COURSE SUMMARY

Ecological Structure in Northern Environments

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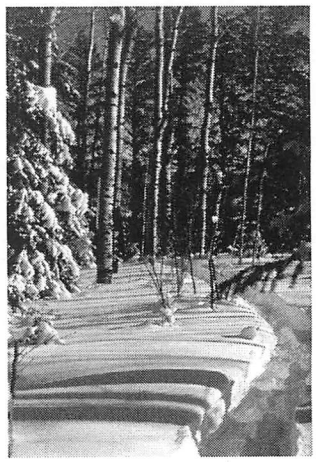

BIOL/ENST/NORT 3313 - 2017

Instructor:

Dr. Douglas Morris

Office: CB4017 Lab: CB3019

Teaching assistant:

Lindsey Maendel

Office CB3019

Text:

There is no text for this course. Students will build their notes and understanding from material presented in lectures and workshops and from assigned readings available through the internet.

Office Hours:

Wenesday & Friday: 13:00-14:00 (11 January - 7 April 2017 only) or by appointment

Lectures: Wednesday & Friday 14:30-15:50 Room AT-2005

ELECTRONIC DEVICES. Unless instructed to do so, students in class are not allowed to take photographs, send or receive phone or text messages, to use E-mail or social networks, download files, stream content, or surf the internet. Audio and video recording during lectures and tutorials is strictly prohibited unless permission is granted on an individual basis by the course instructor. All electronic devices other than notepads or laptops used to take notes, and calculators required for assignments and tutorials, must be left out of the room or turned off and located out of sight. No electronic devices other than calculators are allowed during quizzes.

BEHAVIOUR DURING LECTURES AND TUTORIALS. Students must respect the rights of others by conducting themselves at all times in a professional, polite, and civil manner.

There may be one or more guest lectures during the course. GUEST LECTURES ARE AN INTEGRAL COURSE COMPONENT AND STUDENTS WILL BE EXAMINED ACCORDINGLY.

Contents:

Introduction:

This course is designed for the advanced undergraduate who wants to apply ecological and evolutionary concepts to understand and conserve the ecological structure of northern environments. Course instruction will include a mixture of lectures, tutorials, workshops, and quizzes. The lectures will emphasize conceptual, empirical, and experimental approaches to ecology and evolution in northern ecosystems. Tutorials and workshops may include a mixture of seminars, reviews of the current literature, problem solving exercises, and student presentations. Short quizzes will be administered during lecture periods intermittently throughout the course.

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Course Objectives:

1. To familiarize students with ecological and evolutionary principles applicable to northern environments.

2. To introduce students to the relevant and recent literature on ecological structure in the north.

3. To inspire students to question and discuss current concepts in ecology and evolution.

4. To assist students in developing the skills, discipline, and study habits necessary for self-instruction in this and other areas of ecology.

5. To help provide students with the theoretical and empirical background necessary to solve ecological and conservation problems in the north.

6. To provide an opportunity to contribute to research and conservation strategies and priorities in the north.

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Evaluation:

In-class workshops and quizzes - 80%; assignments, participation and final term report - 20%.

Workshops will centre on writing a class-generated research proposal. Detailed instructions on completing the proposal (maximum length = 8 pages, Font = Times New Roman 12 Point) will be given to the class during the first workshop. *Printed and WORD versions of the final proposal must be submitted no later than the end of class (15:50) on 31 March 2017. Failure to submit the proposal on time will result in a grade of zero for the final term report.*

Performance will be evaluated regularly. The evaluation will be based on the student's grasp of important issues, logical reasoning, non-trivial criticisms of the material, and the ability to solve ecological problems. Students are encouraged to share their ideas and questions.

Written reports may be assigned at intervals during the course. Evaluation of the reports will be based on the student's ability to synthesize a field of enquiry, to apply that synthesis to a particular problem, or to develop significant new insights into ecological or evolutionary issues. Reports will not, in general, be review papers. Rather they will require the student to apply what is known (and what's not known) to an unresolved question in ecology. Evaluation will be devoted equally to clarity of presentation, rigour of treatment, and suitability of the report to the assignment.

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Report Format:

Read each assignment carefully and include only relevant material. Maximum length of regular reports including tables, figures, and references will be 1000 words (double- spaced, 2.5 cm margins, minimum height of lower-case letters = 2 mm).

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Report Due Date:

All regular reports will be due two weeks after the assignment date. Late submission will be penalized at the rate of 10% per calendar day unless prior permission is received. *The due date for the final report is at the end of class on 7 April 2017. Reports submitted after the final class on 7 April 2017 (15:50) will not be accepted for grading.*

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Report Style:

Be concise. Use the active voice. Organize your thoughts before you begin writing. Omit needless or redundant words. Express your thoughts as clearly as possible even if it means re-writing the report. Write in your own words. Use quotations only when you cannot express the thoughts yourself. Never borrow a phrase without quotations. Never repeat observations, interpretations, or ideas without proper citation.

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FINAL TERM REPORT

Each student will be required to submit a TERM REPORT that evaluates the class-generated research proposal. The review will be similar to that solicited by granting councils. Evaluation will be based on the quality and integrity of the review, and its correspondence with an independent assessment of the class proposal. Students must use the template that will be provided to them. Insights into writing and evaluating proposals can be gleaned from NSERC's discovery grants peer review manual 2016-17 available from NSERC's Website.

Please note: The term report is a term project and not a final examination. Students will be ineligible to write a special examination as outlined in regulation VII in the Lakehead University Calendar.

SOME SUGGESTIONS:

DO start background work on each assignment as soon as you receive it.

DO read required readings (and appropriate related literature) on time so that you are always up-to-date on course material.

DO re-write your essays and reports as many times as necessary to meet the length restriction, to improve your prose, and to make your material as readable, interesting and informative as possible.

DO interact with classmates in order to ensure that you fully understand course material and assignments.

DO read professional scientific essays (eg., the "News and Views" section in the journal "Nature" or perspectives in "Science") in order to appreciate the value of concise, clear writing.

DO NOT leave the term report until the "last minute".

DO NOT stray from the instructions.

DO NOT use web-based material other than to search for and download properly reviewed and edited documents.

DO seek classmates' opinions, but other than the research proposal, DO NOT work on a joint term report.

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Tentative Timetable - 2017

DATES	TOPIC
11-18 January	Northern Ecosystems are Dynamic
20 Jan.- 1 Feb.	Latitudinal Gradients in Diversity
3-10 February	Latitudinal Gradients in Body Size
15 Feb.- 3 March	Population Dynamics of Northern Species
20-24 February	FAMILY DAY AND STUDY WEEK - NO CLASSES
8-17 March	Northern Food Webs
22-29 March	Conservation and Management
31 MARCH	***FINAL RESEARCH PROPOSAL DUE 15:50***
31 Mar.- 7 April	Northern Climate Change
7 APRIL	***FINAL REPORT DUE 15:50***

Guest lectures, tutorials, and workshops may be scheduled at irregular intervals.

Lectures: 14:30-15:50 Wednesday and Friday Room AT-2005

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