

## **Course Outline Biol 398: Ecology of Urban Environments (Fall 2021, 3 credits)**

*In the event of (further) extraordinary circumstances and pursuant to the [Academic Regulations](#), the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of changes.*

**Instructor:** Dr. Carly Ziter, Department of Biology

**Contact:** please contact Dr. Ziter via Moodle. If you are unable reach me on Moodle (e.g. in case of technical difficulties), contact me via email at [carly.ziter@concordia.ca](mailto:carly.ziter@concordia.ca); please include the course number (BIOL 398) in the subject line of your email so I don't miss it.

**Message policy:** I will do my best to answer your messages promptly; however, expect that in some cases it may take up to 48hrs to receive a response (and plan accordingly!)

**Student Office Hours:** I will hold open office hours on Wednesday mornings from 9:30-10:30 on zoom. If you prefer to talk in person, I also typically remain available before and after class for 15-30 minutes to answer student questions. If you cannot accommodate these times, please contact me to schedule a meeting.

**Teaching Assistant:** TBA

**Course Delivery Mode:** This course is **blended**, which means a mix of **in person** and **online** activities. Accommodations will be made for those who are unable to attend in person activities. If you are unsure about your ability to participate in the course, please contact the instructor.

**Course Description:** Urbanization represents one of the most powerful, irreversible, and visible forms of global change, with over 50% of the world's people now living in cities. Urban ecology is the study of the processes, systems, and relationships between organisms that occur in these urban environments. This course will introduce students to the ecological features of cities, the processes determining patterns of abundance and distribution of organisms, and the interactions between "people and nature" in urban ecosystems. We will also discuss urban ecology as an interdisciplinary science, emphasizing links with social and physical sciences and humanities, as well as policy and planning. Students will leave this course with a stronger understanding of urban ecosystem function, and how urban nature and biodiversity are critical for making cities more sustainable, resilient, and equitable. Throughout this semester, students will engage in outdoor observation of local urban ecosystems, and participate in a group assignment with potential for "real world" application in partnership with Concordia's Office of Sustainability.

**Learning Goals:** By the end of this course, successful students will:

- Gain experience in conducting and sharing detailed observations of the natural world
- Gain experience in reading, interpreting, and discussing primary scientific literature
- Understand and be able to analyze how urban ecosystems function, the response of plants and animals to urban environments, and how urban areas affect local, regional, and global biodiversity patterns
- Be able to discuss the diverse ways that urban green space and trees contribute to human

health and wellbeing through the provision of ecosystem services

- Understand how cities are hybrid systems, co-produced and transformed by sociocultural, economic, political, technological and ecological processes
- Be able to synthesize and communicate their understanding of urban ecology through both oral presentations and written reports
- Improve their ability to collaborate effectively with peers through a final group project

**Prerequisites:** BIOL 226 or instructor permission

**Location:** CC 115 LOY. Note that some course activities will occur **online**, and others will occur **outdoors** (students will be informed in advance)

**Class Time:** Thursdays 2:45 – 5:30

**Course Materials:** There is no required textbook. All course materials are from publicly accessible sources, or available via library reserve. Students can access all readings on Moodle.

**How this Course will Work (Learning urban ecology, pandemic mode):**

Exceptionally for this semester, this course will be held in a *blended* format. Each week, we will use a combination of **asynchronous** learning (on your own time, via video lectures and weekly readings), and **in person** class discussions. Given our current learning environment, and the uncertainty of the pandemic, I have designed the course to focus on frequent small-to-medium assessments, in lieu of high stakes tests. ***Thus, there are no midterms or final exam, but you will be expected to read, write, and submit work consistently throughout the course.*** We will assess the course format throughout the semester – if it becomes increasingly unsafe for us to gather on campus, the course is designed to pivot to online learning if necessary.

The key components of the course are described briefly below, with further descriptions posted to Moodle as necessary.

**Weekly Content**

***Online (Video) Lectures:*** Most weeks, you will be responsible for viewing approximately 40 min to 1 hour of pre-recorded video content (from Dr Ziter, and/or guests where appropriate). Videos will be broken up into short, topic-specific segments (~20 minutes each), and captioned. Videos will cover main concepts of the course, and will complement the weekly readings.

***Weekly Readings:*** Reading and interpreting scientific writing is a core learning goal of this course. Weekly readings will consist of articles from the scientific literature, as well as “popular science” media (such as book chapters, news media, or blog posts) that complement the lectures and assignments for that week (~3 total readings per week).

***Class Discussions:*** During our scheduled class block, we will meet for ~75 minutes. This will include a 1-hour class discussion (or alternate activity), as well as time for questions about the course content and materials. Discussions will consist of a mix of smaller “breakout groups” and full-class discussion. This time is meant to discuss difficult class content, ask questions, and

engage with your classmates and instructors. Attending discussion is strongly recommended as it will greatly enhance your understanding and experience of the course material (and contributes to your course engagement grade). If you cannot attend in person, please contact the instructor to discuss suitable accommodations.

### **Graded Course Components:**

**Course Engagement (15%):** “Course engagement” components are designed to encourage consistent participation in the course throughout the semester. This includes:

***Class Discussion Participation:*** Each class activity/discussion period, your discussion group will be responsible for submitting a copy of your discussion notes on Moodle. Discussion notes should be relevant to that week’s readings, and can be submitted during class (no extra work after class!). *If you can’t attend discussion, please contact the instructor or TA to let us know you will be absent, and to discuss a suitable alternative.*

***Content Quizzes:*** There will be a short online quiz (~5 multiple choice questions) about each week’s reading and lecture material, due the *following week* (e.g. you will have 2 weeks to do each quiz). You have two chances to take the quiz, with the final grade consisting of the average of both attempts. Quizzes are designed to encourage you to stay up to date on course material.

Each quiz will end with a “minute paper”. This is a short writing activity, taking one minute or less to complete, in response to a simple question (e.g., “what was one aspect of this week’s material that you most wanted to learn more about”; “What was one aspect of this week’s material that was difficult or unclear”). Responses will help the instructor and TAs understand your interest and understanding of the course material, and provide us with feedback to improve the course as we go.

***Field Journal:*** Throughout the semester, each of you will be responsible for submitting at least 4 field journal entries, where you will record observations of the urban natural world.

### **Course Assignments (85%)**

As there are no exams for this course, the bulk of your grade is composed of written assignments. This includes 3 individual assignments submitted throughout the semester (about once per month), as well as a group assignment to be submitted at the end of term.

***Individual assignments (55%):*** There will be 3 course assignments over the course of the semester, which will assess your knowledge of the course material from the previous week(s). Assignments are designed to assess a wide range of learning goals, and to give students different ways to show their knowledge. They may include field/virtual observation, literature synthesis, or data interpretation and analysis.

***Final group assignment (30%) “Urban Ecology on Campus”:*** Throughout the semester, you will work in groups to develop and propose guidelines for a more ecologically managed campus (around a theme chosen in advance), integrating the knowledge you have gained about urban ecology. Assessment will include presentation components and a written report. This assignment will be done in partnership with

Concordia's Office of Sustainability, and is an opportunity to have your research heard by campus decision-makers.

**Putting it all together: what does a typical week of BIOL398 look like?**

Throughout the first part of the week (before Thursday), you should watch the weekly video content, and do the weekly readings, *on your own time*. During your class slot on Thursday, *attend the discussion* about that week's content facilitated by the instructor and TA. *Submit* any assignments, journal entries, or quizzes due that week on Moodle by their listed deadlines.

**EVALUATION**

**15% Course engagement**

- Class discussion notes (5%): based on completed notes for each discussion
- Field journal (5%): average of 4-5 submitted entries (you must submit at least 4 entries, i.e. you have *one free pass* over the course of the semester)
- Weekly content quizzes (5%): average of 8-10 submitted quizzes (you must submit at least 8 quizzes, i.e. you have *two free passes* over the course of the semester)

The grading scheme is deliberately generous to account for illness, work conflicts, family concerns, or other issues that may reduce your ability to participate fully in the course for a period of time. As such, late quizzes or journal entries will only be accepted under exceptional circumstances.

**55% Individual assignments (~18% for each assignment).** Assignments will be distributed via Moodle at least 10 days prior to their deadlines. Assignments must be submitted via Moodle by the deadline.

The following grading penalties will be applied to late assignments: 1 day or less - 10%; 1-2 days - 20%; 2-3 days - 35%; 3-4 days - 50%; 4-5 days - 70%; more than 5 days - 90%. However, if you cannot complete an assignment by the deadline for a valid reason, extensions may be granted by the instructor on a case-by-case basis. Extensions are expected to be requested in advance through a request to Dr. Ziter.

**30% "Urban Ecology on Campus" Assignment.** Groups will be established in week 3 of class (with consideration for student preferences/circumstances). Assessment will consist of class presentations, and a report. More detailed information to follow on Moodle.

**Grading scheme:** A+>90, A=85-89, A-=80-84, B+=77-79, B=73-76, B-=70-72, C+=67-69, C=63-66, C-=60-62, D+=57-59, D=53-56, D-=50-52, F<50.

**Tentative Schedule of Lecture Topics and Associated Assignments**

*Subject to change depending on how we progress with the material*

Date	To watch/listen on your time	To read (Readings on Moodle)	In person during scheduled class time	To submit (Friday 11:59PM)
<i>Introduction to urban ecology: How and why do ecologists study the city?</i>				

Wk 1 Sept 7-12	<b>Welcome to BIOL398</b> <i>Introduction to course outline</i>  <b>Why do ecologists study the city?</b> <i>Intro to urbanization and global change; why study urban ecology</i>	Week 1 readings	Introduction to the course ( <i>meet your classmates and professor, questions about course outline</i> )	Pre-course Survey
Wk 2 Sept 13-19	<b>How do ecologists study the city?</b> <i>Development and key principles of urban ecology; natural history</i>	Week 2 readings	Outdoor Class Activity and Discussion	
<b><i>Urban biodiversity and ecosystem services</i></b>				
<i>Note: Monday Sept 20<sup>th</sup> is the deadline for withdrawal with tuition refund (DNE) for fall term</i>				
Wk 3 Sept 20-26	<b>Biodiversity and ecosystem services in an urban context</b> <i>Intro to urban biodiversity and ecosystem services</i>	Week 3 readings	Class Discussion	Content quiz 1  Field journal 1
Wk 4 Sept 27- Oct 3	<b>Urban greening to support biodiversity and ES</b> <i>Urban forestry; challenges and benefits of urban greening</i>	Week 4 readings	Outdoor Class Activity and Discussion	Content quiz 2  <b>Assignment 1</b>
Wk 5 Oct 4 - 10	<b>Urban agriculture</b>	Week 5 readings	Campus Ag “fieldtrip” and Discussion	Content Quiz 3  Field journal 2
Wk 6 Oct 11- 17	<b>Urban wildlife and evolution</b> <i>Wildlife in the city; rapid urban evolution</i>	Week 6 readings	<i>ZOOM Discussion with <a href="#">Dr. Elizabeth Carlen.</a> Class 2:45-4:00 for everyone</i>	Content quiz 4
Wk 7 Oct 18- 24	<b>Urban water and watersheds</b> <i>Urban aquatic ecosystems; urban stream syndrome</i>	Week 7 readings	Class Discussion	Content quiz 5  <b>Assignment 2</b>
Wk 8 Oct 25- Oct 31	<b>Conservation close to home</b> <i>Backyard conservation; urban conservation case studies</i>	Week 8 readings	Class Discussion	Content quiz 6  Field journal 3
<b><i>Looking from the past to the future: building more resilient cities</i></b>				
Wk 9 Nov 1- 7	<b>Urban Ecology on Campus: Project Pitch Week</b>	<i>Reading time for final project</i>	<b>Full class period:</b> Final Project “Pitch” Day	Project Pitch
<i>Note: Monday Nov 8<sup>th</sup> is the deadline for academic withdrawal (DISC) for fall term</i>				
Wk 10 Nov 8- 14	<b>Historical legacies and urban ecosystems</b> <i>Land-use legacies; structural inequalities; vacant land ecology</i>	Week 10 readings	<i>ZOOM Discussion with <a href="#">Dr. Elsa Anderson.</a> Class time to be confirmed</i>	Content quiz 7 Field journal 4
Wk 11 Nov 15-21	<b>Environmental (in)justice and equity in urban environments</b> <i>Urban ecology and environmental justice; community engagement</i>	Week 11 readings	Class Discussion	Content quiz 8  <b>Assignment 3</b>

Wk 12 Nov 22-28	<b>Towards resilient future cities</b> <i>Nature based solutions; urban climate resilience; safe-to-fail infrastructure</i>	Week 12 readings	Class Boardgame activity and Discussion	Content quiz 9  Field journal 5
Wk 13 Nov 29 - Dec 3	<b>Final Project Presentations</b>	<i>No readings</i>	<b>Full class period:</b> Final Project Showcase	Content quiz 10
Exam Weeks	<b>Final Project Report Due: Dec 10</b>			

### Course/Classroom Policies and Resources

#### Accessibility

As the instructor of this class, I will strive to make the learning experience in this classroom as accessible and inclusive as possible. However, if you have accessibility needs that require academic accommodations, please meet with an advisor from the Access Centre for Students with Disabilities (ACSD) as soon as possible. The ACSD advisor will review your documentation and set an accommodation plan with you. I welcome meeting with you to discuss your accommodations. ACSD Contact information: [acsinfo@concordia.ca](mailto:acsinfo@concordia.ca); 514-848-2424 ext. 3525; SGW Campus, GM 300. <http://www.concordia.ca/students/accessibility.html>

#### Technology in the Classroom

This semester, we will rely on technology more than usual. In this class, we will use Moodle, as well as external software and/or websites such as **Zoom** to facilitate interactions and discussion. I trust students to use technology in ways that best facilitates their learning throughout the course; however, I ask that you be mindful of instances that might interfere with the learning of others (i.e., be respectful of your fellow classmates and the instructor on online forums and during synchronous meetings, and be mindful of ways your technology use may distract others). In particular, note the following:

**Video:** Seeing each other “face to face” during synchronous meetings can help build a sense of classroom community. However, I realize there are many reasons you may not want, or be able, to appear on camera during synchronous meetings or recorded presentations (including internet speed or access issues, family responsibilities, personal discomfort, etc.). In this class you may choose to appear on camera, appear on camera with a virtual background, or keep your camera off.

**Audio:** Please remember to mute your microphone unless you are actively speaking. This helps ensure that we can focus on the speaker, and avoid distraction by background noise. In small group settings, you may unmute to call attention to yourself when you want to add to the discussion. In a large group setting, I ask that you use the chat or “raise hand” function. You may also use the chat to contribute to the discussion rather than speaking.

**Recording:** Note that, as a part of this course, some or all of the lectures and/or other activities in this course may be recorded. Recordings will be focused on the instructor and will normally exclude students. It is possible, however, that your participation may be recorded. If you wish to ensure that your image is not recorded, speak to your instructor as soon as possible. Also, please

note that you may not share recordings of your classes and that the instructor will only share class recordings for the purpose of course delivery and development. Any other sharing may be in violation of the law and applicable University policies, and may be subject to penalties.

***Statement on Digital Access and Equality:*** Digital devices (like laptops and cell phones) are becoming increasingly important to success in university. In this online course, you will need digital devices to access readings, complete and submit written assignments, and coordinate with other students. I recognize that some students are unable to afford the cost of purchasing digital devices and that other students rely on older, more problem-prone devices that frequently break down or become unusable. I also recognize that technology problems can be a significant source of stress for students. Given those challenges, I encourage students to be aware of technology-related resources that Concordia University provides, including:

- Free Office software and data storage (*Active Concordia students have access to Office 365 Education - a collection of services that allows you to collaborate and share your schoolwork*): <https://www.concordia.ca/it/services/office-365-education.html>
- Access to free online support with issues related to Concordia technology (e.g., email, wifi, printing, device setup, etc.): <https://www.concordia.ca/it/support.html>
- Concordia resources to learn, teach, and work from home (including how to borrow equipment): <https://www.concordia.ca/it/support/learn-teach-work-from-home.html>

If you experience a technology-related problem that interferes with your work in this course that cannot be resolved through the above resources, please contact me. This will enable me to assist you in accessing support. *However, please note that you are expected to save backed up versions of your work (drop box or Google Drive work very well here). Thus, requests for accommodation on late or missed assignments due to a crashing computer (or similar) will not be considered.*

### **Students with young children**

Parental and student responsibilities sometime coincide. That's normal. This is particularly true during the COVID-19 crisis, when many students may have children at home more than usual. You are welcome to attend any virtual class sessions (or meetings with Dr. Ziter) with your children present. I simply ask that you remember to mute your mic when not speaking (*see technology section*) so interruptions do not interfere with others' learning. For further resources:

- Concordia University Student Parents Centre:  
<https://www.concordia.ca/students/parenthood.html>

### **Behaviour**

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications. Concordia students are subject to the [Code of Rights and Responsibilities](#) which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual.

## **Ethical Behaviour**

Plagiarism, or *“the presentation of the work of another person as one’s own or without proper acknowledgement”* is the most common offense under the Academic Code of Conduct. This includes material copied word for word from books, journals, Internet sites, professor’s course notes, etc. It refers to material that is paraphrased but closely resembles the original source. It also includes for example the work of a fellow student, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased from any source. Plagiarism does not refer to words alone –it can refer to copying images, graphs, tables and ideas. “Presentation” is not limited to written work. It includes oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into any other language and do not cite the source, this is also plagiarism.

Put simply, do not copy, paraphrase or translate material without stating clearly where you obtained it. (Source: The Academic Integrity Website: [concordia.ca/students/academic-integrity](http://concordia.ca/students/academic-integrity))

## **Intellectual Property**

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the [Academic Code of Conduct](#) and/or the [Code of Rights and Responsibilities](#). As specified in the [Policy on Intellectual Property](#), the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

## **Academic Advisors in Biology**

Head of Advising: Dr. Ian Ferguson, ext. 3425 ([ian.ferguson@concordia.ca](mailto:ian.ferguson@concordia.ca))

Advisor: Dr. Pat Gulick, ext 3407 ([patrick.gulick@concordia.ca](mailto:patrick.gulick@concordia.ca))

Undergrad Program Assistant: Ms. Leonie Morris, ext. 3400 ([leonie.morris@concordia.ca](mailto:leonie.morris@concordia.ca))

## **Additional Campus Resources**

The resources listed below (and many others) are in place to help you succeed at Concordia. **Everyone faces challenges at some point, and often a new environment or difficult and stressful situations (i.e., university, remote learning, COVID-19) mean we may need additional help.** I encourage you to look into the various resources available at Concordia. If you need assistance and cannot find the appropriate resources, please reach out to me, your academic advisor, or another trusted campus advisor.

**Student resources during COVID-19:** <https://www.concordia.ca/coronavirus/students.html>

**Resources for health, wellbeing, and student success:**

- Student Hub: [concordia.ca/students](http://concordia.ca/students)
- New Student Program: <http://newstudent.concordia.ca/>



- Health Services: <https://www.concordia.ca/students/health.html>
- Counselling and Psychological Services: <http://cdev.concordia.ca/>
- Sexual Assault Resource Center: <https://www.concordia.ca/students/sexual-assault.html>
- Indigenous Student Resources: <https://www.concordia.ca/about/indigenous/resources.html>
- International Student Resources: <https://www.concordia.ca/students/international.html>
- The Concordia Black Perspectives Initiative: <https://www.bpiconcordia.com>
- Financial Aid and Awards: <http://faao.concordia.ca/main>
- Dean of Students Office: [concordia.ca/offices/dean-students](http://concordia.ca/offices/dean-students)

***Resources related to academic success and integrity***

- Academic Integrity Website: <http://www.concordia.ca/students/academic-integrity.html>
- Student Advocacy Office: <https://www.concordia.ca/offices/advocacy.html>
- Student Success Centre: <http://www.concordia.ca/students/success.html>
- Student Writing Centre: <http://www.concordia.ca/students/success/learning-support/writing-assistance.html>
- Library and Citation Style Guides: <http://library.concordia.ca/help/howto/citations.html>

***Basic Needs:*** Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students Office or Concordia Student Union for support, and/or access the following resources:

- Affordable Food Resources at Concordia and in Montreal: <https://www.concordia.ca/students/health/topics/nutrition/affordable-food-resourcesinmontreal.html>
- Student Emergency and Food Fund: <https://www.concordia.ca/students/spirituality/emergency-food-fund.html>
- Concordia Off-Campus Housing and Job Support: <https://www.concordia.ca/students/international/sessions-workshops/housing-support.html>
- Concordia Housing and Job Bank (HOJO): <https://www.csu.qc.ca/services/housing-and-job-bank-hojo/>