BIOL/NRMT 3232 WA
Conservation Biology
Course syllabus

Fall term 2024

TEXTS: Textbook: **There is no required textbook, if you want recommendations for what might be a good reference text just ask.**

INSTRUCTOR:
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OFFICE HOURS: by email at any time.

LECTURES: MWF: 8:30 –9:30 pm – CB 3010A

EVALUATION:

Lecture Midterm	=	15% (date TBA)
Lecture Final	=	15% (TBA)
iClicker	=	15 %
Written Assignment 1	=	5 % (due TBA)
Written Assignment 2	=	10 % (due TBA)
Written Assignment 3	=	15 % (due TBA)
Debates	=	20% (dates TBA)

GRADES:
A+ ≥ 90
A = 80 – 89 (1st class standing)
B = 70 – 79
C = 60 – 69
D = 50 – 59
E = 40 – 49 (failed)
F = 1 – 39 (failed)
F Academic Dishonesty = 0

Withdrawal without academic penalty: 8 November 2024

COURSE OBJECTIVES:

Lectures

We live on a planet that is increasingly affected by human activities. These activities are affecting the global environment – both aquatic and terrestrial, the great diversity of life with which we share this environment, and ultimately the very processes upon which all life depends.

This course for senior undergraduate students and is designed to introduce them to the essential concepts relevant to conservation biology. Major themes include major threats to biological diversity and strategies that have been employed to mitigate these threats. The major issues include biodiversity loss and extinctions, habitat loss and degradation, threats that contribute to these losses, and climate change. These are large, complex, and challenging issues that impact human concerns including economics, politics, societies, standards of living, and even our survival. In order to address these threats, issues, and concerns requires solutions that incorporate applications from ecology (ranging from population ecology to biogeography) systematics, genetics, bio- and geochemistry, economics, political science, sociology and other natural and social sciences.

Topics to be covered within these themes may include habitat loss, fragmentation and degradation, small and declining populations, conservation genetics, overexploitation, invasive species, climate change and human activities and activities that serve, or attempt to serve, conserving biodiversity. Included are discussions of the history of the field, ethics, economics and the effects of political decisions and how these factors influence approaches to conservation. Course instruction will involve lectures and three papers of varying length, course evaluation will be based on a midterm and final exam and the written assignments.

Learning Outcomes

The learning outcomes of this course are for you to:

1. Understand the historical context of conservation biology and to have a fundamental understanding of the major concerns of conservation, to understand the science and goals of conservation, and to understand the major issues relating to conservation today;
2. To understand different perspectives on conservation issues and the basis for these differences, to understand the trade offs and pressures involved in conservation decisions, and to have insight into your own philosophy and perspective on the issues relating to conservation;
3. To be able to understand and communicate the science behind results relating to conservation biology;
4. To be able to critically evaluate the literature (both scientific and popular) related to conservation biology, and to be able to place reports and studies within the overall discipline of conservation
5. To improve your writing, effective communication, and analytical problem-solving skills.

To succeed in reaching these goals and in this course you will need to attend class and tutorials, and commit to being prepared and engaged for class. You will get out what you put in.

Written Assignments

There will be three written assignments in this course.
The first paper will be short and will require you to write a summary of a primary research article. The article will come from a Journal publishing primary research relevant to conservation (e.g. Conservation Biology, Biological Conservation, Conservation Genetics, Ecology etc.).

The second paper will be to summarize the assessment, biology, threats, and propose what needs to be done to provide a recovery plan for a species at risk as recently assessed by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) as being either Endangered, Threatened, or Special Concern. Your paper will be based on the COSEWIC species assessment. I will provide a list of these species and the URL's to the assessment document(s) will be provided in class. Species will be chosen on a first come first served basis

The final paper will be based on a topic of conservation concern. A list of topics (or one of your choosing with my approval) will be made available from which you can choose. Additional details on these assignments will be made available. Do not leave these written assignments to the last minute. You will find that they involve a substantial amount of preparation and study before you begin to write the paper itself.

Debates

There will be debates on current issues in conservation. The purpose of this is to allow you to develop your critical skills, formulate arguments, and present your thoughts in a public forum. The basis of the each debate will come from some issue in the news. The class will be divided into teams (numbers will be determined after the deadline for adding classes when the number of students is finalized). You will have at least a week to prepare for the debate(s). One group will argue in favour of the resolution, the other group will argue against the resolution.

Rules, structure, format, etc.

A debate has 2 teams, one that agrees with the resolution and the other that opposes the resolution.

Each side will have 3 speakers. You will need to decide who will do the speaking. You should also apportion the preparation work so that everybody carries an equal load, although the tasks may be different (obviously).

Each team takes turns speaking, but there are different roles and expectations at each stage. Each speaker has a set time to speak (see below). This will be strictly enforced, so do not go over. You will be notified at 30 seconds to go, and will be allowed 30 seconds "extra" to finish. After that you must stop.

Course Policies

Tests:
Missed tests will receive a grade of zero unless you are absent for a documented valid reason such as a family or medical emergency. If you wish to have an exam regraded you must submit a

written explanation of why you think the assigned grade was incorrect within 2 weeks of return of the exam. Be aware the entire exam will be re-evaluated and your mark may go up, remain the same, or go down.

Note: this does not apply to arithmetic errors such as incorrect addition. You may bring these types of errors to my attention for correction, without a written explanation, at any time.

iClicker

The iClicker app on your phone is required for in-class participation and voting in this course. You download this at https://www.iclicker.com/students/. iClicker is a response system that allows you to respond to questions I pose during class; you will be graded on that feedback and/or your in-class participation. In order to receive this credit, you will need to register your iClicker (first lab, September 12). iClicker will be used every day in class and in lab.

The iClicker website (www.iclicker.com) has support documentation, video tutorials, and FAQs for students.

Part of the course evaluation will be through make use of very short in class quizzes using iClicker app on your phone. You will answer questions in class and lab (all multiple choice). These will provide you and me with insight regarding your understanding of various concepts and principles as the course proceeds. Scoring is 1 point for answering the question and 1 point for providing a correct answer. The final score for the clicker portion of your grade will be based on 80% of the total number of available points. For example, if there are 100 total points, your score will be calculated out of 80. If you answer every question, and get them all wrong, then you would still get 50/80. This allows for absences and reduces any punitive aspect to this part of the grade. It also means you can score more than 100% for this part of your grade, which has happened in almost every class I have done this. If you are not present, then you will have missed that quiz.

Written Assignments

Written assignments submitted late will be penalized 10% per day except for a documented valid reason such as a family or medical emergency. Papers will not be graded in the absence of a completed and signed form indicating the understanding of plagiarism in its many forms. **This will require the completion of an online exercise and quiz relating to plagiarism.** Additional direction regarding topics and format will be provided in class.

GenAI Use Permitted

Generative artificial intelligence (Generative AI or GenAI) is a category of AI systems capable of generating text, images, or other media in response to prompts. These systems include ChatGPT and its variant Bing (built by OpenAI) and Bard (built by Google) among several others. Other generative AI models include artificial intelligence art systems such as Stable Diffusion, Midjourney, and DALL-E.

GenAI tools can provide valuable assistance and support in academic work. However, it is essential to use them responsibly and ethically. The following information and guidelines apply to the use of AI-based tools in this course:

Student Responsibility – It is the responsibility of the student to understand the limitations of AI-based tools. While these tools can provide suggestions and insights, final decisions and critical thinking should come from the student's own understanding and effort. Before submitting, review your work with this in mind. If you don't understand what type of GenAI usage is appropriate, ask the course instructor for clarification.

Formative Usage – In this class, you may use GenAI for formative, but not summative, work. That means it can be used as a "possibility engine" (brainstorm tool), a "study buddy," a "collaboration coach," a "guide on the side," a "personal tutor," a "co-designer," etc. to help you learn course content, but it cannot be used as the primary vehicle for any work that is submitted for marks or evaluation. (See UNESCO's "ChatGPT and Artificial Intelligence in Higher Education Quick Start Guide," page 9, for explanations and examples of these and other roles GenAI can productively serve in a formative capacity.)

Error & Bias – AI content is created by computer algorithms that have been trained using large amounts of data. The AI learns from patterns and examples in the data to generate new content that resembles what it has been trained on. If the training data used to train the AI model is biased or limited in scope, the AI may reproduce content that is inaccurate, incomplete, offensive, and/or biased. Students should weigh this as they consider material produced by AI.

Trustworthiness – Generative AI can be vulnerable to manipulation and misuse. It can be used to generate fake news, misinformation, or deepfake content, which can have harmful consequences. Students should check AI generated content against reputable sources.

Plagiarism – Since [writing and critical thinking ability] are learning outcomes of this course, all work submitted for evaluation must be the student's original work. Using the work of others (including content curated/generated by AI) without proper citation is considered plagiarism. See "Citing Artificial Intelligence" for assistance with correct documentation.

Citation of Sources – If you use material generated by an AI program for an assignment in this course, it must be cited like any other source (with due consideration for the quality of the source, which may be judged as poor). Failure to do so will be considered a violation of academic integrity. See Student Code of Conduct – Academic Integrity.

Academic Dishonesty

(The following is taken directly from the University website, with minor modification.)
The University takes a most serious view of offences against academic honesty. Penalties for dealing with such offences will be strictly enforced.
The following rules shall govern the treatment of candidates who have been found guilty of attempting to obtain academic credit dishonestly.
(a) The minimum penalty for a candidate found guilty of plagiarism, or of cheating on any part of a course will be a zero for the work concerned.
(b) A candidate found guilty of cheating on a formal examination or a test, or of serious or repeated plagiarism, or of unofficially obtaining a copy of an examination paper before the

examination is scheduled to be written, will receive zero for the course and may be expelled from the University.
A copy of the "Code of Student Behaviour and Disciplinary Procedures" may be obtained from the Office of the Registrar.