

URBAN ECOLOGY [48.713]

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Urban ecology describes the complex relationships between humans and our environment and is bound by an understanding of system dynamics. Urban ecology draws from our understanding of urban settlements and the cultural values that shape them, as well as our conception of ecology as the resources and flows that support biotic systems. Urban ecology situates humans and our activities as part of a dynamic and living environment that is more continuum than dichotomy. *This class will examine the shifting regimes of urban ecology and equip students with skills and core concepts that enable them to lead or contribute to transition through design.*

As designers we are trained to see patterns--urban ecology asks us also to see processes and to speculate on effects and possible outcomes. This course will discuss the systems and the logics that create the patterns and we will explore how our design process may be different when dealing with the ambiguity and uncertainty of systems design. We will learn the fundamentals of systems dynamics modeling as it applies to the design of historical and contemporary landscapes, infrastructure, and spatial practices at the macro-, meso-, and micro-scales.

The study of urban ecology is inherently interdisciplinary and this course will approach the subject from the field of design and planning as well as from other disciplinary perspectives. We will examine contributions from landscape, planning, engineering, economics, biology, sociology, political science, climatology, and even public health. We will look through both a positivist lens of evidence as well as a normative lens of belief. Students will gain specific skills and knowledge from other fields, such as causal loop diagrams, social dilemma models, and scenario planning, and will investigate how these tools can augment design practice through the examination of case studies. The course will have a series of small skill exercises and a more comprehensive group project.

Interdisciplinary students are encouraged to join this class.