Green Neighborhoods

LA 407/507
3 credits

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“In 2008...for the first time in history, more than half [the world’s] human population ... will be living in urban centers.” Meanwhile, the United States Green Building Council has collected data disturbing to those of us who study and design buildings and sites:

“In the United States alone, buildings account for: 72% of electricity consumption, 39% of energy use, 38% of all carbon dioxide (CO2) emissions, 40% of raw materials use, 30% of waste output (136 million tons annually), and 14% of potable water consumption”

At a site scale, lawn-watering accounts for an astonishing 60% of urban water use, and pollutes water tables with over-fertilization (Roseland, 1998). At the neighborhood scale, our urban design policies have created communities where people are forced to drive cars daily, adding to greenhouse gas emissions (Newman, 2008).

Our buildings and sites waste energy, drain and pollute water sources, and substantially contributing to global warming. How urban design can limit natural resource use and improve ecological function is one of the most significant questions of our day. Future professionals will be required to design urban places that improve the environment and ecology of cities.

Course Overview:
Green Neighborhoods examines the regenerative capacity of neighborhood design – ecologically, materially, socially, and economically. Such development can contribute to improved energy efficiency, lower material resource use, and improved air and water quality, as well as higher returns on investments for developers. Obviously, this development require sophisticated understanding of natural and urban processes, as well as interdisciplinary and collaborative design teams.

The course covers three major topics:

History: overview of contemporary neighborhood development, and precursors to today’s green neighborhoods
Design Context: the environmental, physical, social, regulatory, and economic opportunities and constraints on design
Urban Processes: Through case studies, the course studies best practices in contemporary urban design that conceive of systems of production, exchange, consumption and disposal as connected cycles – where waste from one system (trash, sewer) becomes a material resource for another system – rather than as disconnected flows. The course will cover urban systems including food, water, waste, energy, and transportation, and the role they can have in structuring neighborhood design.