BIOL 4245 3.0 – Conservation Biology

Conservation Biology focuses on the welfare of biodiversity. Its scholarship is multidisciplinary, dealing variously with ecology, evolution, genetics, ethics, society, politics, and law. Extinction is natural, but current rates of extinction and processes promoting extinction and other ecological imbalances are exceptionally high compared to rates experienced over most of the past half billion years. Because these threats to biodiversity are mostly human-generated, we are said to have entered the *Anthropocene*, an era characterized by dramatic ecological changes caused by our highly influential species.

Professor Alex Mills
Where: Room 134 Chemistry Building
Phone: 416-736-2100 ext. 33609
Email: **ammills@yorku.ca**

TA: Laurent Lamarque
Email: **lamarque@yorku.ca**

(include "BIOL 4245" in subject line)

Schedule

Lectures are in CB 115, Tuesdays and Thursdays at 10:30 am for 1 hour each

Lab Section #1 is Wed 2:30 BSB 207 (Behavioural Sciences)

Lab Section #3 is Thurs 2:30 SC 304 (Stong College)

There is no Lab Section #2

Course Material

The course will use primary readings, presentations, discussions, and analyses to achieve the following general objectives;

First, to master content such as principles of conservation biology, survey of threatened biodiversity, specific problems related to taxa or to regions, and methods used to counter endangerment. Second, to use real data to analyze conservation biology issues. Third, to develop critical evaluation skills when using the primary literature. Fourth, to develop oral and written communication skills. Fifth, to understand linkages among endangerment, research, management, and social context.

A midterm and final exam will be used to evaluate mastery of course material, and approximately five tutorial/lab assignments will be used to further develop content mastery and critical skills.

Required Text: None. We will rely on a variety of sources, including (but maybe not limited to) primary literature, web links, PowerPoint presentations, in-lecture material, and student-generated information.

There is a text on 2-hour reserve in Steacie Library, for your reference:
Primack, Richard B. 2008 "*A Primer of Conservation Biology*" (4th ed.), Sinauer

Website: The course will be managed through a *Moodle* site.

Prerequisites: Plants (BIOL 2010), Animals (BIOL 2030), Genetics (BIOL 2040), and Ecology (BIOL 2050), or permission from the course director.

Evaluation:

One midterm test (Thursday, February 14th at 10:30 am):	25%
Approximately five tutorial/lab assignments, spread through term:	30%
Final Exam (during exam period):	45%

A penalty of 10% per day will apply to all material handed in late.

Important Dates:

Last day to DROP the course without a grade being submitted is March 15th, 2013.

Office Hours:

Tuesdays and Wednesdays from 1 to 3 pm

Course Learning Objectives: Students will be able to:

Area 1. Fundamental Understanding:

- Explain the scales of biodiversity that are the focus of conservation
- Use terminology appropriate to the field of conservation biology
- Integrate knowledge of genetics, evolution, diversity, and population biology in demonstrating an understanding of conservation biology
- Identify organisms, including Canadian ones, that are suffering population declines
- Describe the processes and levels of government involved in assessing the status of threatened wildlife
- Place the current period of extinction in paleohistorical context
- Compare and contrast different solutions to declining population patterns
- Apply economic thinking (costs, public resources) to conservation problems
- Itemize techniques used by Conservation Biologists in managing conservation problems

Area 2. Critical Thinking Skills

- Apply biological principles to the area of public policy
- Assign conceptual categories of threat to particular cases of population decline
- Articulate the limitations of recovery based upon different species' natural history and life history characteristics

Area 3. Problem Solving Skills

- Devise ways of analyzing existing data to determine if populations are stable, including the use of basic statistics
- Use sophisticated methods of literature searching to find material that is relevant for a particular subject area
- Evaluate alternative biological and policy approaches to issues of conservation biology

Area 4. Effective Communication

- Create a visual presentation of a data analysis problem
- Create and deliver an audio-visual presentation of a particular research program
- Write a political letter advocating for a particular conservation strategy or soluiton

- Perform basic literature searches and find library resources relating to biological topics.

Area 5. Social Skills

- Work with one or more partners in producing and communicating scientific information
- Advocate for a conservation position over a competing position
- Demonstrate the connection between biological harm and societal or personal valuation

Please read these FAQs!

Are you soft-hearted? I am by nature, but not by policy! Courses move along more efficiently if people do what they ought to do from the outset. Attend class, don't put off to tomorrow what you should do today, communicate clearly, study efficiently, don't misrepresent absences, etc.!

Can I treat this course as a distance course? It is not designed as a distance course. It is not a course where you have to simply memorize material from a textbook or simply memorize PowerPoint slides! Some of the material will only be delivered during lecture. If you skip class, you will suffer accordingly, but that is up to you.

Then what is "the whole course"? Material delivered during lecture by me and your fellow students (therefore take notes!), PowerPoints posted on-line, links and journal papers posted on-line, and anything else indicated either in class or on the course website.

Are study notes posted on-line? PowerPoints used in lecture are posted on-line, usually prior to class, sometimes following class. Remember, these presentations do not constitute the whole course!

Can I surf the web while in class, or text friends, etc.? No! It is rude, and it is distracting to fellow students and to the lecturer. Avoid temptation by turning off your phones and wireless. Classes are only 100 minutes, and your undivided attention is helpful to you and to me. Abuses may result in a no-laptop policy for everyone!

If I miss a test, can I tell you when it suits me? No! Tell me right away! Within 24 hours of missing a test advise me by delivery or email. "Problems with my printer" or "problems with my email" do not justify lateness in notifying me.

Does that mean if I miss a test I will have a chance to write a make-up? Yes, if you let me know right away with adequate documentation. Otherwise, no!

Do you bump marks at the end of the course? Very rarely; presume that a 79 is a 79, not an 80, and that a 59 is a 59, not a 60! Don't aim for a 49!

Okay, but can I then do "extra assignments" at the end of the course to undo a weak performance? Sorry, but you cannot. So, perform to your ability level from the outset.

Boy, you sound crabby! Are you? No! I just want you to take responsibility for your own education and to approach university wisely. Be organized, attend class and labs, and be polite and organized! We'll get along well.

Accommodations:

Students who feel that there are extenuating circumstances that may interfere with the successful completion of their exams or other course requirements are encouraged to discuss their concerns with Professor Mills as soon as possible.

Students with physical, learning or psychiatric disabilities who require reasonable accommodations in teaching style or evaluation methods should discuss the matter with Professor Mills early in the term so that appropriate arrangements can be made.

Religious Observance Days:

Should any of the dates for tests or exams pose a conflict with a religious observance day for your particular religion, you must complete an **Examination Accommodation Agreement Form** (available online at Registrar's Office site) and submit it to the instructor **at least 3 weeks before the date of the test or 3 weeks before the start of the examination period.**

More details on missed Tests:

Students who miss a test or exam due to an illness or emergency must provide supporting documentation to the instructor as soon as possible. Tests and exams missed on the ground of medical circumstances must be supported by an Attending Physician's Statement, which can be downloaded from:

http://www.registrar.yorku.ca/pdf/petitions/attending_physician_statement.pdf, or a statement by a psychologist or counsellor. Students are NOT expected to disclose the nature of the illness. The document must specify: 1) date of consultation; 2) contact information (e.g. phone number of the hospital; legible name of the health provider) that would allow verification of the document; 3) a statement that the student would not have been able to attend class (or carry out activities) during the relevant period of time. The documentation must be dated on the same day as the exam or earlier, or it will not be accepted. Appropriate documentation must be submitted to Professor Mills immediately after the test.

Academic Honesty:

York students are required to maintain high standards of academic integrity and are expected to be familiar with and to follow the Senate Policy on Academic Honesty (see **http://www.yorku.ca/secretariat/legislation/senate/acadhone.htm**)

Cheating and plagiarism are major academic offences and carry serious penalties, ranging from a failing grade on the work in question to expulsion from the university. Students should also complete the online tutorial available at that site.

Professionalism and Student / Instructor Conduct:

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect and to refrain from actions disruptive to such a relationship and to the class. It is the responsibility of the instructor to maintain an appropriate academic atmosphere in the lecture hall, and the responsibility of the student to cooperate in that endeavour.

Remember that texting, chatting, and surfing websites during lectures is unprofessional and disruptive. (Abuses may result in a no-laptop policy for all).

I hope to make this course an enjoyable experience for everyone.