

Biology 3484A Course Outline

1. Course Information

Course Information

Patterns in the Diversity of Life (Biology 3484A)

List of Prerequisites

At least 1.0 course from: Biology 2290F/G, 2382B, 2483A, 2581B, 2601A/B, and registration in third or fourth year. Either Biology 1001A or Biology 1201A, and either Biology 1002B or Biology 1202B, or Integrated Science 1001X.

Unless students have either the prerequisites for this course or written special permission from the Department of Biology to enroll in it, they may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on their academic record. This decision may not be appealed.

2. Instructor Information

Instructors	Email	Office	Office Hours
Nikita Frizzelle, MSc	nfrizzel@uwo.ca		
Ben Souriol (TA)	bsouriol@uwo.ca	N/A	During tutorials only
Evan Lewis (TA)	elewis82@uwo.ca	N/A	During tutorials only

For email correspondence, students must use their Western (@uwo.ca) email addresses and include "Biology 3484A" in the subject line. Office hours with the instructor will occur in room BGS 3045. Note that the instructor has the right to leave office hours early if no students show up in the first 30 minutes. Office hours with teaching assistants are by appointment only, at their discretion, and can be requested by contacting them via email.

3. Course Syllabus, Schedule, Delivery Mode

Description

This course provides an overview of the topic of global biodiversity and the ongoing global *Biodiversity Crisis*. Lectures emphasize the science of systematics, taxonomy, classification, nomenclature, phylogenetics, evolution, ecology, the conservation of biodiversity, and the role of biodiversity in sustainability.

Learning Objectives

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

1. Scientifically define biodiversity.
2. Understand: the fundamentals of the science of systematics including phylogenetics; what is an evolutionary lineage/taxon; how we determine an evolutionary lineage/taxon.
3. Describe and define the major taxa with an emphasis on the Eukaryota, their phylogenetic relationships and ecological roles.
4. Define the major events in the evolution of biodiversity going back through geologic time
5. Describe the major biomes worldwide.
6. Describe the ways in which humans are dependent on biodiversity.
7. Gain a basic awareness and understanding of the global biodiversity crisis and primary causes.
8. Define practical solutions to the biodiversity crisis.

Delivery

Lectures and tutorials will be delivered in-person. Students are expected to attend all lectures. Students are expected to attend the tutorial classes assigned to their enrolled section according to the tentative schedule below.

Tentative Schedule

Date	Lecture Topics	Tutorial Topic
Sept 9	Introduction	<i>No Tutorial</i>
Sept 14 & 16	What is biodiversity & why should it be valued? How do we classify new species?	Intro to Tutorial Assignments
Sept 21 & 23	Why do some taxa have so many species? How does the environment influence evolution?	Biodiversity Survey (Sections 002, 004, 006; outdoors, meet in classroom)
Sept 28	How did life first evolve on Earth?	Biodiversity Survey (Sections 003 & 005; outdoors, meet in classroom)

Oct 5 & 7	How did sex evolve: From prokaryotes to eukaryotes How did life move from sea to land?	<i>No Tutorial</i>
Oct 12-16	<i>Reading Week</i>	<i>No Tutorial</i>
Oct 19 & 21	What happened to the dinosaurs: Mass extinctions How did flight evolve in animals?	Presentations
Oct 26 & 28	What's the difference between fungi & plants? How do plants reproduce without moving?	Presentations
Nov 2 & 4	Why do sea creatures look so strange to us? Why are sharks classified as fish?	Presentations
Nov 9 & 11	Can amphibians really indicate ecosystem health? Why do we group birds & reptiles together?	Presentations
Nov 16 & 18	Why are humans considered mammals? Why do we need <i>bugs</i> ?	Presentations
Nov 23 & 25	Why are most biodiversity hotspots near the equator? Are we experiencing the 6 th mass extinction?	Biodiversity Gallery (Sections 002, 004, 006)
Nov 30 & Dec 2	Are all species useful in the environment? How does climate change affect biodiversity?	Biodiversity Gallery (Sections 003 & 005)
Dec 7 & 9	Are humans hunting wildlife too much? How can we help conserve biodiversity?	<i>No Tutorial</i>

Key Sessional Dates

Classes begin: September 9, 2026

Last day to add or drop a Fall 12-week course: September 17, 2026

National Day for Truth and Reconciliation: September 30, 2026

Fall Reading Week: October 10 – 18, 2026

Last day to withdraw from Fall 12-week course without academic penalty: November 30, 2026

Classes end: December 9, 2026

Exam period: December 11 – 22, 2026

4. Course Materials

There is no textbook for this course; however, readings from online materials will be assigned on OWL (under the Readings module) and will be testable and required to complete the labs. These readings are available at no cost. Additional readings may be added as we move along in the course; it is recommended to regularly check this module throughout the course for updates. All course material will be posted to OWL Brightspace: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL Brightspace site regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class. If students need assistance with the course OWL Brightspace site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

Students are required to have a stable internet connection to access course content on OWL Brightspace. A smart phone or camera would also be of use for the Biodiversity Survey Assignment.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Assessment	Topic	Grade	Date
Biodiversity Survey Assignment	A brief report describing your experience conducting a biodiversity survey and reflecting upon the importance of conducting these surveys	10%	Please refer to your tutorial's OWL site for submission deadline
Invasive Species Research Presentation	A presentation where students (in pairs) will investigate the abundance, distribution, and impact of an invasive species in Ontario.	25%	Please refer to your tutorial's OWL site for presentation schedule
Midterm test	Lecture content prior to reading week	20%	<i>TBA</i>
Final exam	Cumulative lecture content	45%	<i>To be Scheduled by Registrar</i>

Essential Learning Requirements

Even when Academic Consideration is granted for missed coursework, the following are essential to earn a passing grade in this course:

- Completion of the Invasive Species Research Presentation (slides and oral presentation)

When a student has not demonstrated proficiency in an essential learning requirement listed above, and when the shortfall results from a granted Academic Consideration, they will be withdrawn (WDN) from the course. The student may appeal to the Associate Dean (Academic) for reinstatement with an Incomplete (INC) standing. Where an appeal for INC is granted, their maximum course load may be reduced during the term in which they complete the outstanding course requirements.

Information about Missed Coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs*, posted on the Academic Calendar: https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person. The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/. All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

Midterms and Tests

This course has one (1) midterm test and a **cumulative** final exam. There is no makeup test for a missed midterm. If a student misses a midterm, its weight will shift automatically to their final exam grade. If their final exam grade is higher than their midterm grade, their final exam grade will replace the midterm's weight in their overall grade. They do not need to request Academic Consideration for a missed midterm; the reweighing will be done automatically.

The only exception is an early sitting, offered solely for a university-sanctioned schedule conflict (e.g., conflict of two midterms, Varsity competitions) or a religious accommodation that prevents a student from writing the midterm at its scheduled time. If a student requires this accommodation, they must notify their instructor in writing no later than one week before the test. No other circumstance, including illness, qualifies for an early sitting or makeup; these are addressed through the automatic reweighing described above.

Labs, Assignments, and Quizzes

This course has one biodiversity survey assignment. Students are expected to complete it. If they do not submit this assignment, they do not need to request Academic Consideration; the missing item will be recorded as a zero and included in their grade for this component. They are encouraged to submit all work, even if incomplete, since a partial mark is always better than a zero. If their final exam grade is higher than their grade on this component, their final exam grade will replace it.

Deadlines: The 48-Hour No-Late-Penalty Period

All take-home assignments, quizzes, and labs with a stated due date include an automatic 48-hour period after the deadline during which students may still submit without a late penalty. For example, if an assignment is due on November 5, they may submit it until November 7 without penalty. After this 48-hour period, no further submissions will be accepted, and students do not need to request Academic Consideration for a missed deadline; their grade for this component will be calculated as described above.

Presentations and Teamwork-Based Assessments

The Invasive Species Presentation is an essential requirement of this course. Both students must be present for their presentation date. If one member of the group misses it, the group will be offered a rescheduled date, determined by the availability of the teaching assistants and/or instructor. The students must reply and accept this rescheduled date within 2 business days. The student(s) who missed the initial scheduled presentation date must request Academic Consideration through SAP to access this opportunity.

Furthermore, if one member of the group misses the rescheduled date, the student in attendance will present alone and be graded while the missing student will be withdrawn from the course (see 'Essential Learning Requirements'). If both members miss the rescheduled date, both students will be withdrawn from the course.

Special Examination

Per university policy, Academic Consideration requests with supporting documentation are required for the final examinations scheduled during official examination periods by the Registrar's Office.

If the student has been approved by the Academic Advising Office to write a Special Examination (SPC) and the final exam is their only outstanding course component, an SPC will be assigned to them and scheduled by the instructor per university policy.

If the student misses their SPC exam and is approved for Academic Consideration, they will be withdrawn from the course without academic penalty. If they experienced extenuating circumstances such as prolonged illness, they may appeal to the Associate Dean (Academic), on a case-by-case basis, for the opportunity to write the final exam the next time the course is offered. An outstanding SPC will reduce their course load for the term in which the exam is deferred, as outlined in the [Definitions of Types of Examinations](#) policy.

If the student misses their SPC exam and Academic Consideration is not approved, or was not requested, they will receive a grade of zero on the exam.

6. Additional Statements

6.1 Religious Accommodation

When a recognized religious holiday either requires a student to be absent from the University, or requires or prohibits an activity that makes it impossible for them to complete an academic requirement scheduled that day, they are entitled to accommodation. No student will be penalized for an absence for religious reasons, and an alternative means of satisfying the requirement will be arranged. This accommodation is provided in accordance with the University's policy on Accommodation for Religious Holidays: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

The student should submit their requests through the Student Absence Portal (SAP), identifying the conflict and the specific course component(s) affected (e.g., test, midterm, exam).

Midterms and Tests: If a religious observance conflicts with a midterm test, they must submit their request no later than **one week** before the test. Their instructor will arrange an early sitting of the test. As set out above, no makeup test is offered for any other reason; this early sitting is available specifically for this accommodation.

Final Examinations: If a religious observance conflicts with the final exam, the student must submit their request no later than **two weeks** before the exam. Their instructor will arrange a Special Examination to take place no later than one month after the end of the examination period.

Students are responsible for finding out what was covered in any class they miss due to a religious observance, and for taking the appropriate steps to keep up with the course.

If a suitable arrangement cannot be reached between a student and their instructor, they should consult the Undergraduate Chair of the department offering the course, and if necessary, the Associate Dean (Academic) of the Faculty of Science.

For a list of recognized religious observances, please visit the calendars posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca> (About Us – Resources – Additional Resources – Calendars).

6.2 Academic 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 can be found at: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf.

6.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

Use of @uwo.ca email: In accordance with policy, https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf, the centrally administered

e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief (formally known as “appeals”)

Policy on Request for Relief from Academic Decision:

https://uwo.ca/univsec/pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf

Procedures on Request for Relief from Academic Decision (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf

6.4 Scholastic Offences

Policy on Scholastic Offences:

https://uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_offences.pdf

Procedures on Scholastic Offences (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the **possession** of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, hidden cameras and wireless earbuds.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at a student's desk, on their person, or within reach during an assessment will be treated as a scholastic offence, **even if the device is not in use**.

Effective September 2026, the typical penalty for this offence is a failing grade in the course AND a 12-month prohibition on retaking the course.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is their responsibility to review and comply with these expectations.

Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is the student's responsibility to seek clarification before using any AI tools in academic work.

Use of Software for Assessments

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>).

Computer-marked multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

6.5 Support Services

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

Mental Health Support. 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.

Gender-Based and Sexual Violence. Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If a student has experienced GBSV (either recently or in the past), they can 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.

Accessibility for Coursework. A student may contact the course instructor if they require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to them. If they have any questions regarding accommodations, they may also contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html

Learning Development and Success. Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help students improve their learning skills. The facility offers 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.

Student Councils.

Student-run support services are offered by the University Students' Council (<https://westernusc.ca>) and the Science Students' Council (<https://www.westernssc.ca>).