

Fall 2020

GEOG/ENVI 203-01
Introduction to Urban Ecology

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Course Introduction

Urban ecology is both a concept and a field of study. It focuses on interactions between humans, urban ecosystems, and the built environment. With over half of the world's population now living in cities, cities have assumed a critical role in shaping local, regional, and global ecologies. In this course, we will examine the distinctiveness of the interconnected urban biophysical, socio-economic, and political processes. In order to disentangle the complexity of human-environment relations in cities, we will take an interdisciplinary approach and learn theories and concepts in natural science ecology, environmental studies, geography, urban planning, sociology, and public policies. We will use our campus and the Twin Cities as a "living laboratory" and apply these theories and concepts to laboratory exercises, field observation, case studies, and research on contemporary urban sustainability initiatives.

Learning Objectives

Upon the successful completion of this course, you should be able to:

- Comprehend basic ecological and environmental concepts and principles related to urban ecosystems;
- Understand major arguments in and the critical concerns of urban political ecology;
- Describe and appreciate the complex and diverse relationships between cities and ecology, and between humans and the built environment;
- Apply principles and concepts of urban ecosystems to analyze our surrounding urban habitats;
- Compare and contrast different visions and perspectives of urban ecological sustainability initiatives across world regions;
- Critically discuss contemporary socio-economic issues of urban ecology in different urban contexts;
- Make policy recommendations for a more sustainable urban future.

Attendance

Attendance plays an essential role in learning; you are warmly invited, encouraged, and expected to attend all synchronous meetings. Attendance will be important not only for your learning, but also for our ability to build a community together and maintain a sense of connection and commitment to one another during this time of imposed physical distance. Your presence in class matters.

I recognize that there are unavoidable circumstances that sometimes make it impossible for you to attend class. Although I hope it isn't the case, those unavoidable circumstances may be more common during this module given that we are in the midst of a pandemic. If you will not be in class for any reason, it is your responsibility to inform me in advance via email. It is also your responsibility to make up work you missed in your absence. Students with special needs should discuss their accommodations with me early in the course to work out a plan that aligns with maintaining course expectations and learning goals.

Participation

Participation is distinct from attendance and is also an essential part of this course. In-class discussions (in-person or via online platform), on-line discussion forums, responses to brief ungraded writing assignments, etc. will be factored into your participation grade. Engaging with the virtual, synchronous and asynchronous classroom space — including by helping to create an environment where all of us can learn and think well about one another — will also be factored into participation. Students with any concerns, questions, or need for consideration for flexibility should connect with me as soon as possible to determine an appropriate plan.

Required Readings

The lectures and activities will make the most sense if each week's readings are completed *before* the relevant lectures and activities. It will be almost impossible to cover and understand the required readings if you leave them to the last minute. This makes it strongly advisable that you stay on top of each week's lectures, learning activities, and readings.

There is one required text for this course:

Douglas, I. and James, P. 2015. *Urban Ecology: An Introduction*, Routledge.

And one supplement book:

Beisner, B., Messier, C. and Giraldeau, L. 2013. *Nature All Around Us*, University of Chicago Press.

Other required readings and supplement materials will be posted on the course Moodle site. Unless otherwise stated, audio or video clips used in class will also be available on the course Moodle site.



Producing a Positive Learning Environment

To give students the opportunity to think about urban (political) ecology in new ways, we need to work together to create a positive learning environment. For this to happen, I expect your cooperation in at least three ways:

- Respect the rights of other students to learn.
- Acknowledge and respect the diversity of participants in this class. Discussion of controversial issues is encouraged. Even if you don't agree with the points of view of others, as citizens of this class we all share a responsibility for respecting all individuals as fair-minded persons. Diversity is a strength in our society at large and here at Macalester College. In this class you will be asked to maintain an open mind to the differences around you, and place positive value on that diversity.
- Your regular attendance and participation.

In return, I promise to be on time, to address your questions and concerns, to give you feedback on your performance, and to return graded materials in a timely manner. You can expect the TAs and me to reply to your emails within 48 hours. You are encouraged to meet with the TAs and me to discuss your questions and concerns during office hours.

Students with special needs: All of us learn in different ways and with varying degrees of success. If you know of any factors in your life that may hinder your abilities to learn up to your potential in this course, please notify me as soon as possible. You should also contact Disability Services (phone: 651-696-6874; email: disabilityservices@macalester.edu) or the MAX Center's Disability Accommodations (phone: 651-696-6121, coordinator's email: lucking@macalester.edu), who have more expertise than I do in determining what special steps need to be taken to enable you to participate fully.

Mental health and wellbeing: All of us may feel anxious and stressed from time to time during the semester. If you need support for mental health and wellbeing, visit the Laurie Hamre Center for Health and Wellness in the Leonard Center, or call 651-696-6275 to reach them by phone.

Recording Class Sessions

In order to accommodate students who will not be able to attend synchronous class meetings during this module, I plan to record our synchronous class sessions in a manner consistent with Macalester's classroom recording policy. I will share these recordings in a password-protected (and not public) place. If you download any class recordings, you must store them in a password-protected file or on a password-protected site. Please note that the recording policy clearly states that you may not share, replicate, or publish any class recording, in whole or in part, or use any of the recordings for any purpose besides knowing what happened during the class period, without my written approval. If I use any recorded content from any of our classes for purposes beyond our class, I will – in accordance with the policy – obtain your written permission to do so.

Academic Honesty

It is necessary to remind everyone that academic dishonesty in any form will not be tolerated. Honesty and integrity is expected at all times. Cases of academic dishonesty will be handled according to the College's guidelines. You are responsible for learning about these policies (<http://www.macalester.edu/academicprograms/academicpolicies/academicintegrity/>) so that you can meet this responsibility. By participating in this course, *you agree to submit your assignments in a given digital format if requested*, enabling the instructor to ensure they are not plagiarized from other materials available on the Internet and elsewhere.

Grading

Students taking the course on an A-F basis will be graded as follows:

- A – achievement that is outstanding relative to the level necessary to meet course requirements.
- B – achievement that is significantly above the level necessary to meet course requirements.
- C – achievement that meets the course requirements in every respect.
- D – achievement that is worthy of credit even though it fails to meet fully the course requirements.
- S – achievement that is satisfactory (equivalent to a letter grade of at least C-).
- F – NC, signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit, or (2) is incomplete, with no agreement between the instructor and the student that the student would be awarded an “I”.
- I – Incomplete. A grade of incomplete may be awarded at the discretion of the instructor, if requested by the student, under the following conditions: (1) at least three-quarters of the required work for the course has been completed, (2) unforeseen circumstances beyond the student's control (usually restricted to illness or family emergency) preclude completion of the remaining work for the course by the semester deadline, (3) the student is not on strict academic probation. *In fairness to other students, please note that poor planning or having a lot of work to complete at the end of the term are not considered circumstances beyond a student's control.*

Grades for the course will be assigned based on the following scale:

A 93-100%	B+ 87-89.9%	C+ 77-79.9%	D+ 67-69.9%	F 0-59%
A- 90-92.9%	B 83-86.9%	C 73-76.9%	D 60-66.9%	
	B- 80-82.9%	C- 70-72.9%		

Assignments

In this course, you will be expected to submit the following written assignments. Detailed instructions for the assignments will be posted on course Moodle site and discussed in class. It is your responsibility to ensure that all of the assignments are submitted on time.

Grade Allocation and Deadlines

Participation and attendance	15%	
Soil lab report	5%	09/18
Discussion entry	15%	09/29, 10/02, 06, 09, 13
Urban habitat observation project		
Presentation	5%	10/16
Description and analysis	15%	10/16
Field trip report	20%	10/20
Sustainability policy research		
Presentation	5%	10/16 or 19
Paper	20%	10/23

These dates and deadlines are non-negotiable with the exception of extraordinary circumstances such as a personal or family medical emergency (in which case official documentation to the effect must be provided). Should you have any concerns regarding academic disputes, scholastic misconduct, or sexual harassment, you may contact the Office of Student Affairs located at 119 Weyerhaeuser Hall (phone: 651-696-6220; email: studentaffairs@macalester.edu), and the Academic Programs Office at 215 Weyerhaeuser Hall (phone: 651-696-6036). The Office of Student Affairs and the Academic Programs Office websites, with the College's policies on these issues, are at

<https://www.macalester.edu/studentaffairs/>

<http://www.macalester.edu/academicprograms/academicpolicies/>.

See next page for course schedule.

Course Outline and Readings

Any suggestions that will enhance learning are welcome. Please note that the class schedule and readings may be subject to change. It is your responsibility to keep up with any changes.

09/02: Course overview

No assigned reading.
Synchronous meeting on 09/02

Topic 1: The Basics of Urban Ecosystems

Week 1 (asynchronous lectures)

09/03 & 04: Relationship between cities and ecology

Douglas, I. and James, P. 2015. "Cities and ecology", "Cityscapes", and "Cities as systems", in *Urban Ecology*, Routledge, 9-72. (chapter 1, 2, 3)
[Supplement] Young, R. F. 2009. Interdisciplinary foundations of urban ecology. *Urban Ecosystems*. 12(3): 311-331.
Cityscape observation

Week 2 (asynchronous lectures & synchronous meeting on 09/11)

09/07, 08, 09, 10 & 11: The physical environment

Douglas, I. and James, P. 2015. "The urban atmosphere", "Urban geomorphology and soil", "Urban hydrology", and "Urban biogeochemistry" in *Urban Ecology*, Routledge, 75-182 (chapter 4, 5, 6, 7)
[Supplement] Beisner, B., Messier, C. and Giraldeau, L. 2013. *Nature All Around Us*, University of Chicago Press. (chapter 1, 22)
Soil lab

Week 3 (asynchronous lectures & synchronous meeting on 09/18)

09/14, 15, 16, 17 & 18: Urban habitats

Douglas, I. and James, P. 2015. "Urban habitats", "Urban floras", and "Urban fauna" in *Urban Ecology*, Routledge, 187-214. (chapter 8, 9, 10)
[Supplement] Beisner, B., Messier, C. and Giraldeau, L. 2013. *Nature All Around Us*, University of Chicago Press. (chapter 10, 18, 21 with textbook chapter 8; chapter 2, 3, 5, 4, 17, 25 with textbook chapter 9; chapter 6, 7, 8, 9, 11, 12, 13, 14, 15, 19, 20, 23, 24 with textbook chapter 10)
Introducing urban habitat observation project
Soil lab due on 09/18

Week 4 (asynchronous lectures & synchronous meeting on 09/25)

09/21, 22, 23, 24 & 25: Planning for urban sustainability

Douglas, I. and James, P. 2015. "Urban ecology stewardship", "Adapting to change", and "The role of urban ecology in future cities" in *Urban Ecology*, Routledge, 341-420. (chapter 14, 15, 16)

Guest lecture or documentary: TBD

Introducing sustainability policy research project

Topic 2: Urban political ecology

Week 5 (synchronous meetings on 09/29 & 10/02)

09/28 & 29: What is urban political ecology?

Heynen, N., Kaika, M. and Swyngedouw, E. 2006. Urban political ecology: politicizing the production of urban natures, in *In the Nature of Cities*, Routledge, 1-20.

Braun, B. 2005. Environmental issues: writing a more-than-human urban geography, *Progress in Human Geography*, 29(5): 635-650.

09/30, 10/01 & 10/02: Urban metabolism reconsidered

Swyngedouw, E. 2006. Metabolic urbanization: the making of cyborg cities, in *In the Nature of Cities*, Routledge, 21-40.

Wachsmuth, D. 2012. Three ecologies: urban metabolism and the society-nature opposition, *The Sociological Quarterly*, 53(4): 506-523.

Fernández, F. E. 2014. Urban metabolism of the global south, in *The Routledge Handbook on Cities of the Global South*, Routledge, 597-612.

Week 6 (synchronous meetings on 10/06 & 10/09)

10/05 & 06: Eco-cities

Joss, J. and Molella, A. 2013. The Eco-City as Urban Technology: Perspectives on Caofeidian International Eco-City (China), *Journal of Urban Technology*, 20(1), 57-75.

Chang, I. C. and Sheppard, E. 2013. China's eco-cities as variegated urban sustainability: Dongtan eco-city and Chongming eco-island, *Journal of Urban Technology*, 20(1), 57-75.

Low, M. 2013. Eco-cities in Japan: past and future, *Journal of Urban Technology*, 20(1), 7-22

Shwayri, S. 2013. A Model Korean Ubiquitous Eco-City? The Politics of Making Songdo, *Journal of Urban Technology*, 20(1), 39-55.

10/07, 08 & 09: Ecology and social inequality

- Heynen, N., Perkins, H. A., and Roy, P. 2006. The political ecology of uneven urban green space the impact of political economy on race and ethnicity in producing environmental inequality in Milwaukee. *Urban Affairs Review*, 42(1), 3-25.
- Dooling, S. 2009. Ecological gentrification: A research agenda exploring justice in the city, *International Journal of Urban and Regional Research*, 33(3), 621-639.
- Plumer, B. and Popovich, N. 2020. How Decades of Racist Housing Policy Left Neighborhoods Sweltering. *NY Times*, August 24.
- Introducing field trip*

Week 7 (synchronous meetings on 10/13, 10/15 & 10/16)

10/12 & 13: Consumption and ecology

- Robbins, P. and Sharp, J. T. 2003. Producing and consuming chemicals: the moral economy of the American lawn, *Economic Geography*, 79(4), 425-451.
- McAlpine, C. A., Etter, A., Fearnside, P. M., Seabrook, L., and Laurance, W. F. 2009. Increasing world consumption of beef as a driver of regional and global change: A call for policy action based on evidence from Queensland (Australia), Colombia and Brazil. *Global Environmental Change*, 19(1), 21-33.

10/15: Urban habitat observation report: presentations and peer feedback
Urban habitat observation report due in class

10/16: Sustainability policy research (I): presentations and peer feedback

Week 8 (synchronous meeting on 10/19 & 10/20)

10/19: Sustainability policy research (II): presentations and peer feedback

10/20: Concluding the course: putting knowledge into practice
Field trip report due in class
Sustainability research paper due on 10/23

Date	Learning Format	Topic	Assignment Due
9/2	Synchronous	Course Overview	
9/3-4	Asynchronous	Cities and Ecology	
9/7-10	Asynchronous	The Physical Environment	
9/11	Synchronous		
9/14-17	Asynchronous	Urban Habitats	
9/18	Synchronous		Soil Lab
9/21-24	Asynchronous	Planning for Urban Sustainability	
9/25	Synchronous		
9/28	Asynchronous	What is UPE?	
9/29	Synchronous		Discussion Entry
9/30-10/1	Asynchronous	Urban Metabolism	
10/2	Synchronous		Discussion Entry
10/5	Asynchronous	Eco-cities	
10/6	Synchronous		Discussion Entry
10/7-8	Asynchronous	Ecology and Social Inequality	
10/9	Synchronous		Discussion Entry
10/12	Asynchronous	Consumption and Ecology	
10/13	Synchronous		Discussion Entry
10/15	Synchronous	Urban Habitat Observation Report: Presentations and Peer Feedback	Urban Habitat Observation Report
10/16	Synchronous	Sustainability Policy Research: Presentations and Peer Feedback	
10/19	Synchronous	Sustainability Policy Research: Presentations and Peer Feedback	
10/20	Synchronous	Concluding the course	Fieldtrip Report
10/23			Sustainability Policy Research Paper