**BIOL 5440 Course Description:** Applying the principles of modern ecology to urban ecosystems. Detailed examination of how altered flows of energy, water, and nutrients affect plants, animals and ecological communities in highly modified environments.

**CMP 6610 Course Description:** Urban ecology discusses the convergence of natural systems with human habitation and civilization. It explores the capacity for synthetic cooperation between natural and cultural systems which lessens the conflict between them and offers opportunities for innovative design and planning applications by enhancing local ecosystem services.

**Combined Course Description:** The two catalogue descriptions above illustrate that the study of urban ecosystems involves both biological and social perspectives on the science of ecology. We will try to integrate these two perspectives in this class. Urban ecological processes are dominated by human activities and decision-making, but also interact with the local environment and with other organisms to influence biodiversity, habitat, resources, pollution, public health, and many other aspects of human-environment interactions. We will examine different methods and perspectives of the study of cities as ecosystems, and the implications for urban policy, planning, and design. We will focus on several case studies in Salt Lake City and its surroundings, which will provide a framework for place-based urban ecology.

**Course Outcomes:** By the end of this course, you will be able to:

- Apply the definitions of ecology and their associated methodologies in both the biological sciences and planning fields.
- Analyze the inter-relationships among the natural and built environments of cities, and how these complex relationships have led to unintended consequences for both human well-being and the environment.
- Apply urban ecological research methods for answering questions about the functioning of cities.
- Design and carry out experiments and plans in interdisciplinary teams.
- Communicate clearly and effectively through oral, written, and visual/graphic means.
- Proactively source and synthesize a wide range of quantitative and qualitative information to generate new knowledge in urban ecosystem science and its application to urban health and wellbeing.
Teaching and Learning Methods: This course is problem-based and employs active learning. There will be some short lectures, but this may not be the class for you if you prefer to watch long lectures without getting engaged. In addition to short class activities, you will also work in interdisciplinary teams on an applied project that will be graded in phases throughout the semester. Some of this work will take place outside of class hours, but some will occur during the class period. Therefore, attendance is essential. Exams will be based on understanding concepts, not memorization. It will be very difficult to succeed in this class without attending almost every class session.

Classes: Class on most Tuesdays will be lecture and discussion to present general concepts. On Thursdays, we will explore particular points in more detail with a guest, a field trip, focused discussion, or a group activity.

Readings and Assignments: Weekly readings are due before class. On Tuesdays, our in-class lectures and activities assume that you have already done the assigned textbook and supplemental reading for that week. You won’t get much out of your time in class if you skip the readings. Everyone gets busy during the semester and readings tend to fall by the wayside. . . so, each week there will be quiz in Canvas due before Tuesday’s class to make sure that you’ve understood the key points from the reading assigned for that week. No one likes quizzes, but this is the only way to keep readings high on the priority list they are important! Every semester we try to make sure the readings are current, relevant, and engaging.

Deliverables: Grades will be determined by performance on the following elements.

1. Midterm (20%),
2. Take-home final, handed out on April 24, due in one week (20%),
3. One or two weekly homework problems, due on the Tuesday of the next week (15%),
4. Four one page essays to be done individually based on the readings, consisting of a summary of the paper followed by a reflection on a particular strength, weakness, application or other extension of the article (15%), due on the Thursday of the assigned week,
5. One research proposal, developed in groups and ideally inspired by a field trip or discussion (15%), due on April 24,
6. Participation in discussions and other class activities (15%).

Canvas: This syllabus and all course material including assignments, readings (except the textbook), announcements, and other useful information can be found on the Canvas site for this course. Weekly quizzes on the readings will be submitted through Canvas.

Grading Policy (Evaluation Methods & Criteria): You will be graded on weekly quizzes (10%), in-class assignments (5%), two exams (40%) and a capstone project (45%). Weekly quizzes are based on the readings and should be completed individually. The exams will focus on the material we cover in class. The capstone project is a group project that will have three phrases, each worth 15% of your grade.

Weekly quizzes are due in canvas on the due date. 10 points (on a scale of 0 to 100) will be deducted each day for late assignments. There are no exceptions to this policy.

This class is focused on understanding concepts, not memorization; therefore exams are open book and open notes. Many aspects of urban ecology are quantitative so some simple calculations may be required, as well as short essay questions. Study questions are provided at the end of every
lecture so you will know which concepts are important for you to learn. Assigned grades are final and non-negotiable; requests for grade changes will be denied.

**Classroom etiquette.** Students will maintain a respectful and safe learning atmosphere, and class will be cancelled if this atmosphere is violated.
Watch the web site in case the readings are updated. The starred readings (first one in the list if there is more than one) will be the subjects for the one page essays, due on Thursday of the assigned week.

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<th>Topic</th>
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<th>Reading</th>
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University Policies 1. The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services. 2. Addressing Sexual Misconduct. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS). 3. Student Code: http://regulations.utah.edu/academics/6-400.php 4. Accommodation Policy (see Section Q): http://regulations.utah.edu/academics/6-100.php

Course Policies: It is my responsibility to come to class on time and prepared, to be available during office hours and by email to answer your questions, and to grade your assignments and exams fairly and in a timely manner.

It is your responsibility to come to class on time and prepared, to turn in your assignments on time, and to complete your assignments and exams honestly, refraining from academic misconduct as defined in the campuswide Student Code. Documented cases of academic misconduct will result in sanctions according to university policy.

Attendance & Punctuality: Attendance of all class sessions is highly recommended. Attendance will not be recorded; however, 5% of your grade will be based on assignments that are completed and turned in during class. You can miss one of these assignments without penalty. If you will be absent from class for officially sanctioned university activities or government obligations ("type 1" absences as defined in Policy 6-100-III-O), you can arrange for a makeup assignment with at least 1 week notice beforehand. For illnesses or other emergencies, you can request a makeup assignment no more than twice during the semester. Please be punctual: late-comers may be subject to some degree of public chastisement.

Food & Drink: Beverages will be allowed within reason. Please respect our janitorial staff and leave the classroom as clean as you found it.

Electronic Devices in Class: With the exception of exams, laptops and other electronic devices are allowed in our classroom if you are using them for taking notes or otherwise taking part in the classwork of this course. At the discretion of the instructor or teaching assistant, you will be asked to turn off your devices if you are using them for non-academic purposes in class. No electronic devices will be allowed during in-class exams.

Note: This syllabus serves as an outline and guide for our course. Please note that we may modify it with reasonable notice to you. We may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas under Announcements.
References


