ENVS200 WINTER 2021

Field Ecology

I. Basic course information

Professor
Dr. Andrew Trant

Student Hour
Prof: Given the remote-delivery model of the course this semester, most student questions and concerns will be addressed through the Discussion Boards (see below) or e-mail. Dr. Trant will also be available weekly during a live drop-in session (Prof Student Hour) on Tuesday from 9:30-10:30 am. The link for this will be posted to LEARN.

Prof Student Hour: Tuesday 9:30-10:30am
TA Student Hours: 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 9 am ET each Monday.

Communication
Please use LEARN Discussion Forums for course-related questions and communications. There are two forums: 1) Admin and general discussion and 2) Group discussion. Lecture and Admin. The admin forum will be monitored by the course instructor and TAs to facilitate timely, accurate response. The group discussions are peer-led and TA-supervised. You should plan to participate in discussion and answer peer questions when possible, as participation in the group discussions is required and worth 10% of your grade. There is more information below and on LEARN.

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 (www.wstore.uwaterloo.ca) where you can select "Course Materials" then "MyBooklook" where you can log in with your WATIAM UserID and password to access your booklist and purchase your preferred copy.
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.

ENVS200 will not be a passive lecture-style course but an engaging series of student-centered mini-lectures interspersed with group and individual activities (including weekly labs). There will be quizzes about your weekly readings prior to each lecture, so that we can spend our time together working on problem areas and going further with the material. 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;
iii. **Analyze** the elements of scientific inquiry as they apply to ecology; and
iv. **Evaluate** ecological arguments presented in the media and elsewhere (e.g., for application within your future career).

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.

**A note on lecture materials:** Lectures will be recorded by Dr. Trant and posted to MS Stream. In addition to this, you will be provided with .pdf document of all lecture slides. Transcripts are generated automatically through MS Stream.
III. Course assessment

I have designed the course so that assessment aligns with our learning outcomes as indicated in the following table. Assessment will occur in a variety of ways to suit different learning styles. Note that the learning outcomes will be developed through regular activities in preparation for the major course assessments (e.g., midterm and final exam).

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Teaching and learning activities</th>
<th>Assessment methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. identify and explain, with examples, the main principles of ecology</td>
<td>Lectures, Readings, Labs</td>
<td>Weekly quizzes, exams, lab activities, discussion forums</td>
</tr>
<tr>
<td>ii. demonstrate how these principles apply to real-world situations, including human interactions with the natural world</td>
<td>Readings, Labs, Discussion board</td>
<td>Weekly quizzes, exams, lab activities, discussion forums</td>
</tr>
<tr>
<td>iii. analyze the elements of scientific inquiry as they apply to ecology</td>
<td>Readings, Labs, Discussion board</td>
<td>Exams, lab activities, discussion forums</td>
</tr>
<tr>
<td>iv. evaluate ecological arguments presented in the media and elsewhere</td>
<td>Readings, Labs, Discussion board</td>
<td>Exams, discussion forums</td>
</tr>
</tbody>
</table>

10% **Discussion forum participation**

The purpose of the discussion boards is to engage with your peers. These type of interactions are particularly valuable in online courses. Participation in discussion boards is required. You will be evaluated on the quality of your participation when you answer your peers’ questions, post content related to lectures, or discuss observations from your lab activities. There are two types of discussion forums in this course. One is the admin board, in which you can ask questions about assignments, get clarification on materials, etc. The Admin boards are monitored by the professor, TAs, and your peers. The second type of discussion board is the group board. You will be randomly grouped into discussion groups of approximately 10 students. Although the TAs may participate in the group discussion boards occasionally, these boards are meant to be your space to discuss course content (e.g., lecture/lab material, share field observations, respond to discussion questions) and related content (e.g., current events, local news, relevant ideas from other classes) with your peers. More information, including a grading rubric, will be provided on LEARN.

15% **Weekly lecture quizzes in LEARN**

There will be ten weekly quizzes (indicated by an asterisk on the course schedule) and they will be worth 1.5% 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 (11:59pm) prior to lecture. Each quiz will include a space for you to ask a question about something you didn’t understand in the readings.

35% **Lab activities (in-lab and field assessment)**

Each week there will be a series of lab activities such as calculations, organism identification, and other queries to complete. There will be optional outdoor or hands-on components for you to do. 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 section IV course schedule (below) for due dates.

20% **Midterm exam**

The midterm exam will be a combination of multiple choice and short answer questions that will assess your critical thinking on topics related to lecture material (weeks 1-5). The exam will take place on Feb 22. It will be available on LEARN for 24 hours. Once you begin the exam you will have 2 hours to complete the exam. The exam is open book.

20% **Final exam**

The final exam will have a similar format to the midterm. The final date will be established by the UW scheduling office.
IV. Course schedule

You must complete textbook readings and the associated quiz in LEARN by the Saturday evening (11:59pm) prior to each lecture indicated by an asterisk. 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>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction</td>
<td>Ch. 1 [optional, but recommended]</td>
<td>Lab 1. Scientific Writing</td>
<td>Lectures and Labs will be released at 9am each week and provided via LEARN</td>
</tr>
<tr>
<td>2.</td>
<td>Evolution</td>
<td>*Ch. 2</td>
<td>Lab 2. Biodiversity I: Introduction to ENVS 200 labs and field ecology</td>
<td>Turnitin alternate declaration (if applicable) due Jan 25 by 11:59 pm EDT; Lab 1 due Jan 25 by 11:59pm (3%)</td>
</tr>
<tr>
<td>3.</td>
<td>Conditions and resources; Climate and biomes</td>
<td>*Ch. 3 &amp; Ch. 4</td>
<td>Lab 3. Biodiversity II: Indicator species and bird identification</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Individuals and populations</td>
<td>*Ch. 5 &amp; 14.1-14.2</td>
<td>Lab 4. Biodiversity III: Classification of organisms and tree ID</td>
<td>Confidentiality Agreement &amp; Statement of Honesty form due Feb 1 at 11:59 pm EDT (1%) bonus</td>
</tr>
<tr>
<td>5.</td>
<td>Interactions</td>
<td>*Ch. 6, 7 &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 Feb 8 by 11:59pm</td>
</tr>
<tr>
<td>6.</td>
<td>Reading week (Feb 13th-21st) – NO LECTURES OR LABS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Midterm (in class)</td>
<td>No labs</td>
<td>Lab 4 (4%) due Feb 22 by 11:59pm</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Communities</td>
<td>*Ch. 9</td>
<td>Lab 6. Stream ecosystem assessment: Laurel Creek I</td>
<td>Lab 5 (5%) due Mar 1 by 11:59pm</td>
</tr>
<tr>
<td>9.</td>
<td>Species richness</td>
<td>*Ch. 10</td>
<td>Lab 7. Stream ecosystem assessment: Laurel Creek II</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Flux of energy and matter</td>
<td>*Ch. 11</td>
<td>Short week – No labs</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Global cycles and their alteration</td>
<td>*Ch. 12, &amp; 14.3-14.4</td>
<td>Lab 8. Climate change and a wetland</td>
<td>Lab 6 (4%) &amp; Lab 7 (4%) due Mar 22 by 11:59pm</td>
</tr>
<tr>
<td>12.</td>
<td>Conservation ecology</td>
<td>*Ch. 13</td>
<td>Lab 9. Conservation ecology and our urban environment</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Wrap-up / course evaluation</td>
<td>*Ch. 14.5-14.7 Quiz = exam review</td>
<td>No labs</td>
<td>Lab 8 (3%) and Lab 9 (4%) due Apr 5 by 11:59pm</td>
</tr>
</tbody>
</table>
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 prior to the midterm assessment period. If you submit the form by October 5 before 11:59 pm EDT, you will receive a 1% bonus on your final grade. If you do not sign and submit the form on time, you will not have access to the midterm or the final assessment and will therefore receive a grade of zero for those assessments.

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.

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 for the midterm exam and consult UW’s final examination timetable 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 lab assessments, to a maximum of four days; after that, the grade will be 0. Weekly quizzes, midterm, and final exam will not be accepted late and the student will be assigned a grade of 0 for each late assignment. Exceptions to late submission of course materials (e.g., labs, quizzes, midterm and final assessment) will only be accommodated for documented medical reasons.

Lecture handouts and intellectual property
Powerpoint lectures will not be 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).

No course materials - including lectures, lab presentations, guest lectures, etc. - may be shared or used outside this course. The only exceptions are those materials that are external (cited) courses (e.g., TedEd, YouTube, textbook, journal articles) which may be used or shared as permitted by the content owners. If any presenter in this course discloses information for the benefit of your learning but requests you do not disclose the source of the information or share the information itself, please respect those wishes.

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](http://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, Rachael Edwards (see p. 4). 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.