



'Diagram of Building in three parts' from Braham, William W. *Architecture and Systems Ecology: Thermodynamic Principles of Environmental Building Design, in Three Parts.*

# MODELING FOR ALL SCALES

3 CR + 1 CR FOR ADV. TECH. ELECTIVE  
FRIDAY 8:15–11:45 AM (30 MIN. BREAK) | REMOTE

ASSOCIATE PROFESSOR MARK DONOFRIO  
DONOFRIO@UOREGON.EDU | LA 317

Although the universe in which we live is far too complex for the human mind to visualize in detail all at once, we can understand simplifications. The simpler concepts by which we think are often called models. Models represent systems. A system is a set of parts and their connected relationships. Processes connect everything directly and indirectly to everything else. Models can help us understand how things are organized and function. This course will introduce concepts that help to simplify knowledge by showing that the great variety of processes and events in our world are special cases of a relatively few principles commonly found on all scales of size and time.

In this course, theories and techniques of systems ecology, originally developed for the study of large-scale ecosystems, will be explored through readings, lectures and discussions. These concepts will then be applied to the development of a comprehensive case study project for the term. Our study will challenge preconceived notions of what building is and what it can do. In our study we will consider and distinguish among the three nested scales of purpose for the construction and use of buildings; to occupy and intensify the characteristics of a particular **site**, to provide **shelter** from the climate, and as a **setting** for work and living. The concepts and techniques examined in this course will help students to more fully understand environmental building design and more rigorously situate architecture within the self-organization of human and natural ecosystems.

*Note: This course will serve as a foundational prep course for my Terminal Studio but is also open to other students.*