

**ERS 341 Restoration and Conservation Practice
Spring 2015
Waterloo Summit Centre for the Environment (University of Waterloo)**

Course Instructor:

Dr. Sam Mula
smula@uwaterloo.ca

Course Facilitator:

Dr. Colin N. Yates, PhD
cyates@uwaterloo.ca

**Please only contact Colin with questions relating to engagement of community partners as they pertain to your projects. All other course related information should be to the instructor.*

Teaching Assistant:

TA – To Be Announced

Course Fee: \$1535 (incl. HST)

*includes all certifications, accommodations, lunches and dinners, transportation for field trips.

**there will be no refunds of the course fee if the course is dropped. The reason for this is that provincially recognized certifications require a guaranteed number of students present to run, and accommodations are booked months in advance. If extenuating circumstances apply, refunds will be decided by the Environment and Resource Studies Department Chair.

***Note: All students will need to complete the AUPP Quiz which will be available on Learn the first day of the Spring semester. Failure to complete the quiz will mean you will not be able to perform any work with animals throughout the course.

Field Course Dates:

Daily July 7 – August 1st
(See attached calendar for detailed schedule)

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 four-week period. Students will be involved in projects related but not constrained to aquatic bioassessments, vegetation inventories, soil surveys, 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 this course is dependent on the students meeting the deliverables, and efficiently working with their community partners.

Course Objectives:

1. Independently collect and analyze large volumes of data.
2. Closely follow and report on the use of provincially recognized field protocols.
3. Complete a methodological and data report
4. Effectively communicate with community partner and course instructor

Course Evaluation:

Students will select a project they wish to conduct from a list of available projects occurring with collaborators at the Huntsville Summit Centre. Prior to commencing fieldwork students will have to design or cite the use of a common methodological protocol appropriate to the project they have selected. Students will then spend a good part of four weeks collecting and analyzing data for this project in order to produce a results and methodology report. You will be expected to work independently as a group, but more importantly collaboratively with your community partner.

Bi-Weekly Journal Entry – 30%

(Due May 15th, May 29th, June 12th, June 26th, July 10th, July 24th)

On LEARN students will submit bi-weekly journal entries that highlight the previous two weeks of their project work. These entries should include points on which project objectives have been completed to date, evidence of communication with your community partner, communication with the course instructor, and general progress made in the project. You should also comment on the steps you will be taking in the following two weeks to keep yourself focused on moving the projects objectives forward.

Each entry should be no longer than **500 words in length**. The entry should include specific dates that project items have been completed, or where/when communication took place with community partners or other relevant parties.

You are required to email your journal entries to your community partner when you submit it. Be sure to “cc” your TA on this email in order to achieve full marks.

You will make a total of six (6) entries. Each entry is worth 5% 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.*

Methodological Protocol – 20%

(Due June 5, 2015)

Methodology

Prior to the beginning of fieldwork students will be required to submit a proposal containing the methodology they require completing their selected project. The proposal should provide a detailed outline of the methods, which should include the parameters they will be measuring, the sampling strategy (number of samples, timing of sampling, potential means of selecting sites, etc.). Reference should be made to methods conducted in similar studies (i.e. peer reviewed articles), as well as standard protocols (e.g. OBBN sampling, Standard Methods for Water Quality Analysis). Included in the methods should be a brief rationale for your sampling design through the use of appropriate citations.

The proposal should be organized and concise; for some portions of the methods step by step details may be appropriate.

Be sure to consistently and clearly reference all sources of information and present them in an appropriate bibliography. Suggested citation styles are provided in Citation Format for Assignments.

Term Report – Methodology/Data/Analysis Report – 35%
(Due August 7, 2015)

The term report consists of four components contained within a single submission report: Field/lab notes, detailed methodology followed, data, and results from analysis conducted.

This report will expand on the methodology described in the methodological protocol, commenting on elements that were done in the field, and explaining any variation between the proposed and the undertaken steps. Methods should be concise, yet thorough. Methods should reference common methodological standards followed (e.g. OBBN, ELC, Standard Methods for Water Quality). Methods should also include how any data analysis was conducted. The methods should be clear enough that another individual could easily replicate your study. The report will contain all raw data results, presented clearly in appropriate tables and/or figures. Thorough site descriptions and map (with geo-referenced points) indicating the location of your sites are to be provided (if applicable). If appropriate, basic analysis of data should be conducted. For ecological data, indices of diversity should be adopted. Various descriptive statistics should be used for measures of such things as water quality, soil depths, DBH. If you have questions be sure to discuss them with the Course Instructor. You are not required to discuss what the results mean. But be sure that you have addressed all the deliverables/objectives as laid out in your projects contract.

Field/Lab Notes – 15%
(Due August 8, 2015)

Each student is required to create and maintain a comprehensive set of field/lab notes that will be submitted as part of the final report. Field notes should include data on weather conditions, geographic locations, dates, environmental data collected. Field notes should also include points from field trips. Lab notes should include information on data analysis, results, and methodology. Any other pertinent information should also be recorded. Notes will be marked on their comprehensiveness and effectiveness. Notes can be submitted as original handwritten notes with digital format if illegible to grader.

Handing in Assignments:

- Bi-Weekly Journal Entries: All assignments will be submitted through LEARN starting May 16th and ending July 25th.
- Methodological Protocol: Submit the methodology through LEARN on June 6th, 2015.

- **Submission of Term Report:** All term reports should be submitted to the Course Instructor by 4pm Friday August 8, 2015. Alternatively the report can be submitted to Patti Bester by 4pm Friday August 8, 2015. Make sure that you attach Academic Integrity Form appended at the bottom of the course outline. This is submitted as a hard copy only.
- **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. On the web 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>

Student Accommodations:

Students with Disabilities: The Office for Persons with Disabilities (OPD), 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 OPD at the beginning of each academic term. Then see the Course Instructor, Dr. Amanda Hooykaas, in confidence, during office hours to discuss your needs.

Religious Observances: Please 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.

Meals at the Summit Centre:

As part of course fees students will be provided catered lunches and dinners every day for the duration of the course. It is the responsibility of the students to provide for their own breakfasts. Students will be given time to go get groceries in the town. This is to be done during evening hours during the week and on days off during the weekends.

**Please fill out the form provided for food allergies and their severity.

Student Responsibilities:

Late Penalties: Students are responsible for handing their work in on time. 15% deduction is given per calendar day (of the total marks available) 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.

Academic Integrity:

A student is expected to know what constitutes academic integrity, to avoid committing academic offences, 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. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. 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.html>

Within ENV, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties which may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion.

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

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 Instructor or the Teaching Assistant if your intended assignment submission is acceptable.** All suspected academic infractions are investigated and formally reported to the Associate Dean, Undergraduate of FOE.

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals.

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.

List of Supplies Recommended for Students to Bring to Huntsville

Clothing

Please be sure to pack clothing suitable for the weather. Be sure to consider rain, sun, wind, and bugs when preparing your wardrobe. (Lightweight fast drying items that can be layered are best for field work)

- Bug and rainproof clothing
- Warm clothes that can be layered
- Cool clothes that are appropriate for the field
- Hiking/waterproof boots
- Running shoes, sandals
- Hat, bandana
- Sunscreen
- Swim clothes
- Hiking socks, undergarments

Equipment

- Backpack
- Pack cover
- Waterproof bags (dry-sack)
- Sunscreen
- Bug spray
- Water bottle
- Flashlight/headlamp
- GPS (if you have)
- Camera (if you have)
- Binoculars (if you have)
- PFD/lifejacket (if you have)
- Computer, charger
- Notebook, stationary, clipboard
- Field guide books
- Chest waders

Linen

Basic linen is provided however additional blankets, pillows, and room decorations can also be brought from home for your added comfort

- Towels
- Additional pillows or blankets

Basic Toiletries

- Soap, shampoo, etc.
- Hygiene products
- Toothbrush and paste
- Kleenex
- Medications, if necessary (EpiPen, inhalers, etc.) – these should be with you at all times.

Other Comforts

- Music and players
- Musical instruments
- Sports equipment
- Movies, books, games
- Tupperware for leftover meal storage
- Insulated lunch bag for the field
- Snacks

Meals at the Summit Centre

As part of course fees students will be provided catered lunches and dinners every day for the duration of the course. It is the responsibility of the students to provide for their own breakfasts. There will be times when it will be expected that you pack a lunch for a day's worth of field work. You will be expected to bring your own lunch bags and Ziploc bags/food containers. Students will be given time to go get groceries in the town. This is to be done during evening hours during the week and on days off during the weekends.

**Please fill out the form provided for allergies (and their severity) and medications.

Additionally please fill out the following form for other meal considerations:

Name: _____

Please list any dietary restrictions you have (i.e. vegan, vegetarian, and/or foods for religious observances):

Please submit this form to Patti Bester (EV2 2012) by April 6th, 2015. Failure to receive this documentation by the date request will result in limited meal selection to cater to your specific needs.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5 Arrival: 2-4pm WSCE	6 Morning: Safety Orienteering Field Work Starts	7	8	9	10	11
12	13 Field work	14	15	16	17	18
19	20 Field work	21	22	23	24	25
26	27 Field work	28	29	30	31 Field Work Ends Course Wrapup	

*Note: it is expected that students will be independently conducting field/ lab work throughout the four week duration of the field course. Instructors will be present to assist in the laboratory for analysis between 8:30am to 6pm daily. Students are also expected to schedule once per week meetings with the instructor to go over project progress. Sign-up sheets will be made available. Students wishing to schedule meetings outside the dates provided on the calendar will have to do so on an individual basis.