Field Ecology

I. Basic course information

Professor  Dr. Brendon Larson (www.brendonlarson.com)

Office hrs  i. Professor. I will hold weekly, synchronous office hours in TEAMS on Thursdays from 3-4 pm EDT (except July 1 holiday)

ii. TAs. TBD

Lectures & Labs  This course is offered asynchronously on a week-by-week basis. Lecture and lab material for each week will be made available by 11 am EDT each Monday.

Communication  If you have a question that applies to other students, please use the LEARN Discussion Forum. One of your classmates may answer your question, though we will monitor to facilitate timely, accurate responses. You may choose the ‘anonymous’ option for your posts (Connect/Discussions), as long as decorum is maintained.

If necessary, personal questions may be directed as follows:  
Admin: You may send questions related to dropboxes, late enrolment, and other administrative matters to your Admin TA, Laura Burke (ljburke “at” uwaterloo.ca), via LEARN.
Lab: For questions related to particular lab content, speak to your TA during TA office hours or send a private email using LEARN.
Lecture: Please post general questions related to lectures (e.g., content, exams) to the Discussion Forum or you may ask questions in office hours. For more personal questions, send an email to Professor Larson (blarson “at” uwaterloo.ca) via LEARN.

We aim to respond to forum posts and necessary emails within 24hrs, except over weekends.

UW-LEARN  LEARN will be used for the following: course info, dropboxes for lab reports, your grades, announcements, and course emails/discussion forums. Course emails will be sent through LEARN, which will forward to your uwaterloo account. Please check that your email address on WatIAM is either your uwaterloo account or a current personal account (https://watiam.uwaterloo.ca/idm/user/login.jsp) so that you receive course emails. If you are registered in the course and have checked your UW-ID and WatIAM and still cannot access LEARN, please email learnhelp@uwaterloo.ca. Note: if you register in the course in Quest, it is normally processed within 24hr, but it could take up to 48hr to add you to LEARN.

Required items  Essentials of Ecology (4th Ed., Wiley), by Begon, Howarth and Townsend. The physical textbook (ISBN 9780470909133) and the eTextbook (ISBN 9781118802311), are available at the University of Waterloo Bookstore. The UW Bookstore advises students access their site (wstore.ca) and to login to UWaterloo BookLook.
II. Course overview and learning outcomes

Ecology is the study of the relationship of organisms with their environments (including other organisms). In this sense, this course is neither more nor less than getting to know the basic principles by which the organisms that share our planet—including ourselves—live their lives and interact with one another. It is a course about life on Earth. Such knowledge, called ecoliteracy, will provide a critical basis for your engagement in the 21st century, the “century of the environment”—not least because so many of the environmental issues we face derive in part from a limited understanding of how we are embedded within and dependent upon ecological systems. Field ecology necessarily harbours an ethical component both because of our natural affinity for life (or ‘biophilia’) and because questions of ecological ‘impact’ and quality’ are necessarily value-laden.

On a weekly basis, the remote offering of ENVS200 in Spring 2021 will include textbook readings, a quiz, a recorded lecture (available in LEARN along with .pdf of lecture slides), and ‘lab’ activities. The quizzes about your weekly readings will occur prior to release of the lecture, so that you have an opportunity to ask questions that I can address in the lecture. This is a university level course, so I want you to become engaged in the issues rather than focusing on ‘knowing all the answers’. My aim is to introduce you to the worldview of ecology so that you can be more aware of the beauty, diversity and complexity of life around us and thus better appreciate its importance.

By the end of this course, you should be on a path to life-long learning as an ecologically-literate citizen. More specifically, you should be able to do the following (our course learning outcomes):

i. **identify** and **explain**, with examples, the main principles of ecology;
ii. **demonstrate** how these principles apply to real-world situations (in context of both class meetings and labs), including human interactions with the natural world; and
iii. **analyze** the elements of scientific inquiry as they apply to ecology.

These course learning outcomes will not only prepare you to be an informed citizen and member of the community of life on earth, but also provide the basis for knowledge, humility, and wisdom in your dealings with ecological problems in your daily life and eventual career.

**Calendar Description:**
Introduces the main concepts and principles of ecology; the cycling of elements; energetics and structural organization of major ecological systems; population dynamics; impact of natural resource management practices and urban and industrial development on the environment; incorporating environmental quality considerations into development activities. The lab sessions include field trips to study natural and disturbed ecosystems, urban and applied ecology.
III. Course assessment

I have designed the course so that assessment supports with our learning outcomes. Note that the learning outcomes will be developed through regular activities in preparation for the major course assessments (e.g., midterm and final exam).

18% Weekly lecture quizzes in LEARN
There will be nine weekly quizzes (indicated by an asterisk on the course schedule) worth 2% each. The quizzes will cover the readings for the next lecture (see next page). They will be available in LEARN starting one week prior to the lecture topic (i.e., Monday) and you must complete them by the Saturday evening (11:59 pm) prior to lecture (see p. 5 for submission policy). Each quiz will include a space for you to ask a question about something you didn’t understand in the readings.

37% Lab activities
Each week there will be a series of lab activities to complete in LEARN. There will also be optional outdoor or hands-on components for you to complete. Please only pursue outdoor/hands-on activities if it is safe to do so, following the recommendations of government, health authorities, and using your own judgement. See the course schedule for due dates and percentage weights.

22.5% Midterm
The midterm will be a combination of multiple choice, fill-in-the-blank, labeling and short answer questions that will assess your critical thinking on topics related to lecture material (weeks 1-5). The exam is open book and will take place on June 14. It will be available on LEARN for 24 hours. Once you begin the exam you will have 2 hours to complete it.

22.5% Final exam
The final exam will have a similar format to the midterm but it will cover all course material. The exam is open book and will take place on August 2. It will be available on LEARN for 24 hours. Once you begin the exam you will have 2 hours to complete it.
IV. Course schedule

You must complete textbook readings and the associated quiz in LEARN by the Saturday evening (11:59 pm EDT) prior to each lecture indicated by an asterisk (i.e., all weeks except the first). It is critical that you review the course “reading guide” in LEARN before reading because you are not responsible for all textbook sections and vocabulary.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic for class</th>
<th>Readings in textbook (* = complete lecture quiz by Saturday before the week listed)</th>
<th>Lab activities</th>
<th>Submission Deadlines</th>
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</thead>
<tbody>
<tr>
<td>1. May 10</td>
<td>Introduction</td>
<td>Ch. 1 [optional, but recommended]</td>
<td>Lab 1. Scientific Writing</td>
<td>&quot;Confidentiality Agreement &amp; Statement of Honesty Form&quot; Due prior to completion of first quiz</td>
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<tr>
<td>2. May 17</td>
<td>Evolution</td>
<td>*Ch. 2.1-2.3</td>
<td>Lab 2. Biodiversity I: Introduction to ENVS 200 labs and field ecology</td>
<td>Lab 1 due: May 21, 11:59 pm (3%)</td>
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<tr>
<td>3. May 25</td>
<td>Conditions and resources; Climate and biomes</td>
<td>*Ch. 3.1-3.3 and Ch. 4.1-4.3</td>
<td>Lab 3. Biodiversity II: Indicator species and bird identification</td>
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<tr>
<td>4. May 31</td>
<td>Individuals and populations</td>
<td>*Ch. 5.1-5.4 &amp; 14.1-14.2</td>
<td>Lab 4. Biodiversity III: Classification of organisms and tree ID</td>
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<td>5. June 7</td>
<td>Interactions</td>
<td>*Ch. 6.1-6.3, 7.1-7.4 &amp; 8.3</td>
<td>Lab 5. Succession and landscape ecology in an urban woodlot</td>
<td>Lab 2 (4%) &amp; Lab 3 (4%) due: June 11, 11:59 pm</td>
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<td>6. June 14</td>
<td>Midterm (June 14, see above)</td>
<td>No labs</td>
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<td>Lab 4 (4%) due: June 18, 11:59 pm</td>
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<tr>
<td>7. June 21</td>
<td>Communities</td>
<td>*Ch. 9</td>
<td>Lab 6. Stream ecosystem assessment: Laurel Creek I</td>
<td>Lab 5 (5%) due: June 25, 11:59 pm</td>
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**Break week (June 28th - July 2nd) – NO LECTURES OR LABS**

| 8. July 5 | Species richness | *Ch. 10.1-10.3 | Lab 7. Stream ecosystem assessment: Laurel Creek II | |
| 9. July 12 | Flux of energy and matter | *Ch. 11.1-11.5 | Lab 8. Climate change and a wetland | Lab 6 (4%) & Lab 7 (4%) due: July 16, 11:59 pm |
| 11. July 26 | Conservation ecology | *Ch. 13.1-13.3 & 14.5-14.7 | No labs | Lab 8 (4%) and Lab 9 (5%) due: July 30, 11:59 pm |
| 12. Aug. 2 | Final (August 2, see above) | No labs | | |
V. Course policies

This syllabus is a contract between us, so you must abide by the policies and schemes laid out here (as will I, for my part). If you have any questions or concerns, please speak with me as soon as possible.

Academic integrity and offences
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 (http://uwaterloo.ca/academicintegrity/Students/index.html). You are expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for your actions. If you are unsure whether an action constitutes an offence, or need help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration, please complete the tutorial at http://www.lib.uwaterloo.ca/ait and seek guidance from the course professor, your Undergraduate Advisor, or the office of the Associate Dean – Undergraduate.

When misconduct has been detected, disciplinary penalties will be imposed under Policy 71 – Student Discipline (http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm). For information on categories of offences and types of penalties, refer to Policy 71. Within the Faculty of Environment, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties that may include a grade of 0 on the affected course element, 0 in the course, suspension, and expulsion.

The "Confidentiality Agreement & Statement of Honesty Form” in the General Course Documents folder needs to be signed and submitted on LEARN as a condition for completing the first quiz.

AccessAbility
AccessAbility Services (https://uwaterloo.ca/accessability-services) collaborates with all academic departments to arrange appropriate accommodations for students who require them without compromising the academic integrity of the curriculum. If you require accommodation for any reason, please discuss with AccessAbility Services and register at the beginning of each academic term.

Appeals and grievance
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 they have a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

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

Assignment submission
Please refer to the course schedule and LEARN documents for detailed instructions on submission of all assignments and assessments.

Availability for exams
Supplemental exams are only set for those with medical or similar problems. You are expected to be present for scheduled examinations, so please see the course schedule above before making travel plans. For the UW policy on exams, see http://ugradcalendar.uwaterloo.ca/page/Regulations-Overview. Under certain conditions, you may qualify for exam relief (https://uwaterloo.ca/registrar/final-examinations/relief-information).

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.
Deadlines
There is a penalty of 5% per day for late submission of lab activities, to a maximum of four days; after that, the grade will be 0. Weekly quizzes, midterm, and final exam will not be accepted late—the grade will be zero. Exceptions to late submission of course materials (e.g., labs, quizzes, midterm and final assessment) will only be accommodated for documented medical/compassionate reasons.

Land acknowledgement
The University of Waterloo is located on the traditional territory of the Neutral, Anishinaabeg and Haudenosaunee peoples. It is situated on the Haldimand Tract, the land promised to these peoples that includes ten kilometres on each side of the Grand River.

Lecture handouts and intellectual property
Powerpoint lectures will not provide a complete transcription of the lecture. I will not include all information (to encourage you to be active note-takers), or all images (for copyright reasons). These slides are meant to be a template for your note-taking; they will not replace careful attention, note-taking and participation. These are important skills to develop for your future study and career.

You should be aware that this course contains the intellectual property (IP) of the instructor, TA, and/or the University of Waterloo. IP includes items such as lecture content, both spoken and written (and any audio/video recording thereof); lecture handouts, presentations, and other materials in the course (e.g., PowerPoint slides); and questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams). Course materials, and the IP contained therein, are used to enhance a student’s educational experience. However, sharing this IP without the owner’s permission is a violation of IP rights. For this reason, you must ask for permission before uploading and/or sharing the IP of others online (e.g., to an online repository). Permission is also necessary before sharing the IP of others from completed courses with students taking the same/similar courses in subsequent terms/years. Please alert the instructor if you become aware of IP belonging to others (past or present) circulating, either through the student body or online. The IP rights owner deserves to know (and may have already given their consent).

Mental health
Along with the University of Waterloo and the Faculty of Environment and its Departments, I consider your well-being to be extremely important. We recognize that many students 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) is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, depression, grief, relationship issues, sexuality, stress management, substance use, and much more.

Religious observances
Please email me at the beginning of term if you require special accommodation for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Turnitin
Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students’ submissions are stored on a U.S. server, and are subject to the USA PATRIOT ACT, 2001; therefore, students must be given an alternative (e.g., scaffolded assignment or annotated bibliography) if they are concerned about their privacy and/or security. If you choose not to use Turnitin you must make an Alternate Declaration in an email to the administrative TA by May 16, 2021, 11:59pm. You must still submit to the admin TA a paper copy of the lab report or project by the assignment due date and time, along with the following: a plagiarism disclaimer form as in the lab template, complete raw data, a rough draft, an extended annotated bibliography for each citation, and original articles or materials used in preparation of the report.

Writing
The Writing and Communication Centre (WCC) works with students as they develop their ideas, draft, and revise. Writing and communication specialists offer one-on-one support in planning assignments, synthesizing and citing research, organizing papers and reports, designing presentations and e-portfolios, and revising for clarity and coherence. You can make multiple appointments throughout the term, or you can drop in at the Library for quick questions or feedback. To book a 25- or 50-minute appointment and to see drop-in hours, visit uwaterloo.ca/wcc. Please note that communication specialists guide you to see your work as readers would. They can teach you revising skills and strategies, but will not change or correct your work for you.