

Course ID:	Course Title:	Fall 2022
Bot 203	Biology of Plants	Prerequisite: BIO 133
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In class	Instructor:	Diane Edwards, BSc(Agr), MSc, PhD, PAg.	First day of classes:	Sept 7 2022
Days:	Tues/Thurs	Email:	dedwards@ambrose.edu	Last day to Add/Drop	Sept 18 2022
Time:	9:45-11:00 am	Phone:	403-305-5861	Last day to Withdraw	Nov 21 2022
Room:	A2212 & A2145	Office:	L2091	Last day to Apply for Coursework Extension:	Nov 23 2022
Lab/Tutorial:	3 hrs/wk Tues.1-4pm	Office Hours:	By appointment	Last day of classes:	Dec 12 2022
Final Exam:	Dec 15, 2022 9am-12pm L2100				

Important Dates and Information

For a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>.

Course Description

This course focuses on the plant-person interface, examining how plants have, are and will shape our lives and society. Through this lens students will explore plant biology (anatomy, morphology and physiology) and discover how plants fulfill their many roles in health, commercial products and the natural and urban environments.

Expected Learning Outcomes

Knowledge

- Identify and characterize plants and plant families that are a significant contribution of food, medicine, psychoactive, poisonous, allergy, fiber and ceremony.
- Explain the core principles of plant: growth, resource use, reproduction and reactivity with their environment.
- Discuss the major influences plants have had on shaping past and present society and their role in the local and global environment.

Skill

- Identify the body plan and specific anatomy of plants from the major groups of the plant kingdom.
- Practice basic plant identification techniques.
- Implement and practice critical thinking on prominent topics in the plant sciences.

Attitude

- Become a plant advocate, foster a lifelong appreciation of the beauty, and value the ecological, economic and social implications of plants.

Textbooks

Required: Elpel, Thomas. Botany In A Day. The Patterns Method of Plant Identification. 6.1 ed. Pony, MT. HOPS Press LLC.

Required: Levetin, E., McMahon, K. 2012. Plants & Society. 6th, 7th or 8th. McGraw Hill. Available on reserve in the library and as an e-book.

Course Schedule (tentative) - Lecture, Lab, Readings and Assignments

Course Schedule for Bot 203 – 20 (tentative) - Lectures, Labs, Readings and Assignments

Date	Topic	Reading
Sept 8 Sept 9 @ 1pm	1. Course Overview & Introduction to Plants <i>Assignment 1. A reflection of plants and you</i>	LM: 1-17
Sept 13 Sept 13 Sept 15	2. The Plant Cell Lab 1. The Basics of Plant Taxonomy - Flowers 3. Plant body – Tissues and organs	LM: 16-27 LM:28-46
Sept 20 Sept 20 Sept 22 <i>Sept 23 @ 1pm</i>	4. Plant Physiology moving water, nutrients & sugars Lab 2. The Basics of Plant Taxonomy - Vegetative 5. Plant Physiology – photosynthesis / respiration <i>Assignment 2. Book Selection for Critical Review</i>	LM: 47-56 LM:57-68
Sept 27 Sept 27 Sept 29	6. Plant Physiology – hormones /tropic movements Lab 3. Introduction to 8 Plant Families 7. Plant Life Cycles– flowers, fruits, and seeds	LM: 92-93 LM: 69-100
Oct 4 Oct 4 Oct 6 <i>Oct 7 @ 1pm</i>	8. Plant Genetics Lab 4. Plant Family Bioblitz -Springbank Hill Community Park 9. Plant Systematics & evolution, adaptation <i>Assignment 3. Native Fruit of Alberta</i>	LM: 101-119 LM: 120-135
Oct 11 Oct 11 Oct 13	10. Diversity of Plant Life – lower plants, ferns, gymnosperms Lab 5. Plant Architecture 11. Review for Midterm	LM: 136-151
Oct 18 Oct 18 Oct 20	12. No lecture Lab 6. MIDTERM – late start 12. Origins of Agriculture/Plant Domestication	LM: 175-186
Oct 25 Oct 25 Oct 27	13. Grasses and grains Lab 7. Anatomy the plant cell - sectioning 14. Legumes	LM: 187-209 LM: 210-223

Nov 1 Nov 1 Nov 3	15. Starches & Oil Seeds Lab 8. Anatomy – Simple tissues and staining	LM: 224-240
Nov 8 Nov 8 Nov 10	16. Feeding a hungry world, Sustainable Agriculture, New Tech Reading Week – no Lecture Reading Week – no lab Reading Week – no Lecture	LM: 241-270
Nov 15 Nov 15 Nov 17 <i>Nov 18 @ 1pm</i>	17. Simulating Beverages Lab 9. Critical analysis of book review – Book Club 18. Herbs and spices <i>Assignment 4. Critical thinking about essential oils</i>	LM: 271-288 LM: 289-307
Nov 22 Nov 22 <i>Nov 23 @ 1pm</i> Nov 24	19. Cloth, paper and wood Lab 10. Wood and Fibre <i>Assignment 5. Secondary Metabolites</i> 20. Medicinal Plants	LM: 308-336 LM: 337-357
Nov 29 Nov 29 Dec 1	21. Psychoactive Plants Lab 11. Critical analysis of book review – Peer Review of draft 22. Poisonous and Allergy Plants	LM: 358-377 LM: 378-399
Dec 6 Dec 6 Dec 8 <i>Dec 9 @ 5pm</i>	23. Ornamental Plant /Plant Ecology Lab 12. The Conifers 24. Course wrap up / review <i>Assignment 6. Plants & flowers for ceremony</i>	LM:486-511
Dec 12 @ 11:38pm Dec 15 9am-12pm	Critical Book Review due Final Exam (L2100)	

L&M: Plants & Society 8 ed.

Requirements:

Learning from the lectures will be evaluated by an in-class midterm (22%), a final exam (24%), six short take-home assignments (12%) and a critical book review (20%). Learning in the lab (22%, 2% per lab) will be evaluated through in lab assignments.

Exams: Midterm and final will consist of short answer and essay-style questions, drawing and labelling of plant structures and some multiple-choice style questions. The final exam will be cumulative but mostly weighted from the midterm onward.

Assignments: six short take home assignments will be delivered throughout the term. These are written, individual assignments submitted via Moodle on the scheduled due date and time. These assignments should not take more than 3 hours or exceed one typed page. The writing is to reflect a sincere effort to interact with the material to be covered in the past or following lecture session. Be prepared to share an in-class aspect from this assignment.

Critical Book Review: learners will review one book from a list of popular non-fiction books on plants provided by the instructor or use a book of their choosing pending instructor approval. Guidance will be supplied by the instructor and content will be evaluated with a rubric supplied to students in advance. In class and laboratory time will be allocated for work and help on this paper. The academic integrity of the final version of the review paper will be assessed by submission to **Turnitin**.

Learning in the laboratory will combine field and indoor components and will be evaluated through hand-in assignments normally due at the end of the lab session. The first few labs will be held outdoors, and students are expected to dress appropriately for all weather conditions. It is highly recommended that students wear pants and long sleeved shirts.

Attendance:

Attendance of lectures will help ensure success on course exams and assignments. Attendance is compulsory for all laboratory exercises, presentations and exams. Allocated marks will not be awarded if a student is absent from any laboratory, presentation, or exam without notice and sufficient reason.

Grade Summary:

Assignments	12%
Midterm	22%
Final	24%
Laboratory	22%
Critical Book Review	20%

The available letters for course grades are as follows:

Grade	Interpretation	Grade Points	Percentages
A+	Excellent	4.00	90-100
A		4.00	85-89
A-		3.70	80-84
B+	Good	3.30	75-79
B		3.00	71-74
B-		2.70	67-70
C+	Satisfactory	2.30	64-66
C		2.00	60-63
C-		1.70	56-59
D+	Poor	1.30	53-55
D	Minimal Pass	1.0	50-52
F	Failure	0.00	Below 50%
P	Pass	No Grade Points	-

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Other:

Occasionally students will be required to listen to podcasts or view online videos to augment class material. There may be walking during a few of the laboratories. Students must dress appropriately for the weather during the outdoor labs.

Ambrose University Important Information:

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions.

Exam Scheduling

Students who find a conflict in their exam schedule must submit a *Revised Final Exam Time Application* to the Office of the Registrar by the deadline noted in the Academic Calendar. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; or 2) the scheduled final examination slot results in three consecutive examination periods. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/academics/academic-calendar>

Privacy

Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and registrar. Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course. A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

Academic Success and Supports

Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that

may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

Note: Students are strongly advised to retain this syllabus for their records.

Ambrose Writing Services

Ambrose Writing services provides academic support in the four foundational literacy skills—listening, speaking, reading, and writing. It also assists students with critical thinking and the research process. Throughout the academic year, students can meet with a writing tutor for personalized support, or they can attend a variety of workshops offered by Academic Success. These services are free to students enrolled at Ambrose University. Academic Success serves all students in all disciplines and at all levels, from history to biology and from theatre to theology. To learn more, please visit <https://ambrose.edu/sas/writing-services>

Ambrose Tutoring Services

Ambrose Tutoring Services provides support in specific disciplinary knowledge, especially in high-demand areas such as chemistry, philosophy, math and statistics, and religious studies. These tutors also coach students in general study skills, including listening and note-taking. During the academic year, Ambrose Tutoring Services offers drop-in tutoring for courses with high demand; for other courses, students can book a one-to-one appointment with a tutor in their discipline. These services are free to students enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/tutoring>.

Mental Health Support

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

On Campus:

- Counselling Services: ambrose.edu/counselling
- Peer Supportive Listening: One-to-one support in Student Life office. Hours posted at ambrose.edu/wellness.
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention and Mental Health First Aid. See <https://ambrose.edu/student-life/crisissupport> for a list of staff members.

Off Campus:

- Distress Centre - 403-266-4357
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

All staff, faculty, and Residence student leaders have received *Sexual Violence Response to Disclosure* training. We will support you and help you find the resources you need. There is a website with on and off campus supports – ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:

- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888