

***Patterns in the Diversity of Life: An Introduction to Biodiversity*****Biology 3484B****Course Outline/Syllabus Winter 2024****Land Acknowledgment**

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak, and Chonnonton Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. This land continues to be home to diverse Indigenous peoples (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society. Throughout Canada, North America, and the world, Indigenous Peoples are vital contributors to their communities, and we greatly value their presence, knowledge, and wisdom.

**1. Course Information and Prerequisites:**

**Lecture:** Bio 3484B meets for two lectures/week, plus one weekly 2-hour tutorial. The tutorials will only meet on specified weeks, i.e., they will not meet each week, however students must keep this time slot open as the tutorial schedule may change.

**Prerequisites:** Unless you have either the prerequisites 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 if you are dropped from a course for failing to have the necessary prerequisites: At least 1.0 course from: Biology 2290F/G (Scientific Method in Biology), 2382B (Cell Biology), 2483A (Ecology), 2581B (Genetics), 2601A/B (Organismal Physiology), and registration in third or fourth year.

**2. Professor and Graduate Student Teaching Assistants (GTA's):**

<b>Professor</b>
Dr. Nina Zitani (she/her)
<b>GTA's:</b>
Bruce Malloch
Alexander Niski
Benjamin Souriol

### **3. Schedule, Course Description, Delivery, LOs:**

**TENTATIVE CALENDAR 2024:** *Students will be informed in advance of any upcoming changes.*

<b>Lecture Content</b>	<b>Tutorials</b>
L 1: Introduction	
L 2: Science of Systematics 1	
L 3: Science of Systematics 2	
L 4: Prokaryotes and Early life	
L 5: Eukaryote Evolution	#1
L 6: Plants 1	#1
L 7: Plants 2 & Fungi 1	#2
L 8: Fungi 2	#2
L 9: Metazoa Evolution	
L 10: Mammals	
<b>MIDTERM TEST</b>	
L 11: Intro Arthropoda	
L 12: Arachnida 1	
<b>READING WEEK</b>	
L 13: Arachnida 2	
L 14: Intro Hexapoda (minor Orders) + ZC/BG Intro.	
L 15: Hexapoda-1 (Coleoptera Diptera Lepidoptera Hymenoptera)	#3
L 16: Hexapoda-2 (Coleoptera Diptera Lepidoptera Hymenoptera)	#3
L 17: Hexapoda-3 (Coleoptera Diptera Lepidoptera Hymenoptera)	
L 18: Hexapoda-4 (Coleoptera Diptera Lepidoptera Hymenoptera)	
<b>Listed Species Report Due 4:00 pm, see instructions on OWL</b>	
L 19: Hexapoda-5 (Coleoptera Diptera Lepidoptera Hymenoptera)	BG1
L 20: Hexapoda-6 (Coleoptera Diptera Lepidoptera Hymenoptera);	BG2
L 21: Bridging the Gap: Pollination	BG3
L 22: Ecosystems	BG4
L 23: Anthropocene and Threats to Biodiversity	BG5
L 24: Solutions to the Crisis	
<b>Reflection Essay Due 4:00 pm, see detailed instructions on OWL</b>	
<b>TBA: FINAL EXAM</b>	

**Course Description & Delivery:** This course provides an overview of the topic of global biodiversity and the ongoing human-caused 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. Lectures 1-3 are introductory and cover fundamental scientific concepts that will be used throughout the course. Lectures 4-22 include a survey of the world's biodiversity with emphasis on the most diverse eukaryotic taxa, their evolution, classification, and ecological function, biomes, a look at the evolution of biodiversity over geologic time, and global conservation issues. The last 2 lectures cover in more detail the current, ongoing human-caused global Biodiversity Crisis, causes of biodiversity loss worldwide, and solutions to the crisis. Lectures, scheduled tutorials, midterm test and final exam are in-person.

**Contingency Plan:** This course will be delivered in-person, however in the unlikely event of any university-declared emergency, some or all of the course may be required to be delivered online, either

synchronously or asynchronously. **The grading scheme will not change.** Any assessments affected will be conducted online as determined by the professor.

**Learning Outcomes and Objectives:** 1) Scientifically define biodiversity; 2) Understand: the fundamentals of the science of systematics including phylogenetics; how evolutionary lineages/taxa are diagnosed and defined; 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 human-caused global Biodiversity Crisis and the primary causes; 8) Define practical solutions to the Biodiversity Crisis.

#### **4. Course Materials:**

##### **Required Equipment:**



**Stable internet connection**



**Laptop or computer with webcam**



**Working microphone**

**Required Reading:** assigned in lecture and posted on OWL, from online materials, or readings posted on OWL. There is no textbook. All required reading is testable.

All course documents and information (syllabus, lecture files, instructional documents, required readings, etc.) **will be posted to OWL and students are responsible for checking the course OWL site (<http://owl.uwo.ca>) on a regular basis for updates.** 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. They can be contacted by phone at 519-661-3800 or ext. 83800.

Personal Response Systems ("Clickers") are not used in this course.

#### **5. Methods of Evaluation:**

**The overall course grade will be calculated as:**

Midterm Test	35%
Listed Species Report	15%
Reflection Essay	5%
Final Exam	45%

**Midterm test: (35%):** 2-hours, timed. There will be one makeup midterm test. Students may take the makeup midterm test if the appropriate documentation for medical or non-medical absences has been submitted to the Academic Counselling office in your Faculty of Registration, and I have approved the request. See #6 below for more information on Student Absences.

**Final Exam: (45%):** 3-hours, timed. There will be one makeup final exam. Students may take the makeup midterm test if the appropriate documentation for medical or non-medical absences has been submitted to the Academic Counselling office in your Faculty of Registration, and I have approved the request. See #6 below for more information on Student Absences.

**Testable Material:** For both the midterm test and final exam: questions will be based on material presented in class and tutorials (lectures, written, spoken, presented on the computer), information in required reading assignments, i.e., all the information presented in class and assigned is testable. Students will be informed in advance about the specific lectures, tutorials and required readings that will be covered on each of the midterm and final. Final exam is not strictly cumulative, however some material/content will be discussed throughout the course and therefore tested on both the midterm and the final. More specific details will be given in lecture. Usually, the midterm covers lectures 1-10 and the final covers lectures 11-24, however this may change slightly and once confirmed will be posted in lecture and on OWL.

**Test/Exam Format:** Midterm and final exam formats will be mixed format, with some multiple-choice questions, some fill-in-the-blank, and some short answer questions of variable point value.

**Listed Species Report (15%):** Overview: a written paper (paper and electronic copy required) on an assigned listed species (at risk of extinction) of plant, fungus, or animal. The randomly assigned scientific name will be given to each student in tutorial. Paper length approximately 3 pages, double-spaced, no less than 650, no greater than 850, i.e., the paper must be between *650 and 850 words, including citations*. Paper length outside this range will result in loss of marks. Students will hand in papers through TURNITIN on OWL. Late submissions will be penalized. *Detailed instructions will be posted in a separate document on OWL.*

**Reflection Essay (5%):** A 1-page maximum essay answering questions that ask the student to reflect on what they've learned in the course and their visit to the Biodiversity Gallery. A separate document will be posted on OWL with specific questions to be answered and instructions that must be followed to get full credit. See #6 below for more information on Student Absences.

## **6. Student Absences:**

**Academic Consideration for Student Absences:** Students who experience a medical (illness, injury) or other serious extenuating circumstance sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

**For medical absences (illness, injury):** submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to 1) the Academic Counselling office of their Faculty of Registration **for assessments worth more than 10% of the course grade.**

**Non-medical absences:** submitting appropriate documentation to 1) the Academic Counselling office in their Faculty of Registration **for assessments worth more than 10% of course grade.**

Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered by the SMC.

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. All documentation required for absences/late submissions for assessments worth more than 10% of final course grade must be submitted to the Academic Counselling office of a student's Home Faculty.

**For assessments worth less than 10% of course grade**, in this case the Reflection Essay, see the instructions above in #5, methods of evaluation - reflection essay.

For the policy on Academic Consideration for Student Absences – Undergraduate Students in First Entry Programs, see:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf)

and for the Student Medical Certificate (SMC), see:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf).

### **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. They will assess your eligibility to write the Special Examination (i.e., the makeup Final Exam).

You may be eligible to write the Special Exam if you are in a “Multiple Exam Situation”, e.g., more than 2 exams in a 23-hour period, more than 3 exams in a 47-hour period.

If a student fails to write 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. 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 for Students with Disabilities and Religious Accommodation:**

### **Accommodation for Students with Disabilities**

Students with disabilities work with Accessible Education

([http://academicsupport.uwo.ca/accessible\\_education/index.html](http://academicsupport.uwo.ca/accessible_education/index.html)), 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](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf)

### **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 professor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

## **8. Academic Policies:**

### **Professionalism & Privacy**

Western students are expected to follow the Student Code of Conduct. Additionally, the following expectations and professional conduct apply to this course:

- Students are expected to follow online etiquette expectations provided on OWL

- All course materials created by the instructor(s) are copyrighted and cannot be sold/shared
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings may not be distributed
- Students will be expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed

**Terms of Use of all PowerPoint Slides/Lecture Content:** All the content presented and made available to students on OWL is copyrighted material (e.g., PowerPoint lecture content including images and video, and text). Dr. Zitani either holds the copyright, or permission has been granted to Dr. Zitani to use the material for educational purposes only. Materials are passed on to students in electronic formats for the sole purpose of studying for tests. No other permission is granted. Content may not be uploaded to the internet outside of OWL, under any circumstances.

**Scholastic offences:** 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](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf).

**Plagiarism:** Plagiarism is an academic offense and will not be tolerated. Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author they must acknowledge their debt both by using quotation marks where appropriate, and by proper and accurate referencing in the form of scientific citations. All required papers will 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>).

**Use of Electronic Devices During Tests/Exams:** No electronic devices (phone, calculator, etc.) may be in your possession; no pictures may be taken of tests/exams.

**Use of Electronic Devices While Viewing Graded Tests/Exams:** No electronic devices (phone, calculator, etc.) may be in your possession; no pictures may be taken of tests/exams.

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

**Tests and examinations in this course may be conducted using a remote proctoring service:** By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:

<https://remoteproctoring.uwo.ca>.

**The website for Registrar Services:** <http://www.registrar.uwo.ca>

In accordance with policy, [https://www.uwo.ca/univsec/pdf/policies\\_procedures/section1/mapp113.pdf](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 e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

**Respectful use of Email:** It is the responsibility of each student to read the course outline/syllabus and to refer to it when necessary. Emails about information contained on this course outline/syllabus will not be answered, unless there is a mistake or question about clarity of content. ***Students must use their Western (@uwo.ca) email addresses when contacting their instructors. Email coming from an account that is not a UWO account will not be answered. Email that does not include a salutation will not be answered.*** All emails must include your full name and student number.

**Multitasking in the classroom is not allowed:** Multitasking disrupts the learning process for those participating in it, and for those students sitting near someone engaged in multitasking. All technology not being used for class purposes must be turned off (cell phone ringers, texting/messaging, websites, email, etc.). Texting, messaging, using social media, surfing the web, emailing, etc. is not allowed in the classroom. See research article on this topic: [http://www.huffingtonpost.ca/2013/08/14/laptops-in-classrooms\\_n\\_3756831.html](http://www.huffingtonpost.ca/2013/08/14/laptops-in-classrooms_n_3756831.html)

## **9. 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/>.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at (519) 661-2147 if you have any questions regarding accommodations.

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/>.

Learning-skills counsellors at the Student Development Centre (<http://www.sdc.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.

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.

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

**/End**