

SC/BIOL 4255 – ES/ENVS 4111 3.00: BIODIVERSITY
Fall 2016

Course Description

We do not know the number of species on Earth, even to the nearest order of magnitude. This course discusses the factors that influence the number of species in an area and the importance of biodiversity to humanity.

Two lecture hours, three laboratory hours. One term. Three credits.

Prerequisites

Completion of 60 credits required, towards a degree in biology or environmental science or environmental studies, or permission of the instructor.

Course Instructors and Contact Information

Instructor / Course Director: Dr Mark Vicari, mvicari@yorku.ca. Please include BIOL 4255 in subject line. Emails will be answered within 2 working days.

Office hrs: Mon. and Wed. 12:45-13:45, or by appointment, room 118A Farquharson,

TAs: Mr. Ryan Scott (Module 1 and Assignment 1), rwscott@yorku.ca
Office location: Lumbers 213 (hours TBA)

Mr. Tom Onuferko (Modules 2-3 and Assignment 2), onuferko@yorku.ca, phone ext 66524
Office hrs: by email or phone appointment, room 345 Lumbers

Schedule

Lectures: Mon. & Wed., 11:30-12:30, room 106 Accolade West

Labs: weekly Tues. Thurs. or Fri., room 2027 Dahdaleh Building (formerly the TEL Building)

Resources

Text: none. All the information you will need to gain marks of 100% will be made available in lectures and labs. Lecture slides (power point) and document camera notes (hand written) accompanying lectures will be made available on the course website. Note that these presentations will contain limited detail and are best understood in conjunction with what is said in class (so, attend lectures!).

Lab manual: handouts only. You will be given the relevant information for an upcoming lab at least a week in advance. It is expected and required that all students read these handouts **before** their lab begins.

Website: via Moodle, <https://moodle.yorku.ca/>

Evaluation

Midterm 1 (Wed Oct 12): 15%
Midterm 2 (Mon Nov 14): 15%
Final exam (Mon Dec 5): 20%
Lab Module 1 Phylogenetics (week of Oct. 3): 10%
Lab Module 2 Biodiversity statistics (week of Oct. 31): 10%
Lab Module 3 Extinction (week of Nov. 28): 10%
Assignment 1 Conservation Assessment: 10%
Assignment 2 Debate: 10%

Important Dates

Lectures begin Mon. Sept. 12
Labs begin week of Sept. 19
Last day to add Fall term courses without instructor permission: Sept. 21
Last day to add Fall term courses with instructor permission: Oct. 5
Last day to drop Fall term courses without receiving a grade: Nov. 11
Last day of classes: Mon. Dec. 5
Final exam: Mon. Dec. 5 (in-class)

NOTE: for additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at <http://www.yorku.ca/yorkweb/cs.htm>

Course Policies

Laboratory Sessions/Assignments

These are worth a total of 50% of your mark, so expect to have to work hard for them. A late penalty of 10% per working day, or 20% over a weekend, will be applied to late assignments.

Missed labs

Students must attend the laboratory session in which they are registered. In the event of a lab missed due to illness, notify the course director as soon as possible. A completed attending physician's statement <http://www.registrar.yorku.ca/pdf/attending-physicians-statement.pdf> must be submitted to the course director. **If** space is available in another lab session, you may be given permission to attend that session by the course director.

Missed tests/final exam

If you are feeling ill, **do not enter the examination room**. Notify the course director as soon as possible. An attending physician's statement must be submitted to the course director. For tests missed for any other reason (e.g. death in the family), suitable documentation (subject to the course director's approval) must be provided.

Once documentation has been submitted and approved, a makeup test may be provided.

Course Content

Fall 2016 Tentative Lecture and Laboratory Session Schedule

Week	Lecture	Date	Topic	Lab session
1	1	Sept. 12 th	Introduction to course	No lab this week
	2	Sept. 14 th	Cladistics I	
2	3	Sept. 19 th	Cladistics II	Module 1: Phylogenetics 1
	4	Sept. 21 st	What is a species?	
3	5	Sept. 26 th	Species description in practice	Module 1: Phylogenetics 2
	6	Sept. 28 th	Molecular approaches to species discrimination	Introduce Assignment #1
4	7	Oct. 3 rd	Species richness	Hand in Module 1
	8	Oct. 5 th	Biodiversity from the fossil record	Assignment #1: Presentations
5	9	Oct. 10 th	Thanksgiving holiday	Assignment #1: Presentations
	10	Oct. 12 th	Midterm 1	
6	11	Oct. 17 th	Sampling and quantifying biodiversity I	Module #2: Biodiversity
	12	Oct. 19 th	Sampling and quantifying biodiversity II	
7	13	Oct. 24 th	Quaternary extinctions	No lab (Fall reading days)
	14	Oct. 26 th	Island Biogeography, Current extinctions	
8	15	Oct. 31 st	Future extinctions	Module #2 Biodiversity cont'd
	16	Nov. 2 nd	Extinction as a process & genetics and extinction I	Intro to assignment #2: Debate Planning
9	17	Nov. 7 th	Genetics and extinction II	Hand in Module #2
	18	Nov. 9 th	Geographic variation in species richness	Assignment #2: In Class Debate
10	19	Nov. 14 th	Midterm 2	Hand in Debate Assignment #2
	20	Nov. 16 th	Taxonomic variation in species richness	Introduction to Module #3
11	21	Nov. 21 st	Community and ecosystem diversity	Module #3: Extinction
	22	Nov. 23 rd	Uses of biodiversity	
12	23	Nov. 28 th	TBA	Hand in Module #3
	24	Nov. 30 th	TBA	
13	25	Dec. 5 th	Final Exam	No Lab

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - http://www.yorku.ca/spark/academic_integrity/index.html

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services - <http://cds.info.yorku.ca/>

Counselling & Disability Services at Glendon –

<http://www.glendon.yorku.ca/counselling/personal-counselling/what-is-counselling/>

York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

Ethics Review Process

York students are subject to the York University *Policy for the Ethics Review Process for Research Involving Human Participants*. In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - <http://secretariat-policies.info.yorku.ca/policies/disruptive-and-or-harassing-behaviour-in-academic-situations-senate-policy/>