



UNIVERSITY OF  
CALGARY

DEPARTMENT OF BIOLOGICAL SCIENCES  
COURSE OUTLINE

1. **Course: BIOLOGY 435—BIOLOGY OF FUNGI**

Lecture Section(s) L01 MWF 13:00 ST 135 Fall 2017

**Course Coordinator/Instructor:** Dr. H. Addy EEEL 235C 220-8963 [addy@ucalgary.ca](mailto:addy@ucalgary.ca)

D2L Course site: [d2l.ucalgary.ca](http://d2l.ucalgary.ca) (F2016BIOL435L01). All lab handouts, assignments, course information, extra study material, links to assigned articles and to sites of interest will be posted on this site.

Biological Sciences Department BI 186 403-220-3140 biosci@ucalgary.ca

2. **Prerequisites: Biology 313 and 331.** A student may not register in a course unless he/she has a grade of at least C- in each prerequisite course. See section 3.5.C in the Faculty of Science section of the online Calendar. [www.ucalgary.ca/pubs/calendar/current/sc-3-5.html](http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html)

Antirequisite(s): Credit for both Biology 435 and 335 will not be allowed.

3. **Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

**Individual Work (75%)**

Peer feedback surveys	2%
Assignments	5%
Lab Assignments	5%
Quizzes	10%
Lab (labs 2-5) & lecture test (individual component)	18% (in regular lab time on Oct. 24/26)
Final lab/lecture quiz (on labs 6-10) (individual component)	5% (in regular lab time on Nov. 28/30)
Final exam (cumulative; individual component)	30% (scheduled by Registrar)

**Team Work\* (25%)**

Quizzes	10%
Assignments	4%
Lab Photograph Portfolio	5%
Lab & lecture test (team component)	2% (in regular lab time on Oct. 24/26)
Final lab/lecture quiz (on labs 6-10) (team component)	1% (in regular lab time on Nov. 28/30)
Final exam (team component)	3% (scheduled by Registrar)

Each piece of work in the categories outlined above submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade using the conversion scale provided below. A maximum grade of D+ will result if the weighted average of the mid-semester lab/lecture test, lab/lecture quiz and final exam is not a passing grade (>50%).

\*At the end of the term, each student will evaluate the contributions of the other members of his/her team. All team members will get a "peer score" based on the final peer evaluation. The peer score for a student is the average rating of the student, divided by the overall average rating for all members of the team. This score provides a way to evaluate the relative contributions of each team member to the team's work. Each student's total teamwork mark will be multiplied by his/her peer score to determine his/her final mark for the teamwork component of the course (25% of final grade).

**Final Grade Scale :**

A+: 95 or higher	C+: 68 and under 72
A : 90 and under 95	C : 64 and under 68
A- : 85 and under 90	C- : 60 and under 64
B+: 80 and under 85	D+: 55 and under 60
B : 76 and under 80	D : 50 and under 55
B- : 72 and under 76	F : <50

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.3](#) of the University Calendar

5. **Scheduled out-of-class activities:** None

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.**

6. **Course Materials:** **Required** *The Fungi* 3<sup>rd</sup> edition (2016) by Watkinson, Boddy and Money, Academic Press. This book is available as an **e-book** through the University of Calgary library (link on D2L); students can download a pdf of the book. Students do not require a hard copy of the book and thus none are provided in the bookstore.

Optional: Stephenson SL. 2010. *The Kingdom Fungi: The Biology of Mushrooms, Molds & Lichens*. Timber Press. Portland OR.

Additional readings will be assigned for most topics; links to these articles will be provided on D2L.

**Online Course Components:** Some teamwork resources are provided by ITPMetrics, a U of Calgary-based system that provides a secure web-based tool for peer evaluations. This tool is free to all students and is not dependent on prior access.

7. **Examination Policy:** No calculators or electronic devices are permitted for tests or examinations. Students should also read the Calendar, [Section G](#), on Examinations.

8. **Approved Mandatory and Optional Course Supplemental Fees:** There are no optional or mandatory course supplemental fees.

9. **Writing across the curriculum statement:** In this course, the quality of the student's writing on assignments will be a factor in the evaluation of those assignments. See also [Section E.2](#) of the University Calendar.

**10. ETHICS IN THE BIOLOGICAL SCIENCES**

Studies in the Biological Sciences involve the use of living and dead organisms. Students taking laboratory- and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

**11. OTHER IMPORTANT INFORMATION FOR STUDENTS:**

(a) **Academic Misconduct:** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero-tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties

(b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).

(c) **Student Accommodations:** Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students *with Disabilities available at* [http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities\\_0.pdf](http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf).

Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Biological Sciences, Dr. H. Addy, by email [addy@ucalgary.ca](mailto:addy@ucalgary.ca) or phone 403 220-3140.

(d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

(e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see also <http://www.ucalgary.ca/secretariat/privacy>.

(f) **Student Union Information:** VP Academic Phone: 403 220-3911 Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)  
SU Faculty Rep. Phone: 403 220-3913 Email: [science1@su.ucalgary.ca](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca) and [science3@su.ucalgary.ca](mailto:science3@su.ucalgary.ca);

Student Ombuds Office: 403 220-6420 Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca); <http://ucalgary.ca/provost/students/ombuds>

- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy, you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses ([www.ucalgary.ca/usri](http://www.ucalgary.ca/usri)). Your responses make a difference - please participate in USRI Surveys.

Department Approval \_\_\_\_\_ **ORIGINAL SIGNED** \_\_\_\_\_ Date \_\_\_\_\_

B435 F17; 7/21/2017 11:44 AM

UNIVERSITY OF CALGARY—DEPARTMENT OF BIOLOGICAL SCIENCES  
BIOLOGY 435—BIOLOGY OF FUNGI  
COURSE SYLLABUS FALL 2016

**COURSE PERSONNEL**

**INSTRUCTOR:** Dr. Heather Addy      EEEL 235C      403-220-8963      addy@ucalgary.ca

**Office Hours: Weds. 10-11 am** but I am also available at other times of the week for individual or group assistance – please just email or phone me to arrange a time to meet.

**LAB TECHNICIAN:** Ms. Fran Cusack      EEEL 301B

**TAs:** Mr. Nic Fournier and Mr. Neil Hickerson: contact information provided in first lab and on D2L

**OVERVIEW OF THE COURSE:**

Most people don't know much about fungi, even though fungi play very important roles in our lives and in the world around us. If we think about fungi at all, it's usually in their role as decomposers. But there is so much more to these fascinating organisms: their symbiotic associations with plants and animals, their roles as sources of foods and medicines, and the promise they hold in bioremediation and even as building materials. There's the darker side of fungi too: many of them are pathogens and some cause serious diseases in humans and other animals, such as the "white-nose syndrome" that is decimating bat populations around the world. In this course, we will explore these and other topics as we discuss the diversity of fungi, their physiology, ecology, and interactions with other organisms, including humans. In the labs, you will have an opportunity to observe the diversity of fungi, learn the fundamentals of fungal identification, and investigate their ecological and economic roles.

**COURSE LEARNING OUTCOMES:**

At the end of this course, you should be able to:

1. contrast the features that distinguish fungi from plants, animals and bacteria
2. describe the phyla of fungi and their life histories
3. describe the characteristic morphology of a fungal mycelium and explain its pattern of differentiation with development
4. explain the factors responsible for the characteristic shape of a fungal mycelium, and describe how the mycelium differentiates as it develops compare and contrast the roles played by different parts of the mycelium in terms of nutrient acquisition and reproduction
5. explain the links between fungal lifestyle and reproductive biology
6. explain the ecological roles and global importance of fungi as saprotrophs, symbionts, and sources of food, antibiotics, allergens and toxins
7. work safely with fungal cultures using sterile technique
8. interpret and explain figures/tables from research articles
9. work effectively as part of a team and provide constructive feedback to team members
10. communicate effectively both in writing and orally

**RESPONSIBILITIES AND EXPECTATIONS:**

My philosophy of teaching is that it is my responsibility to create and maintain the conditions that allow students to learn. Feedback from students is very important to me so that I will know whether such conditions exist, how well the course is going and where problems are arising. In addition to a midterm and end-of-term course evaluation, I will also be meeting weekly with **class representatives**, students who volunteer to discuss all aspects of the course with me and raise any concerns communicated to them by other students. I use a team-based learning approach in this class to provide students the opportunity to obtain and strengthen skills in working as part of a team. This approach has also been demonstrated to promote learning by giving students numerous opportunities to discuss course concepts with other students and the instructor, and to practice applying course concepts to answer questions and solve problems. As another source of support, we will also have **peer mentors** in this course. **Peer mentors** are students who have taken this course previously and done well in it; they will attend classes and provide guidance and help as your team works on assignments. You will meet the peer mentors in our first class.

To make our time together as effective as possible, it is important that the lecture and laboratory learning environments are ones of mutual respect. I will do whatever I can to create and maintain that environment; my expectations of student conduct are outlined below:

- **Everyone has the right to learn as well as the responsibility to not deprive others of their right to learn.** Actions such as side conversations during instruction/lecturing, or using laptops and other electronic devices for non-class activities can be very distracting and affect others' learning. Please monitor your own behaviour during classes and labs and restrict your use of laptops and other electronic devices to only those activities directly related to class to ensure that you do not distract others.

- Please arrive at class and your lab on time. Late arrivals and early departures can be disruptive and can result in you missing important information. I understand that there are special circumstances when you may have to arrive late or leave early; please make your arrival/departure as unobtrusive as possible and be sure to let your teammates know about your situation in advance of class.
- Please let me know right away if you are dealing with a problem or situation that is preventing you from performing at the level you want to be at in this class.
- Please treat your classmates, lab instructors, peer mentors and me with respect. There may be times when you are frustrated with something that is going on in the course and find it difficult to be patient. However, to maintain a respectful and constructive environment in this class, I ask that you are respectful of others in your words and actions.

#### **What you can expect from the lab instructors and me:**

- We will treat all students with respect and do our best to make our expectations about how to succeed in this class clear.
- We will do our best to help your learning by designing clear assignments and assessments that provide you with timely feedback.
- We will start and end classes and labs on time.
- I will be available outside of class time through office hours, appointments or email should you want to review concepts that are not clear, discuss study strategies, learn more about any topic or discuss concerns about any aspect of the course. Please note that I will aim to reply to emails within 24h, except on weekends.
- I will organize review sessions for exams and provide sample exam questions.

#### **ACADEMIC INTEGRITY:**

Each student in this course is expected to abide by the University of Calgary Code of Academic Conduct. You are encouraged to study together and to discuss information and concepts covered in lecture, labs and assigned readings with other students, **but all** individual work (including drawings) that you submit in this course for academic credit must be your own work. In the case of team assignments, all members of the team are responsible for the honesty and integrity of the document.

Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. All work submitted for this class (whether as a draft or for final grading) is held to the strictest standards for intellectual honesty. A single offence may lead to a grade of zero for the assignment involved, disciplinary probation, suspension or expulsion. The Faculty of Science follows a zero-tolerance policy regarding dishonesty. In addition to reading the sections of the University Calendar under "Student Misconduct", I will assume that you have read and understand the information posted on the Dept. of Biological Sciences' webpage dealing with academic honesty: <http://www.bio.ucalgary.ca/undergrad/academichonesty.html>. In particular, be sure that you understand what constitutes plagiarism—test yourself by taking the on-line quiz.

#### **TEAM-BASED LEARNING:**

In this class, we will be using a Team-Based Learning (TBL) approach. In this process, you will spend many classes working in teams applying what you've learned from the textbook and other assigned readings. Teams in TBL are different than the kind of group work you may have done in other classes: I form the teams (as described below), which work together throughout the term to complete course assignments and quizzes; team members also evaluate each other's contributions to the group throughout the term. Before your team tackles an assignment, TBL uses short tests to make sure you've got the basics from the required readings. They're not ordinary tests, though: you take the tests both individually and as a team, and you get immediate feedback, so the tests function as learning tools. I will do some lecturing but a lot of our class time will be spent on applying what we've learned. Here are the basics:

1. Prior to the first class, I will send you a link to a web-based tool (ITP Metrics) that we will use to form the teams and to do peer assessments during the term. It is important that the teams as diverse as possible, so you will be asked to answer some survey questions about your background, your major/year, and other factors that will help us form successful teams. You will meet your teammates in the first class.
2. For each major unit in the course, you will be assigned some readings in the Watkinson et al. (2016) textbook and/or other readings or videos; I prepare a reading guide for all assigned readings/videos to help you focus on the most important points in the assigned readings; the reading assignments associated with each reading guide will also help you prepare for each unit. At the beginning of the unit, you will individually take a short (~10-15 questions) multiple-choice test called an "Individual Readiness Assessment Test" (IRAT) to see how well you've understood the concepts in the assigned reading. In calculating your final grade, I will not count your lowest individual quiz score for the term. Quizzes missed without a valid excuse (medical or family emergency) will be awarded a mark of zero. Missed quizzes may not be written at a later time.
3. Right after taking the iRAT, you will take the same test with your team. This is called a "Team Readiness Assessment Test" (tRAT). For the group test, you'll use a special "scratch-off" answer sheet that immediately tells you whether you have the correct answer for full marks. If your team doesn't choose the correct answer on the first try, you make a second choice for partial credit. If it takes you three tries to get the correct answer, you again earn partial credit for the item. As for the IRATs, quizzes missed without a valid excuse will be awarded a mark of zero; missed quizzes may not be written at a later time.
4. When you've finished the tRAT, your team provides written feedback as to which concepts are still unclear or for which you would like more information.

5. I'll use the individual and team scores as well as the written feedback to determine what material needs to be discussed and clarified, which is what will happen in the next class meeting. I'll also incorporate any supplemental information that you'll need to complete the in-class team assignments that involve application of what you learned in the readings; these assignments are often sample exam questions, so you will also be gaining practice in answering exam questions.

6. The other grade components in the course include:

**Lab assignments** involve both individual and team components. The individual components are brief (~1-page) written assignments that generally involve diagrams/sketches of key structures; you should be able to integrate information from lecture and the assigned readings into your answers for these lab assignments. The team components involve portfolios of digital photographs of specimens, to be submitted prior to the next lab period; more information on the portfolios is provided on D2L and will be discussed in the first lab.

**Individual Assignments:** Feedback from students in previous terms indicates that two of the biggest challenges for students in this course are: (1) preparing effectively for the RATs and (2) making connections among the various sources of information (the textbook, other assigned readings, lab material, lectures, etc.) The goal of these individual assignments is to help you with these challenges. The individual assignments include: (note that further details of all assignments are provided on D2L and will be discussed further in class)

- **Reading assignments (9 in total):** brief (~1-page) generally involve reflections on the most-important and most-confusing parts of the assigned readings, and on how the readings connect to other course components.
- **Summaries (2 in total):** prior to the lab/lecture test in October and again prior to the final exam, you will prepare a summary of the key concepts discussed to that point and reflect on how well you understand those concepts. You have a choice of format for these summaries e.g. a concept map or other graphic representation or a written letter to a student who missed several classes. More information will be provided on D2L.
- **Assessment of test performance (3 in total):** Prior to the lab/lecture test in October and again prior to the final exam, you will write an answer to a sample exam question and assess how your answer compares to the marking key. You will hand in your answer and your reflection on it for my feedback. As well, following the lab/lecture test, you will reflect on your preparation for and performance on the test and develop a plan to prepare for the final exam.

**Exams** include both multiple-choice and short-answer questions (length varying from a sentence to a paragraph) and consist mainly of the same type of questions as the team assignments completed throughout the term. Exam questions will be based on lectures, assigned readings and lab material; you should be able to integrate information from the labs into your answers to lecture exam questions. Note that exams will include both an individual component and a team component; like the RATs, the latter will be based on multiple-choice questions.

7. Twice during the semester (mid-way through and at the end), each of you will complete a confidential "Peer Evaluation" to assess the contribution of the other members of your team. Completion of these peer evaluations counts towards the **2% Peer Feedback Survey mark**. You'll be evaluating each member on his/her participation in team activities (Did they come to class regularly? Were they prepared for the day's activity? In what ways did they contribute productively to the team? Respect others' ideas?). Once you receive your peer evaluation, you will complete a brief reflection on the feedback, which also counts towards the 2% Peer Feedback Survey mark.

8. The team nature of this class requires you to be in class and to do your part as a member of your Team. Quizzes missed without a valid excuse (medical or family emergency) will be awarded a mark of zero. Missed quizzes may not be written at a later time. The nature of team assignments is such that you can't do them individually, so you can't make them up. In addition, attendance at all labs is required for this course. If you miss a lab, an in-class quiz or assignment or the midterm exam for medical reasons, the only documentation that will be accepted in BIOL 435 is a completed **Physician/Counsellor Statement form**, which can be downloaded from: [http://www.ucalgary.ca/UofC/departments/UHS/PDFs/deferred\\_exam\\_form.pdf](http://www.ucalgary.ca/UofC/departments/UHS/PDFs/deferred_exam_form.pdf)

You must provide the completed form, signed by your physician, to me within **48 hours** from the date that you missed the lab, class or midterm.

10. **Student Support:** The Student Success Centre offers a range of academic support services, including writing support to assist students writing assignments and improve writing skills: [http://www.ucalgary.ca/ssc/writing\\_support/overview](http://www.ucalgary.ca/ssc/writing_support/overview)

UNIVERSITY OF CALGARY—DEPARTMENT OF BIOLOGICAL SCIENCES  
BIOLOGY 435—BIOLOGY OF FUNGI  
COURSE SYLLABUS FALL 2017

**Lecture, Lab and Assignment schedule BIOL 435 Fall 2017**

Note that the RAT dates may be moved back (i.e. to a later date), if we need additional time at the end of the previous unit to clarify any concepts. Any changes to RAT dates or assignment due dates will be announced in class and posted as an announcement on D2L.

\*Assignments are described on the previous page of the syllabus; further information and rubrics provided on D2L.

Unit	Date	Topic	Assignments due*
Introduction to course	M Sept 11	Introduction to course and to team-based learning	
	W Sept 13	<b>Introductory RAT</b>	
	F Sept 15	Clarification lecture; team activities	
	<i>T/R Sept 12/14</i>	<i>Lab 1. Team-building activities &amp; Team Contracts</i>	<b>Reading Assignment #1 due at start of lab</b>
Unit 1. Evolution & Diversity Part 1: Ancestral fungi and colonization of terrestrial habitats	M Sept 18	<b>RAT 1</b>	<b>Reading Assignment #2</b>
	W Sept 20	Clarification lecture & team activities—mycelial growth	
	F Sept 22	Team activities—mycelial differentiation	
	<i>T/R Sept 19/21</i>	<i>Lab 2. Fungal growth forms. Set up trap cultures for Lab 3</i>	<i>Individual lab assignments due at end of lab.</i>
	M Sept 25	Clarification lecture & team activities—zygomycetes	<b>Reading Assignment #3</b> <i>Lab 2 Photo portfolio due (Tues labs)</i>
	W Sept 27	Team activities—summary of Unit 1	<i>Lab 2 Photo portfolio due (Thurs labs)</i>
	<i>T/R Sept 26/28</i>	<i>Lab 3. Fungal Diversity Part 1: Chytridiomycota &amp; zygomycetes</i>	<i>Individual lab assignments due at end of lab.</i>
Unit 2. Evolution & Diversity Part 2: Evolutionary trends in mycelial fungi and evolution of the Dikarya	F Sept. 29	<b>RAT 2</b>	<b>Reading Assignment #4</b>
	M Oct. 2	Clarification lecture & team activities—septa, fruiting bodies and sexual reproduction in Dikarya	<i>Lab 3 Photo portfolio due (Tues labs)</i>
	W Oct 4	Team activities—asexual reproduction in Dikarya	<i>Lab 3 Photo portfolio due (Thurs labs)</i>
	F Oct 6	Clarification lecture & team activities—rusts	<b>Reading Assignment #5</b>
	<i>T/R Oct 3/5</i>	<i>Lab 4. Fungal Diversity Part 2: Dikarya</i>	<i>Individual lab assignments due at end of lab.</i>
	M Oct 9	<b>Thanksgiving—no class</b>	
	W Oct 11	Team activities—evolutionary trends	<i>Lab 4 Photo portfolio due (Tues &amp; Thurs labs)</i>
	F Oct 13	Team activities—summary of Unit 2	
	<i>T/R Oct 10/12</i>	<i>Lab 5. Fungal Diversity Part 3: Dikarya continued</i>	<i>Individual lab assignments due at end of lab.</i>
Unit 3. Fungal growth, nutrition & metabolism	<i>M Oct 16</i>	<i>RAT 3</i>	<b>Reading Assignment #6</b> <i>Lab 5 Photo portfolio due (Tues labs)</i>
	W Oct 18	Clarification lecture & team activities—hyphal structure and growth	<i>Lab 5 Photo portfolio due (Thurs labs)</i>
	F Oct 20	Team activities—nutrient uptake & enzymes	<b>Summary of Units 1 &amp; 2 due</b>
	<i>T/R Oct 17/19</i>	<i>Review lab. Teams complete summary table of fungal diversity</i>	
	M Oct 23	<b>Review session for lab &amp; lecture test</b>	
	W Oct 25	Team activities—secondary metabolism	
	F Oct 27	Team activities—wood decay	
	<i>T/R Oct 24/26</i>	<b>Lab &amp; Lecture test (on Introduction to Fungi, Unit 1 &amp; 2, including Labs 2-5)</b>	
	M Oct 30	Team activities—summary of Unit 3	Mid-semester peer evaluation survey opens
Unit 4. Fungi as symbionts with phototrophs: lichens	W Nov 1	<b>RAT 4</b>	<b>Reading Assignment #7</b>
	F Nov 3	Clarification lecture & team activities—lichen structure/function	

	<i>T/R Oct 31/Nov 2</i>	<i>Lab 6. Fungal Nutrition Part 1: keratin-degrading fungi and wood-decay fungi. Set up wood decay investigation</i>	<i>Individual lab assignments due at end of lab.</i>
	M Nov 6	Team activities—lichen nutrition	Mid-semester peer evaluation survey closes <i>Lab 6 Photo portfolio due (Tues labs)</i>
	W Nov 8	Team activities—lichen secondary metabolites	<i>Lab 6 Photo portfolio due (Thurs labs)</i>
	F Nov 10	<b>Reading Days—no class</b>	
	<i>T/R Nov. 7/9</i>	<i>No labs</i>	
	M Nov 13	<b>Reading Days—no class</b>	
	W Nov 15	Team activities —lichen symbiosis	<b>Peer Feedback Reflection Assignment</b>
	F Nov 17	Team activities —summary of Unit 4	
	<i>T/R Nov 14/16</i>	<i>Lab 7. Fungal Nutrition Part 2: Lichens and continuation of wood decay investigation</i>	<i>Individual lab assignments due at end of lab.</i>
Unit 5. Fungi as symbionts with heterotrophs: fungal pathogens and medical mycology	M Nov 20	<b>RAT 5</b>	<b>Reading Assignment #8</b> <i>Lab 7 Photo portfolio due (Tues labs)</i>
	W Nov 22	Clarification lecture & team activities—dermatophytes	<i>Lab 7 Photo portfolio due (Thurs labs)</i>
	F Nov 24	Team activities— primary pathogens	
	<i>T/R Nov 21/23</i>	<i>Lab 8. Fungal Nutrition Part 3: Fungi in food production; complete wood decay investigation</i>	<i>Individual lab assignments due at end of lab.</i>
	M Nov 27	Team activities—opportunistic pathogens	<i>Lab 8 Photo portfolio due (Tues labs)</i>
	W Nov 29	Clarification lecture and team activities—threat of fungal pathogens	<b>Reading Assignment #9</b> <i>Lab 8 Photo portfolio due (Tues labs)</i>
	F Dec 1	Team activities —summary of Unit 5	
	<i>T/R Nov 28/30</i>	<i>Review lab. Teams complete summary table of fungal nutrition</i>	
Fungi & Humans	M Dec 4	Fungi & Humans	<b>Summary of Units 3-5 due</b>
	W Dec 6	Fungi & Humans	
	F Dec 8	Course summary	Final peer evaluation survey opens (closes Dec. 15)
	<i>T/R Dec 5/7</i>	<i>Final lab quiz (on Labs 6-8)</i>	