

Biology 4608G – Environmental Plant Physiology – Winter 2024**1. General Course Information**

Class time: See course OWL site
Location: See course OWL site

List of Prerequisites: Biology 2601A/B, registration in a Biology module and completion of at least 1.5 Biology courses at the 3000-level or above. Biology 3603A/B and Biology 3660A/B are recommended. Priority to year 4 HSP Modules offered by the Department of Biology.

Unless you have either the requisites for this course or written special permission from your Dean's Designate (Department/Program counsellors and Science Academic Counselling) to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Instructor: Sheila Macfie, PhD

Office Hours: On demand. Contact Dr. Macfie to request a meeting.

Contact information: smacfie@uwo.ca. Messages will normally be answered within 24 hours, excluding weekends and holidays. Please include Bio 4608 in the subject line and use your @uwo.ca e-mail. E-mails from non-Western e-mail accounts or those that do not include Bio 4608 in the subject line are likely to receive very slow responses, as they will be buried among other non-urgent requests.

3. Course Syllabus, Schedule, Delivery Mode

Course description: The overarching goal for this course is to use basic knowledge of the physiological responses of plants to abiotic and biotic environmental factors to understand, discuss and synthesize information in the relevant primary literature. This course also offers students an opportunity to think broadly about the role of plant biology in society and the culture of scientific communication.

Learning objectives: Upon successful completion of the course, students will be able to:

- 1) Describe and explain the developmental and physiological roles of phytohormones
- 2) Describe and explain the physiological mechanisms by which plants detect and respond to biotic and abiotic stressors
- 3) Interpret figures and tables that illustrate experimental results
- 4) Use library resources and other tools to find primary literature relevant to the course topics
- 5) Critically evaluate publications relevant to the topics of the course
- 6) Explain and synthesize research results.

Course regulations: Active and engaged in-class participation by all students is an essential part of this course. In that spirit, attendance will be monitored for the in-class discussions and activities. Respectful behavior is expected. Recording (audio or camera) of lectures and discussions is not permitted. Electronic devices will not be permitted during the pop quizzes or the final exam.

Class format and schedule: The course content is divided into three sections, phytohormones, biotic interactions and abiotic stress. The content of each section emphasizes the physiological mechanisms that plants can use to respond to their environment. Each section includes a series of lectures followed by a few related discussions. Interspersed among the lectures and discussions is a series of in-class activities that relate to the course assignments or to the culture of scientific communication. A class-by-class schedule of events is posted on the course OWL site.

Contingency plan: Although the intent is for this course to be delivered in-person, should any university-declared emergency require some or all of the course to be delivered online, synchronously or asynchronously, the course will adapt accordingly. The grading scheme will **not** change. Any affected assessments will be conducted on-line as determined by the course instructor.

4. Course Materials

The textbook used in Bio 2601 [Taiz et al. (2023) Plant Physiology & Development, 7th edition, or the 2015 6th edition] will be an excellent resource to support the lecture material.

All course material will be posted to OWL: <http://owl.uwo.ca>. Students are responsible for checking the course OWL site on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

Google Chrome or Mozilla Firefox are the preferred browsers to use OWL; please update your browsers frequently. If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk by phone at 519-661-3800 or extension 83800.

Dr. Macfie owns the intellectual property of the course content, including lectures and assignment instructions, even when such materials have been posted on-line. Students must not post course content to any other websites or platforms or use these materials for any other purpose without written consent from the instructor. The recording, copying and/or distribution of course materials is strictly prohibited.

Technical Requirements: Students must have a reliable internet connection and computer that are compatible with access to OWL. For in-person discussions and activities, students should bring a laptop computer or smartphone to class.

5. Methods of Evaluation

The following components contribute the overall course grade:

Value	Item	Due dates and times
20%	Synopsis	Wed. Feb. 14
30%	Mini-Review	Topics Mon. Mar. 11 Review Wed. Mar. 27
10%	Pop quizzes (best 4 of 6)	On-going
10%	Participation	On-going
30%	Final exam (cumulative)	During April exam period

Deadlines: Assignments are due at the beginning of class on the due date. Each assignment must be submitted to turnitin.com as a **Word document**, unless otherwise specified. Submissions after the beginning of class are considered late and will be penalized at a rate of 10% per day, including weekends and holidays. Students with Academic Consideration for missing an assignment deadline must contact the instructor as soon as possible to find out the date of the extended deadline.

Written assignments: University policy states that students must demonstrate competency on the written components of an 'F' or 'G' course (i.e., an essay course) to pass the course. The full policy is at www.uwo.ca/univsec/pdf/academic_policies/registration_progression_grad/coursenumbering.pdf. This means that students must achieve at least 30/50 for the combined Synopsis and Mini-Review grades. In line with university policy, students with a combined score of less than 30/50 will be given a course grade of 45 out of 100, no matter what grades are earned for the other three components of the course.

Pop quizzes will be administered at the beginning of six in-class discussions sessions, without advanced warning. The **participation** grade will be based on attendance as well as peer evaluation of in-class discussions and activities. It is not possible to make-up a missed quiz, discussion or class activity. Students may miss up to two discussion/activity sessions without penalty to their participation grade. Academic Consideration is not required (or expected) for missing one or two sessions.

Grades for course components will be posted to the course OWL site. Appeals of specific graded items must be submitted in writing to the instructor within two weeks of the grade posting with a clear explanation of the reason for the appeal. The instructor may re-grade all of the assignment, which may lower or raise the grade for that assignment.

6. Student Absences

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below.

Assessments worth less than 10% of the overall course grade: Academic Consideration is not required for missing a class or two. Pop quizzes will be based on assigned readings and will occur only on the corresponding 'discussion' days (see the class schedule for discussion dates). If you miss a pop quiz then that grade will be forfeited. However, keep in mind that only the best 4 of 6 pop quizzes will be included in the final pop quiz grade. It is not possible to make-up a missed quiz, activity or discussion.

What if you miss many classes? Because in-class attendance at discussion/activity sessions is graded in this class, the attendance policy from the academic calendar will be enforced. "Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course, will be reported to the Dean of the Faculty offering the course (after due warning has been given). On the recommendation of the department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course." See full policy: http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#SubHeading_68I.

Assessments worth 10% or more of the overall course grade: For work totalling 10% or more of the final course grade, you must provide valid medical or supporting documentation to the Academic Counselling Office of your Faculty of Registration as soon as possible. For further information, please consult the University's medical illness policy at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

The Student Medical Certificate is available at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

It is the student's responsibility to contact the instructor as soon as possible after the accommodation has been approved so that the student can find out the date of the new deadline.

Absences from Final Examinations: If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. A counsellor will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam). You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (e.g., more than two exams in 23-hour period, more than three exams in a 47-hour period).

The make-up final exam for Bio 4608G will probably be held on Thursday May 9, 2024 (time and location to be determined).

If a student has Academic Consideration for missing a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered (i.e., April 2025). The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under [Special Examinations](#)).

7. Accommodation and Accessibility

Religious Accommodation: When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to their Academic Counselling office. Please familiarize yourself with Western's policies on accommodation for religious holidays: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf.

Accommodation Policies: Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities is here: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/AcademicAccommodationdisabilities.pdf.

Accessibility: Please contact the instructor if you require material in an alternative format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education at http://academicssupport.uwo.ca/accessible_education/index.html if you have any questions regarding accommodations.

8. EDID statement

The pronouns used by Dr. Sheila Macfie are she/her. Please communicate with her to ensure that she knows your preferred name and/or pronouns.

Land acknowledgement: Western University is located on the ancestral territory of the Anishinaabek, Haudenosaunee, Lūnaapéewak, and Chonnonton Nations. This land continues to be home to diverse Indigenous peoples (First Nations, Métis and Inuit) who are recognized as contemporary stewards of the land and vital contributors to our society.

9. Academic Policies

Registrarial Services: University-wide policies can be found at <http://www.registrar.uwo.ca>.

E-mail: the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. The full policy may be found here: https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf .

Electronic devices will not be permitted on quizzes and exams.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Plagiarism: Students must write their assignments and exams in their own words. Whenever ideas or passages from another author are taken, they must be acknowledged using proper citations. Please ask the instructor if you are unsure how to do this! Please note: submitting two assignments on the same topic to two different courses falls within the realm of plagiarism. If plagiarism is detected, the assignment will receive a grade of zero and the student may face greater academic penalties.

Generative AI: Students must write their assignments in their own words. Generative AI (e.g., ChatGPT) is a useful tool for many tasks, much as Wikipedia is a useful starting point when learning a new topic. However, the purpose of a written assignment is to develop the students' thinking process – not just to produce an item to be graded. Especially in an F/G (aka "writing") course, written assignments should not simply summarize existing information on a particular topic. The iterative acts of thinking, writing, synthesizing, and editing are fundamental to creating deep learning and promoting cognitive development. For these reasons, if the use of generative AI is detected, the assignment will receive a grade of zero and the student may face greater academic penalties.

Turnitin.com: All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the university for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between the University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Grading policy: Students must demonstrate competency on the written components of a 'G' course (i.e., $\geq 30/50$ for the two assignments combined) to pass the course. The full policy can be found here: www.uwo.ca/univsec/pdf/academic_policies/registration_progression_grad/coursenumbering.pdf .

The Senate-approved, university-wide grade descriptors will be used in this class:

Grade	% Range	Description
A+	90-100	One could hardly expect better from a student at this level
A	80-89	Superior work, which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

According to university policy, a final grade ending in .45 or above will be rounded to the next highest number (e.g., 78.45 becomes 79, while 78.44 becomes 78). Grades will not be rounded up beyond this policy for any reason.

10. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Learning-skills counsellors at the Student Development Centre (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

Additional student-run support services are offered by the USC: <https://westernusc.ca/services/>.