UNIVERSITY OF CALGARY
FACULTY OF SCIENCE

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

COURSE OUTLINE

1. **Course:** BIOL 453, Plants in their Environment - Winter 2021

   Lecture 01: MW 12:00 - 12:50 - Online

Instructor	Email	Phone	Office	Hours
Dr Heather Addy	addy@ucalgary.ca	403 220-8963	EEEL 235C	Via Zoom on Fridays noon-1 pm; email me for appointments at other times

Online Delivery Details:

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects you are required to be online at the same time.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

Class is synchronous on Mondays and Wednesdays; students are required to be online at those class times.

Synchronous classes will not necessarily be recorded because they involve student discussions and teamwork.

Friday classes are asynchronous: this time is intended to provide some of the time needed to complete the assigned readings/videos and to attend Zoom office hours (scheduled during regular class time on Fridays).

Links to assigned readings and videos will be provided on D2L.

To make our time together as effective as possible, it is important that the class environment is one of mutual respect, and that we all practice good "netiquette" by doing the following:

- Show respect and open-mindedness for other people's ideas (e.g. use professional & respectful language)
- Provide positive feedback and appreciation (verbal and non-verbal) whenever possible
- Be forgiving of other people's mistakes. Remember that making mistakes is part of learning!
- Remember that disagreements about course content are important aspects of team discussions—they help ensure that your team is considering all the alternatives before coming to consensus—but when you disagree with someone's answer or ideas, be sure you support your views and ideas with evidence
- Practice patience when others are using a technology or medium for the first time
- Please respect confidentiality so that this class is a place where others can share ideas freely
- Please do not share access to online communities (Zoom or D2L) with people who are not part of the class
- Do not record without permission, or share/upload recordings. This is both a privacy and copyright issue. Unauthorized distribution of class material may be considered academic misconduct
- Remember that when the instructor downloads the chat history for a session, all chats (including private chats among students) are included. Be sure that you are not typing anything in the chat that you would not be comfortable with the instructor reading.

Course Site:

D2L: BIOL 453 L01-(Winter 2021)-Plants in their Environment

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

   See section 3.5.C in the Faculty of Science section of the online Calendar.

Prerequisite(s):
Biology 313; and 3 units from Botany 303, Biology 371 or Plant Biology 403.

Antirequisite(s):
Credit for Biology 453 and 351 will not be allowed.

3. **Grading:**

The University policy on grading and related matters is described in F.1 and F.2 of the online University Calendar. In this course, overall grades will be determined following the information outlined below.

The grading approach I use in this course is **specifications grading**, in which your final grade is not based on the percentage score you earn on assignments but rather on how many and which assignments you successfully complete. Each assignment is graded according to a rubric that outlines the specifications for that assignment. To earn a given letter grade, you must successfully complete **all** the requirements listed for that letter grade, as indicated in the table below.

The table looks daunting but don't panic! Many of the assignments are brief and are designed to help you stay on track with the course, and also to help me know what material is not yet clear to you. See the syllabus posted on D2L for more information on specifications grading and the assignments, including due dates and time estimates for completing them.

Assessments	**Requirements for each letter grade**			
	D	C	B	A
Course Goals & Background Assignment	X	P	P	P
Class Preparation Questions	5/12	7/12	9/12	11/12
Explanation & Analogy Assignments	X	1/3	2/3	2/3
Team Assignments (completed during class). All unit summaries **and** the final course summary must be completed for this requirement to be met.	P	P	P	P
Peer Feedback Surveys (mid-semester and end of term)	2/2	2/2	2/2	2/2
Exploration Assignment:	X	X	Complete **EITHER** Exploration Assignment **OR** Final Project	Complete **BOTH** Exploration Assignment **&** Final Project
Final Project	X	X		
Capstone Reflection on Course Goals	X	P	P	P (with portfolio documenting learning)

Students earn the "+"-letter grade by exceeding **all** requirements for a letter grade.

Students who do not successfully complete one (and only one) requirement for a given letter grade will earn the "-"-letter designation. This excludes the Peer Surveys, and Team Assignments, which must all be completed.

For an A grade, students must successfully complete **both** the Final Project and the Exploration Assignment; the highest grade that can be earned without completing both of these is a B (or a B+, if all requirements for a B are exceeded).

Students who do not successfully complete **more than one** of the requirements for a letter grade will earn the next lower letter grade. Students who do not meet the requirements for a D grade will earn an F grade.

4. **Missed Components Of Term Work:**

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed

assignment could also be pro-rated among the components of the course.

5. **Scheduled Out-of-Class Activities:**

   There are no scheduled out of class activities for this course.

6. **Course Materials:**

   In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

   - A computer with a supported operating system, as well as the latest security, and malware updates;
   - A current and updated web browser;
   - Webcam/Camera (built-in or external);
   - Microphone and speaker (built-in or external), or headset with microphone;
   - Current antivirus and/or firewall software enabled;
   - Stable internet connection.

   For more information please refer to the UofC ELearning online website.

7. **Examination Policy:**

   There are no exams in this course for W21

   Students should also read the Calendar, Section G, on Examinations.

8. **Approved Mandatory And Optional Course Supplemental Fees:**

   There are no mandatory or optional course supplemental fees for this course.

9. **Writing Across The Curriculum Statement:**

   For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section E.2 of the University Calendar.

10. **Human & Living Organism Studies Statements:**

    Students will not participate as subjects or researchers in human studies.

    See also Section E.5 of the University Calendar.

    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.

    Students are expected to be familiar with Section SC.4.1 of the University Calendar.

11. **Reappraisal Of Grades:**

    A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See Section I.3 of the University Calendar.

    a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed

rationale that outlines where and for what reason an error is suspected. See sections I.1 and I.2 of the University Calendar

b. **Final Exam:** The student shall submit the request to Enrolment Services. See Section I.3 of the University Calendar.

12. **Other Important Information For Students:**

a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, Mental Health Services Website) and the Campus Mental Health Strategy website (Mental Health).

b. **SU Wellness Services:** For more information, see www.ucalgary.ca/wellnesscentre or call 403-210-9355.

c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at 403-220-2208. The complete University of Calgary policy on sexual violence can be viewed at (https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf)

d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional Code of Conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

Student Handbook on Academic Integrity
Student Academic Misconduct Policy and Procedure
Research Integrity Policy

Additional information is available on the Student Success Centre Academic Integrity page

e. **Academic Accommodation Policy:** 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 procedure-for-accommodations-for-students-with-disabilities.pdf.

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head, Undergraduate of the Department of Biological Sciences, Heather Addy by email addy@ucalgary.ca or phone 403 220-6979. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See Section E.4 of the University Calendar.

f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). 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 Legal Services website.

g. **Student Union Information:** VP Academic, Phone: 403-220-3911 Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: 403-220-3913 Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: ombuds@ucalgary.ca.

h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction (USRI) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or non-academic misconduct, in addition to any other remedies available at law.

Course Outcomes:

- Compare and contrast the various nutrient pools in terms of the availability of nutrients in that pool to plants. For pools containing unavailable nutrients, explain what processes must happen to make nutrients available to plants
- Explain how plant symbioses with microorganisms (mycorrhizal fungi, nitrogen-fixing and other bacteria) influence the availability of nutrients in different pools to plants
- Explain the ecological significance of common mycorrhizal networks to mycorrhizal plants
- Explain the advantages that carnivory offers plants in habitats where soil nutrient supply is scarce, as well as the costs of carnivory; apply a cost-benefit analysis to explain why carnivory is rare
- Compare and contrast indirect and direct plant defenses
- Explain how plants enlist other organisms (animals, fungi) in their defense and outline the costs and benefits of doing so
- Explain course concepts to peers and non-expert audiences
- Apply knowledge of course material to interpret data and solve problems
- Read and interpret primary sources
- Work effectively as part of a team

Electronically Approved - Jan 14 2021 19:14

Department Approval

Electronically Approved - Jan 15 2021 14:41

Associate Dean's Approval