

Advanced Topics in Ecosystem Services

ENVR 4000/GEOG7010 Special Topics

Faculty of Environment, Earth and Resources
Department of Environment and Geography
University of Manitoba

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Office Hours: By appointment

Course Times: Th 2:30--5:25

Course Location: St. John's College 205

Credit Hours: 3 + 0

Prerequisites: ((BIOL 1010 OR (BIOL 1020 AND BIOL 1030)) AND (CHEM 1300)) OR ENVR2000

Course Materials:

Required

None.

Recommended

Bouma, Jetske A., and Pieter JH van Beukering, eds. Ecosystem services: from concept to practice. Cambridge University Press, 2015.

Marine Ecosystems: Human Impacts on Biodiversity, Functioning and Services (2015) Crowe and Frid, Eds. ISBN 9781107675087

Other readings and notes will be distributed via UM Learn.

Outline:

This course delves into the field of Ecosystem Services, an analytical framework for evaluating the economic, cultural, and biogeochemical contributions that ecosystems make to human health and well-being. Topics will be drawn from aquatic and terrestrial ecosystems and cover pressing issues such as pollution and contamination cleanup, commercial and subsistence food provisioning, climate regulation, and cultural uses in folklore, art, religion, science, and recreation. A special emphasis will be made on current events and guest lectures by professionals in the field of Ecosystem Services, or those with unique epistemological perspectives related to Ecosystem Services. This course is graded on the letter grade system.

Objectives:

The student will be expected to be able to:

- Define problems in ecosystem services facing the world today.
- Understand how to and be able to characterize supporting, provisioning, regulating, and cultural services.
- Synthesize knowledge from multiple perspectives to arrive at a more sophisticated view of ecosystem services
- Apply these principles to a real-life problem chosen by the student.

Subject materials to be presented:

- Current uses of ecosystem services in academic, governmental, and Indigenous organizations.
- Examine and critically assess methods for defining problems in aquatic ecosystem services.
- Review the techniques for ecosystem services assessment and assess the advantages and disadvantages of these.
- Examine approaches and techniques for the management of ecosystem services.
- In-depth histories of ecosystem services characterization and policy implementations by practitioners in the field
- Review the advantages and disadvantages of different epistemologies concerning ecosystem services

Grading Scheme:

Attendance: 10%. Attendance will be marked in each session. Guest lectures and discussion will comprise the first 1-1.5 hours of each class. Group discussion of Paper Annotations, directed readings, or work on the Final Project will comprise the remaining time.

Paper Annotations: 40%. Each week, students will submit brief annotations of 2 papers, reports, or book chapters selected by the student that relate to the Final Project or to Ecosystem Services. Each annotation should include a brief summary of the methods and findings of the text (about half a page). These texts will ideally be selected for re-use of the summary text in the Final Project. Graded complete/incomplete. To be submitted on UMLearn. Each student will present their annotations to the group in each class.

Final Project: The project will be to complete an Ecosystem Services assessment which is suitable for distribution to a broader audience that might include lawmakers, policy experts, NGOs, conservationists, environmental activists, etc. to inform and educate about the value of a student-defined ecosystem from an Ecosystem Services perspective.

Rough Draft: 10%. The rough draft should contain >50% of the necessary text and may lack final formatting. Students make work in groups, in which case each student will submit a draft of the project with their contributions highlighted. Graded complete/incomplete. To be submitted on UMLearn.

Finished Paper: 30%. The final report should be about 10 pages per undergraduate author and 15 pages per graduate author, including figures. The report should be styled in the form of a formal but accessible and aesthetically pleasing report including such features as photos, figures, explanatory boxes or inlays as necessary. A bibliography with no fewer than 20 references per author, cited in APA style, is expected. Each student will submit a copy of the project with their contributions highlighted. Graded by rubric to be provided. To be submitted on UMLearn.

Presentation: 10%. Students will present the findings of the Final Project during Finals week. Graded by rubric to be provided.

There is no final exam.

Total: 100%

Policy regarding late assignments: Writing assignments are due 1 hour following class. Please make arrangements beforehand for any required extensions.

Evaluative Feedback: Will be provided in the form of the annotations to drafts and final papers.

Final Grade: A total mark of less than 50% in the course will result in a grade of **F**. Marks between 50% and 100% will be graded from **D** to **A+** according to the Department of Environment and Geography grading scheme below:

Letter Grade / Percentage

90-100 / A+

80-89 / A

75-79 / B+

70-74 / B

65-69 / C+

60-64 / C

50-59 / D

<49.9 / F

Academic Conduct: Students should acquaint themselves with the University's policy on plagiarism and cheating and examination impersonation (see University of Manitoba General Calendar). The copying of another student's assignment (or an instructor's answer sheet from a previous year) or the submission of the same material for two or more courses is plagiarism. Plagiarism and other forms of cheating are prohibited. The full definition of plagiarism and the possible penalties associated with it are outlined in the General Calendar. If your submitted assignment contains material you have copied from another source (e.g., from a textbook, web page, or from the published literature) you must give proper credit to that source.

Medical Circumstances:

Students who are unable to meet a course requirement due to medical circumstances are currently not required to submit medical notes. However, students are required to contact their instructor or academic advisor by email to inform of the missed work and to make arrangements for extensions, deferrals, or make-up assignments. Please follow these guidelines if you are unable to meet an academic requirement for your courses.

- Contact your instructor for term work such as a class, quiz, midterm/test, assignment, lab;
- Contact an advisor in your faculty/college/school of registration for a missed final exam (scheduled in the final examination period);
- Inform your instructor/advisor as soon as possible do not delay. Note for final exams, students must contact within 48 hours of the date of the final exam; and
- Email your instructor/advisor from a U of M email address, and include your full name, student number, course number, and academic work that was missed.

The voluntary withdrawal deadline date for this course is Nov. 21.