

**University of Guelph
College of Biological Science
Department of Integrative Biology**

COURSE OUTLINE

**Natural Resource Policy Analysis (BIOL*4500)
Winter 2015**

Course Goal

This course explores the role of science in management decision-making for Canadian renewable natural resources, including legal, political, social and economic factors. The course will rely on active learning by students working in collaborative groups, leading to deeper understanding of real-world issues while developing professional skills that are essential for those who wish to make significant contributions at the science-management interface. Four themes will be explored: 1) acts/policies/guidelines, 2) science and other knowledge systems, and 3) management strategy evaluation.

Teaching Team

Professor	Dr. Steve Crawford – SCIE 2474, ext. 53544 scrawfor@uoguelph.ca Office hours: by appointment
Teaching Assistant	Danielle Ethier dethier@uoguelph.ca Office hours: by appointment

Course Schedule

Lectures	1300h-1420h Tuesday CRSC 117 1300h-1420h Thursday CRSC 117
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Learning Outcomes

By the end of this course, students will be able to:

1. Knowledge Objectives:
 - a. Identify the components of Acts/Policies/Guidelines that determine how natural resources are managed in Canada;
 - b. Interpret the explicit and implicit roles of science in the development of management programs;
 - c. Prioritize the key uncertainties (natural or social) that science must address for effective management;
 - d. Evaluate current management programs on the basis of interaction between science, models and management decision-making;
 - e. Create a vision of natural resource management that would provide Canada with an optimal balance of non-human and human needs.

2. Skill Objectives:

- a. Assemble key science-related concepts from complex legal and policy and management documents into an understandable form;
- b. Refine the logical structure of management plans to evaluate the role of science and models in decision-making;
- c. Adapt recommendations from primary and technical literature to improve effectiveness of science and modeling in management programs;
- d. Combine ideas from Local, Indigenous and Science knowledge systems to improve design of management programs;
- e. Synthesize the complex legal, political, social and economic factors in a manner that specifically addresses the fundamental objectives of renewable resource management in Canada.

3. Attitude Objectives:

- a. Listen to what colleagues say effectively enough to return their ideas and opinions in your own words;
- b. Assist team-mates in heterogeneous groups to learn the assigned knowledge and skills;
- c. Value the diversity of cultural experience and opinion; protecting differences and seeking similarities;
- d. Internalize the values and skills of this course in a way that significantly improves your ability help real people deal with real management issues.

By satisfying these objectives, students will create broad conceptual knowledge and adaptive vocational and generic skills that can readily be transferred from a classroom to a workplace environment. Throughout the course, special emphasis will be placed on five learning outcomes – critical/creative thinking, literacy, global understanding, communication, and professional/ethical behaviour.

Course Resources

- Textbook:** For lectures there is no required text; we will be using articles from the scientific literature.
- Courselink:** This course will make use of the University of Guelph's course website on D2L (via Courselink). Consequently, you are responsible for all information posted on the Courselink page for BIOL*4500. Please check it regularly.
- PEAR:** This course will make extensive use of the University of Guelph's Peer Evaluation, Assessment and Review (PEAR) website for student submissions and review of drafts for the Individual Case Studies. Please make sure that you are successfully able to login to PEAR, and have reviewed the PEAR Tutorial for Students.
<http://www.uoguelph.ca/peartool/>
- Calendar:** Information about the University of Guelph's procedures, policies and regulations, which apply to undergraduate programs can be found at:
<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/>

Course Structure

This course is based on the principles of active collaborative learning; as such it is not a typical lecture-based university offering. Collaborative learning is an instructional strategy by which students work in small groups toward a common scholarly goal. For the purposes of this course, students will learn through a combination of Team Assignments and Individual Case Study.

Team Assignments: Students will participate in heterogeneous teams, working as a group to ensure that all members understand the relevance of themes – especially as it relates to their Individual Case Study. Teams will work together to develop/deliver a professional presentation to the class on primary literature associated with a selected theme; this presentation will be evaluated by the Instructor.

Individual Case Study: Each student will select a real-world ecological issue/conflict in Canadian natural resource management as a case study to explore issues associated with each of the course themes. The individual case studies will be informed using a combination of personal communications with people directly involved in the issue, news articles/commentaries, and primary/technical literature. Students will submit written drafts of sections of their case studies that will be reviewed by other students, and reviewed/evaluated by the Instructor using the UG Peer Evaluation, Assessment and Review online system.

Tentative Class Schedule

<i>Week</i>	<i>Date</i>	<i>Topic</i>
1	06 Jan 08 Jan	Course Introduction, Team Formation Individual Case Study – Key Ecological Uncertainty
2	13 Jan 15 Jan	ICS - Key Ecological Uncertainty ICS - Introduction
3	20 Jan 22 Jan	ICS - Introduction Consultations Acts, Policies & Guidelines
4	27 Jan 29 Jan	Acts, Policies & Guidelines Team Presentations: Canada/Ontario APGs
5	03 Feb 05 Feb	ICS-APG Consultations Knowledge Systems: General and Science
6	10 Feb 12 Feb	Knowledge Systems: Indigenous and Local Team Presentations: Science-Indigenous/Local KSs
Winter Break	17 Feb 19 Feb	No class No class
7	24 Feb 26 Feb	ICS-KS Consultations ICS-KS Consultations
8	03 Mar 05 Mar	Management Strategy Evaluation Management Strategy Evaluation
9	10 Mar 12 Mar	Team Presentations: MSE Team Presentations: MSE

10	17 Mar 19 Mar	ICS-MSE Consultations ICS-MSE Consultations
11	24 Mar 26 Mar	ICS Final Report Preparation ICS –Final Consultations
12	31 Mar 02 Apr	ICS –Final Consultations Course Synthesis

Methods of Assessment

<i>Assessment</i>	<i>Value (% final grade)</i>	<i>Date</i>	<i>Learning Outcome (see above)</i>	<i>Course activity</i>
Team Presentation	20%	Varies	1a-d, 2a/c, 3b/d	Develop/deliver a professional presentation to the class on primary literature associated with a selected theme
ICS - Introduction	10%	22 Jan	1b	Submission of draft
	5%	25 Jan	3a/b	Review of other submission
ICS – Acts, Policies & Guidelines	10%	05 Feb	1a-e, 2a-b, 3c-d	Submission of draft
	5%	08 Feb	3a/b	Review of other submission
ICS – Knowledge Systems	10%	26 Feb	1b-d, 2b-d, 3c-e	Submission of draft
	5%	01 Mar	3a/b	Review of other submission
ICS – Management Strategy Evaluation	10%	19 Mar	1b-e, 2a-c, 3d-e	Submission of draft
	5%	22 Mar	3a/b	Review of other submission
ICS – Final Report	20%	02 Apr	1a-e, 2a-d, 3c-e	Submission of Final Report

Course and University Policies

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. 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>

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators.

This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible. For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: <http://www.csd.uoguelph.ca/csd/>

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of 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. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amicconduct.shtml>

E-mail Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly. E-mail is the official route of communication between the University and its students.

Drop Date

The last date to drop one-semester courses, without academic penalty, is the 40th class day. To confirm the actual date, please see the schedule of dates in the Undergraduate Calendar. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

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.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs:

<http://www.uoguelph.ca/registrar/calendars/index.cfm?index>

Attendance

If you are absent from classes during the semester, you will be expected to make up missed lecture and laboratory material on your own.

Grading

All assignments must be submitted electronically via the University of Guelph PEAR online system for review and evaluation. Any assignment handed in late will be penalized 20% for every day that it is late.

Campus Resources

If you are concerned about any aspect of your academic program:

- make an appointment with a program counsellor in your degree program.
<http://www.bsc.uoguelph.ca/index.shtml> or
<https://www.uoguelph.ca/uaic/programcounsellors>

If you are struggling to succeed academically:

- There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist.
<http://www.learningcommons.uoguelph.ca/>

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance.
<https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations.
<http://www.uoguelph.ca/~ksomers/>

If you have a documented disability or think you may have a disability:

- The Centre for Students with Disabilities (CSD) can provide services and support for students with a documented learning or physical disability. They can also provide information about how to be tested for a learning disability. For more information, including how to register with the centre please see: <https://www.uoguelph.ca/csd/>