

## ERS 283 Spring 2020

[This is a 0.5 unit adaptation of ERS283 for Spring 2020:  
no in-person course activities are permitted due to virus SARS-CoV-2]

# Ontario Natural History: Species and Patterns

## I. Course information

<b>Professor</b>	Brendon Larson, Ph.D. [www.brendonlarson.com]
<b>Office hrs</b>	TBD
<b>Communication</b>	<p>If you have a question that applies to other students, please use the General LEARN Discussion Forum. You may choose the 'anonymous' option for your post if you wish (Connect/Discussions), as long as decorum is maintained.</p> <p>For more personal questions, send an email to me via LEARN (blarson "at" uwaterloo.ca). I will aim to respond to forum posts and emails within 24hrs, except over weekends.</p>
<b>LEARN</b>	<p>LEARN will be used for the following: announcements, assignments/lessons, discussion forums, dropboxes, grades, and quizzes. 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 to receive course emails (<a href="https://watiam.uwaterloo.ca/idm/user/login.jsp">https://watiam.uwaterloo.ca/idm/user/login.jsp</a>). 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.</p>
<b>Required items</b>	<p>1. Williams, E.H. 2005. <i>The Nature Handbook: A Guide to Observing the Great Outdoors</i>. New York: Oxford U. Press. Our course textbook is beautiful and a pleasure to read, so we will be reading most of it. You can access it in the following ways (among others):</p> <ul style="list-style-type: none"><li>i) as a free e-book on UW Library Course Reserves, but this is still pending;</li><li>ii) as a hard copy from <a href="http://www.wstore.uwaterloo.ca">www.wstore.uwaterloo.ca</a> for \$29.95; and</li><li>iii) as an e-book through amazon.ca (\$19.50) to read on the free kindle app.</li></ul> <p>2. Hand lens/loupe/magnifier. I recommend the following: i) a real hand lens because it will work best and it's a good tool to have, and ii) 10x magnification because field of view otherwise quite small. If you search "hand lens botany" on amazon.ca you'll find, for example, a Yasumai for \$13 and a Bausch &amp; Lomb Coddington for \$26, though I can't endorse a specific model. <u>However</u>, given that amazon shipping may be delayed, you may instead want to obtain a reliable magnifier app (e.g., "Magnifying Glass with Light").</p>

## II. Course overview

ERS283 is a study of natural history, which may be broadly defined as the observational study of the natural world. This doesn't have much to do with how we normally think of history, because "history" in this context retains its archaic meaning of "description" or "analytic inquiry." It follows that a naturalist (someone who does natural history) is someone who "studies the world by observing plants and animals directly (Bartholomew 1986, p. 326)." By studying nature carefully over a period of time, naturalists obtain a general knowledge of local biodiversity.

While some biologists have denigrated natural history as a form of inquiry, many increasingly recognize its importance (e.g., Bartholomew 1986; Noss 1996; Dayton 2003; Greene 2005). Natural history undergirds the search for general ecological and evolutionary theories; as such, it has been characterized as the search for order in nature (Farber 2000). Darwin himself is often considered an eminent natural historian because he built careful observations of organisms in nature into a general theory of evolution. Natural history also provides critical knowledge for applied conservation and management because these often rely as much on observing the specifics of locales and their species as on general theories. And perhaps most important of all, naturalists can share their knowledge and appreciation with others, thereby promoting conservation values within society. Many of us who have an interest in biology and/or the environment have encountered an inspiring naturalist in our lives.

The practice of natural history develops a sensitivity to organisms in nature. In this sense, people have always done it because it is simply "a practice of intentional, focused attentiveness and receptivity to the more-than-human world (Fleischner 2005, p. 10)." Unfortunately, it is not something that most of us practice very often.

In ERS283, you should develop an appreciation for natural history, though the online offering in Spring 2020 will limit our ability to engage with biodiversity in a first-hand manner. Instead, the focus will be reading chapters from our textbook on natural history "patterns" and completing associated assignments and quizzes on a weekly basis on LEARN. I would like this course to provide a building block for your life-long love of learning about the place(s) where you live and their inhabitants.

### References

- Bartholomew, G.A. 1986. The role of natural history in contemporary biology. *BioScience* **36**: 324-329.
- Dayton, P.K. 2003. The importance of the natural sciences to conservation. *American Naturalist* **162**: 1-13.
- Farber, P.L. 2000. *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. Baltimore: Johns Hopkins University Press.
- Fleischner, T.L. 2005. Natural history and the deep roots of resource management. *Natural Resources Journal* **45**: 1-13.
- Greene, H.W. 2005. Organisms in nature as a central focus for biology. *Trends in Ecology and Evolution* **20**: 23-27.
- Noss, R.F. 1996. The naturalists are dying off. *Conservation Biology* **10**: 1-3.

## III. Course learning outcomes

By the end of this course, you should be able to do the following:

1. Understand prevalent ecological, behavioral and taxonomic patterns in the natural world;
2. Interpret your life experiences in light of these natural patterns; and
3. Distinguish several groups of organisms (i.e., a selection of the following: birds by song, insect orders, and plant families).

I have designed the course so that these learning outcomes align with the teaching and learning activities and course assessment, within an online context, as follows:

Learning outcome	Teaching and learning activities	Assessment methods
1.	-Course textbook and readings -Response to your questions	-Weekly questions -Fortnightly quizzes -Final paper
2.	Course textbook and readings	Weekly reading assignments
3.	LEARN lessons	Fortnightly nature activities

#### IV. Course activities

The following table provides a calendar-based summary of course components. See Section V below for further details.

Week starting ...	Textbook readings <i>Note:</i> Each week, you will submit a substantive question and a reading assignment (see below)	Other readings & nature activity assignments	Course deadlines <i>Note:</i> An assignment <u>or</u> a quiz will be due each Sunday night
1. May 11	Introduction Ch. 1, <i>Plants</i> – Flowers and seeds	Syllabus; Fleischner 2005	
2. May 18	Ch. 2, Trees		Quiz: Ch. 1, 2 & Fleischner
3. May 25	Ch. 3, Plant features ( <b>not</b> 3.14,15)	Lesson/Activity #1: Trees and plant families	Activity #1
4. June 1	Ch. 4, <i>Animals</i> – Color and pattern		Quiz: Ch. 3, 4 & Lesson #1
5. June 8	Ch. 5, Ecology and behavior	Lesson/Activity #2: Bird songs	Activity #2
6. June 15	Ch. 6, Birds		Quiz: Ch. 5, 6 & Lesson #2
7. June 22	Ch. 7, Insects	Lesson/Activity #3: Common insect orders	Activity #3
8. June 29	Ch. 9, <i>Habitats</i> – Forests ( <b>add</b> 8.14, <b>not</b> 9.1,2,16,17)		Quiz: Ch. 7, 9 & Lesson #3
9. July 6	Ch. 10, Fields and meadows	Lesson/Activity #4: Flower visitors	Activity #4
10. July 13	Ch. 12, Water and wetlands ( <b>not</b> 12.12,13)		Quiz: Ch. 10, 12 & Lesson #4

## V. Course assessment/grading scheme

### Weekly assignments:

- 8% *Weekly question* (8 questions @ 1% each). In 8 weeks (your choice!), you must submit one substantive question about the week's readings to a LEARN discussion forum by Wednesday night at 11:59pm. These will be graded on a no-pass/pass (0 or 1) basis using a simple rubric in LEARN. By early afternoon on Thursday, I will review them and respond in a document and/or a short video.
- 24% *Weekly reading assignment* (8 assignments @ 3% each). In 8 weeks (again your choice!), you must submit a 200 word assignment to a LEARN dropbox by Thursday night at 11:59pm. In each, you'll share a personal experience of yours that relates to a pattern you read about in that week's readings. See "model response" and rubric in LEARN.

### Fortnightly assignments (see schedule above):

- 24% *Fortnightly nature lessons and activities* (4 activities @ 6% each). These lessons and associated assignments will be posted in LEARN in alternate weeks and will require you to engage with learning about local species. They will be due on Sunday nights at 11:59pm.  
Important note: *In the first week of the course, I will survey you about your ability to access a local 'natural area,' partly with regard to COVID-19-based restrictions on movement—which may change at any time. I assume that you'll be able to access one, which would be best for learning outcomes in this course, though please let me know if you face any local/personal restrictions in which case we will seek a solution.*
- 30% *Fortnightly quizzes* (5 quizzes in LEARN @ 6% each). Every other week, there will be an open-book, multiple-choice and short-answer quiz: each one will cover two chapters of the textbook and the associated LEARN lesson (see schedule above). You must complete the quizzes on your own (see section on "academic integrity" below). I will open them by Friday morning; you will have one hour to complete each one and it will be due on Sunday night at 11:59pm (so begin it by Sunday at 11pm).

### Final paper

- 15% *Final paper.* This paper will concern a topic of your choice related to one of the patterns discussed in the course readings. It will be due on Friday, July 31 at 11:59pm. Further details and a rubric will be provided.

### Bonus

This grading scheme sums to 101, so there's a built-in 1% bonus.

## VI. 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 come and talk with me. *Note, in particular, that the LEARN quizzes must represent your own work. If you wish to quote material in your assignments, you must place it in quotation marks (or paraphrase it in your own words) and cite the source; otherwise, it would be plagiarism. I will also require you to complete an “integrity declaration” for other assignments in the course.*

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 affected course elements, 0 on the course, suspension, or expulsion.

### AccessAbility

AccessAbility Services (<https://uwaterloo.ca/accessability-services>), 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 AccessAbility Services at the beginning of the 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 he/she has a ground for an appeal should refer to Policy 72 (Student Appeals): [www.adm.uwaterloo.ca/infosec/Policies/policy72.htm](http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm).

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, [www.adm.uwaterloo.ca/infosec/Policies/policy70.htm](http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm). When in doubt please contact your Undergraduate Advisor.

### Assignment submission

Assignments must be submitted using LEARN by 11:59pm on the due date (see above). I will only accept late assignments/projects/quizzes if you arrange late submission with me at least three days in advance of the due date (or if you have a doctor's note or documented family emergency). Otherwise, your grade will be 0.

Each of your assignments must be double-spaced with Times New Roman font and have 1" margins all around, page numbers in the bottom right corner, and your name in the top right corner of p. 1. I will expect you to have thoroughly proof-read them so that they are free of typos and major errors; I strongly encourage you to have a close and trusted friend edit your final paper before you submit.

**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 (IP) of their instructor, TA, and/or the University of Waterloo. Course materials and the IP contained therein are used to enhance a student's educational experience. However, sharing this IP without the intellectual property owner's permission is a violation of IP 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 IP of others online (e.g., to an online repository). Permission from an instructor, TA or the University 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 owner deserves to know (and may have given 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](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.

### **Recording lecture**

Use of recording devices during lectures is only allowed with explicit permission of the instructor of the course. If allowed, video recordings may only include images of the instructor and not fellow classmates. Posting of videos or links to the video to any website, including but not limited to social media sites such as: facebook, twitter, etc., is strictly prohibited.

### **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; 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 do not want your assignment to go through Turnitin, you must make an Alternate Declaration in an email to me by May 18, 2020, 11:59pm; the alternative is to submit a plagiarism disclaimer form, a rough draft, an annotated bibliography for each citation, and original articles or materials used in preparation of the report.

### **Unclaimed assignments**

Unclaimed assignments will be retained until one month after term grades become official in Quest. After that time, they will be destroyed in compliance with UW's confidential shredding procedures.

### **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](http://uwaterloo.ca/wcc).