From the local to the national level, this course examines the role of protecting and managing terrestrial, aquatic and marine ecosystems. This course also examines the tension between the development of natural resources and conservation by exploring a variety of major themes including biodiversity, ecological integrity and restoration. In this course, we will develop analytical approaches and field-based activities as well as tap into the expert knowledge gleaned from guest lecturers.
Requirements

No text for this class. It is required that each lab group purchase a dedicated field note book (ideally with waterproof paper). The bookstore sells these.

Lectures

Journal articles

Guest Speakers

Hands-on

The intent

I see that the learning that will occur in this course will happen in many different directions. I want you to learn from me and I want to learn from you. We all bring such varied perspectives to the conversation. Journal articles, guest speakers and other forms of media will also help us distill ideas and provide essential resolution to our ideas. Knowledge, like landscapes, changes across space and through time.

By the end of this course, you should be on a path to life-long learning as an ecologically-literate citizen and well-versed in ecosystem management. More specifically, you should be able to do the following (our course learning outcomes):

- **identify** and **explain**, with examples, the main principles of ecosystem management from a variety of perspectives and across a variety of scales;
- **demonstrate** how these principles and concepts apply to real-world situations;
- **analyze** the elements of ecosystem managements from research that you designed and implemented; and
- **evaluate** the success and failures of ecosystem management

These course learning outcomes will not only prepare you to be an informed citizen and member of the community of life on earth, but also provide the basis for knowledge, humility, and wisdom in your dealings with ecological problems in your daily life and eventual career.
**Assessment**

**Research project (40%)**

- **Report:** 20%
  - Abstract (<150 words), Introduction (including research question: ~5 paragraphs), Methods (including study site descriptions and field/statistical methods used: ~5 paragraphs), Results (including maps, figures and written content: ~3 paragraph plus figures), Discussion (4-5 paragraphs), Acknowledgements (1 short paragraph), References (>20) and Appendix (you must include digitized field notes).
  - **Due on Nov 20th by midnight (through LEARN).**

- **Presentation:** 10%
  - The 20 min presentation (+ 5 min for questions) will happen in class after you have submitted your reports. More details on what is required of the presentation will be presented in class.
  - **The presentations will be done in-class on Nov 13th and Nov 20th.**

- **Presentation Qs:** 5%
  - For presentations you are watching (ie. not your own), you will submit a question, a SMALL critique and one thing that you learned. These will be submitted before class ends. It won’t take long, I promise.

- **Final Exam:** 20%
  - This will be an open-book in-class exam. The structure of the exam will be in the form of applied questions and a case study. You will need to incorporate readings, lecture and lab material.
  - **The exam will be in-class on Nov 27.**

**In class assessments: 15%**

- #1: Science communication (September 11)
- #2: Methods and design (October 2)
- #3: Stats (October 30)

**Plan:** 5%

- Prepare a 1-page summary of research questions, hypotheses, study design, equipment and a plan for data analysis. Once you have your plan together, you must meet with the TA to discuss before Oct 5th.
  - **Due by the beginning of class on Oct 2 (through LEARN).**
  - **GROUP MUST MEET WITH TA Prior to submitting plan.**

**Paper presentation: 15%**

- For each group:
  - Based on the ‘theme’ of the week’s lecture:
    1. Find paper 7 days before you present
    2. Write/read short press release (will show class how to do this) (3 min)
    3. Make/show infographic (3 min)
    4. Lead class in a discussion/debate about the main issues (14 min)
  - **These will be done throughout the semester: please sign-up.**

**Paper tweets & Qs: 10%**

- For each assigned item throughout the semester, please submit a tweet-length hard-hitting press-release style summary (280 characters including spaces) AND 3 questions.
  - Must be entered on LEARN before class. Items will be posted on Wednesday night (giving you 7 days to prep).
Academic integrity and offences
In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. CLICK HERE
You are expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for your actions. If you are unsure whether an action constitutes an offence, or need help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration, please complete the tutorial and seek guidance from the course professor, your Undergraduate Advisor, or the office of the Associate Dean – Undergraduate. When misconduct has been detected, disciplinary penalties will be imposed under Policy 71 – Student Discipline.
For information on categories of offences and types of penalties, refer to Policy 71. Within the Faculty of Environment, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties that may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion. If you believe that a decision affecting some aspect of your university life has been unfair or unreasonable, you may have grounds for initiating a grievance; see Policy 70 – Student Petitions and Grievances, Section 4.
When in doubt please contact your Undergraduate Advisor for details. A decision made or penalty imposed under Policy 70 or Policy 71 may be appealed if there is a ground (see Policy 72 – Student Appeals).

Attendance and preparation
You are strongly encouraged to attend class meetings because they will be interactive in nature and develop the course material. Thus, please come to class prepared to discuss and engage.

AccessAbility
AccessAbility Services (click HERE for info), located in Needles Hall—Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Availability for exams
Supplemental exams are only set for those with medical or similar problems. You are expected to be present for scheduled examinations, so please see the course schedule (above) for the midterm exam and consult UW’s final examination timetable before making travel plans. No “make up” examinations are provided to accommodate you for leaving campus early. For the UW policy on exams, go HERE.

Definition of grades
Please click HERE to see the following link for descriptions of the standards required for different grades.

Digital distraction
Recent research has demonstrated that students cannot focus effectively on classroom activities and discussions if others around them are using laptops or electronic devices—and their grades, as well as those of their classmates, suffer (e.g., Fried 2008; Taneja et al. 2015). Accordingly, please turn your cell phone off before class. Further, this course involves extensive oral and listening participation, in addition to note-taking, so laptops will not be used regularly during class. Therefore, I request that those of you who must use a laptop sit in the back half of the class. If you have a special learning need that requires a laptop and sitting closer to the front of the room, please document it with AccessAbility Services and we will find an agreeable solution.
Mental health
Along with the University of Waterloo and the Faculty of Environment and its Departments, I consider your well-being to be extremely important. We recognize that many students face health challenges, physical and/or emotional. Please note that help is available. Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, depression, grief, relationship issues, sexuality, stress management, substance use, and much more.

Religious observances
Please email me at the beginning of term if you require special accommodation for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Students clarify their ideas, develop their voices, and write in the style appropriate to their disciplines. Writing Centre staff offer one-on-one support in planning assignments and presentations, using and documenting research, organizing and structuring papers, and revising for clarity and coherence. You can make multiple appointments throughout the term, or drop in at the Library for quick questions or feedback. To book a 50-minute appointment and to see drop-in hours, click HERE. Group appointments for team-based projects, presentations, and papers are also available. Please note that writing specialists guide you to see your work as readers would. They can teach you revising skills and strategies, but will not proof-read or edit for you. Please bring hard copies of your assignment instructions and any notes or drafts to your appointment.

References

tip:
Come to office hours! Your mark will reflect the added effort!
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<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Topic</th>
<th>Details</th>
<th>Activities</th>
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<tr>
<td>1</td>
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<td>Intro, overview &amp; ecological integrity</td>
<td>Lecture</td>
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<td></td>
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<td>Lecture / breakouts / safety presentation</td>
<td>-Sign-ups</td>
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<td>-In class assignment (5%)</td>
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<td>3</td>
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<td>Regional perspectives + methods + stats</td>
<td>Guest Lecture (Josh Shea, City of Kitchener) + methods + stats + student presentations</td>
<td>2 student presentations</td>
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<td>THEMES: Ecosystem integrity and biodiversity</td>
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<td>Lab 1</td>
<td>Meet at the UW Environmental Reserve</td>
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<td>Provincial perspectives</td>
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<td>-Research plan due Fri Oct 4 (5%)</td>
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<td>Lab 2</td>
<td>Go where you need to go to get it done</td>
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<td>READING WEEK</td>
<td>No class</td>
<td>Go outside</td>
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<td>National and Indigenous perspectives</td>
<td>Guest Lecture (Janet Feltham, Parks Canada) + Lecture</td>
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<td>THEME: Urban issues</td>
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<td>Research presentations</td>
<td>~6 group presentations</td>
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<td>Exam</td>
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