Faculty of Science Course Syllabus

Environmental Science

ENVS 3001 - Environmental Science Field School

Instructor: Dr. Susan Gass  email: susan.gass@dal.ca  Office location: LSC 809

Teaching assistants: Emilie English, Joanna Poltarowicz and Cody Walter

Times: August 21 – September 1, 2017

Course Description

Credit Hours: 3

Daily field trips introduce methods used in environmental science and environmental processes at diverse sites within Nova Scotia. Involves full-day trips from Halifax and a five day trip to Kejimukujik National Park. Offered during the last 2 weeks before Labour Day.

Course Prerequisites

ENVS 2100 and must be an ENVS student

Course Objectives/Learning Outcomes

• Demonstrate best practice for writing field notes
• Identify relevant ethical issues when conducting field research with wildlife
• Describe a range of field methods used to monitor biological populations
• Carry out standard methods used to describe forest ecosystems
• Use a taxonomic key
• Conduct CABIN Standard Field Procedures
• Use a compass and GPS
• Describe Species at Risk legislation in Canada
• Describe the benefits and objectives of Canada’s National Parks
• Work effectively in a team
• Analyze field data
• Oral communication

Course Materials

Readings will be provided on-line through Brightspace as well as in a course pack provided on the first day of class. All announcements and changes to the schedule will be posted on Brightspace.

***Please check the Brightspace site daily***

Course Assessment

• Quizzes: 10%
• Participation: 20%
• Tree ID Guide: 5%
• Orienteering challenge – 5%
• CABIN field notes and assignment – 5%
• Monitoring Species at Risk – 5%
• Field Notebooks: 20%
• Research project presentation and report: 30%

Quizzes – 10%

You will have 4 quizzes. Three are multiple choice and will test your knowledge of the assigned readings. A fourth quiz will test your ability to identify native coniferous trees.

• Quiz 1 Multiple choice – August 21\textsuperscript{th}
• Quiz 2 Multiple choice – August 22\textsuperscript{th}
• Quiz 3 Native Coniferous Tree ID field test– August 24\textsuperscript{th}
• Quiz 4 Multiple choice – August 26\textsuperscript{th}

Participation – 20%

Much of this course involves learning by doing and thus you must be actively participating in all of the course activities in order to learn as much as you can throughout the course. In addition, environmental scientists do not work in isolation; therefore working effectively with others is a valuable skill to develop. The following parameters will be assessed for the participation portion of the grade:
Participating willingly in activities and allowing others to participate
• Asking questions, responding to questions
• Being familiar with the readings
• Providing ideas, helping to solve problems
• Being punctual and courteous
• Being safe

Field Notebooks – 20%

The notes you take in the field are an extension of your memory. No matter how much you think you will be able to remember some of the remarkable observations made in the field, your memory fades with time. You field notebooks play an important role in recalling detailed information from the field, including specific data you collect, and they must be legible and organized so a colleague will also be able to interpret your notes. It is therefore extremely important to have well organized, detailed and thorough field notes. Your notes should demonstrate a clear understanding of the objective of the field excursion. They should provide details on the date, time location and weather associated with each stop that we make. You should provide a sketch and/or reference to photos for each site depending on which is more appropriate. Your notes should contain details on the procedures used during any data collection; relevant observations and data should be clearly and consistently recorded. Each exercise should end with a summary statement – try referring to the readings where appropriate, add in any yet unanswered questions, predictions, next steps or tips for next time. Your notebooks will be collected at the end of the field trip and given a grade based on the following criteria:

- Statement of purpose (4)
- Date, Time, Location, Weather (2)
- Selectivity (2)
- Methods (2)
- Sketch Maps/Photos (2)
- Summary statements/questions (4)
- Neatness/organization/consistency (4)
- Total /20

Field Assignments – 15%

There are three specific field assignments that you will hand in for marks:

1. Orienteering challenge (In pairs) – Due August 22nd
2. CABIN training (Individual) – Due August 25th
3. Species at Risk Monitoring – Due Wednesday August 30th – 10 am
Tree Identification Guide – 5%

Each student will create their own tree ID guide using a template that will be provided on the first day. The tree ID sheet is due on Thursday August 27th at the beginning of the day. We will make a colour copy and laminate your tree key and return it to you. You will be graded on whether you have identified the specimen correctly, the appearance of the sheet, and the accuracy of the information you have provided for each species. The description of each species should be based on your interpretation and hints or tips, in addition to more technical notes.

Field Research Project: Vegetation Plots – 30%

You will be assigned to a group of four students. Each group is responsible for collecting and recording field data on the four vegetation plots we visit. Each group will work up their data into a report which will be presented on the last day of field school. More details on the final assignment will be handed out in class. (30%)

Conversion of numerical grades to Final Letter Grades follows the

**Dalhousie Common Grade Scale**

- A+ (90-100)
- B+ (77-79)
- C+ (65-69)
- D (50-54)
- A (85-89)
- B (73-76)
- C (60-64)
- F (<50)
- A- (80-84)
- B- (70-72)
- C- (55-59)

Course Policies

**Attendance every day is mandatory.** A missed class is very serious and will require a doctor’s note. Each unexcused absence will result in a deduction of 15% from your final grade. Being late for class will also lead to deduction in participation marks, and we will not wait for late arrivals if we are leaving on a field trip.

**Quality of work**

Sometimes field school may feel quite informal but that does not mean that we do not expect a high level of achievement with each quiz/exercise/field notes. Please keep in mind that you are working towards becoming a professional Environmental Scientist, who will be an effective team member and a clear and accurate technical writer so now is a great time to practice these skills.
ACCOMMODATION POLICY FOR STUDENTS

Students may request accommodation as a result of barriers related to disability, religious obligation, or any characteristic protected under Canadian Human Rights legislation. The full text of Dalhousie’s Student Accommodation Policy can be accessed here: http://www.dal.ca/dept/university_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html

Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the Advising and Access Services Centre (AASC) prior to or at the outset of the regular academic year. More information and the Request for Accommodation form are available at www.dal.ca/access.

ACADEMIC INTEGRITY

Academic integrity, with its embodied values, is seen as a foundation of Dalhousie University. It is the responsibility of all students to be familiar with behaviours and practices associated with academic integrity. Instructors are required to forward any suspected cases of plagiarism or other forms of academic cheating to the Academic Integrity Officer for their Faculty.

The Academic Integrity website (http://academicintegrity.dal.ca) provides students and faculty with information on plagiarism and other forms of academic dishonesty, and has resources to help students succeed honestly. The full text of Dalhousie’s Policy on Intellectual Honesty and Faculty Discipline Procedures is available here:

http://www.dal.ca/dept/university_secretariat/academic-integrity/academic-policies.html

STUDENT CODE OF CONDUCT

Dalhousie University has a student code of conduct, and it is expected that students will adhere to the code during their participation in lectures and other activities associated with this course. In general:

“The University treats students as adults free to organize their own personal lives, behaviour and associations subject only to the law, and to University regulations that are necessary to protect

• the integrity and proper functioning of the academic and non-academic programs and activities of the University or its faculties, schools or departments;
• the peaceful and safe enjoyment of University facilities by other members of the University and the public;
• the freedom of members of the University to participate reasonably in the programs of the University and in activities on the University’s premises;
• the property of the University or its members.”

The full text of the code can be found here:


SERVICES AVAILABLE TO STUDENTS

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are free.

<table>
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<tr>
<th>Service</th>
<th>Support Provided</th>
<th>Location</th>
<th>Contact</th>
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<tbody>
<tr>
<td>General Academic Advising</td>
<td>Help with - understanding degree requirements and academic regulations - choosing your major - achieving your educational or career goals - dealing with academic or other difficulties</td>
<td>Killam Library Ground floor Rm G28 Bissett Centre for Academic Success</td>
<td>In person: Killam Library Rm G28 By appointment: - e-mail: <a href="mailto:advising@dal.ca">advising@dal.ca</a> - Phone: (902) 494-3077 - Book online through MyDal</td>
</tr>
<tr>
<td>Dalhousie Libraries</td>
<td>Help to find books and articles for assignments Help with citing sources in the text of your paper and preparation of bibliography</td>
<td>Killam Library Ground floor Librarian offices</td>
<td>In person: Service Point (Ground floor) By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time: <a href="http://dal.beta.libguides.com/sb.php">http://dal.beta.libguides.com/sb.php</a></td>
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</tbody>
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| **Studying for Success (SFS)** | Help to develop essential study skills through small group workshops or one-on-one coaching sessions  
Match to a tutor for help in course-specific content (for a reasonable fee) | **Killam Library**  
**3rd floor**  
Coordinator  
Rm 3104  
Study Coaches  
Rm 3103 | To make an appointment:  
- Visit main office (Killam Library main floor, Rm G28)  
- Call (902) 494-3077  
- email Coordinator at: sfs@dal.ca or  
- Simply drop in to see us during posted office hours  
*All information can be found on our website: [www.dal.ca/sfs](http://www.dal.ca/sfs)* |
| **Writing Centre** | Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster)  
- Learn to integrate source material into your own work appropriately  
- Learn about disciplinary writing from a peer or staff member in your field | **Killam Library**  
**Ground floor**  
Learning Commons & Rm G25 | To make an appointment:  
- Visit the Centre (Rm G25) and book an appointment  
- Call (902) 494-1963  
- email writingcentre@dal.ca  
- Book online through MyDal  
*We are open six days a week*  
*See our website: [writingcentre.dal.ca](http://writingcentre.dal.ca)* |