

ENV234: Environmental Biology

Syllabus - Fall 2017

Time and Location

Lectures: Mondays & Wednesdays, 10-11am, MP203

Labs: Meet in the field or in RW124 (*see lab-specific instructions*)

Time: Tuesdays 9-12pm (P0101; P0102)

Tuesdays 1:30-4:30pm (P0201; P0202)

Wednesdays 1:30-4:30pm (P0301; P0302)

Thursdays 9-12pm (P0401; P0402)

Course Instructors

Hélène Cyr <helene.cyr@utoronto.ca>, RW414, 416-978-0975 (Team Leader)

Jörg Bollmann <bollmann@es.utoronto.ca>, ESC4115, 416-978-2061

Course Coordinator

Olivera Joksimovic <o.joksimovic@mail.utoronto.ca>, RW105C, 416-978-1318

Teaching Assistants

See Blackboard

Office Hours (see Blackboard)

- Olivera Joksimovic (course coordinator): Wednesdays 2-3pm, Thursdays 12-1pm in RW105C
- Professor Cyr: Mondays 11-12am (after class) and by appointment (e-mail)
- Professor Bollmann will be happy to schedule an appointment via e-mail.
- Professors are available to answer questions during and usually right after lecture.
- Teaching assistants will monitor the *Discussion Board* and will hold weekly electronic office hours using the *Chat* feature under the *Course Materials* tab in Blackboard. The schedule for these office hours will be posted on Blackboard. Remember that during labs you have your TA's full attention, so make good use of that time!

Questions

- Logistical issues, changing labs, extensions, doctor's notes, Blackboard and other administrative issues: Course Coordinator (Olivera).
- Lecture content: Professor teaching that section.
- Specific field trip or lab, data entry, or lab reports: Teaching Assistant for that lab.
- General academic questions, grades: Professor Cyr.

Course Website

All course materials will be available via Blackboard at portal.utoronto.ca. It is important to check both the website and your UTmail regularly, for lecture slides, announcements, class data sets, and any changes or clarification on assignments and due dates. You will

also be able to sign up for the Joker's Hill field trip on Blackboard (details to be announced on Blackboard).

Email Policy

TAs do NOT answer e-mails. Your email message to the course coordinator or to professors must include ENV234 in the subject line; otherwise your message may be deleted. Please consult the course syllabus, manual, and Blackboard before submitting email enquiries – you will most likely find the information there. **We do not accept email submission of any assignment or lab report.**

Marking Scheme:

Lab reports:	40%
Lab 1: Geology of Ontario (5%)	
Lab 2: KSR field trip (Part I, 5%; Full, 15%)	
Lab 3: Human impacts on soil properties (7.5%)	
Lab 4: Energy budgets in aquatic systems (7.5%)	
Midterm exam (1h during class):	20%
Final exam (2h during exam period):	40%
<i>Bonus points (4 group meeting reports)</i>	2%

Missed Midterm

Should you miss the midterm due to illness or a family crisis, please contact the course coordinator (Olivera) within **24 hours** of the test. There will be a single make-up for the midterm, which will be announced on Blackboard. If your absence is due to illness, you must provide a completed U of T medical certificate (www.illnessverification.utoronto.ca); if your absence is the result of a personal or family crisis, you must provide a written statement from your registrar.

Required Text

This Course Manual is the only required text. It contains the syllabus, lecture and lab schedules, important general information and the lab manual for the course. *PLEASE read the laboratory manual carefully before arriving at each field trip or lab.* This will enhance your learning experience and will ensure that you work efficiently and finish the work in time. Check the course manual for instructions on what to bring with you or on work you need to do before the field trip or lab. Bring the lab manual to all field trips and labs.

Supplementary textbooks *: *textbook on short-term loan in ESC library*

These texts may be useful for additional background reading and in writing lab reports.

Brady, N.C. 2007. The nature and properties of soils. Prentice Hall, New York. 980 pp.

Bush, M.B. 2003. *Ecology of a Changing Planet* 3rd ed. Prentice Hall.

Carlson, D., Hammersley, L., Plummer, C. *Physical Geology*. 14th ed. McGraw Hill, MA.

Chapin, F.S. III, P.A. Matson and H.A. Mooney. 2012. *Principles of terrestrial ecosystem ecology*. Springer-Verlag, NY. [electronic resource, UofT library]

Enger, E.D. and B.F. Smith. 2008. *Environmental science: a study of interrelationships*, 12th ed. McGraw Hill, MA.

* Eyles, Nick. 2004. *Toronto Rocks: The geological Legacy of the Toronto Region*. Fitzhenry & Whiteside. Markham.

Krebs, Charles. 2008. *The ecological world view*. CSIRO Publishing. [electronic resource, UofT library]

Raven, P.H., R.F. Evert and S.E. Eichhorn. 2005. *Biology of Plants*, 7th ed. W.H. Freeman & Company, NY. [for students unfamiliar with Plant Biology]

Raven, P.H., L.R. Berg and D.M. Hassenzahl. 2008. *Environment*. John Wiley & Sons.

Reynolds, Stephen J. 2013. *Exploring Geology*. McGrawth/Higher Ed. 3rd ed.

* Roots, B.I., Chant, Donald E. and Heidenreich, C.E. (eds.) 1999. *Special Places: The Changing Ecosystems of the Toronto Region*.

Valiela, I. 2006. *Global Coastal Change*. Blackwell Publisher, MA.

Valiela, I. 2015. *Marine ecological processes*, 3rd ed. Springer, NY. [electronic resource, UofT library]

* Withgott, J., S. Brennan and B. Murck. 2013. *Environment: the science behind the stories*. 2nd Canadian ed. Pearson Canada, Toronto.

Williams, M.A.J., Dunkerley, D.L., DeDeckker, P., Kershaw, A.P., Stokes, T. 1998. *Quaternary Environments*, Arnold, London.

Philosophy on lecture attendance

The lectures are a vital component of this course. Although we will post lecture slides on the course website, this material is not a substitute for coming to lectures. Lecture slides are meant to support and illustrate the points made during lecture, not to provide a summary of the arguments presented. The emphasis and main conclusions may not be clear without comments from the lecturer. The two instructors will use their slides differently.

Accessibility Services

Students with diverse learning styles and needs are welcome in this course. Please feel free to approach Prof. Cyr, Olivera and/or Accessibility Services so that we can assist you in achieving academic success in this course (www.accessibility.utoronto.ca/index.htm). Students requesting accommodation for course assessment must be registered with

Accessibilities Services. However, Accessibility Services does not provide us with information about individual students, so you must tell us (as early as possible) if you need special consideration with field trips, labs or assignments.

Academic Counseling

We understand that life sometimes throws us curve balls. If you are struggling with any of your courses for any reason (material too hard, family/life/medical challenges, balancing work and school, etc.), **please contact us, and your college registrar, sooner rather than later**. We often hear from students after an exam or assignment is due, when it is too late to help with accommodations, assistance, or referral.

Academic Integrity

Academic integrity is one of the cornerstones of the University of Toronto. It is critically important both to maintain our community, which honours the values of honesty, trust, respect, fairness and responsibility, and to protect you, the students within this community, and the value of the degree towards which you are all working so diligently.

According to Section B of the University of Toronto's **Code of Behaviour on Academic Matters** (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>), which all students are expected to know and respect, it is an offence for a student:

- To use someone else's ideas or words in your own work without acknowledging that those ideas/words are not your own with a citation and quotation marks, i.e., to commit plagiarism.
- To include false, misleading or concocted citations in your work.
- To obtain or provide unauthorized assistance on any assignment.
- To falsify or alter any documentation required by the University (e.g. doctor's notes).
- To submit your own work for credit if it has been submitted in another course.

There are other offences covered under the Code, but these are the most likely in this course. Please respect these rules and the values that they protect.

Also see <http://www.writing.utoronto.ca/advice/using-sources> on *How Not to Plagiarize*. Always cite your sources. In case of doubt about plagiarism, talk to your instructor.

ENV234 Lecture Schedule – Fall 2017

Date	Professor	Lecture Topic	Labs
September 11	Cyr	Introduction	
September 13	Bollmann	Why is Geology important for ecology and evolution?	
September 18	Bollmann	Climate and environmental change over the last million years	Lab 1
September 20	Bollmann	Glacial landforms: Oak Ridges Moraine	
September 25	Bollmann	Paleoenvironmental reconstruction: methodology, terrestrial examples and limitations	
September 27	Bollmann	Paleoceanography: examples and limitations	
<i>Sept. 29-30</i>		<i>All day field trip at KSR (Friday <u>or</u> Saturday)</i>	Lab 2
October 2	Bollmann	Paleoenvironmental reconstruction: the tropical artic	Lab 2 (indoor)
October 4	Bollmann	Climate forcing factors	
October 9	---	Thanksgiving Holiday (no lecture)	
October 11	Bollmann	Earth History	
October 16		Midterm (during lecture)	Lab 3 (I & II)
October 18	Cyr	Soils: interface between geology and biology	
October 23	Cyr	Understanding basic soil properties	
October 25	Cyr	Terrestrial biomes: what structures biological communities? (1)	
October 30	Cyr	Terrestrial biomes: what structures biological communities? (2)	
November 1	Cyr	Ecological succession: communities are dynamic	
Nov. 6-10	---	Fall Reading Week (no lectures)	
November 13	Cyr	Biological diversity & why do we (should we) care?	
November 15	Cyr	Water budget & water resources	
November 20	Cyr	Basic structure of aquatic ecosystems (1)	
November 22	Cyr	Basic structure of aquatic ecosystems (2)	
November 27	Cyr	Microbes: so small and so important	
November 29	Cyr	Global N cycle	
December 4	Cyr	Global P & S cycles	
December 6	Cyr	Global C cycle: food webs & sustainability	

ENV234 Lab Schedule – Fall 2017

	% of final mark	Cycle 1						Cycle 2					
		Tuesday AM& PM		Wednesday PM		Thursday AM		Tuesday AM & PM		Wednesday PM		Thursday AM	
		P0101 & P0201		P0301		P0401		P0102 & P0202		P0302		P0402	
		Lab Date	Due Date	Lab Date	Due Date	Lab Date	Due Date	Lab Date	Due Date	Lab Date	Due Date	Lab Date	Due Date
Lab 1- Geology of Ontario: The Don Valley Brickyard	5	Sept 19	<i>Sept 19 (on site)</i>	Sept 20	<i>Sept 20 (on site)</i>	Sept 21	<i>Sept 21 (on site)</i>	Sept 26	<i>Sept 26 (on site)</i>	Sept 27	<i>Sept 27 (on site)</i>	Sept 28	<i>Sept 28 (on site)</i>
Lab 2 - Field All-day Field Trip to the Koffler Scientific Reserve	P(I): 5 Full: 15	Field trip: Fri. Sept. 29 OR Sat. Sept. 30 <i>Part I of Lab Report (graphs) due Monday Oct. 23</i> <i>Full report due Monday Nov. 20</i>											
Lab 2 – Indoor Effective Data Management & Presentation	-	Oct 3	-	Oct 4	-	Oct 5	-	Oct 10	-	Oct 11	-	Oct 12	-
MIDTERM	20	Monday October 16 (1h test, during class, room TBA)											
Lab 3 - Part I Human Impacts on Soil Properties	-	Oct 17	-	Oct 18	-	Oct 19	-	Oct 24	-	Oct 25	-	Oct 26	-
FALL READING WEEK - No labs Nov. 7-9													
Lab 3- Part II Human Impacts on Soil Properties	7.5	Oct 31	<i>Nov 14</i>	Nov 1	<i>Nov 15</i>	Nov 2	<i>Nov 16</i>	Nov 14	<i>Nov 28</i>	Nov 15	<i>Nov 29</i>	Nov 16	<i>Nov 30</i>
Lab 4- Production vs. Respiration: Energy Budgets in Aquatic Systems	7.5	Nov 21	<i>Nov 28</i>	Nov 22	<i>Nov 29</i>	Nov 23	<i>Nov 30</i>	Nov 28	<i>Dec 5</i>	Nov 29	<i>Dec 6</i>	Nov 30	<i>Dec 7</i>
Final Exam	40	2h exam during Final Exam Period (set by Arts and Science)											
Group Meeting Reports (Lab 2)	2	Bonus marks (4 group meeting reports)											