

Department of Environment and Resource Studies  
Faculty of Environment  
University of Waterloo

## ERS 315 Fall 2014 Environmental and Sustainability Assessment II

Lecture: 10:30-12:20 pm, Mondays  
AL 211

**Instructor:**

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*Instructor Office Hours: TBD*

**TAs:**

TBD

*TA Office Hours: TBD*

Tutorial: TUT 101	Wed	4:30pm - 5:20 pm	HH 124
TUT 102	Thu	1:30pm - 2:20 pm	AL 210
TUT 103	Thu	1:30pm - 2:20 pm	HH 119
TUT 104	Wed	4:30pm - 5:20 pm	AL 210
TUT 105	Wed	4:30pm - 5:20 pm	HH 119

Readings: - Electronically-formatted Environmental Assessments (EAs) and associated documents will be posted on LEARN or assigned during lectures.

- Noble, Bram (2010). Introduction to Environmental Impact Assessment: a Guide to Principles and Practice, 2<sup>nd</sup> Edition. Don Mills, ON: Oxford University Press.

Course prerequisites: ERS 215 and ENVS 200

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### **Course Description:**

This course builds on what was introduced in ERS 215 about the several categories of EAs used in Ontario and Canada, and the common elements of EAs used worldwide, through the use of case studies and a simulated EA. Tutorial work will be semi-directed and self-guided.

The assumption in ERS 315 is that students are already familiar with the principles and basic design requirements of impact assessment and that they have some understanding of the role of impact assessment in planning, management, and regulation particularly for Ontario or areas under the jurisdiction of the federal government. The concepts introduced to you in ERS 215 and 315 are applied to a broader range of pursuits in the next course in the assessment series, ERS 415. ERS 215, ERS 315 and ERS 445 are all required courses for the Environmental Assessment Diploma.

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<sup>1</sup> When communicating via email, please identify the course (e.g. "ERS 315") in the subject line. Make sure to use your UW account. Gmail, Yahoo, Hotmail, among other non-UW domains, can be treated as spam by the university system.

## **Course objectives:**

For students:

1. To gain an understanding of the different categories of EAs (and methods used) through a case study approach.
2. To develop some of the tools necessary for conducting an EA through completion of a simulated EA (i.e., the scoping process).

## **Approach:**

Lectures will be used to provide an overview of key topics and also to highlight important themes. Key topics and themes will be elaborated on through in-class discussions and by regular attention to case studies. Assigned readings throughout the semester are critical for providing additional depth and breadth. Exams and assignments provide an opportunity for integrating key topics and themes, as well as for linking them with the broader scholarly literature on environmental assessment.

**Website:** <http://learn.uwaterloo.ca> (LEARN, ERS 315)

You will need to access the course website frequently, as some of the course material will be made available and managed through LEARN (Desire2Learn) only.

Readings are presented below ("*Lecture Schedule*") and additional material will be presented in class and/or made available through the course website or library.

## **Course and University Policies**

### **Attendance:**

Attendance in class is at your discretion. However, there is often extra content in the notes displayed in class vs. the notes posted on the course webpage (e.g., discussion points or questions asked, graphics-heavy images such as maps or diagrams), and **all in-class discussions are valid "testable" materials**. Also, all A/V materials (e.g., DVDs screened in class) are valid, "testable" materials, so complete notes should be taken for each lecture and each DVD screened. For these reasons, attendance at each lecture is HIGHLY RECOMMENDED.

### **Missed Tests:**

All tests are mandatory, and thus, every effort should be made to attend each test. The only exceptions to this are those students who have a valid medical reason, personal or family emergency, etc.:

1. *Valid medical reason such as illness or accident (appropriate proof such as a Doctor's note is required);*
2. *Personal or family emergency, death in the family, etc. (with suitable proof where possible);*

If you know in advance that you will not be able to make a test, please contact the instructor as far in advance as possible to discuss alternatives.

### **If you miss a test:**

1. Communicate to the instructor the reason you missed the quiz.
2. IMPORTANT! As soon as possible, please obtain a valid medical, counselor's or other 'proof of absence' note explaining the reason for your absence, degree of incapacitation, dates covered by the note, etc.
3. Please make a copy of this note and give the copy to your instructor by hand or scanned and sent by email (email to [dkirchho@uwaterloo.ca](mailto:dkirchho@uwaterloo.ca)).

**Note for students with disabilities:** The AccessAbility Office 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 the AccessAbility Office at the beginning of each academic term.

**Mental Health:** The University of Waterloo, the Faculty of Environment and our Departments consider students' well-being to be extremely important. We recognize that throughout the term students may 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 ([www.uwaterloo.ca/counselling-services](http://www.uwaterloo.ca/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, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

### **Religious Observances:**

Students need to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

### **Academic Integrity:**

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. Students who are unsure what constitutes an academic offence are requested to visit the on-line tutorial at: <http://www.lib.uwaterloo.ca/ait/>.

### **Discipline:**

A student is expected to know what constitutes academic integrity, to avoid committing academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71 - Student Discipline, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>. For typical penalties, check Guidelines for Assessment of Penalties, <http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm>

### **Grievance:**

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>. When in doubt please contact your Undergraduate Advisor for details.

### **Appeals:**

A decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 – (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should defer to Policy 72 (Student Appeals) <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

### **Consequences of Academic Offences:**

Students are strongly encouraged to review the material provided by the university's Academic Integrity office. See (<http://www.adm.uwaterloo.ca/infoacad/Students/index.html>).

### **University Policies: Plagiarism**

Please familiarize yourself with the University of Waterloo's policy dealing with plagiarism. Be especially careful when using materials from the internet, and be aware that software available to instructors can be used to check student submissions for plagiarism. Plagiarism offences are normally treated quite seriously by the University and can result in significant penalties being assessed (e.g. failing grade on an assignment, repeating a course, suspension or expulsion).

### **Definition of Plagiarism:**

*"The act of presenting the ideas, words or other intellectual property of another as one's own."*

*Source: University of Waterloo, Policy 71.*

**Turnitin:** Plagiarism detection software (Turnitin) may be used to screen assignments in this course. This may be done to verify that use of all materials and sources in assignments is documented. Students will be given an option if they do not want to have their assignment screened by Turnitin. In the first week of the term, details will be provided about arrangements and alternatives for the use of Turnitin in this course.

### **To Avoid Plagiarism**

The use of other people's work ***must be properly acknowledged and referenced*** in all written material such as assignments, take-home examinations, essays, research papers, laboratory reports, work-term reports, design projects, statistical data, computer programs and research results. The properly acknowledged use of sources is an accepted and

important part of scholarship. However, use of such material without complete and unambiguous acknowledgement is an offence under UW Policy 71.

**Quoting, paraphrasing, and summarizing** (source: <http://owl.english.purdue.edu/owl/resource/563/1/>)

These three ways of incorporating other writers' work into your own writing differ according to the closeness of your writing to the source writing.

- **Quotations** must be identical to the original, using a narrow segment of the source. They must match the source document word for word and must be attributed to the original author with page number.
- **Paraphrasing** involves putting a passage from source material into your own words. A paraphrase must also be attributed to the original source. Paraphrased material is usually shorter than the original passage, taking a somewhat broader segment of the source and condensing it slightly.
- **Summarizing** involves putting the main idea(s) into your own words, including only the main point(s). Once again, it is necessary to attribute summarized ideas to the original source. Summaries are significantly shorter than the original and take a broad overview of the source material.

**Unclaimed Assignments**

Unclaimed assignments will be retained until one month after term grades become official in Quest. After that time, they will be destroyed in compliance with UW's [confidential shredding procedures](#).

**EVALUATION:**

Your final grade will be based on an assignment and two in-class exams. The professor determines the content and establishes the grading rules for all assignments, tests, and any quizzes. The teaching assistants will assist the instructor with grading course work.

The first in-class exam is based on material covered in lectures and readings up to and including the class before the exam. The second in-class exam is focused on the second part of the course material. Both exams will include multiple choice and short answer questions. Students are expected to be present in class at the time tests are scheduled.

<b>Course Component</b>	<b>Percentage</b>
First in-class exam (Oct 19 <sup>th</sup> )	<b>25%</b>
Second in-class exam (Nov 30 <sup>th</sup> )	<b>25%</b>
Assignment (Dec 4 <sup>th</sup> )	<b>50%</b>

**Information on using Waterloo LEARN**

LEARN is a web-based course management system that enables instructors to manage course materials (posting of lecture notes, etc.), interact with their students (drop boxes for student submissions, on-line quizzes, discussion boards, course e-mail etc.), and provide feedback (grades, assignment comments etc.). The degree to which LEARN is utilized in a particular course is left to the discretion of the instructor and therefore, you may find a large variance in how LEARN is being used from one course to another.

**Logging Into LEARN**

Since LEARN is a web-based system, you will need a browser. Once you have started up your browser, type in the following URL: <http://learn.uwaterloo.ca>. Provide your Quest/WatIAM userid and password (case sensitive) to login. Once you have logged in, you should see a list of your LEARN courses under the Courses header bar. Clicking on the course name will take you to that course.

**Multimedia Notes (DVDs, Videos, in-class internet-based videos, etc.)**

Approximately 15% of course content is delivered through multi-media materials (DVDs, online audio or video clips), and ALL of this material is valid testing/quiz material. Therefore, each student should attend regularly and take comprehensive notes. If you miss a day when this material is shown, please arrange to obtain the notes from a classmate, and if possible, discuss these notes briefly with the note-taker. Most materials shown are the personal property of the instructor and some are available on the internet.

**Course Schedule (topics might span more than one class):**

Date	Topic	Readings	Tutorial
Week 1 14-Sept	<b>Intro to course:</b> <ul style="list-style-type: none"> <li>• Overview of Course</li> <li>• Overview of EA</li> </ul>	<b>Required Readings:</b> Course Syllabus	No tutorials
Week 2 21-Sept	<b>EA and systems thinking</b>	<b>Required Readings:</b> Waltner-Toews, D., and J. Kay (2005). The evolution of an ecosystem approach: the diamond schematic and an adaptive methodology for ecosystem sustainability and health. <i>Ecology and Society</i> 10(1): 38. [online] URL: <a href="http://www.ecologyandsociety.org/vol10/iss1/art38/">http://www.ecologyandsociety.org/vol10/iss1/art38/</a>  Kay, J. (2008). An Introduction to Systems Thinking. in Waltner-Toews, Kay and Lister (eds.) <i>The Ecosystem Approach: Complexity, Uncertainty, and Managing for Sustainability</i> . Columbia University Press. New York, pages 1-13 (on LEARN, week 2)	Topic: Getting started on your assignments
Week 3 29-Sept	<b>Monitoring and CEA</b>	<b>Required Reading:</b> Read the documents posted on LEARN – week 3	Topic: Discussion of activity and screening to discern whether an EA is required and why
Week 4 05-Oct	<b>Socio-economic impacts: tools and methods for assessment</b>	<b>Required Readings:</b> Read the documents posted on LEARN – week 4	Topic: Discussion on relevant legislation, RAs, EA triggers, and type of EA
Week 5 12-Oct	<b>Holiday – no class</b>		No tutorials
Week 6 19-Oct	<b>In-class exam</b>	<b>Content:</b> Week 1 - week 4	Meeting with TAs by appointment
Week 7 26-Oct	<b>Practice of EA: A practitioner's perspective</b>	<b>Required Readings:</b> Read the documents posted on LEARN – week 7	Meeting with TAs by appointment
Week 8 02-Nov	<b>Practice of EA: An Indigenous perspective</b>	<b>Required Readings:</b> Read the documents posted on LEARN – week 8	Meeting with TAs by appointment
Week 9 09-Nov	<b>EA in Brazil</b>	<b>Required Reading:</b> Kirchhoff, D. (2006). Capacity Building for EIA in Brazil: Preliminary Considerations and Problems to be Overcome. <i>Journal of Environmental Assessment Policy and Management</i> , 8(1):1-18 (on LEARN).	Meeting with TAs by appointment
Week 10 16-Nov	<b>Practice of EA: A Regulatory perspective</b>	<b>Required Readings:</b> Read the documents posted on LEARN – week 10	Meeting with TAs by appointment
Week 11 23-Nov	<b>Recovery plans from the 2011 earthquake disaster in Japan: A Sustainability Assessment perspective</b>	<b>Required Reading:</b> Read the documents posted on LEARN – week 11	Meeting with TAs by appointment
Week 12 30-Nov	<b>In-class exam</b>	<b>Content:</b> Week 7 - week 11	

## **ASSIGNMENT (50% of final grade – Due December 4th)**

In this **individual or group (3 people max.)** assignment, you will select and carry out a portion of work on a specific project related to EA. No primary data collection will be required for this assignment. In this simulation, each individual or group will act as a **CONSULTING COMPANY** working on an EA. Each person or group will decide which project he/she/they will be working on for the assignment.

**This assignment is designed to give the student an opportunity to:**

1. Select an appropriate and agreeable topic for an EA scoping exercise
  2. Become familiar with the basic and general concerns of scoping
  3. Design/conduct part of an EA with respect to the scoping stage
  4. Produce a written report
- **Length:** The maximum page length for the assignment is 12 pages if it is done individually or 20 pages if done by more than one person (excluding title page, reference list page, tables and figures), double spaced. Extra pages will not be read.
  - **Deadline:** **Electronic copy (MS Word file):** December 4<sup>th</sup>, 11:59 p.m. (LEARN dropbox).
  - **IMPORTANT:** You should present your papers in an academic research paper format, based on adequate and appropriate reading and reflection, and it must acknowledge intellectual indebtedness through proper citations. Use the "*Writing Effective Essays and Reports*" booklet by Rob de Loë as guidance:  
[http://www.environment.uwaterloo.ca/u/rdeloe/writing\\_booklet/twopage\\_format.pdf](http://www.environment.uwaterloo.ca/u/rdeloe/writing_booklet/twopage_format.pdf)

### **Required format:**

- Your assignment must have a plain title page with the title of your assignment, your name, course number (ERS 315), the date, your student number, and the term instructor's name.
- Include your name & student ID number on each page (inserting this into a 'header' is the easiest way to go!).
- Please number all pages
- Typed/word-processed, with 1" margins.
- Double-spaced and 12 font (Times New Roman)
- Maps, diagrams and figures/tables are optional, but appreciated. If included, should be at the end of your assignment, starting on a separate page.
- There must be a minimum of **4 properly formatted references**.
  - One reference will be the Project Description document. Statements in the assignment must be supported by the literature. Only articles cited in the text are to appear in the Literature Cited section.
  - Wikipedia **should not** be used as reference.
  - The **APA reference** format should be used for all references, including websites (for info on using the APA style, see <http://reference.uwaterloo.ca/display.cfm?categoryID=15&catHeading=Citation%20/%20Style%20Guides#Allstyles:RefWorks>)

## **MAIN STEPS:**

### **Step 1: Choose a project**

**Topic selection.** Begin by identifying what possibilities are available and of interest as a project topic and select one for analysis. A short list of possible topics is given below and tutorial members are encouraged to make their own suggestions; however, the project must be concrete and set in a Canadian geographical location. The project must be at the Project Description stage (not completed), since the idea is that you will be performing the scoping of your chosen project.

### **POTENTIAL SCOPING PROJECT TOPICS**

- PDF files will be available on LEARN

**Step 2: Screening (Ontario and Federal EA Legislation; note – you may choose a project outside of Ontario, but screening and other parameters may differ)**

- Determination of whether the action is subject to an EA under the regulations or guidelines present and why, and if so what type of assessment is required

**Step 3: Scoping and Alternatives**

- Identify important issues to be considered
- Appropriate space and time boundaries of study
- Identify feasible alternatives

**Step 4: Identifying Valued Ecosystem Components (VECs)**

**Step 5: Complete Impact Matrix to describe possible impacts**

**Step 6: Discuss impact significance of chosen project**

***REQUIREMENTS OF THE SCOPING REPORT:***

*1) Describe the Proposed Activity*

- Briefly describe project actions associated with the constructions and operation of the proposed undertaking (for example, site clearing, pit constructions, blasting, etc.)
  - a) Proponent – provide information about the company/organization or governing body
    - i. Who are they?
    - ii. What is their mandate or industry sector?
  - b) Proposed location of activity
    - i. Provide the basic geographical and political boundaries of the activity, provide a map.
  - c) Interested publics
    - i. Preliminary identification of likely affected and interested publics for consultation
  - d) Additional information you find relevant

*2) Relevant legislation and associated governing bodies.*

- a) Does the activity fall under EA legislation?  
If yes, what type (e.g., Provincial – class EAs, individual EAs; Federal –review panel EAs)?
- b) What governing bodies will be reviewing the EA (e.g., CEAA, NEB) and why (i.e., what permits and licenses are required)?

*3) Scope Project Alternatives*

- a) Begin to describe possible alternatives (alternatives to the proposed undertaking as well as alternative means to undertake the project)

*4) Identify VECs*

- a) Brainstorm and draft a preliminary list of potentially affected VECs (aprox. 10 or so) related to the proposed project

*5) Shortlist VECs and complete Impact Matrix to discuss/describe impact significance of chosen project*

- a) Choose 5 VECs from your list of identified VECs, briefly explain why those 5 are most likely to be affected, and then use them to complete an impact matrix;
- b) Complete an impact matrix characterizing the potential impacts of the proposed project on the affected VECs (similar to figure 6.4, page 97 (Noble, 2010), but applied to your chosen topic); template posted on LEARN;

*6) Discuss impact significance of proposed project on VECs based on impact matrix produced.*

## 7) Sign Assignment Checklist

- Make sure you read and sign the assignment checklist form (at the end of this document) and include it with your assignment

NOTE: It is critical to provide **evidence** throughout your paper. Thus, you will need to cite all ideas, facts/dates, identified trends, etc. that are not yours throughout your paper. Papers written without reference to appropriate evidence **will have marks deducted**. It may be helpful to think of writing your paper like a lawyer argues a court case: a systematic presentation of documented evidence that eventually convinces the 'jury' (i.e., the reader) to believe you.

### **Helpful Online Resources for assignment:**

- Canadian Environmental Assessment Agency: <http://www.ceaa.gc.ca>
- International Association for Impact Assessment: <http://www.iaia.org>
- Journal of Environmental Assessment, Policy and Management: <http://www.worldscinet.com/jeapm/>
- Impact Assessment and Project Appraisal: <http://www.ingentaconnect.com/content/tandf/iapa>
- Environmental Impact Assessment Review:  
[http://www.elsevier.com/wps/find/journaldescription.cws\\_home/505718/description](http://www.elsevier.com/wps/find/journaldescription.cws_home/505718/description)

Peer-reviewed articles from the above Academic Journals (JEAPM, IAPA and EIAR) can be accessed through UW's Library website: <http://sfx.scholarsportal.info/waterloo/az>

### **Assignment Grading:**

- Evaluation of assignments takes into account organization, structure, style and presentation, research, quality of analysis and content. Writing quality and content are both considered in grading.
- Students are expected to present well organized and properly written work. Penalties of up to **20%** may be applied in cases where readability and/or clarity are considered inadequate.

### **Lateness penalty:**

- All assignments are due on the date set by the professor. To be fair to students who hand in their assignment on time, late assignments will be penalized. The first day an assignment is late brings about a **15% penalty**. A cumulative **5% penalty** is assessed for each additional late business day. A student's assignment more than one week late will not be accepted and a grade of 'zero' will be recorded for that assignment.
- Any requests for extension without penalty must be made in writing in advance of the assignment due date. The instructor reserves the right to waive this deduction if the following prevents the student from handing in an assignment on time:
  1. Valid medical reason such as illness or accident (appropriate proof such as a Doctor's note is required);
  2. Personal or family emergency (with suitable proof when possible);
- Please ensure that you are diligent in **backing up computer files** of all assignments, as computer/disk failures, printer problems, etc., will not be considered a valid reason to waive the late assignment deduction.

### **Handing in your Assignments:**

- You are responsible for making sure that your professor receives your work.
- **Lost or misplaced assignments:** It is your responsibility to keep a copy of your work. Excuses are not accepted in the case of lost or misplaced work.

### **Tips/Hints:**

- Begin well in advance of the deadline – last minute work is usually obvious to markers.
- As you write, use the concepts, language and ideas presented in lecture materials as a source of inspiration/discussion in your assignment.
- Create sub-headings for each of the main sub-sections (you can remove these or keep these later...they are intended as a guide to writing to ensure you address each sub-section!).
- Cite all materials/information you obtain from sources other than your own personal knowledge. The **APA reference** format should be used for all references, including electronic sources.
- Don't forget to include personal knowledge and 'brainstorming' in your analysis – it's a very powerful way to personalize your writing.
- Proofread and spell-check your work before submission.



The following student signed Checklist was developed by the University of Waterloo Secretariat as a means of emphasizing the importance of attribution of referenced work and reducing plagiarism. **Please read, sign, and hand in with your assignment.**

### Group Work

Please read the disclosure below following the completion of your group assignment. Once you have verified these points, hand in this signed disclosure with your group assignment.

1. All team members have referenced and footnoted all ideas, words or other intellectual property from other sources used in the completion of this assignment.
2. A proper bibliography has been included, which includes acknowledgement of all sources used to complete this assignment.
3. This is the first time that any member of the group has submitted this assignment or essay (either partially or entirely) for academic evaluation.
4. Each member of the group has read the full content of the submission and is assured that the content is free of violations of academic integrity. Group discussions regarding the importance of academic integrity have taken place.
5. Each student has identified his or her individual contribution to the work submitted such that if violations of academic integrity are suspected, then the student primarily responsible for the violations may be identified. Note that in this case the remainder of the team may also be subject to disciplinary action.

Date: \_\_\_\_\_

Name (print)	Signature	Section Contributed	Section Edited

### Individual Work

#### Assignment Checklist

Please read the checklist below following the completion of your assignment. Once you have verified these points, hand in this signed checklist with your assignment.

1. I have referenced and footnoted all ideas, words or other intellectual property from other sources used in the completion of this assignment.
2. I have included a proper bibliography, which includes acknowledgement of all sources used to complete this assignment.
3. This assignment was completed by my own efforts and I did not collaborate with any other person for ideas or answers.
4. This is the first time I have submitted this assignment or essay (either partially or entirely) for academic evaluation.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

UW-ID# \_\_\_\_\_