

# USC School of Architecture



## Arch 547 Urban Nature

Spring 2017 —Thursday 4:00–6:50 P.M.

**Location:** Harris 115A

**Instructor:** Travis Longcore, Ph.D.

**Office:** B55D Allan Hancock Foundation

**Office Hours:** Monday, 2–6 P.M., 331 Watt Hall

**Website:** [blackboard.usc.edu](http://blackboard.usc.edu)

**Contact Info:** [longcore@usc.edu](mailto:longcore@usc.edu), (310) 247-9719  
(mobile), travislongcore (Skype)

### Course Description

Nature is frequently thought to be found only “out there” beyond the city. However, “in here” conservation of many species requires protection of their habitats in urban areas, as does maintenance of the quality of life in cities. This course explores the many issues that arise from the recognition that cities too have natural values that can be protected, restored, or even created. The course is divided into three parts. First is an introduction to the ecology of cities and our knowledge about the factors that affect the distribution and persistence of plants and animals in urban landscapes and the role they play in human experience. Second is an exploration of the major threats to urban biodiversity and their interaction with human attitudes and practices. Third is the review of controversies and successes of urban nature education, restoration, and conservation projects in the Los Angeles basin, with a concentration on design at local to regional scales.

### *Learning Objectives*

By the end of this course, students should be able to:

- Describe the conditions necessary to promote wildlife in cities, identify target groups for urban wildlife conservation, and be familiar with best practices for wildlife-friendly building.
- Understand the challenges posed by soil, water, air, noise, and light pollution and the mitigation approaches available for each in urban contexts.
- Develop strategies for the management of urban stormwater quality and quantity that use natural processes and comply with policy goals.
- Articulate the scientific basis for recommendations to include natural elements in landscapes designed for education, recreation, and healthy living.
- Recognize the scientific considerations involved in the practice of ecological restoration.

### *Recommended Preparation*

Arch 531 The Natural Landscape

### *Course Notes*

Lecture slides are posted online at [blackboard.usc.edu](http://blackboard.usc.edu) and student involvement will be facilitated by use of a social networking site for convenient student-teacher and student-student interactions.

### *Required Readings*

Forman, Richard T.T. 2014. *Urban Ecology: Science of Cities*. Cambridge University Press.

The textbook is available at the Bookstore or as a digital version online.

## **Grading**

Grades will be assigned according to performance in three exercises (50%), three quizzes (30%), and a final (20%).

### *Letter grading*

A+	97.0–100 %
A	93.0–96.9 %
A–	90.0–92.9 %
B+	87.0–89.9 %
B	83.0–86.9 %
B–	80.0–82.9 %
C+	77.0–79.9 %
C	73.0–76.9 %
C–	70.0–72.9 %
D+	67.0–69.9 %
D	60.0–66.9 %
F	<60.0 %

### *Pass/Fail grading*

Pass:	≥73.0 %
Fail:	<73.0 %

## **Description and Assessment of Assignments**

The class exercises will be assigned at regular intervals throughout the semester. These assignments involve interpretation and application of the material presented in lecture and the texts.

Exercise 1 is the application of knowledge about urban wildlife to design a landscape intervention for the USC campus that would promote native biodiversity. The goal of the

exercise is to envision creative yet feasible interventions that are inspired by a scientific understanding of species requirements and mobility.

Exercise 2 is the development of a case study on a landscape intervention that was designed to mitigate a particular type of pollution and the documentation of the performance of the project in reducing the targeted pollutant. The goal of the exercise is to both increase knowledge about successful mitigation projects but to increase comfort with consulting and referencing the scientific literature on topics of interest.

Exercise 3 is the design of a 1-page graphical abstract for a published scientific paper on the topic of human-nature interactions. The goal of the exercise is to increase familiarity and comfort with consulting peer-reviewed scientific literature in the design and planning process and deepen knowledge of current advances in the study of human-nature interactions in cities.

## Course Schedule

	Topics/Daily Activities	Deliverables
Week 1 Jan 12	Introduction	
Week 2 Jan 19	Urban Birds and Mammals	
Week 3 Jan 26	Urban Butterflies and other Invertebrates	
Week 4 Feb 2	Natural History Museum North Garden Field Trip. Patches and Connectivity	Quiz 1
Week 5 Feb 9	Urban Natural Parks Field Trip	<i>Exercise 1 Due</i>
Week 6 Feb 16	Urban Climate/Urban Forestry	
Week 7 Feb 23	Air Pollution and Landscape Interventions	
Week 8 Mar 2	Light and Noise Pollution and Mitigations	
Week 9 Mar 9	Soil and Water Pollution	Quiz 2
Break		
Week 10 Mar 23	Stormwater Use and Mitigation	<i>Exercise 2 Due</i>
Week 11 Mar 30	Vaux's Swift Field Trip (possible)	
Week 12 Apr 6	Urban Ecosystem Services	
Week 13 Apr 13	Restoration Ecology	Quiz 3

Week 14 Apr 20	Therapeutic Landscapes	
Week 15 April 27	Leo Politi Elementary School, Esperanza Elementary School, and Breeze Foundation Park Field Trip	<i>Exercise 3 Due</i>
FINAL		Date: For the date and time of the final for this class, consult the USC <i>Schedule of Classes</i> at <a href="http://www.usc.edu/soc">www.usc.edu/soc</a> .

## General Policies

### *Assignment Submission Policy*

Assignments are to be submitted digitally through the course website by the start of class on the day the assignment is due.

### *Attendance Policy*

The School of Architecture's general attendance policy is to allow a student to miss the equivalent of one week of class sessions (three classes if the course meets three times/week, etc.) without directly affecting the student's grade and ability to complete the course. If additional absences are required for a personal illness/family emergency, pre-approved academic reason/religious observance, the situation should be discussed and evaluated with the faculty member and appropriate Chair on a case-by-case basis. For each absence over that allowed number, the student's letter grade will be lowered 1/3 of a letter grade (e.g., A to A-).

Any student not in class within the first 10 minutes is considered tardy, and any student absent (in any form including sleep, technological distraction, or by leaving mid class for a long break) for more than 1/3 of the class time can be considered fully absent. If arriving late, a student must be respectful of a class in session and do everything possible to minimize the disruption caused by a late arrival. It is always the student's responsibility to seek means (if possible) to make up work missed due to absences, not the instructor's, although such recourse is not always an option due to the nature of the material covered.

Being absent on the day a project, quiz, paper or exam is due can lead to an "F" for that project, quiz, paper or exam or portfolio (unless the faculty concedes the reason is due to an excusable absence for personal illness/family emergency/religious observance). A mid term or final review is to be treated the same as a final exam as outlined and expected by the University. See full attendance statement at: <http://arch.usc.edu/People/SchoolGovernanceDocuments>

### *Statement for Students with Disabilities*

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. Website and contact information for DSP:

[http://sait.usc.edu/academicsupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html), (213) 740-0776 (Phone), (213) 740-6948 (TDD only), (213) 740-8216 (FAX) [ability@usc.edu](mailto:ability@usc.edu).

### *Statement on Academic Integrity*

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct/>.

### *Good Behavior*

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage [sarc@usc.edu](mailto:sarc@usc.edu) describes reporting options and other resources.

### *Emergency Preparedness/Course Continuity in a Crisis*

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies.

### *Support Systems*

A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* [http://sait.usc.edu/academicsupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html) provides certification for students with disabilities and helps arrange the relevant accommodations.