practice throughout the term. Examples of CT2 questions will be included with these Lecture Topics, I will pose several critical thinking questions during most lectures.



About me, your instructor:

I am a scientist who studies mycology and plant pathology. I did not plan to study these disciplines but fell in love with them while in college. Although I teach about mushrooms and organize a mushroom club, my research focused on the basic biology of fungi, typically microscopic species.

I love academia because it allows me to study the fields about which I am passionate while also sharing these topics with others. I am excited for students' opportunities to find their passions and experience new things.

Lecture Topics

12. Fungal excrement

Yeasts: An overview of fermentation, bread, and alcohol



13. Fungi and food – the good

The advantages of asexual fungi, their ubiquity, and many uses

14. Fungi and food – the bad

Mycotoxins: Historical examples and current concerns and treatments

15. “The discovery of antibiotics is perhaps the most important discovery in the history of therapeutic medicine. Antibiotics have saved more lives than any other medical therapy”

Antibiotics and antibiotic resistance



16. It makes your skin crawl

Medical mycology



17. Home sick?

Sick building syndrome and allergens



18. Fungi and food – the ugly

Diseased grain, ergotism, and the Salem Witch Trials

19. “God caused the potato blight but England caused the Famine”

Overview of the Irish potato famine and the religious and political influences



20. Wrath of Grapes and no chestnuts roasting over an open fire

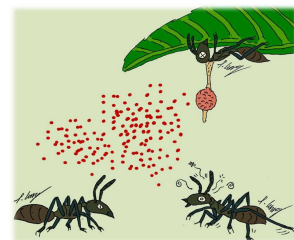
The immense repercussions of imported pathogens

21. Monocultures and the fungi that love them

Examples of epidemics due to monocultures and why monocultures--from turf to timber-- are still common practice

22. Rotten to the core

Ecology of wood rotting fungi and their importance



23. Who's eating who?

The first agricultural societies and fungi and bugs eating each other



Interested in learning more about fungi?
SCUMS is a local group with monthly speakers and forays.
Go to SCUMSonline.com for more information.

	Date	Lecture Topic (these follow topics listed above)	Reading
1	Jan 7	Syllabus, 1. Introduction to the significance and biodiversity of fungi.	Introduction
2	Jan 12	2. Kingdom Fungi, 3. Fungal Ecology	Chapters 1-2
3	Jan 14	4. Critical Thinking, Packback	Chapters 1-2
4	Jan 19		Chapters 1-2
5	Jan 21	Quiz 1	
6	Jan 26		
	Jan 27	First Packback participation due by midnight	
7	Jan 28		
8	Feb 2	Quiz 2	
9	Feb 4		
10	Feb 9		
11	Feb 11	Exam 1	
12	Feb 16	CT2 Pre-test deadline	
13	Feb 18		
14	Feb 23	Quiz 3	
15	Feb 25	Midterm evaluations	
16	Mar 2		
17	Mar 4	Quiz 4	
18	Mar 9		
19	Mar 11		
	Mar 16	Spring break	
	Mar 18	Spring break	
20	Mar 23	Exam 2	
21	Mar 25		
22	Mar 30	FIN due	
23	Apr 1	Quiz 5	
24	Apr 6		
	Apr 7	Final Packback participation due by midnight	
25	Apr 8		
26	Apr 13	Quiz 6	
27	Apr 15		
28	Apr 20	CT2 Post-test deadline	
29	Apr 22		
30	Apr 28	Exam 3/Final 3-5:30 pm, required	

