



COURSE DESCRIPTION

Welcome to Urban Environments! Urban environments are the ecosystems in which over half of the world's human population lives. In this course, we will explore the relationships between human and ecological systems in the context of urban ecosystems. Our grand challenge is to reimagine these relationships. *We have an opportunity, and an obligation, to make our cities and world more equitable, resilient, and sustainable.* Throughout this course, we will consider how social, ecological, and technological domains can be integrated to better manage urban ecosystems. Students will demonstrate and apply systems approaches across the four modules covered in this course:



Urban Physical Environment



Urban Ecosystem Processes



Urban Ecosystem Structure



Urban Ecosystem Change

LEARNING OUTCOMES AND GOALS

By the end of the course you should be able to:

1. Identify and critically evaluate a variety of urban environments challenges
2. Compare and contrast the different approaches and methods to address these challenges at local, regional, and global scales
3. Apply systems approaches to understand the relationships and feedbacks among social, ecological, and technological domains of the urban environment
4. Synthesize the concepts to develop research questions and approaches to address urban sustainability and resilience challenges

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and by appointment

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I am happy to meet with you whenever you need. Please email me to set up a meeting.

COURSE FORMAT

Classes will consist of lectures, discussions, and individual and team activities. Students will be required to attend class on and actively participate. Lectures that include presentation material will be posted on iCollege after each class, but these should not be a substitute for taking notes.

This class is cross-listed for undergraduate (URB 4660 / GEOG 4020) and graduate (URB 8660 / GEOS 6020) students. Although many of the requirements for the undergraduate and graduate sections of the course are the same, the expectations and evaluation of student work are not. Undergraduate students will be evaluated based on expectations of an upper-level undergraduate course, and graduate students will be assessed based on expectations of graduate work.

The ways in which assignments differ are the following:

- Undergraduate students enrolled in URB 4660 and GEOG 4020 will take two comprehensive exams.
- Graduate students enrolled in URB 8660 and GEOS 6020 will develop research proposals, lead the development of Integrative Discussions, and have additional readings and short assignments.

COURSE REQUIREMENTS

iCollege is an essential resource for this class. Students must be diligent in checking it for readings, assignments, and announcements.

Required Text. Adler F. and C. Tanner (2013). *Urban Ecosystems: Ecological principles for the built environment*. ISBN-10: 0521769841. Print and electronic versions of the textbook are available to buy or rent from the GSU bookstore and other locations.

Additional readings from other books, news articles, and primary literature will be provided on iCollege.

Late Assignments. Students are responsible for all assignments, even if they are absent. Late papers, failure to complete the readings assigned for class discussion, and lack of preparedness for in-class discussions and presentations will jeopardize your successful completion of this course. Significant lateness will be considered as an absence for the day. Late work will be accepted at a penalty of 20% of the assignment grade.

Attendance Policy. Class participation is a vital part of the class and includes: keeping up with reading; contributing meaningfully to class discussions; actively participating in group work; and attending class regularly and on time. You are required to attend every class, and please be on time. More than two absences will justify a grade reduction. Attendance and lateness policies will be enforced as of the first day of classes for all registered students. If registered during the add/drop period, you are responsible for missed assignments, readings, or other coursework.

ASSIGNMENTS AND GRADING

All assignments will need to reflect professional standards of analysis, ethics, presentation, writing, and timeliness. Grades will be awarded based on the following:

URB 4660 / GEOG 4020

Participation and Discussion20%
Short Assignments20%
Integrative Discussions20%
Exams*40%

URB 8660 / GEOS 6020

Participation and Discussion20%
Short Assignments20%
Integrative Discussions20%
Research Proposals*40%

GRADING SCALE

A+	(97–100)	B+	(89–87)	C+	(79–77)	D	(69–60)
A	(96–90)	B	(86–80)	C	(76–70)	F	(59–0)

PARTICIPATION AND DISCUSSION

20%

You must attend every class with a readiness to actively contribute to in-class discussions and activities. You are required to complete all assigned readings before class. Ask questions, respond, and participate in class and the iCollege Discussions. For each module, post in the iCollege Discussions at least one thought-provoking question, comment, or response for online discussion based on the readings, lecture, or course material.

SHORT ASSIGNMENTS

20%

You will have short assignments associated with readings, activities, and guest seminars. These short assignments will help you synthesize readings and discussions, identify areas that need further clarification, and gauge your reaction to course material.

INTEGRATIVE DISCUSSIONS

20%

You will be assigned to small teams to lead Integrative Discussion. Students will lead the Integrative Discussions, including a presentation to synthesize the concepts from their assigned module, engage the class with the material, and apply this knowledge to urban environmental challenges and solutions in Atlanta and for current events.

EXAMS* (URB 4660 / GEOG 4020 ONLY)

40%

Two take-home exams will be posted on iCollege. Exams will be comprehensive, designed to showcase what you have learned and how your scientific and critical reasoning skills have advanced as a result of this course.

RESEARCH PROPOSALS* (URB 8660 / GEOS 6020 ONLY)

40%

The research proposal on urban environments will be developed in two stages: a short-form proposal and a full research proposal. Feedback from the short-form proposal will be used to develop your full research proposal.

COURSE SCHEDULE

MODULES	TOPICS	DATES
Course Intro	Introduction, frameworks, and topics	Jan 11
Module 1 – Urban Physical Environment		
1.1	Climate and urban climate	Jan 18
1.2	Hydrology and urban water	Jan 18
1.3	Urban air and air pollution	Jan 25
1.4	Integrative Discussion 1	Feb 1
Module 2 – Urban Ecosystem Structure		
2.1	Organizational levels; Flora and plant ecology in cities	Feb 1
2.2	Organisms in cities; Species interactions	Feb 8
2.3	Biodiversity, conservation, and extinction	Feb 8
2.4	Integrative Discussion 2	Feb 15
★	Exam 1 / Short-form research proposal	Feb 22
Module 3 – Urban Ecosystem Processes		
3.1	Net production, carbon storage, and metabolism	Mar 1
3.2	Urban nutrient cycles and biogeochemistry	Mar 1
3.3	Urban services and human well-being	Mar 8
3.4	Integrative Discussion 3	Mar 22
Module 4 – Urban Ecosystem Change		
4.1	Urban growth (and shrinking)	Mar 22
4.2	Urban adaptation and succession	Mar 29
4.3	Urban sustainability and resilience	Mar 29
4.4	Urban transitions and transformations	Apr 5
4.5	Integrative Discussion 4	Apr 12
★	Exam 2 / Full research proposal	Apr 19

The course syllabus provides a general plan for the course; deviations may be necessary.
Please regularly check iCollege for updates.

SUPPORT STATEMENTS

INCLUSIVITY STATEMENT

I understand that students come from a variety of backgrounds and perspectives. I am committed to providing a learning environment that respects diversity. To build this community, I ask my students to:

- Share their unique experiences, values, and beliefs
- Be open to the views of others
- Honor everyone's uniqueness
- Appreciate the opportunity that we have to learn from each other in this community
- Value each other's opinions and communicate in a respectful manner
- Keep confidential discussions that the community has of a personal (or professional) nature

STUDENTS WITH DISABILITIES

If you need accommodation for a disability, you may do so by registering with the Georgia State University Office of Disability Services either by coming in-person or online. You will be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan, and then you are responsible for emailing the copy of that plan to me and faculty of all the classes in which you need accommodations. To register for accommodations, please follow this [link](#).

For more information, contact the GSU Office of Disability Services, Phone: (404) 413-1560, Email: dismail@gsu.edu, Website: disability.gsu.edu, Address: Student Center East, Suite 205, 55 Gilmer Street, Atlanta, GA 30303

LANGUAGE IN ADDRESSING STUDENTS

Students can designate a preferred first name in several campus systems, including class rosters and iCollege. Please review the Office of the Registrar website for more information.

Even if you have not changed your name in this system, I will gladly honor your request to address you by your preferred name and pronouns. Please advise me of this as early as possible so that I may make appropriate changes to my language throughout the semester and encourage other students to do so as well.