

## GEOG/ENST 3022 Environmental and Natural Resources September – December 2018

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Office Hours: Monday and Wednesday, 10:00 – 11:30

Timetable: Monday and Wednesday, 8:35 – 9:55  
Room 417, Southam Hall

### Description

We depend upon the natural world for the many resources that help maintain the standard of living we enjoy today. However, our seemingly insatiable appetite for these resources is driving us towards an environmental crisis.

Once the domain of economics, today's resource and environmental management strategies are increasingly interdisciplinary. Over the past half century, resource and environmental management has evolved from concepts of multiple use and integrated watershed management to integrated resource management, regional land-use planning and ecosystem-based management, and finally to integrated resource and environmental management. A theme that resonates through these various approaches is an environmental sensibility. However, have environmental concerns truly gained equal standing in decisions concerning resource extraction and use alongside economic and political concerns?

This course is designed to combine the theoretical with the pragmatic, seeking to integrate ideas about integrated resource and environmental management with the practical approaches and methodologies used professionally today. The course consists of weekly lectures introducing various ideas and approaches used in resource and environmental assessment, and weekly workshops in which you will apply the ideas and practices presented in lectures.

This course is a pre-requisite for GEOG/ENST 4003 Environmental Impact Assessment.

### Course Textbook

There is no text book for this course.

## Week

## Outline -- Topics and Debates

Sept 5	Scope and Nature of Integrated Resource and Environmental Management (IREM): An Introduction to the Course.
Sept 10	Introducing approaches to managing resources and the environment. <i>Workshop 1: How to produce a proposal. Introducing the project.</i>
Sept 17	What forms of management are appropriate for managing our resources and environment? <i>Workshop 2: Defining and organizing issues. How to go about defining a study area.</i>
Sept 24	How do you frame resource and environmental issues in assessment models? <i>Workshop 3: How to frame your study. Modeling options for your assessment.</i>
Oct 1	Who should be included in decisions concerning the use of natural resources and the protection of the environment? How do you build a consensus? <i>Workshop 4: How to approach public participation.</i>
Oct 8	No class Monday. How do you incorporate the future into IREM through visioning? (Wednesday)
Oct 15	<i>Workshop 5: How to approach the issue of future visioning in your proposal. (Monday)</i> Summary discussion of the opening part of an IREM. (Wednesday)
Oct 22	<b>Fall break. No class.</b>
Oct 29	How do you approach the biophysical ('natural') environment? <i>Workshop 6: Mapping out biophysical assessments of an IREM.</i> <i>Submission:</i> Draft of Sections 1 through 5 is due before <u>Monday</u> class.
Nov 5	Can IREM benefit from the integration of formal and informal knowledge? <i>Workshop 7: What knowledge(s) should you use in resource and environmental management?</i>
Nov 12	How can you incorporate environmental justice into IREM decisions? <i>Workshop 8: Incorporating environmental and social justice into an IREM.</i>
Nov 19	Who is best suited for assessing and monitoring our impacts on the environment? How do you approach the environment? <i>Workshop 9: How should you approach monitoring, evaluation, and implementation?</i> <i>Submission:</i> Draft of Sections 6 through 8 is due before <u>Monday</u> class.
Nov 26	Putting it all together. <i>Workshop 10: Guidelines for producing a professional proposal. Conclusion section.</i>
Dec 3	Unorthodox approaches to IREM.
Dec 5	<i>Submission:</i> Draft of Sections 9 and 10 is due before <u>Wednesday</u> class.

## Class Organization

This course consists of two 1.5-hour classes weekly. The Monday class will be a formal lecture, introducing the ideas and component of IREM of that week. The Wednesday class will be a workshop based on the week's lecture. In the workshop you will be break into groups according to the project you have selected to work on. You will then brainstorm and work on the specific section of the proposal pertaining to the week's topic. I am realistic and do not expect you to attend all of the lecture classes. However, attendance for the workshop classes is mandatory and one percent will be deducted from your final grade for each class you miss. Furthermore, be aware that the final exam will be based solely on the formal lectures and not the case study.

## Deliverables and Grading

Course grading is based upon the two deliverables: the case study proposal and a final exam. Both deliverables are mandatory. Failure to complete either one of the tasks could result in the student failing the course.

### *The Case Study Proposal*

You will be required to choose between the three hypothetical proposals. These are presented in Appendix 1. The class will be evenly divided into these three proposal topics. You will be building your proposal during the semester in the weekly workshops. We will be covering specific sections (or groupings of sections) each week using a case study to illustrate the application of ideas presented in the week's lecture.

This is the major deliverable of this course, worth 65% of your final grade. It is meant to introduce you to the pragmatic side of resource and environmental management. You will be expected to produce a detailed proposal of how you would go about undertaking an in-depth assessment of a proposal that will have both environmental and social impacts. The scope of this proposal is presented in Appendix 2 and an associated grading rubric in Appendix 3.

You will be required to submit three drafts which will be graded as outlined under grading. More importantly, you will receive feedback on your work. The deadlines are as follows:

- |   |                           |
|---|---------------------------|
| • Draft Sections of you Introduction, Issues, Study Area(s), Framework/Approach | October 29                |
| • Draft of Sections: Visioning, Public Participation, Knowledge                 | November 19               |
| • Draft of Sections: Implementation, Monitoring, Evaluation, Conclusion         | December 5                |
| • <b>Final Proposal</b>   | <b>Day of Examination</b> |

## Grading

The grading of these components is as follows:

<b>Case Study Proposal</b>	<b>60%</b>
• Draft of Sections: Introduction, Framework, Study Area(s), Issues	15%
• Draft of Sections: Visioning, Public Participation, Biophysical, Knowledge	15%
• Draft of Sections: Implementation, Monitoring, Evaluation, Conclusion	10%
• Final Submission	25%
<b>Final Examination</b> to be announced	<b>35%</b>
<b>Total</b>	<b>100%</b>

## Grades

In accordance with the Carleton University Calendar, the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 56-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

WDN = Withdrawn from the course

ABS = Student absent from final exam

DEF = Deferred (See above)

FND (Failed, no Deferral) = Student could not pass the course even with 100% on final exam.

Final grades are subject to the Dean's approval.

## Deferred Assignments/Grades

Only official deferrals petitioned through the Office of the Registrar will be honoured. Students who are unable to complete a final paper or write a final examination because of illness or other circumstances beyond their control or whose performance on an examination has been impaired by such circumstances may apply within five working days to the Registrarial Services Office for permission to extend a term paper deadline or to write a deferred examination. Permission can be granted only if the request is fully and specifically supported by a medical certificate or other relevant documents.

## Drop/Withdrawal Date

Please refer to the 2018-2019 Undergraduate Calendar for the final day that one is permitted to withdraw from a fall term course.

## Written Assignments

If you feel you need assistance in improving your writing skills, you are encouraged to get in touch early in the term with the Writing Tutorial Service (Room 229, Patterson Hall, <http://www.carleton.ca/wts/>).

## Requests for Academic Accommodations

### For Students with Disabilities:

Students with disabilities needing academic accommodations are required to contact a coordinator at the Paul Menton Centre (PMC) to complete the necessary letters of accommodation. The student must then make an appointment to discuss their needs with the instructor at least two weeks prior to the mid-term exam. This is to ensure sufficient time is available to make the necessary accommodation arrangements.

### For Religious Observance:

Students requesting academic accommodation on the basis of religious observance should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student. Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance.

### For Pregnancy:

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

### **Academic Standing and Conduct**

Students must familiarize themselves with the regulations concerning academic standing and conduct in the 2018-2019 Carleton University Undergraduate Calendar.

### **Retain Copies of Work Submitted**

Students are strongly advised to retain a hard copy (and electronic backup) of all assignments and term papers in the event of loss for whatever reason.

### **Student Life Services**

Student Life Services, located in Room 501 of the Unicentre, offers a wide range of programs and services to assist students in adjusting to academic life, in improving their learning skills, and in making academic and career decisions.

### **University Regulations Regarding Cheating and Plagiarism**

University regulations stipulate that any allegation of plagiarism, cheating or violations of examination conduct rules will be thoroughly reviewed. Each case must be reported to the Dean, who investigates each allegation. If there is no resolution following this investigation at the Dean's level, a tribunal will be appointed by the Senate to review the case and make a final decision.

Note on Plagiarism: Webster's Dictionary defines plagiarism as stealing. Plagiarism is the submission of someone else's writing/ideas/work as your own. All ideas presented which are not your own must be properly referenced. While forms of plagiarism may vary, each involves verbatim or near verbatim presentation of the writings or ideas of others' as one's own without adequately acknowledging the original source. Plagiarism includes (but is not limited to) copying from a book, article or another student, downloading material or ideas from the Internet, or otherwise submitting someone else's work or ideas as your own.

## Appendix 1. Choices for Your Proposal

You are to select one of the following hypothetical proposals and produce a proposed approach to undertaking a comprehensive resource and environmental evaluation of the proposal. You are not going to do the actual evaluation. You are simply going to outline what you would do and how you would go about doing this.

### *Proposal 1: Impacts of the Commercial Use of the 'Northwest Passage'*

As climate change continues to lead to the melting of the Arctic ice cap, the Canadian federal government has announced a call for proposals to examine the potential impacts of the opening of the 'Northwest Passage' to commercial shipping. This proposal is required to include an overview of potential issues associated with the opening of this passage through Canadian waters; an outline of how your firm would evaluate the potential environmental, social and cultural impacts of such activity; how your firm would organize effective and comprehensive monitoring and evaluation, public consultations (participation); and how you would implement your proposal (your timetable). This report's deadline is July 1, 2020. Your proposal is due the day of the final examination for the course.

### *Proposal 2: An Ethanol Fuel Industry for Ontario*

The Ontario provincial government has announced a call for proposals to examine the feasibility of creating an ethanol fuel industry in the province. This is seen as being a centre piece of a broader *Strategy for the Implementation of Green Energies*. This proposal is required to include an overview of potential issues and impacts associated with the creation of an ethanol fuel industry on both the province's agricultural sector and on fuel supply for Ontarians; an outline of how your firm would evaluate the potential environmental, social and cultural impacts of this new industry; and how your firm would organized effective and comprehensive monitoring and evaluation, public consultations (participation), and how you would implement your proposal (your timetable). This report's deadline is July 1, 2020. Your proposal is due the day of the final examination for the course.

### *Proposal 3: A Food Security Strategy for Canada's Cities*

As part of its *Future Urban Visions* series, The Canadian Association of Municipalities has announced a call for proposals to examine options available to large urban cities for ensuring food security. As people live increasingly in larger urban centres, both in Canada and globally, the dependable supply of basic necessities – including food, water and shelter – is becoming an increasingly serious concern. This proposal is required to include an overview of potential issues associated with strategies for increasingly local food security; an outline of how your firm would evaluate the potential environmental, social and cultural impacts of such activity; how your firm would organize effective and comprehensive monitoring and evaluation, public consultations (participation); and how you would implement your proposal (your timetable). This report's deadline is July 1, 2020. Your proposal is due the day of the final examination for the course.

A more detailed outline of the proposal, including all required sections, is provided in Appendix 2 and a grading rubric for the proposal is provided in Appendix 3.

## Appendix 2. The Organization of Your Proposal

Section
<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>• What is the project? Describe the project.</li> <li>• How does it relate to the bigger issue/context? What is that context?</li> <li>• How does the context influence the assessment?</li> <li>• Describe the scope of the issue. In this case, it is about energy supply. This is about placing the proposal in the bigger picture.</li> </ul>
<p><b>Scoping of Issues</b></p> <ul style="list-style-type: none"> <li>• What is the scale of impact of the proposal? Is it more than just the proposal? If it is more, then how much more and how can you estimate it?</li> <li>• What are the environmental, social, economic and cultural aspects of the proposed action/project?</li> <li>• What is the inherent complexity associated with the proposal?</li> <li>• What is/are the scale(s) of these issues?</li> <li>• How do you formulate the study area (or affected area)?</li> <li>• What type of planning environment exists?</li> </ul>
<p><b>Study Area(s)</b></p> <ul style="list-style-type: none"> <li>• What is the study area(s) of this project? Local, non-local; global</li> <li>• Is there a temporal issue associated with it?</li> </ul>
<p><b>Framework (Basic Principles)</b></p> <ul style="list-style-type: none"> <li>• What philosophical framework is appropriate? Sustainable development? Ecosystem management? Neither? Both? Another – political economy, political ecology, egocentrism, ecocentrism</li> <li>• What is the planning approach/planning situation associated with the proposal?</li> <li>• What is the appropriate planning model to use? (Consider the four planning models.)</li> <li>• What role will the precautionary principle take in your assessment?</li> </ul>
<p><b>Public Participation</b></p> <ul style="list-style-type: none"> <li>• How do you propose to secure the participation of people?</li> <li>• How will you identify the stakeholders?</li> <li>• At what points in your assessment do you propose to use public consultations?</li> <li>• How do you propose to enroll people into the project development and implementation? What activities will they assume?</li> <li>• What type of organization might you try to create?</li> <li>• What form(s) of dispute resolution do you propose to incorporate into your assessment? – adaptive environmental management; co-management</li> </ul>
<p><b>Future Visioning</b></p> <ul style="list-style-type: none"> <li>• What approach(es) to future visioning do you propose to use and at what stages?</li> <li>• How will you go about assessing alternatives?</li> </ul>
<p><b>Biophysical Assessment</b></p> <ul style="list-style-type: none"> <li>• What are the elements of a basic biophysical assessment?</li> <li>• How would you prioritize the biophysical issues identified in the scoping of issues?</li> <li>• At what stage of the assessment do you propose to initiate the biophysical assessments? How are these interrelated?</li> <li>• How important is the biophysical assessment in regards to the overall assessment?</li> </ul>

**Knowledge**

- What information do you need to assess the proposed project?
- Where/how might you obtain this information?
- Are there multiple forms of knowledge that are appropriate in the assessment of the proposed project?
- How might you access local knowledges (indigenous knowledge, traditional knowledge) – if deemed appropriate?
- How will you manage the knowledge?

**Monitoring**

- How do you propose to monitor the implementation of the proposed project?
- What indicators do you plan to use?
- Who will do the monitoring? If several, how will you coordinate this?

**Evaluation**

- How do you propose to evaluate the implementation of the proposed project?
- What indicators do you plan to use?
- Who will do the evaluation? If several, how will you coordinate this?

**Implementation**

- What steps do you propose to take in your assessment? Draw upon the EIA/SIA models for inspiration although you don't need to follow these religiously.
- Who will manage the implementation?
- At what stages will you conduct monitoring/evaluations?
- Will you approach adopt flexing or hedging?

**Report Quality**

- Quite simply, be professional.

### Appendix 3. Grading Rubric for Your Proposal

<p><b>Introduction</b>  <i>The introduction should include a description of the project, the purpose of the submission and how it is organized:</i></p> <ul style="list-style-type: none"> <li>• Is there an introductory statement?</li> <li>• Clear and concise description of the proposed project</li> <li>• Purpose of the submission</li> <li>• Organizational paragraph of your submission</li> </ul>	/10
<p><b>Scoping of Issues</b>  <i>What are the issues associated with the selected project? What will be the impacts of the proposed project? This is an important section in terms of grading so please invest time here. What follows will be determined by this section.</i></p> <ul style="list-style-type: none"> <li>• What issues will be considered in your assessment (both environmental and social)?</li> <li>• What contexts might you apply (e.g., geopolitical)?</li> <li>• What are the basic dynamics that you face in assessing the proposed project?</li> <li>• How do you propose to deal with these?</li> <li>• Have you explained why (the significance of each issue)?</li> </ul>	/20
<p><b>Study Area(s)</b>  <i>You need to define the study area or areas since the issues might cross different scales (spatial, social and temporal). You also need to include an overview of the study area, in the context of the proposed project.</i></p> <ul style="list-style-type: none"> <li>• Have you defined a study area(s)?</li> <li>• Is this study area consistent with the scope of the proposal?</li> <li>• Have you provided background on the sector?</li> <li>• Have you considered competing uses/interests?</li> </ul>	/15
<p><b>Framework (Basic Principles)</b>  <i>Have you stated:</i></p> <ul style="list-style-type: none"> <li>• The underlying philosophy for your proposal?</li> <li>• The planning approach that you propose to use?</li> <li>• The strategy to planning do you propose to use?</li> <li>• The planning model do you see using?</li> <li>• Explained why you have selected this suite of methodologies?</li> </ul>	/15
<p><b>Public Participation</b>  <i>In both our debates and class discussions we talked extensively about the importance of public participation and the various types of public commitment and involvement. Have you identified/described:</i></p> <ul style="list-style-type: none"> <li>• The range of stakeholders you will need to consider?</li> <li>• What form(s) of public participation you propose to apply?</li> <li>• When in the project assessment you propose to engage your identified public (stakeholders)?</li> <li>• How you propose to use them (in what capacity)?</li> <li>• How you propose to balance the competing interests of stakeholders in your assessment?</li> <li>• How you propose to resolve disputes?</li> <li>• WHY have you chosen the above approaches?</li> </ul>	/15

<p><b>Future Visioning</b>  <i>We looked at two basic groups of visioning tools. Which ones will you use and at what stage of your assessment will these be applied? What outcomes do you hope to achieve from these activities? Have you:</i></p> <ul style="list-style-type: none"> <li>• Identified what approach to visioning you propose to apply?</li> <li>• Identified what model or models of future visioning you propose to use?</li> <li>• Outlined how do you propose to use it and for what outcomes?</li> <li>• Explained WHY have you selected this (or these) approach(es)?</li> </ul>	/10
<p><b>Biophysical Assessment</b>  <i>We will be examining the basic requirements for a comprehensive biophysical assessment including the use of checklist.</i></p> <ul style="list-style-type: none"> <li>• Outline how you propose to prioritize the biophysical assessments.</li> <li>• Describe how you propose to coordinate these.</li> <li>• Describe how you propose to draw upon local and non-local experts, and how.</li> </ul>	/15
<p><b>Knowledge</b>  <i>Associated with who is included in a decision making framework is the question of the types of knowledge privileged in the process. Have you:</i></p> <ul style="list-style-type: none"> <li>• The forms of knowledge will you require?</li> <li>• How you will balance the competing forms of knowledge?</li> <li>• What the principle sources of the knowledge will be?</li> <li>• How will you address spatial and temporal scales influence the types of knowledge/information/data you require?</li> <li>• How you will fill any identified gaps in knowledge?</li> <li>• How you will address ongoing gaps in the knowledge?</li> <li>• How will this information be assembled and analyzed?</li> </ul>	/15
<p><b>Monitoring</b>  <i>Monitoring is an important component of any integrated resource and environmental management strategy. Have you:</i></p> <ul style="list-style-type: none"> <li>• Described the value of monitoring?</li> <li>• How you propose to monitor the impacts of the proposed project/program?</li> <li>• Who will assume responsibility to do so?</li> <li>• Identified at what stages do you see monitoring taking place?</li> </ul>	/15
<p><b>Evaluation</b>  <i>Have you:</i></p> <ul style="list-style-type: none"> <li>• Described how you propose to evaluate the impacts of the proposed project/program?</li> <li>• Who will assume responsibility to do so?</li> <li>• At what stages do you see evaluation taking place?</li> </ul>	
<p><b>Implementation</b>  <i>Draw upon the class dealing with EIA and SIA approaches to help you design your plan. Keep in mind that activities can run parallel to each other (e.g., public participation and knowledge gathering). Also remember that the process is not linear. Have you:</i></p> <ul style="list-style-type: none"> <li>• Provided an outline of how you plan to undertake the assessment itself?</li> <li>• What steps do you see yourself taking?</li> <li>• Have you included a flowchart indicating the major steps in your assessment approach?</li> </ul>	/10

<p><b>Report Quality</b></p> <p><i>I expect this report to be professional in its quality. It should be clearly organized and laid out. Have you included:</i></p> <ul style="list-style-type: none"> <li>• A cover page?</li> <li>• An abstract?</li> <li>• A table of contents?</li> <li>• A bibliography/ reference section?</li> </ul> <p><i>Is it:</i></p> <ul style="list-style-type: none"> <li>• Properly paginated?</li> <li>• Free of grammatical and typographical errors?</li> <li>• Are figures and illustrations properly titled and numbered?</li> <li>• Properly sourced and referenced (except for materials drawn from the lecture notes)?</li> <li>• Well-written, combining paragraphs and bulleted lists when appropriate?</li> <li>• Imaginative/creative in its vision?</li> <li>• Does it include photos and other visuals that support the written submission?</li> </ul>	/10
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