E555 Urban Ecology – Course Calendar, spring 2019, 3cr, Final

E555 Urban Ecology – Topics/Readings, Sp 2019
All papers are located in Canvas Assignments Weekly Folders (1-15)

Week #1 January 8 – Welcome to the Workshop and Urban Ecology; Course introduction and all that stuff
Topics – What is Urban; Urban Ecology Themes handout – discussion; Review “The Anthropocene” as needed;
Fischer prepared introductory handout and PPT on urban ecosystems
Assigned Readings: Before class – See Reading Assignments &Themes (see Themes & Defining UE) Folders
From Atlantic Cities “The Rise of Urban Ecology” (see Citations from Rise of UE folder, this is really the good stuff) [http://www.citylab.com/weather/2012/11/rise-urban-ecology/4032/](http://www.citylab.com/weather/2012/11/rise-urban-ecology/4032/)

See Folder – Anthropocene Readings - Browse as necessary to be sure you are up to speed on this concept per UE.

Pickett et al. 2016. Evolution and future of urban ecological science: ecology in, of, and for the city. Ecosystem
Health and Sustainability 2(7):e01229. doi:10.1002/ehs2.1229


Week #2 January 15 – Clean-up lingering course format questions; Intro Book Review & Research Paper.
Topics this week - Finalizing class understanding of urban, urban ecology, etc.; Discuss Assignments of
topics/teams (4/team) for Wks 4-7 and beyond including possible guest discussants.
Assigned Readings: Week 2 Reading Assignments Folder
From The Nature of Cities (TNoC) (2018) “What should every ecologist know about urban ecology?”


Strauss et al. 2015. Cities and the Environment: Eight Years of Urban Ecology Research and Practice. Cities and
the Environment (CATE): Vol. 8: Iss. 2, Article 23. Available at: [http://digitalcommons.lmu.edu/cate/vol8/iss2/23](http://digitalcommons.lmu.edu/cate/vol8/iss2/23)


Week #3 January 22 – Urban Patch Dynamics, a key theme in Urban Ecology
Reading Assignments:

Yale Press, Chap 3, 38-76.


Redlining of 1930’s, a lens for urban patch dynamics – two examples – Durham NC (Cooper) and Indianapolis IN.
Zoom interview with Donovan Moxley, former UE Student (2017)

Week #4 January 29 - Succession and Ties to SES Theory
Statement: Examining ecological succession of abandoned properties and its environmental and social
implications for cities.


**Week #5 February 6 – Habitat Fragmentation/Wildlife Corridors**
Statement: Habitat fragmentation is the process by which large continuous habitats get divided into smaller fragments, usually due to human interference and activity, resulting in habitat loss and disruption in ecosystem services. Habitat corridors are natural spaces designed to connect fragmented environments for preserved ecological systems.


**Week #6 February 12 – Urban Wildlife Adaptions**
Statement: Wildlife colonizing novel ecosystems in urban areas represent unique research opportunities as well as management challenges. Many species are adapting to urban settings on a behavioral and genetic level, leading to increases in human-wildlife interactions.


**Week #7 February 19 – Urban Forests**
Statement: Urban trees provide diverse benefits to city inhabitants and surrounding ecosystems. However, due to new threats and disturbances, many cities' valuable tree populations are at risk. The urban forest can continue to provide ecosystem services if ecologists and city planners work together and consider the entire urban ecosystem in municipal planning.


Lurking in the Trees, Documentary about Don’t Move Firewood, https://www.youtube.com/watch?v=BbxsJj68Ezc

**Week #8 February 26 – Urban Aquatic Systems**

**Statement:** Re-envisioning urban aquatic ecosystems: using stream restoration to reconnect habitats and people

Up the Creek, With a Paddle: Urban Stream Restoration and Daylighting
https://www.thenatureofcities.com/2013/10/30/up-the-creek-with-a-paddle-urban-stream-restoration-and-daylighting

- *An example:* Daylighting Saw Mill Creek in Yonkers


**Week #9 March – Book Review presentations**

**March 11-15 Spring Break**

**Week #10 March 19 – Ecology of post-industrial cities**

**Statement:** Industry is known to have a positive economic influence on society and a negative impact on the environment. This week we explore different ways in which cities attempt to move past their industrial roots to restore and transform various ecosystems.


**Week #11 March 26 – Urban Disease and Pathogens**
Statement: Urban settings present unique environments that affect the quality of soil, air, and aquatic ecosystems. Such conditions can have drastic impacts on the general health of human populations and may also encourage the survival and spread of certain disease-causing organisms.


Week #12 April 2 Butler Center for Urban Ecology and Sustainability – Interview with Director (Julia Angstram) and Sustainability Asst. Director (Jamie Valentine)

Statement: Center for Urban Ecology are educational and non-profit organization concerned with connecting the human community with urban ecosystems through education, research, active engagement and policy advocacy. The goal this week is to become familiar with the structure and function of Centers for Urban Ecology at universities and in cities across the country. We explore how these organizations balance education and research initiatives, in addition to collaborations with community groups and other institutions.

Review various UEC websites, etc.

Week #13 April 9 – Environmental Change & Urban Ecosystems

Statement: Environmental change impacts are happening globally, including in urban ecosystems. As we are becoming an increasingly urbanized society, cities must be prepared to take on the challenges brought on by environmental change and society needs to shift toward environmental resiliency and sustainability.


Week #14 April 16 – Urban Sprawl

Statement: The centuries-old, very visible pattern of Urban Sprawl is being studied by scientists seeking insights into its unforeseen effects. Now, modern planning and policies are being informed by science to help minimize the environmental impacts of human activity.


**Week #15 April 23 - Research Paper Presentations, discuss final Reflections to Burney after Semester.**