

Patterns in the Diversity of Life: An Introduction to Biodiversity

Biology 3484A Course Outline/Syllabus Fall 2016

Course Description: This course provides an overview of the topic of BIODIVERSITY. 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 4-23 include a survey of the world's biodiversity with emphasis on the most diverse taxa and biomes, their ecological function, a brief look through geologic time, and the evolution of biodiversity over geologic time. The remaining 2 lectures cover the current worldwide biodiversity crisis, causes of biodiversity loss worldwide, and solutions to the crisis.

Prerequisites: Unless you have either the prerequisites for this course or written special permission from your Dean 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: 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.

Professor: Dr. Nina M. Zitani (nzitani@uwo.ca) Department of Biology: Room #0124 (Ground Floor) Biological & Geological Sciences Building; **Office hours: THURSDAY's 3:30-4:30 pm**, or by appointment.

Graduate Student Teaching Assistants: Kevin Erratt (kerratt@uwo.ca); Curtis Lubbe (flubbe@uwo.ca); Coby Martin (cmart245@uwo.ca)

Lecture and Terms of Use of Lecture Content: Lectures are Tuesday & Thursday, 12:30-1:20 pm., UCC-56. All of the content presented and made available to students on OWL is copyrighted material (e.g., PowerPoint lecture content including images and video). The professor either holds the copyright, or permission has been granted to the professor 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.

Tutorial: You must be enrolled in one section. Tutorial meeting dates are on the Course Calendar below. Some weeks the tutorials do not meet; you are expected to use the time to work on assignments and/or study for the upcoming test/exam. Tutorial Leaders are in parentheses.

002: Tuesday: 3:30 – 5:30 in CHB-9 (Coby Martin)

003: Tuesday: 3:30 – 5:30 in MC-17 (Curtis Lubbe)

004: Tuesday: 3:30 – 5:30 in P&AB-36 (Kevin Erratt)

005: Thursday: 9:30 – 11:30 in WSC-240 (Curtis Lubbe)

006: Thursday: 9:30 – 11:30 in KB-K106 (Coby Martin)

Required Reading: assigned in lecture from online materials, or readings posted on OWL. There is no textbook.

Evaluation: Midterm Test (35%), Final Exam (45%), Tutorial Assignment (20%):

1. Midterm test: 35%: 2 hours; testable materials include lectures 1-10, tutorials 1&2, and required readings. **OFFICIAL: Monday, 17 October, 6:00 to 8:00 pm, TC (Talbot College) rooms 309, 341, 342, 343. No assigned seating.** Students may take the makeup midterm test with a Dean's excuse for missing the regular test, and my approval. **Makeup test unofficial date:** Monday, 24 October.

2. Final Exam: 45%: 3 hours; testable materials include lectures 11-25, the remaining tutorials and required readings. Date and time TBA. **No assigned seating.**

Testable Material: For both the midterm and final: questions will be based on material presented in the lectures and tutorials (written, spoken, presented on the computer), and information in required reading assignments, i.e., ALL INFORMATION PRESENTED IN LECTURE AND TUTORIAL, AND ASSIGNED, IS TESTABLE.

Format: Midterm and final exam formats will be mixed, with some multiple-choice questions, some fill-in-the-blank, and some short answer questions.

Statement on Use of Electronic Devices: This statement applies during tests/exams and while viewing graded tests/exams in tutorial: No electronic devices may be in your possession; no pictures may be taken of tests/exams.

Other stuff related to tests/exams: 1) It is Faculty of Science policy that a student who chooses to write a test or exam deems themselves fit enough to do so, and the student must accept the mark obtained. Claims of medical, physical, or emotional distress after the fact will not be considered; 2) 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.

3. Tutorial Assignment: 20%: A written paper (10%) and an oral presentation (10%), presented in tutorial, on a randomly assigned "listed species". Paper length ~ 2 pages, double-spaced, or ~ 500 words, no less than 475, no greater than 625, i.e., the paper must be between 475 and 625 words - outside this range you will lose marks. Students will hand in papers through TURNITIN on OWL, due date below. Oral presentations will take place as indicated on calendar below. Presentations must be in PowerPoint and consist of at least 5 but no greater than 8 slides, and last no longer than 5 minutes (they will be timed). Students will be randomly assigned a presentation date and time. Late submissions will be penalized. The detailed instructions will be given in Tutorial 1.

Written papers are due on Friday, 11 November:

- 1) **Hard copy** of your paper is due in NCB room #301, front desk (Biology Undergraduate Office in North Campus Building), between 8:30 am and 12 noon.
- 2) You **must upload an electronic copy** (Word file) to OWL by 5 pm.
- 3) Hard copy must be identical to uploaded electronic copy, or paper will receive a zero mark.

Powerpoint Presentations are due on OWL Monday, 14 November:

Your PPT file must be uploaded by 12 Noon.

Oral presentation schedule (date and time each student is presenting) will be posted on OWL on Friday, 11 November. **Be prepared to go first.** Orals begin Tuesday, 15 November.

COURSE CALENDAR 2016

The information in this calendar (i.e., topics, dates) may change as the semester progresses. Students will be informed in advance of any upcoming changes.

Day	Date	Lecture	Tutorial
TH	08 Sept.	Lecture 1 - Introduction	
T	13 Sept.	Lecture 2 - The Science of Systematics I	
TH	15 Sept.	Lecture 3 - The Science of Systematics 2	
T	20 Sept.	Lecture 4 - Prokaryotes and Early Life on Earth	Tutorial 1
TH	22 Sept.	Lecture 5 - Eukaryote Evolution	Tutorial 1
T	27 Sept.	Lecture 6 – Plants	
TH	29 Sept.	Lecture 7 – Fungi	
T	04 Oct.	Lecture 8 – Animal evo 1	Tutorial 2
TH	06 Oct.	Lecture 9 – Animal Evolution 2	Tutorial 2
M	10 Oct.	THANKSGIVING HOLIDAY	
T	11 Oct.	Lecture 10 – Mammals	
TH	13 Oct.	Lecture 11 – Intro Arthropoda: Arachnida	
Mon.	17 Oct.	MIDTERM: 6:00 to 8:00 pm, TC (Talbot College) 309, 341, 342, 343	
T	18 Oct.	Lecture 12 – Arthropoda: Arachnida	
TH	20 Oct.	Lecture 13 – Hexapoda 1: Intro, minor orders	
Mon.	24 Oct.	TENTATIVE: Makeup Midterm Test, 6:00 to 8:00 pm	
T	25 Oct.	Lecture 14 – Hexapoda 2: Order Coleoptera;	
TH	27 Oct.	Fall Study Break	
FRI	28 Oct.	Fall Study Break	
T	01 Nov.	Lecture 15 – Hexapoda 3: Order Lep	Tutorial 3
TH	03 Nov.	Lecture 16 – Insecta 4: Order Diptera	Tutorial 3
T	08 Nov.	Lecture 17 – Insecta 5: Order Hym 1	
TH	10 Nov.	Lecture 18 – Insecta 6: Order Hymenoptera 2	
Fri.	11 Nov.	PAPER DUE; hard copy and electronic copy	
Mon.	14 Nov.	PowerPoint file due uploaded to OWL by 12 noon	
T	15 Nov.	Lecture 19 – Insecta 7: Order Hym 3; Oral presentations begin	Tutorial 4
TH	17 Nov.	Lecture 20 – Bridging the gap: Pollination; Oral presentations	Tutorial 4
T	22 Nov.	Lecture 21 – Ecosystems 1; Oral presentations	Tutorial 5
TH	24 Nov.	Lecture 22 – Ecosystems 2; Oral presentations	Tutorial 5
T	29 Nov.	Lecture 23 – Ecosystems 3; Oral presentations	Tutorial 6
TH	01 Dec.	Lecture 24 – Anthropocene: Oral presentations end	Tutorial 6
T	06 Dec.	Lecture 25 – Solutions: Conservation of Biodiversity	
?	? Dec.	FINAL EXAM: TBA	

How to Succeed in this Course: Attend lectures and tutorials; take careful notes, study often, review lectures more than once. Follow the rules and do not multitask during class. Ask questions, and visit the professor during office hours (or by appointment; nzitani@uwo.ca) to discuss course content, or get extra help.

Support Services for Students: Students in emotional/mental distress should refer to Mental Health@Western: <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help; Registrar: <http://www.registrar.uwo.ca>; Services provided by the USC: <http://westernusc.ca/services/>; Services for Students with Disabilities (SSD): 519-661-2111 x82147; Learning Skills Counselors at the Student Development Centre are ready to help you improve your learning skills: <http://www.sdc.uwo.ca>

Respectful behavior in the classroom: Students are expected to arrive to class on time. If a student must arrive after class has begun, due to unusual circumstances, the student is expected to arrive quietly and not disrupt the class. *Talking while the professor is lecturing disrupts the learning process for the student doing the talking, and for those sitting near that student.* From the start until class is dismissed it is expected that the class will be quiet. Exceptions: 1) The professor has asked the class a question in which case she will call on students with their hand up. 2) You see a really interesting bug in the classroom and you want to bring it to the attention of the professor.

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.** Emails coming from an account that is not a UWO account will not be answered. Emails that do 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 press article on recent research on this topic: http://www.huffingtonpost.ca/2013/08/14/laptops-in-classrooms_n_3756831.html

Academic Accommodation: If you are unable to meet a course requirement due to illness or other circumstances, you must provide valid medical or other supporting documentation to the Dean's office for approval, and contact the professor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved by the Dean. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. UWO Student Services website: <https://studentservices.uwo.ca/secure/index.cfm>

Scholastic Offences: Students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Website: http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf

Plagiarism: Plagiarism 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 are 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 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>).

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

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