Biology
Faculty of Pure & Applied Science

BIOL 3663 & 3660L: Introductory Mycology

Fall 2026

Lectures: Huggins Science Hall 141, Monday, Wednesday, Friday 1130am-1220pm

Labs: MacAskill Hall (Biology Building) Room 230 Fridays 1-350pm; weekly, starting September 18

Instructor Information

Instructor Name: Dr. Allison Walker

Office Location: MacAskill Hall 435 (Biology Building, 4th floor)

Office Hours: Wednesdays 1-3pm or by appointment. Virtual meetings possible.

Course Website: https://moodle.acadiau.ca/course/view.php?id=41099

Lab Moodle page: https://moodle.acadiau.ca/course/view.php?id=41098

Email address: Allison.Walker@acadiau.ca

Course Description

An introduction to the fascinating Kingdom Fungi, including biology, taxonomy, ecology and identification of fungi, with an emphasis on field collection and documenting fungal diversity. Topics include edible, toxic and medicinal fungi, plant-fungal and fungal-animal interactions, marine fungi and industrial, medical, veterinary, forestry and agricultural applications of the study of fungi. Journal Club: Students will lead presentations and discussions of relevant journal articles in class. Students can suggest papers relevant to any aspect of mycology for approval. Papers will be posted to Moodle; all students will be expected to read and be ready to discuss each paper. Prerequisites: BIOL 2013; BIOL 2043 OR BIOL 2053 each with minimum grades of C-, or permission of Instructor

Course Format and Communications

Classes will be in person and updates will be communicated via email and Moodle. Please check Moodle for lab schedule and details of lab assignments.

Course Overview

Course Learning Outcomes

By the end of this course, students will be able to:

Understand field collection and identification techniques for a broad range of fungi

Understand fungal culturing and microscopy

Understand NCBI BLAST search of DNA sequences to aid in species identification

Understand current mycological literature on a broad range of topics

How to Meet the Learning Outcomes:

Attend lectures and lab sessions, take notes, and ask for clarification when something is unclear.

Present a published research paper in journal club and lead class discussion with your partner; participate in your peers' journal club discussions.

Complete a fungal specimen identification project.

Teaching Methods

Lecture material will be presented in 50 min lecture slots. Case studies and small group discussions will be also used. Lectures will take place in HSH 147 @ 11:30AM-12:20PM on M,W,F's: check MOODLE for lecture schedule. Labs will meet in BIO230 on Fridays from 1PM-3:50PM. **Labs will begin Fri Sept 18, 2026

Course Materials

Recommended text: The Fifth Kingdom, 3rd ed. (Bryce Kendrick). 2001. ISBN-10: 1585100226 (or 4th edition, 2017). Our lectures will follow the content of this book quite closely. Used and new editions should be available at the Acadia Bookstore. Scientific papers will be available as pdfs to supplement text material.

• Recommended lab text: Mushrooms of the Northeastern United States and Eastern Canada (Timber Press Field Guide) by Timothy J. Baroni (2017) ISBN-10: 1604696346 is really helpful for identifying fungi in our region and is in stock at the Acadia Bookstore OR George Barron's Mushrooms of Ontario and Eastern Canada 1999. Lone Pine Publishing. ISBN-10: 1551051990 is also good but currently out of print; used copies may be available online or at the Acadia bookstore. Other resources such as websites and handouts will be available for fungal identification and posted to Moodle or available in lab as hard copies.
Please bring your lab coat, lab notebook and laptop to the labs.

Technology Use

• Access to course lecture and lab Moodle pages • Access to course LIBGUIDE http://libguides.acadiau.ca/biol3663 • Laptop

Absence Policy

Aim to attend every lecture and lab. A missed test requires a doctor's note. **Makeup tests will not be given, rather the final test (Test #3) will then be worth 40% of the final grade.**

Topics By Week and Course Schedule

Week	Date	Topic	Readings (Kendrik)
1	Sept 9	Course welcome, What are fungi, fungal diversity; edible and poisonous fungi	Chapters Introduction; Ch 1; 22
2	Sept 14	Introduction to library resources & Journal Club, Basidiomycota, Ascomycota	Ch 5, 4
3	Sept 21	Ascomycota continued, Spore dispersal & food spoilage; Lichens	Ch 4, 8, 20, 21
4	Sept 28	Journal Club (Mon); ***National Day for Truth & Reconciliation (Wed); Test #1 (Fri)***	
5	Oct 5	Medical & veterinary mycology; Introduction to MycoChallenge, Journal Club	Ch 23, 24
6	*Oct12*	*Thanksgiving & Fall Study Week*	*No classes or labs*
7	Oct 19	Chytrid Fungi; Guest lecture Dr Alfredo Justo; Journal Club	Ch 2
8	Oct 26	'Zygomycota'; Fungi in bio-control; Fungi in fermentation	Ch 3, 14, 19
9	Nov 2	Journal Club & Test 2 review (Mon), **Test #2 (Wed)**; Mycorrhizae	Ch 17
10	Nov 9	Fungal ecology, focusing on wood rot (Mon); **Remembrance Day (Wed)**; Journal Club (Fri)	Ch 11
11	Nov 16	Aquatic fungi; Fungal-animal interactions; Journal Club	Ch 15,16
12	Nov 23	Fungal plant pathogens; Fungi in extreme environments; Journal Club & Test #3 Review	Ch 12
13	Nov 30	**Test #3 (Mon);** Not quite fungi: Oomycetes and slime moulds (protists)(Wed); Journal Club (Fri)	Ch 2
14	Dec 7	MycoMaterials; Mycoremediation	Supplemental reading

Evaluation

Assessment Weighting Breakdown

Assessment	% of Final Grade
Test 1 October 2	20
Test 2 November 4	20
Test 3 November 30	20
Weekly lab quizzes (best 7 of 9 quizzes)	5
Specimen Collection	15
Presentation of specimen collection	5
MycoArt	5
Journal Club (5% attendance and participation; 5% your presentation with your partner)	10
Total	100%

Acadia Grading System

Letter Grade	Grade Point Value	Rating
A+	4.33	
A	4.00	Excellent
A-	3.67	
B+	3.33	
B	3.00	Good
B-	2.67	
C+	2.33	
C	2.00	Average
C-	1.67	
D+	1.33	
D	1.00	Pass
D-	.67	
F	0.00	Failure
INC	0.00	Incomplete
W		Withdrew

Academic Integrity

Academic integrity demands responsible use of the work of other scholars. It is compromised by academic dishonesty such as cheating and plagiarism. A student who is uncertain whether or not a course of action might constitute cheating or plagiarism should seek in advance the advice of the instructor involved. The following are considered infractions of academic integrity and may lead to sanction:

- Cheating is copying or the use of unauthorized aids or the intentional falsification or invention of information in any academic exercise.
- Plagiarism is the act of presenting the ideas or words of another as one's own. Students are required to acknowledge and document the sources of ideas that they use in their written work.
- Self-plagiarism is also a form of plagiarism. It is the presentation of the same work in more than one course without the permission of the instructors involved.
- A student who knowingly helps another to commit an act of academic dishonesty is equally guilty.

Penalties are levied in relation to the degree of the relevant infraction. They range from requiring the student to re-do the piece of work, through failure on that piece of work, to failure in the course, and to dismissal from the university. See the Acadia University Academic Calendar pg. 40 for more information.

[Link to Policy]

Accessible Learning Services

Acadia University is dedicated to improving access to campus life for all students with disabilities. While we attempt to ensure that courses are accessible, we recognize that there are barriers that need to be addressed on an individual basis. Students who require accommodations to complete coursework or otherwise fully participate in class should contact Accessible Learning Services directly at (accessible.learning@acadiau.ca) as soon as possible. More information is also available at Accessible Learning Services website.

Additional Policies and Statements

In this course, students are expected to submit work that reflects their own ideas and engagement with the course materials as well as their writing ability. Engaging with the work of others is an important part of academic writing. All ideas borrowed from other sources must be carefully cited.

Students may not use generative AI, such as Chat GPT to help them complete assignments. When an assignment is suspected of having been completed with the aid of one of these programs, the procedure for investigating academic integrity infractions will be followed (pages 40-41 of Acadia's Academic Calendar at https://registrar.acadiau.ca/AcademicCalendars.html).

The use of generative AI or paraphrasing software **without citation** counts as a form of plagiarism. In this course, the use of generative AI or paraphrasing software constitutes cheating.

Studies have shown that students who take notes by hand (rather than typing on a computer) perform significantly better in their ability to retain information. While you are permitted to use laptops or tablets to take notes in lecture, please limit their use to classroom material only. Using them for other purposes (i.e. social media) will negatively impact your ability to learn, and it is distracting to myself and others. Please don't do it.

Failure to hand in lab assignments (collections, MycoArt) without submission of a Declaration of Cause form to the Registrar, will result in marks of zero for those assignments.

All assignments must be submitted directly to Dr. Walker (Allison.Walker@acadiau.ca) and are due by 5pm on the day specified. Late assignments will have 5% per day deducted from the grade.

The spoken and written course content (including the syllabus, handouts, lectures, presentations, labs, assignments, and tests) are the intellectual property of the instructor and may only be copied for personal use. Sharing these materials or uploading them where they may be accessed by others is a violation of copyright. If you wish to make audio, video, or photographic recordings in class, you must first obtain the consent of the instructor and of any other persons (e.g., guest speakers, other students) who may be captured in such recordings.

Program Learning Outcomes

Foundations of knowledge		**Course specific examples**	**Proficiency** 1-Introduction 2-Reinforcement 3-Proficient
Scientific method, inquiry and hypothesis testing	Find, understand and apply information from the literature; understand how to use the scientific method to examine problems from different perspectives	How to read primary mycological literature broadly and deeply to improve scientific communication	3
Historical concepts and contributions by important figures	Explain foundational concepts in biology, Two-eyed Seeing, and ethical implications of scientific discoveries	Historical overview of mycologists who have made major contributions to the discipline	2
Biodiversity and ecology	Understand the genetic, taxonomic and ecosystem levels of biodiversity; focus on SW Nova including the Acadian Forest and Bay of Fundy ecosystems	Learning to identify the fungal biodiversity of Nova Scotia, learning fungal ecology with a focus on coastal, agricultural and forest habitats	3
Genetics and evolution	Understand the chemical basis of heredity, genetics and genomics; integrate concepts across disciplines to understand evolution	Evolutionary genetics of fungi	3
Human and environmental health	Understand form and function in health and disease within a One Health framework, integrating human and environmental health	Role of fungi in human and environmental health	3
Lab and field skills			
Experimental design	Gain experience in applying the scientific method	How to conduct fungal biodiversity surveys	2
Safety	Work safely and productively in lab and field settings	Learn how to collect fungi safely and work with fungi and chemicals in the lab for identification	2
Lab skills	Gain experience with basic and advanced lab techniques and understand their application in research, health science and industry	Learn a variety of lab techniques used to culture, observe and identify fungi	3

Field skills	Gain experience in basic and advanced field skills and understand their application in ecology, conservation biology and environmental change	Field collection of fungi including lichens, citizen science (iNaturalist)	3
Data acquisition, analysis and interpretations	Collect data, present results both qualitatively and quantitatively, and interpret outcomes in light of the literature	How to interpret and communicate statistical results in scientific writing	2
Statistical analysis	Use R and or other programs to analyze biological data		
Professional skills			
Ethical practices	Demonstrate ethical conduct, apply principles of academic integrity and understand the principles of EDI in science	Learn the importance of underrepresentation in mycology, critique primary literature for ethical data collection and publication, how to spot predatory journals	3
Collaboration and group work	Work effectively in groups within and across disciplines	Labwork and journal clubs will be done in pairs	3
Critical thinking	Analyze and evaluate information to make science-based decisions	Learning to critique primary mycological literature and websites	3
Computer proficiency	Use common and discipline- specific software	iNaturalist, DNA databases, PowerPoint	2
Scientific communication	Communicate science effectively to both scientific and general audiences	Communicating mycology through art, communicating biodiversity knowledge to citizen scientists	3

Version: 9 September, 2026

ACADIA BIOLOGY