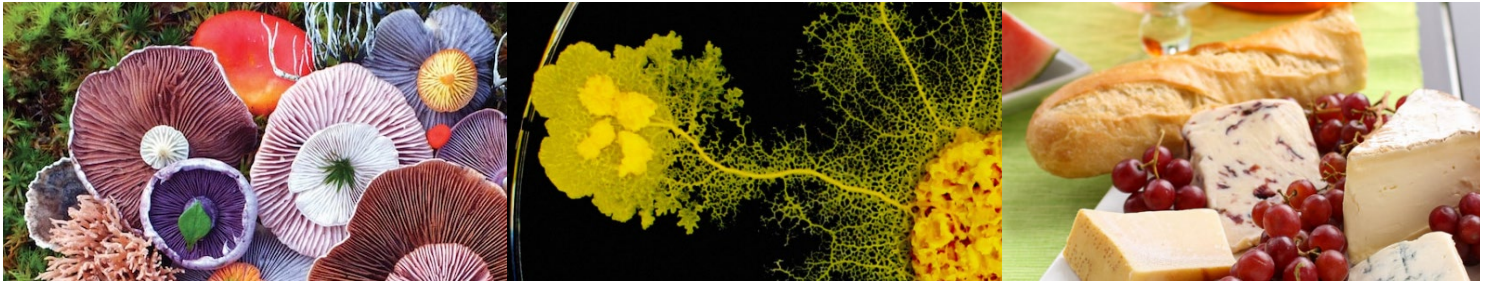


EVPP / BIOL 451
Fungi and Ecosystems
Fall 2020
M 1:30-4:15



Nature Medley, by Jill Bliss on my ModernMet.com; Physarium Polycephalum by Audrey Dussutour, CNRS, on Quanta Magazine; Cheese plate by Julie Ruble, WillowbirdBaking.com

Instructor: Dr. Natalie Howe
To schedule office hours, email: nhowe4@gmu.edu

Course Description and Learning outcomes: In this course we will explore the diverse and intriguing world of the fungi; how we interact with the fungi every day and how they shape the world around us in seen and unseen ways.

Students will:

- Find and use reliable sources including scientific and popular sources to increase understanding of biology and ecology of fungi.
- Demonstrate understanding of fungal diversity, physiology, and role in ecosystem processes and society.
- Communicate original and compelling ideas on how the study of fungi relates to other fields.

Required Texts: None:

Recommended texts for further reading if you are so inspired:

- * Bone, Eugenia. 2011. *Mycophilia: Revelations from the Weird World of Mushrooms*
- * Hudler, George. 1998. *Magical Mushrooms, Mischievous Molds*
- * Marley, Greg. 2010. *Chanterelle Dreams, Amanita Nightmares*
- * Money, Nicholas. 2006. *The Triumph of the Fungi: A Rotten History*
- * Pollan, Michael. 2018. *How to Change your Mind: What the New Science of Psychedelics Teaches us About Consciousness, Dying, Addiction, Depression and Transcendence*
- * Stamets, Paul. 2005. *Mycelium Running: How Mushrooms Can Help Save The World*

Course Announcements and Updates

Announcements regarding reading, lectures slides, and information on assignments and other supplementary material will be posted on Blackboard. Students should check Blackboard and their Mason email regularly for updates.

Course Work (*Approximate*). Grades will be assigned for the following in the course:

Class Participation (15%) Much of the course is discussion-based and requires your input in order to be a robust and exciting experience, so students should come to class prepared with a discussion question about the reading.

Plagiarism Worksheet (5%) Any modern scientific work relies on previous projects to inform its guiding questions and its methodological approaches. So that your other class projects will properly reflect these contributions from others, this exercise ensures that we all have the same ideas about standardized methods of citing sources.

Blackboard discussion board (10%) The online discussion board is an opportunity for students for discuss topics important to them related to the class discussion for the week ahead.

Wikipedia editing (10%) In this semester long project, we raise the profile of mycologists from underrepresented groups by adding new wikipedia pages to discuss their work.

GMU mycoblitz inaturalist project (10%) Students discover the fungi in their own ecosystems by learning to identify fungi using the inaturalist app. All students must document 20 taxa for full credit, but more observations of fungi are encouraged.

Lab Worksheets (10%) This activity will give you hands-on and online experience in fungal ecology.

Group Presentation (10%) Throughout the semester, groups will sign up to present a paper on one of the topics in class. These presentations should provide a background on the subject, describe the paper you have chosen, and inspire discussion in the classroom.

Science Communication Project (10%) You will be expected to create a piece of scientific outreach material (infographic/poster, website, video, piece of art) on an ecological topic of your choosing that demonstrates understanding of the topic and that clearly and compellingly conveys the material to members of the public. Include a summary written explanation of the topic with references.

Exams (10% each x 2 exams, total 20%). Take home exams will include questions on the organisms we study in class and in lab, and on the interactions between them. Each exam will contain questions regarding material covered during lectures and Discussion Board articles to that day, meaning that the final exam is comprehensive.

*******This is an anticipated class schedule, which is subject to change*******

Week	Date	Topic	Items due for everyone*
1	Aug 24	Introduction to the Class Fungi in Ecosystems – overview	
2	Aug 31	Fungal Biology - Lab	Plagiarism worksheet
3	Sept 14	Fungi in Plants – Pathogens	Lab
4	Sept 21	Fungi in Plants – Mutualists Mycorrhizae, other endophytes	Lead discussion
5	Sept 28	Lichens	
6	Oct 5	Fungi in Soils – saprotrophs	
7	Tue Oct 13	Fungi in Animals – Pathogens	
Exam I			
8	Oct 19	Fungi in Animals – Mutualists	
9	Oct 26	Fungal pathogens of humans	
10	Nov 2	Fungi in human food & medicine	
11	Nov 9	Present Science communication projects	Science communication project
12	Nov 16	Discuss Wikipedia projects	Wikipedia project
13	Nov 23	Showcase Inaturalist projects	Inaturalist project
14	Nov 30	History of Fungi - NMNH	
Exam II			

* Students will be expected to complete a discussion board post every week and one journal club presentation per semester.

Course Policies and Expectations

1. Respect: We expect all participants to treat each other with respect, and will discuss the details of that expectation in the first meeting of the class.
2. Attendance: Class attendance is essential but if you must miss class meetings, view recordings within the week, and arrange an office hours meeting to discuss the topic with me.
3. Grading: The letter grade will be determined at the end of the semester by the percentage of points you earn during the semester according to the following scale: 100-90%= A 89-80%= B 79 -70%= C 69-60%= D 59% or below = F
 - a. Exams: There are no make-up exams for this course, with the exception of a verifiable written excuse. If a make-up exam is allowed, the format will be essay. If you arrive late you will be given the exam during the time that remains for the designated class period.
 - b. Blackboard:
 - i. Students should post their article by 4pm Tuesday of their designated week. If an article is not posted to the Discussion Board by 4PM the Tuesday of that week, that topic will be closed and unavailable for posting or comment. Students will not be penalized for someone who fails to post an article. If someone does not post an article, that individual will receive no points for this component of the course, even if they have posted replies to others.
 - ii. Other students should post their responses by 10pm Sunday; replies after that time will not be graded.
 - iii. Students who do not respond to a discussion topic by the deadline and according to the criteria described above will receive 0 points for that week.
 - c. Other assignments: Some assignments have due dates on the syllabus, other assignments take the course of the semester, and different students will have different due dates for those projects.
4. Communication:
 - a. Office Hours: I will be available by appointment to meet with students
 - b. E-mail: This is my primary form of personal communication with students so it is essential to use and check your Mason e-mail account regularly for all communication regarding this course.

University Policies

1. Disability Accommodation:

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit <http://ds.gmu.edu/> for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with me. Disability Services is located in Student Union Building I (SUB I), S 2500. Email: ods@gmu.edu | Phone: (703) 993-2474.

2. Academic Integrity

Students at George Mason University shall maintain a high standard of honesty in scholastic work. As members of the university community, students have a responsibility to be familiar with the University Honor Code and the guidelines regarding academic integrity. Among the conduct issues addressed are acts of academic dishonesty, including plagiarism or cheating on assignments, examinations, or other academic work, or without prior approval of the instructor, and submitting work already done for another course. Students shall avoid all forms of academic dishonesty, including, but not limited to:

1. Plagiarism
2. Cheating
3. Stealing
4. Lying

See: <https://oai.gmu.edu/mason-honor-code/> for specific details.

3. Sexual Harassment, Sexual Misconduct, and Interpersonal Violence

George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to promote community well-being and student success. We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support.

As a faculty member and designated “Responsible Employee,” I am required to report all disclosures of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator per university policy 1412. If you wish to speak with someone confidentially, please contact the Student Support and Advocacy Center (703-380-1434), Counseling and Psychological Services (703-993-2380), Student Health Services, or Mason’s Title IX Coordinator (703-993-8730; cde@gmu.edu).