ERS 341: Restoration and Conservation Practice - Spring 2019

Instructor:
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TAs:
TBA

Course Location: University of Waterloo Campus, City of Waterloo, and Bluewater Outdoor Education Centre (BOEC), Wiarton

Course Dates: The course formally runs the entire spring term – however, the bulk of the course (field skills) occurs during the block period of July 2nd – 19th, 2019. A calendar will be posted to LEARN prior to the beginning of the course.

Additional Course Fee: $577.84 plus 75.12 (HST) = 652.96 Paid to the University. This fee is in addition to the normal per course fees set by the Province and the University; it pays for all transportation to all field sites, accommodation, lunch and dinner at BOEC and training programs. It does not include breakfast and snacks while at the BOEC.

**Please note that normally there will be no refunds of the course fee if a student drops the course. The reason for this is that provincially accredited certifications require a guaranteed number of students present to run, and accommodations are booked well in advance. If extenuating circumstances apply, decisions on refunds will be rendered by the Associate Director of Undergraduate Studies, School of Environment, Resources and Sustainability.

Course Description:
The work of environmental technicians can be demanding and intense with long periods of field work and high expectations. This course will simulate a workplace atmosphere, where the student will act as field/lab technician to collect and analyze data over a three-week period. Students will be involved in projects related but not constrained to vegetation inventories; soil surveys; mammal, bird and insect assessments; restoration planning; and socio-ecological studies. Students will also gain skills in wilderness first aid and be introduced to edible and medicinal plants. Success in this course is dependent on the students meeting the deliverables and working efficiently with their community partners and peers.
**Intended Learning Outcomes:**

1. Independently collect and analyze large volumes of data
2. Apply the use of provincially recognized field protocols
3. Develop a methodological and data report specific to the needs set by the client/instructor
4. Effectively communicate with community partners and course instructor

**Required Textbooks:**

*Shrubs of Ontario* - Available as courseware from campus bookstore

*Trees of Canada* – You can either buy your own copy (a good idea to have a personal copy of this book) or you can sign one out from the Ecology Lab (limited numbers)

*Newcomb’s Wildflower Guide* - You can either buy your own copy (a good idea to have a personal copy of this book) or you can sign one out from the Ecology Lab (limited numbers)

**Course Process:**

The Province mandates that this course is open during the entire term. However, the major portion of this course will run from *July 2nd, 2019 - July 19th, 2019.*

MANDATORY ETHICS TRAINING REQUIRED PRIOR TO THE BEGINNING OF THE COURSE. Each student must complete the Basic Field and Tissue Course (Theory; AR0009). This will be available on LEARN once you have signed up for the course. Information on the course is available at https://uwaterloo.ca/research/office-research-ethics/research-animals/pre-submission-and-training

Students must fill out the following forms and hand them into the instructor on *July 2nd* during our safety training: (these forms will be posted on LEARN)

1. **UW ACKNOWLEDGEMENT OF RISK AND RESPONSIBILITY FORM**  

2. **UW EMERGENCY INFORMATION FORM.**  

3. **FACULTY OF ENVIRONMENT FIELD TRIP FORM**  
**Additional Course Information:**

Field skills courses are physically demanding and will include long days. We will be going outside in all weather conditions. A few required supplies are listed below:

- Backpack to carry everything in the field
- Field books listed above
- Book for field notes, pens and pencils
- Work gloves
- Boots for wet and muddy areas
- Water bottle
- Insect repellant/ bug jacket
- Clothing: hat(s), sunglasses, good field clothes (canvass or similar pants are good), clothes that are neutral rather than blue are best (blue tends to attract insects), long sleeved shirts, rain gear, a good pair of hiking boots with ankle support
- Sunscreen (SPF 30)
- It is a good idea to have some personal medical supplies on hand (band-aids, polysporin, aloe vera)
- Pillow, sleeping bag and any personal items for overnight field trip to BOEC
- Snacks and bagged lunches for each day of field work while on campus and for any day trips
- Snacks and breakfast items for overnight field trip to BOEC.

**Any students with severe allergies or reactions to certain plant oils, insect stings, etc. need to take precautions ahead of time (e.g. Epipen) and alert TAs and Instructors on the safety form.**

**Course Evaluation**

Students will work in both terrestrial and riparian environments in this course. Our focus will be on key aspects of restoration and conservation practice. Each student will have a chance to participate in all projects. You will be expected at times to work independently and as a group, and work collaboratively with research partner organizations to produce key project deliverables.

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<th>Assessment</th>
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<td>Final Report</td>
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<td>Field Notes</td>
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Individual Final Assignment (30% of grade)

Due: August 16th by midnight on LEARN

During the course, there will be several lectures and group discussions on different aspects of environmental restoration. You will be given the opportunity to undertake an interesting assignment to demonstrate knowledge you have gained from the course by creating a unique restoration plan. The course instructor will review the assignment expectations and provide guidance. You will use your course notes, bibliography, library resources, scientific journals, environmental assessment reports, datasets, maps, web resources, and your own experiences. Make sure to acknowledge your sources of information and assistance; usual UW policy applies.

Field Notes (20% of grade)

Due: July 26th by 5pm

Each student is required to create and maintain a comprehensive set of field notes in addition to data sheets which will be submitted at the end of the field portion of the course. Field notes should include data on weather conditions, geographic locations, dates, environmental data collected and any observation or any ideas that you feel are important. Field Notes will be marked on their comprehensiveness and effectiveness. Notes may be submitted as original handwritten notes, though they can be transcribed by the student to digital format if they are likely to be illegible. It is useful to purchase a good quality field notebook (waterproof paper) with a set of pencils (a normal pen will run if rained on) and a good small sharpener or a set of waterproof pens; it is useful to have a protected clipboard to shield it from rain. In a pinch, a large size Ziploc type freezer bag is useful.

Participation and Professionalism (20% of grade)

Students are expected to attend each day of class. Any missed days must be discussed with the instructor prior to the field day in question. You are expected to actively participate in each restoration and conservation project. Students are expected to act in a professional manner towards not only fellow students, TAs and instructor(s) but also towards all community members and partners. Conduct on the site is also important (e.g., minimizing disturbance to soil vegetation, keeping equipment in good order). All of these considerations will be used to determine your mark for participation and professionalism.

Clarity and Accuracy of Data Collection and Entry (20% of grade)

Due: July 19th by midnight on LEARN

Students will be collecting and entering data during field component of this course. We will expect data to be gathered with reasonable efficiency and team organization; accurate, legible,
and neat, per desired formats, and kept in good order. Your data entry and field work will be marked on accuracy, detail and the correct use of sampling methods. Your instructor and the community partners will supply the methodology for collecting and entering this data. Consistent and accurate data entry is a vital part of restoration and conservation projects and for the future monitoring of sites. Students will submit all data in the format specified by the instructor by midnight on LEARN on the last day of field work (July 19th). More detailed instructions will be given by the instructor as the course begins.

**Experiential Learning Reflection (5% of grade)**

**Due: August 9th by midnight on LEARN**

You will be assessed on your general experience in our learning community, your cooperative performance in the field, your conscientious participation as a member of the field research team, your contribution to maintaining the camp and necessary activities, and any special creative touches or contributions. To assist us in doing this, we ask you to submit 2 short statements. One, no more than one page long (single spaced), should list your contributions to the course. The second, up to two pages (single spaced), should reflect on your learning outcomes. Learning outcomes can be varied, from the methods and techniques you have learned, experiences in the field, working in teams, coming to appreciate nature, learning to observe, etc. Some students in the past have had quite transformative experiences.

**Quizzes (5% of grade)**

Several quizzes will be used to evaluate student learning both before and during the fieldwork component of the course. Subjects will include restoration and conservation fundamentals, key concepts, and taking good field notes. The purpose of these assessments is to put everyone on the same page and help you succeed in the course. These quizzes and any required materials will be available on the course LEARN page.

**Course Policies**

**Course Ethos**

We encourage curiosity and good observations: appreciation will be shown for such additional contributions. Naturally, we will make allowance for your need to learn through experience and there will not be unreasonable expectations. Be conscientious and try your best.

Don’t be afraid to ask questions. If unsure or confused – ask! Our paramount rule as instructors is that students must always be treated with respect and every question is welcomed without judgment. If you notice something interesting or curious, think about it and mention it to the instructors or your colleagues. Such observations can prove valuable.
Readability and Clarity:

Students are expected to present well organized, and properly written work. Penalties of up to 25% may be applied in cases where readability and/or clarity are inadequate.

Late Penalties

Students are responsible for handing their work in on time. A late penalty of a 10% deduction (off the final grade of the grade item) is given per calendar day (24 hours) up to three days. Following the third day the assignment will be graded as a zero. Only in unavoidable circumstances will extensions be granted, and must be given by the course instructor prior to the due date of the assignment, field notes, data sheets or quizzes.

Citation Format for Assignments

The citation format adopted for this course is the APA (American Psychological Association) style. The complete style outline can be found in the Publication Manual of the American Psychological Association, located in the reference section in Dana Porter Library, call number BF76.7.P83 1994.

Online you can find some quick references at the following URLs:


APA Crib Sheet - http://www.wooster.edu/psychology/apa-crib.html
Citing Electronic References - http://www.apa.org/journals/webref.html#Email
Frequently asked Questions - http://www.apa.org/journals/faq.html

Policies and Procedures:

♦ Students with disabilities: AccessAbility Services, located in Needles Hall, Room 1401, 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.

♦ Mental Health: The University of Waterloo, the Faculty of Environment and our Departments/Schools 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 https://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.
♦ Provincial Tests: Students will be expected to follow the rules of the provincial tests. Rules for testing at the University of Waterloo will not apply, nor will accommodations be made during these tests that fall outside the provincial rules.

♦ Religious Observances: Students will 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.

♦ Unclaimed assignments: Unclaimed assignments will be retained for one month after term grades become official in quest. After that time, they will be destroyed in compliance with UW’s confidential shredding procedures.

♦ Communications with Instructor and Teaching Assistants: All communication with students must be through either the student’s University of Waterloo email account or via Learn. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

♦ Intellectual Property: Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:
  • Lecture content, spoken and written (and any audio/video recording thereof);
  • Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides); Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

  Course materials and the intellectual property contained therein, are used to enhance a student’s educational experience. However, sharing this intellectual property without the intellectual property owner’s permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

  Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

  Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

♦ Academic Integrity: Each student will be asked to read and sign the Academic Integrity form below. We will go over on the first day of the course: 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. The University’s guiding principles on academic
integrity can be found here: http://uwaterloo.ca/academicintegrity ENV students are strongly encouraged to review the material provided by the university’s Academic Integrity office specifically for students: http://uwaterloo.ca/academicintegrity/Students/index.html Students are also expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for their actions.

Students who are unsure whether an action constitutes an offense, or who need help in learning how to avoid offenses (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. Students may also complete the following tutorial: https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial

When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline: https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance: https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70

Plagiarism: In particular, you should not plagiarize the work of others. Policy 71 defines plagiarism as: “The act of presenting ideas, words or other intellectual property of another as one’s own. The use of other people’s work must be properly acknowledged in all written material such as…essays, laboratory reports, design projects, statistical data, computer programs and research results. The properly acknowledged use of sources is an accepted and important part of scholarship. Use of such material without complete and unambiguous acknowledgement, however, is an offence under this policy.” Students are expected to keep a copy of all materials used to prepare assignments in case of disputed work and should be able to provide working notes and original data for any assignment within 4 hours of this being requested.

In the context of this course, plagiarism includes (among other activities) submitting without appropriate acknowledgement any report (or part thereof, including software, designs, photos, computer images, models, drawings, maps, statistics, samples, results of lab or field work etc.) which has been submitted previously to any course anywhere by any person, submitting a report in which the production has been shared by more than one student and each has submitted it as their own without acknowledgement of the other’s contributions, submitting any work created in whole or in part by another without the usual acknowledgement. Policy 71 states that one should not submit “an essay, report or assignment when a major portion has been previously submitted or is being submitted for another course with the express permission of all the instructors involved”. If in doubt, ask the course instructors or the teaching assistant if your intended assignment submission is acceptable.

All suspected academic misconduct are investigated and formally reported to the Associate Dean, Undergraduate of Faculty of Environment.

♦ Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than 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 refer to Policy 72 (Student Appeals) https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72
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. See Policy 70 - Student Petitions and Grievances, Section 4, https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70. When in doubt please contact your Undergraduate Advisor for details. This form may be used by course instructors as an educational tool to help their students maintain high standards of academic integrity (AI) in their work. Additional copies (as well as a version specifically for programming assignments) are available online at: https://uwaterloo.ca/academic-integrity/sites/ca.academic-integrity/files/uploads/files/AIAcknowledgementForm.pdf.

Students are expected to know what constitutes AI, to avoid committing AI offences, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offence, or who need 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, TA, 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

A student who believes that he/she has a ground to appeal a discipline decision should refer to Policy 72, Student Appeals, http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm
A student who believes that a decision or action of a faculty member has been unfair or unreasonable should refer to Policy 70, Student Petitions and Grievances, http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm