

# Conservation Biology (BIOL\*3130)

## *Introduction*

This course explores the ‘how’ and the ‘why’ of conservation biology. The emphasis will be mostly on the ‘how’, examining the biological basis for the management of wild, living resources from both terrestrial and aquatic systems. This information will be derived from the arenas of biology, ecology, policy, economics, and law. Topics will include an overview of processes related to resource population abundance and dynamics, theory and practice of sustained-yield harvesting, and conservation and restoration of endangered species and/or ecosystems. Both theoretical and applied aspects of resource management will be emphasized. For the ‘why’ component of this course, we will be reading and discussing chapters from the conservation classic “Wilderness and the American Mind” by Roderick Nash. This book explores our murky relationship with the concept of ‘wilderness’, and its relationship to conservation initiatives (or lack thereof). Lectures, discussions, and other in-class activities will introduce information that is relevant to these issues.

## *Pre-Requisites*

**Students must have completed all prerequisites as described in the UG Academic Calendar. NO EXCEPTIONS.**

Instructor

Dr. Andrew MacDougall

Office: 2459 Sciences Building

Office Hours: by appointment.

## *Meeting Times*

T, Th 10-1120: Alexander 200

## *Course Materials [Required]*

Wilderness and the American Mind. Roderick Nash (paper back).

## *Web Site*

This course will make extensive use of the course website. Consequently, **you are responsible for all posted information including lecture material and announcements**; please check regularly.

## *Course Work*

*Exams:* There will be two in-class tests. Both will consist of multiple choice or short-answer questions, and possibly problems involving calculations.

*Leading class discussion of the Nash book:* The class will be divided into 18 groups, with each group taking a turn to lead class discussions on a chapter of the Nash book. Groupings will be determined during the first week of class.

*Essay* Each student will write a term paper on a topic of her or his liking. This paper will be your opportunity to research a topic of interest that is appropriate for a conservation biology class. All issues are possible, from purely biological, to ethical, economic, legal, and spiritual.

You will be expected to synthesize relevant information from the primary literature (containing original research results) in a well-written paper. Your paper must have a **MINIMUM** of fifteen references, upon which you support or refute your various arguments.

Collecting and adding additional new data would be welcomed, but is not required.

You will be required to submit the assignment in **two stages**:

- (1) By the end of January, but ideally sooner, submit a **MAXIMUM** five sentence synopsis of your paper for approval by me **THAT INCLUDES FIVE OF YOUR REFERENCES**. For example, your topic may be “The role of environmental law in conservation in developing nations”. Great. In your five sentences, explain why this is an important question, and what you will be discussing.
- (2) Final assignment due date in early April (no exceptions). Note: This paper should be written in the format of articles in Conservation Biology and **should be no more than 14 double-spaced pages in length. Any text exceeding 14 pages will not be graded.** The only exception to this rule: references, and supporting figures and tables.

Written projects must be typewritten and double-spaced. **DO NOT** use binders, folders, or fasteners except a staple in the upper left-hand corner.

**SPELING AND GRAMER MAKES A DIFFERENCES.** Please carefully proof-read your paper for spelling, logical structure of your arguments, and clear expression of thoughts and ideas. Clear expression of ideas = higher marks every time.

**ALTERNATIVE: A limited number of seminar slots are available, in the last week of class, for students to give their essay as a 20 minute in-class presentation. Students who chose this option only need to pass in a one-page summary of their project.**

Ideas For Topics (note that most topics end in a question...): 1) Ontario’s new Endangered Species act – will it work? 2) Canada’s Species at Risk Act – how it works? does it work? 3) Monarch butterflies on the decline in Ontario – why and what to do? 4) Wilderness and the Beat Poets (Gary Snyder, Jack Kerouac) – their perspectives and their impacts? 5) Wilderness and the Christian Right – partners or protagonists? 6) Recreation and Parks – loving nature to death? 7) Faith and Wilderness – the importance of wilderness for religion, the importance of religion for wilderness, 8) the history of the National Parks – biodiversity or golf courses? 9) Conservation Priorities – genes, species, or ecosystems? 10) Government vs. Non-government approaches to conservation – which is better? 11) Defining restoration targets – bias towards charismatic mega-fauna and pretty flowers? 12) Conservation and colonialism – protecting indigenous plants but not indigenous peoples? 13) Conservation and the New England Transcendentalists (Whitman, Emerson, Thoreau) – what they said and why it mattered (or not) 14) Thinking global, acting local – what little things can we do to conserve? 15) Why should we care about biodiversity? 16) Rationale for tough decisions – what to protect? what to allow to be destroyed? 17) Reserve design – single large parks or several small ones? 18) Population Viability Analysis – what is it and can it work? 19) Conservation Partnerships – can hunters and conservationists coexist? 20) Monkey-wrenching (derived from the classic early 70s conservation novel by Edward Abbey) – is it better to work within the system (consensus), or against it (revolution...) 20) The Urban Shift – does the urban majority have the right to build Parks amongst the Rural minority? 21) Your topic here....

### **Grading**

Proposal: 1%

Nash presentation: 4%

Midterm 1: 20%  
Midterm 2: 35%  
Term Paper: 40%

- I **will not** accept late assignments without documentation from your doctor or program counselor.
- The grading scale is detailed in the University of Guelph Undergraduate Calendar.
- Students who need accommodations because of a disability should speak to me at the first class meeting.
- The TA and instructor will share grading duties.

### ***Attendance***

You are expected to attend each lecture and be ready to contribute, having read the appropriate material. There may be divergent opinions expressed in class – all debate and disagreement must be conducted in a civilized and courteous manner.

### ***Tentative Class Schedule***

1. Week One: What is conservation biology?
2. Week Two: The Creation and Maintenance of Biodiversity
3. Week Three: Threats to Biodiversity
4. Week Four: Conservation Genetics
5. Week Five: Approaches to Solving Problems - species
6. Week Six: Approaches to Solving Problems - ecosystems
7. Week Seven: Approaches to Solving Problems – protected areas
8. Week Seven: Approaches to Solving Problems – restoration ecology
9. Week Eight: Sustainable Development
10. Week Nine: Policy
11. Week Ten: Future Challenges
12. Week Eleven: Future Challenges/In-class Discussion including perspectives developed from your term papers...

### **Copies of out-of-class assignments**

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

### **Absence and Illness**

If you are absent from classes during the semester, you will be expected to make up missed lecture on your own. When an assignment is missed, you must notify the instructor as soon as possible. If requesting academic consideration on medical or compassionate grounds, be prepared to provide supporting documentation. Be sure to obtain a written statement of your revised grade evaluation from the instructor. See the undergraduate calendar for information on regulations and procedures for Academic Consideration:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

### **Academic Misconduct**

The University of Guelph is committed to upholding the highest standards of academic integrity and expects all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

### **Recording of Materials**

Presentations which are made in relation to course work—including lectures—cannot be recorded in any electronic media without the permission of the presenter, whether the instructor, a classmate or guest lecturer.

### **Course Evaluation information** (from the CCS website)

CCS now provides the U of G Online Course Evaluation System in a secure, online environment. End of semester course and instructor evaluations provide students the opportunity to have their comments and opinions form part of the information used by Promotion and Tenure Committees in evaluating the faculty member's contributions in the area of teaching.

Course evaluations are now conducted through this web site. Login with your central email account login ID and password.

[https://courseeval.uoguelph.ca/CEVAL\\_LOGIN.php](https://courseeval.uoguelph.ca/CEVAL_LOGIN.php)

Occasionally course evaluations are conducted in class.

### **Please Note:**

Instructors do **NOT** receive evaluations until the end of exam period. Furthermore, evaluations are anonymous, unless you specifically indicate you want to acknowledge your comments