

BIOL535 Urbanization & Biodiversity

Winter 2026

3.0 credits

PREREQUISITES: Level 4 and registration in a Biology Honours Plan (BIOL-M-BSH, BIOL-P-BSH, BIMA-P-BSH, BIPS-P-BSH, BTEC-P-BSH, EBIO-P-BSH) and a minimum GPA of 2.0 in the Biological Foundations List or permission of the Department.

Biological Foundations List:

BIOL 102/3.0; BIOL 103/3.0; BIOL 200/3.0; BIOL 201/3.0; BIOL 202/3.0; BIOL 205/3.0; BIOL 206/3.0; BIOL 212/3.0; BIOL 300/3.0; BIOL 330/3.0; BIOL 334/3.0; BIOL 339/3.0; BIOL 341/3.0; BIOL 302/3.0; BIOL 303/3.0.

Course Description

This course reviews the many ways that organisms respond to urbanization and the challenges of living in urban areas, encompassing physiological, behavioural, and life history responses of individuals, evolutionary adaptations of populations, and changes in composition and dynamics of ecological communities. Discussions will focus on broad patterns that help us better understand how cities impact biodiversity, and why some organisms tolerate urban challenges so much better than others.

Important University Dates

Please visit the [Faculty of Arts and Sciences Sessional Dates website](#) for all academic deadlines.

Equity, Diversity, and Inclusivity Statement

Queen's University recognizes that the values of equity and diversity are vital to and in harmony with its educational mission and standards of excellence. It acknowledges that direct, indirect, and systemic discrimination exists within our institutional structures, policies, and practices and in our community. These take many forms and work to differentially advantage and disadvantage persons across social identities such as race, ethnicity, disability, gender identity, sexual orientation, faith, and socioeconomic status, among other examples. In this class, I will work to promote an anti-discriminatory, anti-racist, and accountable environment where everyone feels welcome. Every member of this class is asked to show respect for every other member.

Course Learning Outcomes

Upon successful completion of this course students will be able to:

1. Apply broad ecological and evolutionary theory to better understand the effects of urbanization on biodiversity.
2. Share critical evaluations of theory and empirical evidence that indicates how urbanization impacts biodiversity.
3. Synthesize knowledge across multiple primary research studies to summarize one focal area of research in **an oral presentation** to the class.

4. Synthesize knowledge across multiple primary research studies to summarize the course content in a **written review paper**.
5. Identify gaps in knowledge in the field of urban ecology and evolutionary biology, and propose research approaches to filling those gaps.

Expectations for Submission of Work

Students are expected to submit all assessments **by the posted due date**. In-class presentations must proceed as scheduled, as they comprise class content on several dates, and so aren't easily adjusted. The final written assignment will have a three-day grace period. That is, your assignment is due on the due date posted, but will be accepted without penalty up to 72 hours afterwards. Flexibility for short-term academic consideration is therefore built into this assignment's due date, and will not be extended past this 3-day grace period without prior arrangement, and approval of a long-term Academic Consideration.

Course Materials

All course readings will come from the published research literature, and will be posted on the course OnQ page prior to class.

Course Timeline

- The class will start with 2 weeks of presentations and discussions led by the instructor. These class sessions will introduce students to the field of research and provide a foundation for their in-class presentations.
- Weeks 3-11 of the course will involve focused presentations and discussions led by students on a topic of their choice within the broad framework of the course (list of options to be provided by the instructor). Depending on course enrolment, guest lectures from Urban Ecology & Evolution researchers might be interspersed with these student presentations during these weeks.
- Week 12 will involve a final wrap-up and summary of course material.

Suggested Time Commitment

This is a 3 credit course, so students should expect to spend an average of 10 hours per week on work related to this course. This work includes attendance of class sessions (3hrs/week), independent reading and preparation for sessions (~2-3hrs/week), research and preparations for your in-class presentation, and writing a final review paper. There is no final exam for BIOL535.

Assessment of Learning Outcomes

Assignment	Assignment Description	Learning Outcomes	Assignment Weight
Participation	Throughout this course, you will have a variety of opportunities to participate in class discussions to demonstrate your understanding of broad ecological and evolutionary theory and apply it to the course topics, to critically evaluate evidence related to course topics, and to identify gaps in the research literature. You will be assessed on the quality and level of your participation during all class sessions.	LO1; LO2 & LO5 (see above)	15%
In-Class Oral Presentations	Working with a partner, you will develop 2 presentations, each based on one focal research area. The presentations should guide students through an in-depth review and critical evaluation of the concepts and evidence relevant to your topic.	LO3	45%
Written Literature Review	You will write a review paper that synthesizes and summarizes broadly, across the research covered throughout the semester, describing your individual perspective on the course content as a whole.	LO4	40%

Grading Scheme and Grading Method

All components of this course will receive numerical marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale. Final numeric marks will be determined by simple rounding rules. Grade "bumps" beyond this rounding will not be provided, even if a numeric mark falls close to a letter grade boundary.

Questions about the Course

Throughout this course, you may come upon general questions about the course and assignments. If you think that the answers to your question may benefit other students, you are invited to post your question in an OnQ Discussion thread, or ask your questions during class time. Please email your instructor for any questions that you would prefer to share privately, and expect a response back within ~48 hours (except on weekends).

Course Announcements

I will post announcements to the course OnQ site, and via email to the @queensu email address that I have for each student, as needed.

Policies

Class Attendance

Your presence and participation in this discussion-based class contributes to the knowledge and skills that you will develop throughout this course. I expect that all students will attend class and participate in class conversations. These types of activities provide active engagement, promote a deeper understanding of the course content, and contribute to your success in this course. Students will be marked on participation in class discussions. Students with extenuating circumstances must use the [Academic Considerations portal](#) to request excused absences.

Academic Support

All undergraduate students face new learning and writing challenges as they progress through university: essays and reports become more complex; effectively incorporating research into writing becomes more important; the types of assignments become more diverse; managing your time and developing the skills you need to read and think critically gets more challenging. I encourage students to contact Student Academic Success Services (SASS). SASS offers many different ways to receive support:

- Free online or in-person [appointments](#) to get personalized support on writing and academic skills from expert staff and trained peers.
- [Workshops](#) and [drop-in programs](#). SASS' [Events Calendar lists events coming soon](#).
- [Online resources](#) that provide strategies for academic skills and writing development at university.
- If English is not your first language, SASS has specific resources for [English as Additional Language students](#), including weekly programs and EAL academic skills appointments. You can meet on an ongoing basis with an EAL consultant to work on your academic writing, speaking, listening, and reading skills.

Accommodations for Disabilities

Queen's University is committed to working with students with disabilities to remove barriers to their academic goals. Queen's Student Accessibility Services (QSAS), students with disabilities, instructors, and faculty staff work together to provide and implement academic accommodations designed to allow students with disabilities equitable access to all course material (including in-class as well as exams). If you are a

student currently experiencing barriers to your academics due to disability related reasons, and you would like to understand whether academic accommodations could support the removal of those barriers, please visit the [QSAS website](#) to learn more about academic accommodations or start the registration process with QSAS by clicking **Access Ventus** button at [Ventus | Accessibility Services | Queen's \(queensu.ca\)](#)

VENTUS is an online portal that connects students, instructors, Queen's Student Accessibility Services, the Exam's Office and other support services in the process to request, assess, and implement academic accommodations.

To learn more go to: <https://www.queensu.ca/ventus-support/students/visual-guide-ventus-students>

Academic Consideration for Students in Extenuating Circumstances

Academic Consideration is a process for the University community to provide a compassionate response to assist students experiencing unforeseen, short-term extenuating circumstances that may impact or impede a student's ability to complete their academics. This may include but is not limited to any extenuating circumstance (illness, bereavement, traumatic event, injury, family emergency, etc.) which is short-lived, begins within the term, and will not last longer than 12 weeks - see [Academic Consideration](#) webpage for details

(<https://www.queensu.ca/artsci/undergraduate/student-services/academic-consideration>)

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. For more information, undergraduate students in the Faculty of Arts and Sciences should consult the Faculty's webpage on [Academic Consideration in Extenuating Circumstances](#) and submit a request via the [Academic Consideration Request Portal](#). Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their instructor and/or course coordinator as soon as possible once academic consideration has been granted. Any delay in contact may limit the options available for academic consideration. While we encourage instructors to accommodate, each instructor has discretion in deciding whether or how to apply the Academic Consideration. For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, please see the Faculty of Arts and Science's [Academic Consideration website](#). ASO courses include links to information on **Academic Consideration** on your **Course Homepage** in onQ.

For more information, please see the [Senate Policy on Academic Consideration for Students in Extenuating Circumstances](#).

Queen's Policy Statement on Academic Integrity

Queen's University is dedicated to creating a scholarly community free to explore a range of ideas, to build and advance knowledge and to share the ideas and knowledge that emerge from a range of intellectual pursuits. Each core value of academic integrity, as defined in the [Senate Academic Integrity Policy](#), gives rise to and supports the next. Honesty appears in presenting one's own academic work, whether in the context of an examination, written assignment, laboratory or seminar presentation. It is in researching one's own work for course assignments, acknowledging dependence on the ideas or words of another and in distinguishing one's own ideas and thoughts from other sources. It is also present in faithfully reporting laboratory results even when they do not conform to an original hypothesis. Further, honesty is present in truthfully communicating in written and/or oral exchanges with instructors, peers and other individuals (e.g. teaching assistants, proctors, university staff and/or university administrators).

Trust exists in an environment in which one's own ideas can be expressed without fear of ridicule or fear that someone else will take credit for them.

Fairness appears in the proper and full acknowledgement of the contributions of collaborators in group projects and in the full participation of partners in collaborative projects.

Respect, in a general sense, is part of an intellectual community that recognizes the participatory nature of the learning process and honours and respects a wide range of opinions and ideas. However, "respect" appears in a very particular sense when students attend class, pay attention, contribute to discussion and submit papers on time; instructors "show respect by taking students' ideas seriously, by recognizing them as individuals, helping them develop their ideas, providing full and honest feedback on their work, and valuing their perspectives and their goals" ("[The Fundamental Values of Academic Integrity](#)", 3rd Edition, p. 8).

Ultimately, responsibility is both personal and collective and engages students, administrators, faculty and staff in creating and maintaining a learning environment supported by and supporting academic integrity.

Courage differs from the preceding values by being more a quality or capacity of character – "the capacity to act in accordance with one's values despite fear" ("[The Fundamental Values of Academic Integrity](#)", 3rd edition, p. 10). Courage is displayed by students who make choices and courageous decisions that are followed by action, even in the face of peer pressure to cheat, copy another's material, provide their own work to others to facilitate cheating, or otherwise represent themselves dishonestly. Students also display courage by acknowledging prior wrongdoing and taking proactive measures to rectify any associated negative impact.

All of these values are not merely abstract but are expressed in and reinforced by the University's policies and practices.

Policy on Use of Generative AI Tools

Using generative AI writing tools such as ChatGPT in your submitted work **is not permitted in this class**. This type of use constitutes a departure from academic integrity. Original work, completed wholly by you, is expected to be submitted in this course.

Queen's [Student Academic Success Services](#) (SASS) offers a self-directed, online academic integrity module which we encourage all students to take which will help with:

- Understanding the nature of the academic integrity departure
- Understanding the expectations of and role of sources in scholarly writing
- Integrating sources into your writing (paraphrasing, quoting, summarizing)
- Understanding when and how to cite your sources
- Managing your time effectively to avoid the need for shortcuts
- Taking effective notes to ensure accuracy of source material and correct attribution

Turnitin Statement

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely for the purpose of detecting plagiarized text in this course. Data from submissions is also collected and analyzed by Turnitin for detecting Artificial Intelligence ([AI-generated text](#)). These results are not reported to your instructor at this time but could be in the future.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. The similarity report generated after an assignment file is submitted produces a similarity score for each assignment. A similarity score is the percentage of writing that is similar to content found on the internet or the Turnitin extensive database of content. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

Please read Turnitin's [Privacy Policy](#), [Acceptable Use Policy](#) and [End-User License Agreement](#), which govern users' relationship with Turnitin. Also, please note that Turnitin uses cookies and other tracking technologies; however, in its service contract with Queen's Turnitin has agreed that neither Turnitin nor its third-party partners will use data collected through cookies or other tracking technologies for marketing or advertising purposes.

For further information about how you can exercise control over cookies, see [Turnitin's Privacy Policy](#).

Turnitin may provide other services that are not connected to the purpose for which Queen's University has engaged Turnitin. Your independent use of Turnitin's other

services is subject solely to Turnitin's Terms of Service and Privacy Policy, and Queen's University has no liability for any independent interaction you choose to have with Turnitin.

Copyright of Course Materials

Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the instructor's intellectual property. It is a departure from academic integrity to distribute, publicly post, sell, or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution (including note sharing sites), posting, sale or other means of dissemination without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Late Policy

The only assignment with any potential for flexibility in due dates is your written literature review. As described above, that assignment will be associated with a 72-hour grace period, and no work will be accepted after that grace period without prior arrangements. In-class oral presentations must proceed as scheduled, as they comprise class content for their scheduled session. Students can arrange to swap presentation dates as needed, provided all students involved agree to the altered schedule.

Discussion Guidelines

University is a place to share, question, and challenge ideas. Each of us brings a different set of lived experiences. We can all help to create a safe, respectful learning environment by promoting and adhering to the following guidelines:

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on other people's lives and make sure your language is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. It's alright to disagree with ideas, but do not make personal attacks.
6. Be open to being challenged or confronted on your ideas and challenge others with the intent of facilitating growth. Do not demean or embarrass others.
7. Encourage others to develop and share their ideas.