Buildings represent a third of global emissions, and a third of energy and materials consumed worldwide. "Ibrahim Thaw, Deputy Executive Director of the UN Environment Program

Premise / Theme

Architecture and the building industry have an out-sized environmental impact on the planet. Consequently, architects can play a key role in reducing environmental loads through better design—design that is climate responsive and optimizes the uses of water, daylight, air, wind, and material resources. This studio will use a systems-based design approach to interrogate environmental resources, structures, materiality, program and site within the project, in order to influence building performance as well as formal / spatial conditions. The 3102 Studio builds upon the themes and skills of previous studios, as well as Material and Assembly Principles, Environmental Systems Principles and Structural Principles and Systems courses.

Goals and Objectives

• Develop an understanding of environmental principles and systems in architecture, seeking passive conservation strategies related to climate, air quality, solar orientation, daylighting, and water resources.

• Apply systems-based thinking and integrative design methods to architecture and site strategies that reveal intersections between site, program, structure, material, and environment.

• Engage materially-intensive design methods that contribute to fluency and competency in hands-on making and tectonic intentionality in project design; this will be significant in both the primary project design, as well as the reflective shadow box.

Program

TBD

Content & Structure

Design processes will be cyclical and iterative allowing successive phases of exploration to inform design refinement. The studio will involve materially intensive analysis and concept generation, development of an architectural project including intensive focus on systems, and an integrated material shadow box (required in both 3102 Studio and 4304 Structural Systems). All studio sections are fully coordinated in method, assignments, calendar, and requirements. Cross-studio presentations and discussions, field trips, assigned readings will be the norm. Small group reviews, pinups, desk critiques and juries will serve as the principle means by which students receive feedback and constructive criticism during the semester.

Required Texts and Materials

ARCH 3102 will require more hands-on materials than a typical studio due to materially-intensive analysis and the Shadow Box project. Standard studio supplies, as well as freehand drawing equipment, markers, sketch pads, tracing paper, and model building equipment/materials should be readily available in studio each day.
