School of Environment, Resources and Sustainability
Faculty of Environment
University of Waterloo

ERS 341: Restoration and Conservation Practice - Spring 2018

Instructor:
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TAs:
TBA

Course Location: *rare* Charitable Reserve, Cambridge, Ontario

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 3rd – 20th, 2018.* A calendar will be posted to LEARN prior to the course beginning.

Additional Course Fee: *$136.25 plus 17.72 (HST) = 153.96 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 from the university to the field sites. It does not include meals; students will be responsible for their own meals.

**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 environment of environmental technicians is 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 for a client over a three-week period. Students will be involved in projects related but not constrained to aquatic bioassessments, vegetation inventories, soil surveys, invasive species management, water quality sampling/analysis and socio-ecological studies. Students will work with regional ecologists, local and provincial governments, and community partners to meet project deliverables. Success in

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[1] *When communicating via email, please identify the course (e.g. "ERS 340") in the subject line. Make sure to use your UW account.*

this course is dependent on the students meeting the deliverables, and efficiently working with their community partners.

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.
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)

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 with zip off legs 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 at least)
- It is a good idea to bring some personal medical supplies (band-aids, polysporin, aloe vera)
- Snacks and bagged lunches for each day of field work

**Any student 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 with *rare* Charitable Reserve over a three-week period to produce a set of specific deliverables as set by *rare* (details will be posted on LEARN). Students will spend a good part of three weeks working on two or more restoration projects as determined by *rare* and the instructor. Each student will have a chance to participate in all projects. You will be expected to at times work independently and as a group, but more importantly collaboratively with *rare* to produce key project deliverables.

Weekly Field Notes – 30%

(Due July 6th, 2018; July 13th, 2018; July 20th, 2018)

Each student is required to create and maintain a comprehensive set of field notes which will be submitted at the end of each week 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. Notes should include points on which project objectives have been completed to date, any communication *rare* representatives and general progress made in the project. You should also comment on the steps you will be taking in the following week to keep focused on moving the project's objectives forward. Field Notes will be marked on their comprehensiveness and effectiveness. Notes may be submitted as original handwritten notes (but this must be done by the end of the field day and directly to the instructor), though they can be transcribed by the student to digital format if they are likely to be illegible (these notes can then by submitted on LEARN by midnight of the due date set).

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 bad is useful. It is expected that you will include field notes from the certification courses.

You will submit your field notes for a total of **three** submissions. **Each submission (or weeks' worth of notes) is worth 10% of final mark**.

Late submissions will not be accepted. Any entry received after midnight on the due date will receive a zero grade. *It is recommended you keep a daily log in order to maintain efficiency of this exercise.*

Participation and Professionalism – 20%

Students are expected to attend each day of field work. 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 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 *rare* partners. All

of these considerations will be used to determine your mark for participation and professionalism.

Clarity and Accuracy of Data Collection and Entry – 20% Due July 20th, 2018

Students will be collecting and entering data for each restoration project. *Rare* 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 *rare* by midnight on LEARN on the last day of field work (July 20th). More detailed instructions will be given by *rare* and the instructor as the course begins.

Final Report as Determined by *rare* – 30%

- **First Edition: Due July 27th, 2018 (at Midnight on LEARN)**
- **Second Edition: Due August 3rd, 2018 (at Midnight on LEARN)**

The final report will be in lieu of a final exam. This will be a group project. Groups will be determined by the instructor. You may ask the instructor for a specific group given a key skill set that you may have to contribute. The final report will be a deliverable as set by *rare* and agreed upon by the instructor. Each deliverable will be based on the restoration projects that students worked on throughout the course. The type of report will vary from management plans for invasive species to GIS mapping of vegetation. Specific deliverables for the projects will be set out on the first day of class (July 1st).

** **You must submit your final report to your instructor by July 27th, 2018. You will receive feedback and then have the opportunity to address that feedback prior to the final deadline for submission on August. 3rd, 2018**.

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

All assignments, data files and in some cases field notes are to submitted online on LEARN and are due at *midnight* on the date indicated. Students are responsible for handing their work in on time. Field notes can also be handed in to the instructor *by 4:00 PM* on the date due. 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 or data file.

Assessment	Percentage of Final Grade
Weekly Field Notes	**30%**
Participation and Professionalism	**20%**
Clarity and Accuracy of Data Collection and Entry	**20%**
Final Report	**30%**

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 3rd – 20th, 2018* at *rare* Charitable Reserve in Cambridge, Ontario.

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

Field Work Risk Management Form must be filled out, signed and submitted to the Instructor prior to the first day of the course. This is available at https://uwaterloo.ca/safety-office/sites/ca.safety-office/files/uploads/files/fieldworkriskmanagementform_6.pdf

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 essentials - http://www.vanguard.edu/faculty/ddegelman/index.aspx?doc_id=796 and http://www.apastyle.org/

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 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