

BIOL/BOT 490R - Mycology
Utah Valley University
Spring, 2021

Instructor: Geoffrey Zahn, PhD
SB 242q
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Office Hours: During live class online; or by appointment; I respond to MS Teams messages pretty quickly

Course Description:

Mycology provides an introduction to the fungal kingdom, focusing on understanding evolutionary relationships and adaptations, and in gaining an appreciation for the environmental, industrial, and medical functions that fungi play. Lectures are integrated with lab inquiries that will expose students to fungal culturing techniques, microscopy, and DNA-based identification of fungi.

Course website: <https://gzahn.github.io/mycology>

Text Book (don't buy this!):

Webster, J and Weber, R. Introduction to Fungi, 3rd Ed.. 2007. Cambridge Univ. Press
ISBN: 9780511809026
(pdf copies for loan available from instructor)

Pre-requisites:

Advanced university standing or permission from instructor.
(Suggested) MICR3450 – General Microbiology

Upon successful completion, students should be able to:

1. Create a culture collection of fungi from the environment
2. Categorize major fungal groups morphologically
3. Interpret fungal phylogenies
4. Summarize environmental, medical, and industrial applications of mycology
5. Analyze fungal genomic data using existing bioinformatics tools

Upon successful completion, students should have the following attitude(s)/traits:

1. Appreciation of the complex and important functions that fungi provide for various systems
 2. Confidence in applying the scientific method for investigating natural phenomena
 3. Confidence in accessing, interpreting, and evaluating primary scientific literature
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*Note that none of the learning objectives include field identification of edible mushrooms!

COVID-19 Considerations:

The course is meeting entirely online. All lectures will be live-streamed and recorded. Lab exercises will be done on your own at home. All quizzes and exams will be on Canvas and are open-note. Use the course web page as a map of the semester, but also be sure to stay active on Canvas and our Slack channel!

Course Structure

Grading:

There are 800 points possible in this course (detailed below). The following grading scale applies with no exceptions (These are the minimum point values for the listed grades):

A	750
A-	720
B+	680
B	660
B-	640
C+	600
C	580
C-	560
D+	520
D	500
D-	480
E	less than 480

Item	Points Possible
Reading quizzes	200
Discussion participation	200
Exams (including final)	300
Lab assignments	100
Final Project — Lit review	50
Final Project — Proposal submission	100
Final Project — Data collection	50
Final Project — Poster presentation	100

Readings, Quizzes, and Discussions:

This course will heavily feature readings from the text book, primary research, and review articles. Participation in discussions on the readings is essential. There will also be Canvas-based quizzes over the readings to encourage full participation. Research articles can be difficult to comprehend. Do NOT expect to be able to quickly read an article once and do well on quiz or discussion points. You will most likely need to read each article several times as you gain experience with primary literature. Points will be awarded for quizzes and for participation in discussions. We will read and discuss at least 10 journal articles... see the course web page for up-to-date info on these.

Exams:

We will have three exams, including the final. These will be worth 100 points each. Exams will assess knowledge of fungal biology/ecology, the readings we have covered, and methodologies used in mycology. This means that questions may come from the journal articles we read and some exam points may require lab work.

Lab Assignments:

Typically, this course is taught as a research experience and the focus is on lab work. That's not gonna work under quarantine conditions, but we can still do some fun lab stuff and learn how to isolate and grow fungi, as well as identify them with a cheap microscope.

These lab assignments will have variable point values. Extra lab work over 100 points will be counted as extra credit applied to your final score. These opportunities will be announced in class, on Slack, and on Canvas.

ANY EXTRA ASSIGNMENTS ARE A CHANCE TO MAKE UP FOR MISSED POINTS!!

Americans with Disabilities Act:

Students with disabilities that may negatively impact their ability to successfully complete this course should let the instructor know as soon as possible, with documentation from the ASD.

"Students who need accommodations because of a disability should contact the UVU Accessibility Services Department (ASD), located on the Orem Campus, in LC 312. To schedule an appointment, or speak with a counselor, call the ASD office at 801-863-8747, or for Deaf/Hard of Hearing individuals, use the video phone number, 886-760-1819."

Biology Department Policy

Students in this class are expected to understand and use proper English grammar, sentence structure, and spelling. Use of dictionaries during quizzes and exams is NOT allowed. Students are also expected to have basic calculating skills that include fractions, decimals, exponents (e.g., squares & square roots, powers of ten) and the ability to solve simple algebraic expressions. In addition, they must be able to add, subtract, multiply, and divide small numbers without a calculator. Understanding of logarithms (logs) will be helpful. Course rigor level should be such that the average grade is about a C.

Student Responsibility

It is up to you to see that the requirements for this course are completed. This syllabus is your guide to those requirements. Make certain that you understand what is expected of you. It is up to you to attend class and arrange for time to complete the readings, assignments, and exams. This course is designed for biology majors. If you are not reading at a college level, you WILL have difficulty with this course. There is only one type of "excused" absence, and that is an absence for an official University activity, such as participation in athletics, not just watching but doing, field trip for another course, etc. Make-up exams will NOT be given except for a situation beyond your control for which you provide **verifiable** (I will verify), **written documentation**. Family vacations, illness, family crises, vehicle problems, legal problems, weddings, not studying, or forgetting to take an exam are NOT valid excuses or excused absences, even if you tell me beforehand; emergencies are. If such difficulties require a significant number of absences during the semester, you are advised to drop the course and take it at another time. You do not need to call me if you will not be in class, I don't take roll. Class attendance and obtaining the information for the tests is your responsibility.

Academic Honesty and Integrity

Utah Valley University expects all students to maintain integrity and high standards of individual honesty in academic work, to obey the law, and to show respect for others. Students of this class are expected to support an environment of academic integrity, have the right to such an environment, and should avoid all aspects of academic dishonesty. Examples of academic dishonesty include plagiarizing, faking of data, sharing information during an exam, discussing an exam with another student who has not taken the exam, consulting reference material during an exam, submitting a written assignment which was authored by someone other than you, and/or cheating in any form. In keeping with UVU policy, evidence of academic dishonesty may result in a failing grade in the course and disciplinary review by the college. Any student caught cheating will receive, at minimum, zero points on that particular assignment for the first offense. A second offense can result in failing the course and will entail being reported to Student Advising. Academic dishonesty includes, in part, using materials obtained from another student, published literature, and the Internet without proper acknowledgment of the source. Additional information on this topic is published in the student handbook and is available on the UVU website.

Situation of academic dishonesty will be reported to the Student Conduct and Conflict Resolution office as, at a minimum, an informational item and potentially as an item for investigation, resolution, or other.

Student Code of Conduct

All UVU students are expected to conduct themselves in an appropriate manner acceptable at an institution of higher learning. All students are expected to obey the law, to perform contracted obligations, to maintain absolute integrity and high standards of individual honesty in academic work, and to observe a high standard of conduct for the academic environment. The Student Rights and Responsibilities Code, or Code of Conduct, outlines for students what they can expect from the University and what the University expects of them. It can be found at <http://www.uvu.edu/studentconduct/students/>

Student Timelines

You are responsible for being aware of and abiding by the dates and deadlines on the student timelines for this term found at UVU Schedule (<http://www.uvu.edu/schedule/>)

Understand When You May Drop This Course

It is the student's responsibility to understand when they need to consider dropping from a course. Dates and deadlines for dropping a course can be found in the student timetables located at <http://www.uvu.edu/schedule/>. After the period specified, a serious and compelling reason is required to drop from the course and would need approval from not just the faculty but also the department chair as well as the Dean's Office.

Incomplete Policy

An Incomplete (I) Grade is only given due to an extenuating circumstance. The final decision to issue an Incomplete grade is up to the instructor. Review the following criteria taken from Policy 523 at for information on when an incomplete grade can be given:

The student was unable to complete the course due to extenuating circumstances:

- Incapacitating Illness
- Death in the immediate family
- Change in the student's work schedule by the employer
- Other deemed acceptable by the instructor
- **The student must have completed a minimum of 70% of the required work**

An Incomplete Grade form indicating work completed and work to be completed must be signed by the department chairperson, and turned into the Registrar's Office at the end of the semester. Incomplete Grade forms can be obtained from the Registrar's Office.

Unofficial Withdrawals

UW will be given only when a **student stops attending and completing work before the regularly scheduled date to officially withdraw** as found in the Student Timetable but did not actually officially withdraw. Rationale: The assumption here is that the student did not realize the necessity to physically withdraw or made an error in this process, but all intentions of the student were to withdraw from the class prior to the withdrawal deadline

See also Academic Policies and Standards in the UVU Catalog which notes, "If a student stops attending (but does not officially withdraw) before the last day to withdraw, he/she should receive a UW."

Late Work

Late work will not be accepted without a doctors or lawyers note unless *previously* discussed with and approved by your instructor. Computer problems, work schedule, lack of internet access, traffic, travel, or similar do not constitute rationale for late homework. Your instructor has the right to modify their handling of late work.

Inclusivity Statement

We understand that our members represent a rich variety of backgrounds and perspectives. The Technology Management department is committed to providing an atmosphere for learning that respects diversity. While working together to build this community we ask all members to:

- share their unique experiences, values and beliefs
- be open to the views of others
- honor the uniqueness of their colleagues
- appreciate the opportunity that we have to learn from each other in this community
- value each other's opinions and communicate in a respectful manner

Academic Freedom

For the purposes of this class, academic freedom is generally defined as follow: For faculty and students alike, you have the freedom to disagree with the views and statements of others, but academic freedom should entail tolerance and respect for others, professionalism, and, to the degree possible, fact-based information. Intellectual vigor is best sustained when the free exchange of ideas is carried on within an environment supportive of human dignity and self-esteem. For full guidelines see <http://www.uvu.edu/tm/pages/department/acad-freedom.html>

Discrimination / Harassment / Sexual Misconduct

It's On Us to prevent discrimination/harassment against members of protected classes. **If you see something, step up and say something.** If you encounter discrimination, harassment, or gender-based discrimination (including discrimination or harassment based on pregnancy, pregnancy related conditions, sexual orientation or gender identity) or sexual violence (dating violence, domestic violence, stalking including unwanted electronic contact), please contact the Office for Equal Opportunity/Affirmative Action and Title IX. Additional information regarding options and services can be found at: <http://www.uvu.edu/equalopportunity/> and <http://www.uvu.edu/studentconduct/docs/title9optionsbrochure.pdf>

Consistent with State and Federal Law such as Title VI of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972, Utah Valley University is committed to maintaining a respectful and safe environment for its students, faculty, staff, and visitors. UVU policies 162 and 165 define and prohibit all forms of unlawful discrimination, harassment, sexual misconduct and retaliation in its programs services and activities. Utah Valley University policy 165 prohibits any form of:

- (a) Discrimination based on one or more protected classes, (Race, color, religion, national origin, sex, sexual harassment, sexual orientation, gender identity, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, genetic information, or other bases protected by applicable federal, state, or local law)
- (b) Harassment based on one or more protected classes, including sexual harassment (policy 162), or

- (c) Retaliation(a negative action or discouraging someone from reporting discrimination/harassment or participating in a University internal investigation).

If you need accommodations, please see the appropriate contact below:

- ADA: Students who need accommodations because of a disability may contact the UVU Accessibility Services Department (ASD), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the ASD office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677.
- Pregnancy: Accessibility Services or Office for Equal Opportunity & Affirmative Action (EOAA) - <http://www.uvu.edu/equalopportunity/>, ext. 5704, BA 203.
- Religious: You may begin by asking your professor. If you have questions or concerns, contact the EOAA.
- Veterans (Military Leave, Course Withdraw, or Other Assistance): Veteran Services - <http://www.uvu.edu/veterans/>, ext. 8212, WB100.
- As the result of unwanted sexual harassment, contact, stalking, dating or domestic violence:
- EOAA or Student Ombuds - ext. 7237, SC 107
- Student Health Services, if Anonymity is desired- ext. 8876, SC 221
- UVUPD, if you wish to press criminal charges - ext. 5555, GT 331

Information about **gender neutral facilities or gender personal pronouns**: You may ask professor/supervisor to use your personal name and pronouns. If you are unclear about pronouns or identifiers, you may request clarification. If you have questions or concerns contact LGBT Student Services - <https://www.uvu.edu/multicultural/lgbt/> LA 126, ext. 8885 or the EOAA.

Disability Services

Students who need accommodations because of a disability may contact the UVU Accessibility Services Department (ASD), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the ASD office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677.

Veteran's Services

UVU is committed to providing a working and learning atmosphere for student veterans and their families. If you are a student veteran or a family member of a student veteran, you are eligible for support services from the Veterans Success Center and may be eligible for Post-9/11 GI Bill benefits. For help receiving your benefits, please contact the Veterans Success Center in the Woodbury Business Building, room 100, via email at veterans@uvu.edu or by calling 801-863-8212. Learn more: <http://www.uvu.edu/veterans/>