

## ENV432H1F: Urban Ecology Fall 2022

Last Updated: Sept 12, 2022

**Time:** Wednesdays, 9 am - noon  
**Location:** WI 523  
**Instructors:** Karen Ing, ES2098, 416-978-4863; [karen.ing@utoronto.ca](mailto:karen.ing@utoronto.ca)  
Don Jackson, ES3055E, 416-978-0976; [don.jackson@utoronto.ca](mailto:don.jackson@utoronto.ca)  
**TA:** Lauren Lawson, [lauren.lawson@mail.utoronto.ca](mailto:lauren.lawson@mail.utoronto.ca)  
**Office Hours:** by appointment, and usually available after lectures

If you are emailing one or more of us, please use ENV432 at the start of the subject heading

**Course website:** Quercus

### Required Text:

There is no textbook or hard copy reader for this course. Course readings have been drawn from a variety of sources that are electronically accessible and will be listed on the course webpage on Quercus.

For students who are looking for additional resources, the following are recommended general resources:

Alberti, Marina. 2008. *Advances in Urban Ecology: Integrating Humans and Ecological Processes in Urban Ecosystems*. Springer.

Douglas, Ian and James, Philip. 2015. *Urban Ecology: An Introduction*. Routledge.

Forman, Richard T. 2014. *Urban Ecology: Science of Cities*. Cambridge University Press.

Marzluff, John M., Shulenberger, Eric, Endlicher, Wilfried. 2008. *Urban Ecology: An International Perspective on the Interaction Between Humans and Nature*. Springer.

Niemelä, Jari, Jürgen H. Breuste, Thomas Elmqvist, Glenn Guntenspergen, Philip James, and Nancy E. McIntyre (eds). 2011. *Urban Ecology, Pattern, Processes, and Applications*. Oxford University Press. New York.

Pickett, S.T.A., and Cadenasso, M. 2012. Urban Ecology” in R.A. Meyers (ed.) *Encyclopedia of Sustainability Science and Technology*, New York: Springer, 11324-11343.

**Course Evaluation**

Stream Assignment	Oct 14 <sup>th</sup>	15%
Proposal	Oct 26 <sup>th</sup>	10%
Presentation	Nov 30/Dec 7	10%
Research Project Paper	Dec 9 <sup>th</sup>	30%
Participation		10%
Final Exam	Final exam period	25%

**Course Subject:**

The course examines the ecology of urban areas through consideration of the biological and physical environments, in particular how the human-constructed environment alters pre-existing biophysical conditions and interactions. It encompasses a comparative perspective to study the development of these emerging ecosystems of increasing importance given global urbanization.

**Course Elements:**

- Physical impacts of human settlement and urbanization on natural ecosystems. Coverage include: impacts on soils, air and water; biosphere; and issues of contaminants and pollution.
- Wildlife (plants, mammals, insects, fishes, etc) and factors impacting their dynamics and the biodiversity of urban systems
- Restoration theories and goals, regional & local case studies
- Students will develop term papers based on primary data and literature examining various questions that integrate biophysical components of the urban environment.

**Educational objectives:**

- Appreciation and recognition of the relevance and importance of urban ecosystems as a unit of ecological study
- Demonstrate and integrate understanding of fundamental scientific principles relating to the lithosphere, atmosphere, hydrosphere and biosphere as relevant in urban ecosystems.
- Integrate knowledge from physical and biological sciences to examine the impacts humans and large urban centres have on their surrounding ecosystems and vice versa, e.g. heat island, climate, pollution, etc.
- Understand the issues and potential remediation techniques available to address urban issues
- Experience in developing research questions concerning complex interconnected environmental problems at multiple scales from a broad interdisciplinary perspective through the collection and interpretation of scientific data.
- Familiarity with the complex relationships between scientific approaches to environmental issues and political, social, economic and ethical perspectives on the environment, particularly related to urban systems.

## Lecture Schedule

**Note:** Associated readings will be identified with links on the course homepage on Quercus.

Date	Lecture Topic
Sept 14	Introduction to Urban Ecology
Sept 21	Urban Soils & Biogeochemical Cycles
Sept 28	Atmospheric Processes and Climate in Urban Systems
Oct 5	Hydrologic Processes and Water in an Urban Environment
Oct 12	Urban Habitat and Wildlife Stream Assignment Due Oct 14 <sup>th</sup>
Oct 19	Urban Habitat and Wildlife - continued
Oct 26	Urban Features: Human Structures & Green Spaces Proposal Due
Nov 2	Restoration; urban sustainability
Nov 9	Fall Reading Week – no classes
Nov 16	Restoration; Remnant Habitat & Restoration
Nov 23	Project & Presentation Help Sessions
Nov 30	Student presentations
Dec 7	Student presentations Research Paper due Dec 9 <sup>th</sup>

### Note: Important Dates

Sept 21<sup>st</sup> – last day to enrol in F and Y section code courses

Oct 16<sup>th</sup> – Stream Assignment due

Oct 26<sup>th</sup> – Proposal Due

Nov 7-11<sup>th</sup> – November Break, no classes

Nov 16<sup>th</sup> – Last day to cancel F section code courses from academic record and GPA

Dec 7<sup>th</sup> – classes end; Last day to add or remove a CR/NCR option in F courses.

Dec 9<sup>th</sup> – Research Paper due

## **COURSE POLICIES**

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. The UofT does not condone discrimination or harassment against any persons or communities.

### **Technology Requirements**

Specific guidance from the U of T Vice-Provost, Students regarding student technology requirements is available here:

<https://www.viceprovoststudents.utoronto.ca/covid-19/tech-requirements-online-learning/>

Advice for students more broadly regarding online learning is available here:

<https://onlinelearning.utoronto.ca/getting-ready-for-online/>

Our plan is to hold lectures in person, but we may pivot to using Zoom on occasion (e.g. guest lectures or if advised by health guidelines) for online teaching & learning in this course.

This course requires the use of computers, and of course sometimes things can go wrong when using them. You are responsible for ensuring that you maintain regular backup copies of your files, use antivirus software (if using your own computer), and schedule enough time when completing an assignment to allow for delays due to technical difficulties. Computer viruses, crashed hard drives, broken printers, lost or corrupted files, incompatible file formats, and similar mishaps are common issues when using technology, and are not acceptable grounds for a deadline extension.

### **Lectures/Copyright**

This course, including your participation, may be recorded on video and will be available to students in the course.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.

For questions about recording and use of videos in which you appear please contact your instructor.

### **Graded Material**

Any disputes or questions on graded material must be brought to the attention of the TA or instructor within 2 weeks of return or posting, otherwise will be considered final.

### **Submission of assignments:**

We will be using a plagiarism detection program within the online assignment function in Quercus for submission of the written assignments in this course. Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review

of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (<https://uoft.me/pdt-faq>).

If a student does not wish to submit to the online plagiarism tool, the student **MUST** advise the TA or instructors immediately as alternate arrangements for screening the assignment must be arranged.

To avoid late penalties, assignments must be submitted to the Quercus Assignment function before **midnight on the posted due date**.

When submitting your assignment on Quercus, the file should be saved in a single file, with an extension of .doc, .docx, .rtf, or .pdf.

In formatting your assignment it should:

- Include the following information on the front page: the assignment title (feel free to be creative, but representative), the course title and number, the instructor's name, the TA's name, your name and student number
- Be double spaced, using 12 point font, in black ink with 1" (2.5cm) margins;
- include page numbers

### **Late penalties**

The late penalty on all assignments will be 5% of the assignment grade per day late, including weekends and will only be waived with a completed Absence Declaration on ACORN

Please note that the declaration must cover the period of time you missed, e.g. the week before the assignment/essay is due.

**Assignments will NOT be accepted one week past the due date** even if an absence declaration is completed on ACORN unless prior approval has been obtained from the course instructors.

### **Academic Integrity**

**The following is taken from the Faculty of Arts and Science Academic Integrity website (<http://www.artsci.utoronto.ca/osai/students>):**

Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves.

Familiarize yourself with the University of Toronto's *Code of Behaviour on Academic Matters* (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>). It is the rule book for

academic behaviour at the U of T, and you are expected to know the rules. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Copying material word-for-word from a source (including lecture and study group notes) and not placing the words within quotation marks.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Including references to sources that you did not use.
- Obtaining or providing unauthorized assistance on any assignment including
  - working in groups on assignments that are supposed to be individual work,
  - having someone rewrite or add material to your work while "editing".
- Lending your work to a classmate who submits it as his/her own without your permission.

On tests and exams:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers
- Letting someone else look at your answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying or altering any documentation required by the University, including doctor's notes.
- Falsifying institutional documents or grades.

The University of Toronto treats cases of academic misconduct very seriously. All suspected cases of academic dishonesty will be investigated following the procedures outlined in the *Code*. The consequences for academic misconduct can be severe, including a failure in the course and a notation on your transcript. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. If you have questions about appropriate research and citation methods, seek out additional information from me, or from other available campus resources like the [U of T Writing Website](http://www.writing.utoronto.ca). If you are experiencing personal challenges that are having an impact on your academic work, please speak to us or seek the advice of your college registrar.

See also the handout "How Not to Plagiarize," Margaret Proctor, 2009, available online at <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>

## Evaluation criteria

**The following are criteria we will be using in evaluating written work as applicable:**

- **Mechanics:** Your work must be completely free of grammatical errors, spelling errors or major factual errors. Citations and references can be in any scientific style but the format must be used consistently and the references must be accurate.
- **Writing style:** Your papers should be written in a clear and unambiguous style which assists, rather than impedes, communication with the reader. Figures and Tables should be used carefully to convey information and the important information from them should be explicitly presented in the text.
- **Structure:** Your written work should have a clear focus, provided by the research question, and a structure which logically flows from that focus.
- **Precision and accuracy:** Precision means saying exactly and specifically what you mean, avoiding ambiguity and vague generalities. Accuracy refers to absence of major factual errors.
- **Analysis:** Your analysis should display understanding of the topic and, based on that understanding, originality of thought.
- **Discussion:** a clear and coherent presentation of findings as relevant to the research question posed as well as recognition of the relevance, shortcomings and potential for further efforts.
- **Creativity and feasibility of research question**
- **Research effort demonstration:** including breadth of data sources accessed, and manipulation and presentation of data

**The primary criteria used in evaluating oral presentations are the following:**

- **Success in communicating** key concepts succinctly and accurately, thereby demonstrating sound understanding of the work being presented.
- **Mechanics of communication**, such as manner of speaking (including good diction and tone), structure of the presentation and level of organization.
- **Ability to respond** appropriately and fairly to questions and contribute to and stimulate unstructured discussion among peers.

## ACCESSIBILITY NEEDS

The University of Toronto is committed to accessibility: if you require accommodations for a disability, or have any other accessibility concerns about the course, please contact [Accessibility Services](#) as soon as possible.

[disability.services@utoronto.ca](mailto:disability.services@utoronto.ca) or <http://studentlife.utoronto.ca/accessibility> .

## **ADDITIONAL SERVICES and SUPPORT**

The following are some important links to help you with academic and/or technical service and support

- General student services and resources at [Student Life](#)
- Full library service through [University of Toronto Libraries](#)
- Resources on conducting online research through [University Libraries Research](#)
- Resources on academic support from the [Academic Success Centre](#)
- Learner support at the [Writing Centre](#)
- Information for [Technical Support/Quercus Support](#)